

ROAD PRESERVATION LOCAL LAW

DRAFT GENERIC ENVIRONMENTAL IMPACT STATEMENT

Prepared for:

Lead Agency:

**Sullivan County Multi-Municipal Task Force (MMTF)
Sullivan County, New York**

(Towns of Tusten, Cochecton, Bethel, Callicoon,
Delaware, Highland, Lumberland & Rockland)

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I. INTRODUCTION

This Draft Scoping Document has been prepared pursuant to the State Environmental Quality Review Act (“SEQR”), Article 8 of the New York Environmental Conservation Law and its implementing regulations at 6 NYCRR Part 617. It identifies and outlines the issues to be further studied and analyzed in a Draft Generic Environmental Impact Statement (“DGEIS”) for the proposed adoption and implementation of a Road Preservation Local Law in the Towns of Tusten, Cochecton, Bethel, Callicoon, Delaware, Highland, Lumberland & Rockland, in Sullivan County, New York. The proposal is being formulated by the Sullivan County Multi-Municipal Task Force (“MMTF”), being composed of the Towns of Tusten, Cochecton, Bethel, Callicoon, Delaware, Highland, Lumberland & Rockland, in Sullivan County, New York. The procedures for preparation and review of the DGEIS will follow the SEQR regulations in 6 NYCRR 617.9, 617.10 and 617.12.

The proposal was originally presented to the MMTF member Towns in 2009 and again in May and June of 2010. The proposal has been classified as a Type I Action pursuant to section 617.4(b) of the SEQR regulations. The MMTF member Towns assumed SEQRA “Lead Agency” status for the coordinated environmental review of the proposed action and issued a positive declaration, determining that a DGEIS should be prepared in accordance with SEQRA section 617.7.

Pursuant to section 617.8 of the SEQR regulations, the scope of the DGEIS shall be limited to issues identified herein. Final Scoping of the DGEIS has been conducted. The MMTF submitted the Draft Scoping Document to Involved and Interested agencies and the public in June 2010 and a public scoping session was held in July 2010. A “Notice of Project Scoping” was published in the Sullivan County Democrat and River Reporter, as well as the Environmental Notice Bulletin maintained online by the NYS Department of Environmental Conservation. The Draft Supplemental Scoping Document was also available for public review at each of the MMTF member Town Halls. Written comments were accepted by the MMTF member Towns until the close of business on August 2, 2010. No public comments were received.

II. DESCRIPTION OF THE PROPOSED ACTION

The MMTF is developing and will propose to each of its member Towns the adoption and implementation of a road preservation local law and permitting program. The local law and permitting program are being developed by the MMTF and its technical consultants using engineering highway design and evaluation standards published by the American Association of State Highway and Transportation Officials ("AASHTO"). The AASHTO based permitting program will be used to prospectively assess roadway damage against users that will materially diminish the useful life of roads maintained by the MMTF's members within their jurisdictional boundaries. AASHTO methods to be used as a basis for the permitting program will include an Equivalent Single Axle Load ("ESAL") based methodology that provides an objective, broadly recognized engineering standard for use in comparing the structural capacity of an existing road and its normal traffic volume to proposed traffic volumes which exceed normal wear and tear for the road.

The permitting program will also entail consideration of the use, improvement and construction of driveways on private parcels, to the extent any such driveways are intended to support the traffic attributable to activity which is determined to be subject to the road preservation law.

The proposed legislation would require non-baseline traffic, as identified in the road protection law and supporting documents, to be permitted to use local roads if the proposed traffic ESAL load exceeds the normal wear and tear threshold for the proposed haul route as identified in the road protection law and supporting documents, such that it would likely cause significant damage and shortened pavement life cycle. The permit application requirements for such traffic generators would be triggered by a number of possible actions which would include but are not necessarily limited to site plan permits, SPDES permits, water withdrawal permits, DEC mining permits, etc. The road protection law and supporting documents provide a full list of such actions. Upon permitting the applicant would have to identify the number of trips per day they would be making, the size of their anticipated loads, and the route they intend to use. Using criteria established.

III. PROJECT LOCATION

The proposed action includes Towns of Tusten, Cohecton, Bethel, Callicoon, Delaware, Highland, Lumberland & Rockland, in Sullivan County, New York.

Appendix A describes by Town the road inventory for each of the member towns. Inventory data include routes within member townships that are maintained by Sullivan County and the NYSDOT.

IV. GENERAL GUIDELINES FOR THE DGEIS

The DGEIS is intended to assess potential adverse impacts which may arise from adoption or implementation of the Road Preservation Local Law. Where the MMTF concludes that potential impacts are avoided, reduced or mitigated, the DGEIS shall contain a clear elaboration to support such a conclusion.

V. ALTERNATIVES

The primary alternative to enacting legislation to protect roads from traffic that exceeds normal wear and tear thresholds is not to do so. However, failure to act on some type of road protection requirements would result in major impacts to local roads, especially those of lowest capacity, such as gravel roads. Overuse of gravel roads in particular will result in dust issues, whip off of aggregate and eventual degradation of the roadway. Furthermore, failure to enact road protection law would allow the full and unencumbered use of paved roads as well, which also may not be constructed to carry the level of traffic associated with development activity. This would result in damage to asphalt pavements and potentially other roadway structures, such as culverts and bridges. This in turn may lead to temporary road closures due to deteriorated conditions, or even long term closure if repairs or upgrades are not made in a timely manner. In addition the damage may be widespread throughout various segments of roadways within a given town, or group of towns. Of course, all such impacts will result in significant costs to both towns and the traveling public – costs that cannot be minimized without adequate road protection law.

Damage would not be limited to public infrastructure and could affect personal property (homes and vehicles) damaged by the use of affected roads. In addition accidents, some involving human death or injury, may become more frequent on these effected routes as motorists maneuver around potholes, and navigate damaged roadways.

Use of roadways without regard for other interests such as historical and aesthetic resources, importance for emergency management, and high traffic volumes would result in disruption in quality of life, emergency services response and general traffic congestion.

VI. PROSED SEQRA REVIEW PROCESS

A generic environmental impact statement (GEIS) is used to evaluate the environmental effects of a program having wide application and is required for direct programmatic actions undertaken by a government agency.

The Department's regulations to implement the State Environmental Quality Review Act ("SEQRA"), available at <http://www.dec.ny.gov/regs/4490.html>, authorize the use of generic environmental impact statements to assess the environmental impacts of separate actions having generic or common impacts. A generic environmental impact statement and its findings "set forth specific conditions or criteria under which future actions will be undertaken or approved, including requirements for any subsequent SEQR

compliance.”¹ When a final generic environmental impact statement has been filed, “no further SEQR compliance is required if a subsequent proposed action will be carried out in conformance with the conditions and thresholds established for such actions” in the generic environmental impact statement.

VII. POTENTIAL ENVIRONMENTAL IMPACTS AND MITIGATION

A. Impacts on Land

i. Background

1. Road Upgrades

As a proactive step to provide roads and other infrastructure capable of accommodating heavy loads and frequent trips it will be necessary in some cases to upgrade existing roads and infrastructure prior to the expected traffic. Activities may include, road widening, shoulder improvements, bridge and culvert replacement. Often these activities involve increasing areas of pavement and impervious surfaces and using land for staging, storage and temporary facilities. Other upgrades may include increasing the structural capacity of culvert and bridges that the haul route may impact.

2. Road Repairs

Regulated traffic will be permitted on designated and approved haul routes. Some roads comprising haul routes may have enough structural capacity to support regulated traffic without an upgrade, but will experience damage greater than normal wear and tear during use by the regulated traffic. Such damage must be mitigated by the permit holder, which will result in some cases in road repair construction projects. Most impacts related to such road repairs will occur within existing roadway alignments and right-of-ways. Typical treatments may include paving of asphalt overlays, application of surface treatments, or in some cases removal and replacement of damaged pavement layers. However, since many such repair treatments are confined to the existing roadbed and right-of-way, most will result in minimal new impacts to adjoining lands.

ii. Impact:

In general the impacts on land would be within previously disturbed or developed areas. Impacts to such areas would generally be temporary in nature with the exception of instances where significant areas of

impervious pavement are added. By adding additional impervious surface (pavements) it may be necessary to acquire additional lands to construct storm water controls to offset the runoff increase caused by the addition of impervious surface. Also, wetlands may be impacted by construction, and it may also be necessary to acquire additional land for construction of wetland impact mitigation treatments as may be required by NYSDEC, US Army Corp. etc. Finally, lands located within the roadway alignment have the potential to be impacted vertically, in cases where it is necessary to excavate the roadbed to provide for an increased roadway section thickness as may be required to provide a higher structural capacity of a road section.

iii. Mitigation:

1. Measures

Roadway improvements shall be designed to minimize use of land to the extent practical by the use of existing alignments and drainage pathways. In cases where additional area is required a preference shall be given to areas previously developed, such as paved and gravel areas. In cases where a deeper cross section is required and bedrock is an issue, consideration should be given to increasing the vertical profile or providing additional bituminous materials or stabilization fabric in lieu of thicker lifts of subbase materials.

2. Implementation and Responsibility

Planned and/or reactive (emergency) road upgrades and repairs shall be addressed by the Highway Superintendent working with the Town Board and the Town Supervisor. Proposed improvements will be recommended by the town's engineer, approved by the town highway superintendant and town board. Upgrade and/or repair costs for the portion of damage caused by regulated traffic will be the responsibility of the permit holder.

The town shall be responsible for managing the implementation of road upgrade and repair measures. Work shall be accomplished in accordance with the provisions of the road protection law and supporting documents, and may be performed by the town, the permit holder, or sub-contracted service providers.

The planning, design and construction process for a municipal road upgrade or repair project may include many phases

depending upon if the work is being done by municipal forces or through a low bid contractor. Appendix B outlines a typical development process for a NYSDOT Project. Although some of these tasks may not be required for a local project, the process does illustrate many of the key phases often required. Implementation of a local project may include:

- Procurement and Selection of Engineering Consultants
- Survey Collection and Mapping
- Stormwater Pollution Prevention Plans
- Threatened and Endangered Species Investigation
- Federal and State Wetland Delineation
- OPRHP Historic and Archaeological Investigations
- Right of Way and Easement Activities
- Flood Plain Management
- Driveway Permitting
- Rail Road Impacts
- Preparation of Construction Documents
- Bidding and Contractor procurement
- Construction Management
- Construction Inspection
- Code Compliance (Local, State and Federal Highways)
- And other project based activities

3. Schedules

Planned Upgrades and Repairs: Normally the permit application and haul route approval and management process specified by the road protection law and supporting documents provides for planned upgrades and repairs. Planned upgrades would be required prior to use of town roads by the permit holder and repairs would be made after cessation of use and close out of the permit based on the recommendations of the town engineer and/or consultants.

Any damage to roads that occurs during use by the permit holder which is deemed to pose a threat to public safety as determined by the Highway Superintendant must be repaired immediately upon notification of the permit holder by the Highway Superintendent and in accordance with all the requirements set forth in the road protection law and supporting documents.

4. References

Appendix B – NYSDOT Project Development Process

B. Noise

i. Background

Noise¹

Noise is defined as any loud, discordant or disagreeable sound or sounds. More commonly, in an environmental context, noise is defined simply as unwanted sound. The environmental effects of sound and human perceptions of sound can be described in terms of the following four characteristics:

1) Sound Pressure Level (SPL may also be designated by the symbol L_p), or perceived loudness as expressed in decibels (dB) or A-weighted decibel scale dB(A) which is weighted towards those portions of the frequency spectrum, between 20 and 20,000 Hertz, to which the human ear is most sensitive. Both measure sound pressure in the atmosphere.

2) Frequency (perceived as pitch), the rate at which a sound source vibrates or makes the air vibrate.

3) Duration i.e., recurring fluctuation in sound pressure or tone at an interval; sharp or startling noise at recurring interval; the temporal nature (continuous vs. intermittent) of sound.

4) Pure tone, which is comprised of a single frequency. Pure tones are relatively rare in nature but, if they do occur, they can be extremely annoying.

Decibel Levels of Common Noise²

10 dB	Normal breathing
20 dB	Rustling leaves, mosquito
30 dB	Whisper
40 dB	Stream, refrigerator humming
50-60 dB	Quiet office
50-65 dB	Normal conversation
60-65 dB	Laughter
70 dB	Vacuum cleaner, hair dryer
75 dB	Dishwasher
78 dB	Washing machine
80 dB	Garbage disposal, city traffic noise
84 dB	Diesel truck

Prolonged exposure to any noise above 85 dB can cause hearing loss.

¹ Assessing and Mitigating Noise Impacts, NYSDEC, Program Policy Memorandum, Revised February 2, 2001.

² Nation Institute of Deafness and other Communication Disorders, NIH

70-90 dB	Recreational vehicle
88 dB	Subway, motorcycle
85-90 dB	Lawnmower
97 dB	Newspaper press
98 dB	Farm tractor
100 dB	Train, garbage truck

Regular exposure of more than 1 minute risks permanent hearing loss.

103 dB	Jet flyover at 100 feet
105 dB	Snowmobile
110 dB	Jackhammer, power saw, symphony orchestra
120 dB	Thunderclap, discotheque/boom box
110-125 dB	Stereo 110-140 dB Rock concerts
130 dB	Jet takeoff, shotgun firing
145 dB	Boom cars

New York State Department of Environmental Conservation has developed a policy to address noise and its impacts. “Assessing and Mitigating Noise Impacts”, Appendix C. The policy gives guidance on assessment, avoidance and reduction measures.

The noise associated with this action would be resulting from transport and movement of products. The factors influencing the impact of noise include distance from the source, surrounding terrain, ambient sound levels, time of day, wind direction, temperature and humidity.

New York State regulations (6NYCRR Parts 450 -454) addresses allowable sound level limits on certain motor vehicles greater than 10,000 pounds in gross weight.

Local laws can also set forth limits for noise levels in addition to the State regulations. Where a State highway intersects a town, the enforcement of a local law may not necessarily have jurisdiction.

ii. Impact

According to the EPA (EPA 550/9-79, November 1978) most humans find a sound level of 60-70db(A) as beginning to create a condition of significant noise effect. Assessing the Impact of Noise for the purpose of this document was performed by use of the guidance provided by the NYSDEC.

Most noticeable is where sound increases above ambient noise levels. For instance if the ambient noise level near a city street is 60 decibels

and some trucks periodically increase noise to 75 decibels, then the sound is more noticeable.

Concentrating truck traffic by the use of designated haul routes would increase the frequency of this exposure and possibly duration. With most impacts the extended duration of exposure magnifies the risk. As previously discussed most hearing damage or loss occurs from prolonged exposure.

In the case of permitted haul routes, these roads are permitted uses within the local zoning and are considered a ‘right of use’ within that zoning. Provided the noise level of permitted trucks is within the regulatory limits mitigation would include measures to limit the effects of noise.

iii. Mitigation

1. Measures

To mitigate the effects of noise associated with concentrated levels of truck traffic on designated haul routes a number of practices can be exercised that will provide a measurable decrease in overall effects. Being that the level of noise presented by truck traffic is ambient, attention should be directed to mitigate the duration. This can be accomplished by limiting days and hours of operation, limiting operations to normal work days and hours.

Additional mitigation measures include increasing setback distances on new or reestablished routes or selecting haul routes that are offset from buildings, residences and other indoor and outdoor places of assembly. Utilizing quieter equipment (electric or natural gas powered) for hauling operations will result in a significantly reduced effect.

In instances where noise levels are above the limits set forth in NYCRR 450-454, enforcement activities shall be mobilized to address operators who violate this threshold. Mitigation for the cost associated with this increased enforcement shall be passed on to the violator through fines and surcharges.

With truck noise being a right of use, the selection of haul routes should also consider the use of routes that are bordered or buffered by trees and vegetation, which lessen the effects of

noise. Limiting hauling to daytime hours when the majority of the public is awake and often working.

2. Implementation and Responsibility

The town shall be responsible for setting limits on hauling hours in certain areas and restricting hauling in other areas.

The town may also place sound level thresholds more stringent than state and federal regulations for certain areas or the entire town. This type of noise ordinance may also dictate hours and days of the week noise at a certain level will be tolerated. Enforcement shall remain with the local town by use of trained personnel and equipment.

Implementation would require the procurement of sound level measuring equipment and the appropriate training to properly operate and assess readings. Training is available through the Federal Highway Administration and Consultant Organizations.

Truck noise testing can occur by use of independent technicians trained and properly equipped in accordance with Part 450. Haul trucks should each be certified on a regular basis (annually or other to be approved by the town).

3. Schedule

All of the measures outlined shall be put in place prior to any planned permitting or haul route designation.

To avoid random testing and the delays associated with the trucks may be noise tested and certified prior to being put in service.

4. References

Appendix C: “Accessing and Mitigating Noise Impacts”, NYSDEC Program Policy

Appendix D: NYSDEC Part 450 “Noise from Heavy Motor Vehicles”

C. Odor

i. Background

Dependent upon the materials being transported on designated haul routes, the exposure to odor associated with their load would be magnified by the number of trip per day. For example a livestock rendering hauler making one trip a week would have much less impact than if a processing facility was located in an area where malodorous trucks were running at 100 trucks per day constantly through an area.

ii. Impact

Certain industrial materials transported have their inherit odor. Livestock transport would create more of an odor impact for a community than a paper hauler, for example. The oil and gas industry typically transport water and brine and other materials and equipment.

iii. Mitigation

1. Measures

Where State law regulated loads are to be covered to mitigate the probability of dust and aggregate becoming air born and spilling of a truck and vehicles. State Law also requires that wastes, both solid hazardous waste, and non-hazardous industrial waste (drilling fluids, etc.) be covered and otherwise contained.

2. Implementation & Responsibility

Enforcement in this area remains with the NYSDEC and law enforcement agencies that are authorized under the law to enforce New York State Environmental Law.

3. Schedules

Implementation shall begin once the permit is issued. Municipal official shall coordinate enforcement by giving agencies a notification when hauling begins.

D. Emissions

i. Background

The NYSDEC Sets standards for emissions from heavy duty diesel vehicles under 217.53 of the Environmental Conservation Law. This is done through measuring the smoke opacity for vehicles by age, broken into three categories by model year, 1991 and newer, 1974-1990, and 1973 and older. The law sets forth testing procedures and a penalty structure for those found out of compliance.

Although vehicle emissions are regulated by state and federal government standards, there can be expected to be haulers who are not in compliance with these emission requirements due to the age and operating condition of the their equipment or due to modifications made after purchase and inspection.

ii. Impacts

Impacts of the action will increase traffic on designated haul routes thus concentrating vehicle emissions along the route contributing to increased levels of ground level ozone during certain months of the year. Emissions are greatly increased when trucks or other vehicles are idling, stopping and starting. Idling, although illegal if a vehicle is running for more than five minutes without moving, can be contributed to a large percentage of the air quality impacts and ground level ozone problems.

iii. Mitigation

1. Measures

- a. Selection of haul routes shall attempt to minimize routing scenarios where trucks are stopping and starting, delayed by traffic signalization or otherwise.
- b. In addition, the strong enforcement of vehicle noise and emission standards by law enforcement may encourage haulers to have their emissions issues resolved and trucks in good working order. Haulers would also be required to provide a recent emission test certificate upon request.
- c. A signage program displaying the requirements of the vehicle idling law can be effective in areas where there is frequent stopping can be expected (truck stops, fueling stations, and service areas).
- d. Require trucks to have a current emissions test certificate on hand and it shall be presented upon request of code officers, law enforcement, and municipal officials.

2. Implementation and Responsibility

A policy requiring emission certificates may be implemented as part of the RUA Process by municipal permitting officials as a condition of the permit.

Enforcement of an emission policy shall be handled administratively by municipal permit officials during permitting as well as by NYSDEC Environmental Police who are trained and equipped to test truck emissions. At any time a when truck emissions are suspect, the DEC Police can be contacted and enforcement action can take place

If the town desires having an emissions certificate for each truck then this requirement shall be included in the Law prior to the issuance of any permitting or haul route selection.

New York Environmental Conservation Law (ECL) also prohibits heavy-duty vehicles, including diesel trucks and buses, from idling for more than five minutes at a time. (Title 6 NYCRR, Subpart 217-3, Appendix L). Enforcement of this regulation is carried out by the DEC Conservation Officers. Fines vary for violations from \$375 to \$15,000 in the case of a first violation. Municipalities can inform the DEC of any operators that are in violation of this requirement.

E. Fugitive Dust

i. Background

The increase in truck traffic resulting from the action would have the potential to increase the presence and migration of fugitive dust. The majority of dust issues are expected to occur on gravel roads. As a gravel road begins to deteriorate often the once well graded gravel begins to segregate, resulting in loss of aggregate and fine particulate. These fine particulate often are transported by the erosion and sedimentation process during rain events and in dry conditions become airborne and result in dust.

Other forms of dust are the result of uncovered loads of earth or aggregate being hauled as well as agricultural and other operations. In New York State it is unlawful to operate on any public highway any open truck or trailer being utilized for the transportation of any loose substances, unless said truck or trailer has a cover, tarpaulin or other device of a type and specification approved by the commissioner of transportation which completely closes in the opening on the said truck or trailer while said truck or trailer shall be so operated, so as to prevent the falling of any such substances there from. However, if the load is arranged so that no loose substance can fall from or blow out of such truck, the covering is not necessary.

ii. Impacts

As described above the most significant dust impact would generally be related to the use of gravel roads. Gravel roads are typically designed for lower volumes and dust is an inherent characteristic. When the road degrades aggregate separated and fine particulate becomes airborne in the form of dust.

iii. Mitigation

1. Measures

To mitigate the impacts caused by the loss of moisture in gravel roads a number of practices are typically employed.

a. Water

The simplest and most cost effective method to prevent dust is by applying water during dry periods. This method is often used on construction sites, small developments and road projects.

In some parts of the country, in the energy industry, the use of captured well water, ground water flow back, from drilling may be applied for dust control provided the chloride levels are within standards. Production brine from drilling operations, for years in many areas has been spread on roads for dust control. The use of frac fluid typically is not permitted for dust control due to the presence of chemicals and other ingredients.

b. Stabilizers

Calcium Chloride

Another common and effective method is to use chlorides such as calcium chloride (flake or liquid), magnesium chloride (usually liquid) and sodium chloride (road salt). Calcium and Magnesium Chloride are most common. Calcium chloride absorbs water vapor from the air and liquid water from the road bed. At 77 F and 75% humidity, for example, it absorbs more than twice its weight in water. In addition, calcium chloride solutions attract more moisture to the road than they give up in evaporation.

The road remains dense and compact under almost any level of traffic because calcium chloride keeps materials on the road by keeping moisture in the road, even under a burning sun on a sweltering day.

Calcium chloride is generally sprayed as a 35% solution using a tank truck with a rear-mounted distribution bar that spreads the liquid evenly over the road.

As soon as calcium chloride enters a road, it's attracted to negatively charged soil particles, such as clays, which help resist leaching. Calcium chloride may move deeper into the base during wet weather but will rise toward the surface during dry spells.

An unpaved road stabilized with calcium chloride retains a smooth dustless surface. The moisture retained keeps the surface plastic enough so fines can migrate into gaps formed between aggregates under the varying pressure of car and truck traffic.

Resins

These products are often made from lignin sulfonate, a by-product of pulp milling. These work best when incorporated into the surface gravel.

Asphalts

The use of cutbacks to surface treat gravel roads was very popular at one time, however due to environmental issues they are banned in many places. Some emulsified asphalts are often used, referred to as dust or stone oil. Some municipalities will utilize dust oil on gravel roads in the vicinity of homes, while leaving the remainder of the road untreated.

Other

Other methods to control dust include soybean oil and other natural and manmade compositions that react similar to chlorides.

The next level of mitigation of gravel roads includes slurry or chip seals, stone oil or hotmix asphalt paving, which beside offering dust control add to the structural capacity of the road.

2. Implementation and Responsibility

Cases of uncovered loads resulting in loss of material shall be addressed by the NYSDEC and the agencies empowered with the jurisdiction of enforcement under the New York State Environment Law.

The town shall be responsible for dust control on gravel roads and other roads that require mitigation of dust issues. Agreements with contractors specializing in dust control and the application of products can be handled by bidding and or use of local and county bid lists.

3. Schedules

Dust control of gravel roads shall be regularly scheduled through a maintenance plan developed by the Highway Superintendent and or the town's pavement management consultant.

Enforcement agencies, typically the NYSDEC and local police agencies, shall be notified in advance of hauling activity as a courtesy to allow them opportunity for the scheduling of periodic check points and random enforcement.

4. References

Appendix E: NYSDEC Subpart 217-5 Heavy Duty Inspection and Maintenance Program.

Appendix F: “Dust Control and Stabilization”, USDOT FHWA SD LTAP November 2000

F. Impact on Transportation - Traffic Congestion

i. Background

Construction Related.

Unplanned or emergency construction activities can result from pavement failures, culvert collapse or other failures as a result of normal traffic and the frequency of heavy truck traffic. The proposed action would have the potential to increase truck traffic on certain roads and therefore require additional regular maintenance as well as upgrades in advance of permitting.

Planned construction activities include structural upgrades to roads, culverts and or bridges in advance of any expected change in heavy truck traffic, or as part of an ongoing improvement plan.

Whether planned or reactionary, construction activities directly affect the movement of people goods and services. Road closures, detours and temporary traffic control operations such as a single closure can have a direct effect on the Level of Service (LOS).

The transportation LOS system uses the letters A through F, with A being best and F being worst. LOS A is the best, described as conditions where traffic flows at or above the posted speed limit and all motorists have complete mobility between lanes. LOS A occurs late at night in urban areas, frequently in rural areas, and generally in car advertisements.

B is slightly more congested, with some impingement of maneuverability; two motorists might be forced to drive side by side, limiting lane changes. LOS B does not reduce speed from LOS A.

LOS C has more congestion than B, where ability to pass or change lanes is not always assured. LOS C is the target for urban highways in some places, and for rural highways in many places. At LOS C most experienced drivers are comfortable, roads remain safely below but efficiently close to capacity, and posted speed is maintained.

LOS D is perhaps the level of service of a busy shopping corridor in the middle of a weekday, or a functional urban highway during commuting hours: speeds are somewhat reduced, motorists are hemmed in by other cars and trucks. LOS D is a common goal for urban streets during peak hours, as attaining LOS C would require a prohibitive cost and societal impact in bypass roads and lane additions.

LOS E is a marginal service state. Flow becomes irregular and speed varies rapidly, but rarely reaches the posted limit. On highways this is consistent with a road at or approaching its designed capacity. LOS E is a common standard in larger urban areas, where some roadway congestion is inevitable.

LOS F is the lowest measurement of efficiency for a road's performance. Flow is forced; every vehicle moves in lockstep with the vehicle in front of it, with frequent slowing required. Technically, a road in a constant [traffic jam](#) would be at LOS F. This is because LOS does not describe an instant state, but rather an average or typical service. For example, a highway might operate at LOS D for the AM peak hour, but have traffic consistent with LOS C some days, LOS E or F others, and come to a halt once every few weeks. However, LOS F describes a road for which the travel time cannot be predicted. Facilities operating at LOS F generally have more demand than capacity.

The [Highway Capacity Manual](#) and [AASHTO Geometric Design of Highways and Streets](#) ("Green Book") list the following levels of service:

- A=Free Flow
- B=Reasonably free flow
- C=Stable flow
- D=Approaching unstable flow
- E=Unstable flow
- F=Forced or breakdown flow

ii. Impact

As discussed in the Impacts to Land section, impact of road upgrades, maintenance, and reconstruction activities would be a temporary impact to the public. Impacts may include longer commute times, minor detours and delays, and travelling on rough or partially completed road segments. These impacts are magnified when they involve routes vital to public safety and emergency services.

Planned construction activities have the luxury of providing detours and advanced information to the travelling public so that alternate routes can be established and additional time can be factored into commuting during construction.

Increase traffic volumes created by designating certain road segments as haul routes could result in increased volumes of truck traffic. This would impact the Level of Service (LOS) that the road segment is classified at for the life of the permit. Other issues created by truck traffic may involve stopping and site distance issues, signal timing, and turning movements.

iii. Mitigation

1. Measures

Haul route planning and approval should take into account local roads and routes important to public safety and emergency services. All haul routes should be reviewed by the local emergency service coordinator, county emergency coordinator and or the local police and fire departments. This would allow them to prioritize routes to maintain public safety at the same time as make them aware of road segments that may be under construction or temporarily closed.

By making upgrades before hauling is permitted conditions could be improved prior to the introduction of concentrated traffic. Coordinating other road construction projects so that they do not conflict would also help in mitigating the effects of road construction.

As in any road construction project, a proactive approach should be undertaken to provide information to motorists on planned activities, alternate routes and detours and the construction schedule. This would allow the public to make educated decisions regarding their commuting and travel plans.

Mitigation measures would include temporary changes to pavement markings and turning lanes, signage to direct ambient traffic around designated haul routes, temporary traffic control devices or procedures, and in the case of controlled intersections temporary changes to signal timing.

In order to cope with both planned and unplanned construction delays, alternate and or parallel routes should be planned for.

2. Implementation and Responsibility

Implementation of measures to address traffic congestion and the effects of road construction shall be solely on the town.

Municipalities may engage consultants to assist in the planning of mitigation and for pavement management.

3. Schedule

Actions to address the required mitigation measures shall be proactive and begin well in advance of any permitting activity. It is often necessary to evaluate the measures once in place to gauge their effectiveness. This would include making necessary changes or adjustments to the planned measures.

G. Impact on Public Health – Spills

i. Background

State and Federal Laws dictate the transport of petroleum, chemicals and hazardous waste. State, County and Local Law Enforcement agencies have jurisdiction over enforcement of these permits and regulations.

Energy related materials such as drilling and fracturing fluids, mud-drilled cuttings, pit liners, flow back water and produced brine are classified as non-hazardous industrial waste which must be hauled under a New York State Part 364 waste transporter permit issued by the Department. All Part 364 transporters must identify the general category of wastes transported and provide a signed authorization from each destination facility. However, manifesting is generally not required for non-hazardous industrial waste, which prevents tracking and verification of disposal destination on an individual load basis.

ii. Impact

The use of designated haul routes through a town will statistically increase the chance of accidents, spills or other mishaps associated with general travel.

iii. Mitigation

1. Measures

Mitigation would include requiring the permitted hauler to prepare an emergency response plan for the cleanup and recovery of any materials spilled during an accident, specific to each material being hauled. Other precautions may include having emergency responders educated and trained on the clean up and safe handling of the specific materials being hauled. This can be done through the permit process where local authorities are provided with Material Safety Data Sheets (MSDS) and other information. A sample set of MSDS sheets are provided in Appendix 6. Data sheets give vital information about the material such as flash point, methods for fire extinguishing, exposure potential and accidental release measures.

2. Implementation and Responsibility

The permitting agency shall have responsibility of obtaining information from the applicant as a condition of the permit.

The applicant shall be responsible for all efforts, costs and liabilities related to any accidental spill or release.

Implementation of any required hazardous materials training would have to be initiated by the Town and the applicant. The applicant may be required to share MSDS Data sheets, proprietary chemicals being used and transported, and methods for safe handling and cleanup of those materials.

3. As the required measures should be a condition of the permit, these activities, including the receipt of requested material information and training, shall be completed prior to the issuance of any permit under the law.
4. References

Appendix G: Sample MSDS Sheets

Appendix H: Part 364 Waste Transporter Permits

H. Impact on Growth and Character of Community or Neighborhood

i. Background

The action (law) itself will not necessarily directly have impacts on the growth of commerce in the community. There is a chance that a developer may choose an adjacent community for their development because the use of the roads is less restrictive and costly to them in the long run. In one instance this may be seen as a negative from a commerce and economic development perspective. The loss of revenue from investment and development can be viewed as a lost opportunity. However others may view this as a positive that their community will be spared some of the negative aspects a development may result in.

ii. Impacts

Many development projects put a direct demand on community services. For example, a new shopping center would require fire and police protection, water, sewer and electric service. The proposed action would increase the potential need for emergency services, and would directly impact law enforcement and permitting administration required to support and enforce the proposed law.

Permitting activities will require additional hours by municipalities to process applications and to coordinate haul routes. A signage program in many cases will be required to effectively identify roads where hauling is permitted. Enforcement of new and existing laws affecting, transport, noise, emissions and general traffic law will require more time dedicated by additional enforcement activities by State, County and Local Officials, and would at times take their attention away from other enforcement and emergency services. Another possible impact will be related to the traffic capacity of the existing road network as related to emergency services during these temporary hauling periods. This is further discussed under Level of Service (LOS).

iii. Mitigation

1. Measures

Any impact on resources and operating costs caused by the required enforcement of the law can be mitigated by the permit structure itself.

Signage and route designation information should be provided by the permit applicant and be maintained throughout the permits life.

Traffic impact to emergency services is discussed under Level of Service and can generally be mitigated through selection of haul routes having the least impact.

2. Implementation and Responsibility

The town shall be responsible for implementing a plan for the expected increase in the need for certain services (permitting, police, fire, etc.). Permit fees and surcharges related to the action may require additional law adoption or may be included within the proposed legislation itself.

3. Schedule

A plan shall be advanced prior to any expected permit activity to provide administration support for permitting, additional resources for enforcement and emergency services.

4. References

N/A

I. Vibration and Structural Degradation³

i. Background

Vibrations from heavy vehicles are common in many areas where homes and businesses are located near heavily traveled roads and truck routes. Often vibrations are a nuisance, however in certain circumstances vibrations may interfere with the activities being performed in adjacent structures and or generally impact the quality of life where homes are concerned. In rare cases vibrations have also caused minor damage to structures and resulted in cracks to foundations. The science of vibrations is discussed in a study prepared by the Institute for Research in Construction (IRC). The IRC publication “Traffic Vibrations in Buildings, Construction Technology Update No. 39” examines both cause and effect. See Appendix B.

ii. Impacts

There may be concern about the possibility of adverse long-term effects of vibrations on historic buildings, especially those in a weak condition. Vibrations may also interfere with sensitive processes, such as those in hospital operating theatres, scientific research laboratories and high tech industries.

Building vibrations caused by road traffic are not a health and safety concern; they are more a problem of annoyance. Vibrations may be unacceptable to occupants because of annoying physical sensations produced in the human body, interference with activities such as sleep and conversation, rattling of window panes and loose objects, and fear of damage to the building and its contents. Experience has shown that people living in houses are likely to complain if vibration levels are only slightly above the perception threshold, the major concern being fear of damage to the building or its contents. The tolerance level varies widely from person to person and from area to area.

The International Organization for Standardization and several countries (not including Canada) have published standards that provide guidance for evaluating human response to building vibration. The standards deal mainly with continuous and intermittent vibration such as that induced by machinery and pile driving, and impulsive vibration such as that induced by blasting. The standards are not clear about how to evaluate bus and

³Hunaidi, O., “Traffic Vibrations in Buildings”, Construction Technology Update No. 39, Institute for Research and Construction , 2000 National Research Council of Canada June 2000 ISSN 1206-1220, pp. 1-6.

truck vibrations, which have relatively short duration and complex amplitude characteristics. Alternative evaluation methods have been developed recently by IRC researchers based on their extensive measurements of traffic vibrations at several complaint sites.³

House owners may complain about damage induced by traffic vibrations, such as cracks in walls and ceilings, separation of masonry blocks, and cracks in the foundation. However, vibration levels are rarely high enough to be the direct cause of this damage, though they could contribute to the process of deterioration from other causes. Building components usually have residual strains as a result of uneven soil movement, moisture and temperature cycles, poor maintenance or past renovations and repairs. Therefore small vibration levels induced by road traffic could trigger damage by "topping up" residual strains. Consequently it is difficult to establish a vibration level that may cause building damage and, therefore, controversy continues to surround the issue. In some cases, when a building is subjected to vibration for many years, fatigue damage (i.e., that caused by repeated loading) may occur if the induced stresses in the building are high enough. In addition to damage caused directly by vibration, indirect damage may result from differential movements caused by soil settlement due to densification. Loose sandy soils are particularly susceptible to densification when subjected to vibration.

Several countries have adopted standards for evaluating the effect of vibration on buildings. No such national standards exist in Canada, but some provinces have adopted guide values for vibration induced by blasting. The most stringent vibration guide value specified in published standards for damage to houses is more than 30 times the human perception level. Occupants would therefore find potentially damaging vibrations to be extremely annoying because of their very high level. In a recent IRC study of vibrations induced by buses in houses at complaint sites in Montreal, vibration levels were found to be significantly lower than the most stringent guide value.¹

Annoyance vibration, cracks and structural damage are sometime attributed to vibration from traffic. The probability of impact is greater along routes where structures are in close proximity to roadways and the surface defects are moderate.

iii. Mitigation

1. Measures

Solutions and preventive strategies that have been suggested to reduce vibration to an acceptable level include periodic maintenance of road surfaces, control of traffic flow and speed, improvement of the road structure, soil improvement, sufficient distance between roads and buildings, screening of vibration using in-ground barriers, and building isolation systems. Some of these measures have proven to be effective.

Maintenance of the road surface (for example, leveling manhole covers, patching potholes and applying a new pavement overlay) is the most economical and effective remedial method. However, it is usually a short-term measure; for example, cracks and defects in the original pavement reappear in the overlay. Therefore, roads may have to be maintained more frequently than normally required for good rider comfort, safety and appearance. This will not always be feasible because of the high cost. Reducing speed limits and restricting heavy vehicles, while effective remedial measures, are usually difficult to enforce.

Experimental and theoretical evidence indicates that improving the structure of the road by increasing its thickness and stiffness is not effective for reducing vibration levels in the predominant frequency range of traffic-induced vibration (Figure 4). On the other hand, improvement of the soil structure under roads using deep mixing techniques could reduce vibration levels.

Increasing the distance between roads and houses might be a practical strategy for planned developments. Where vibrations result from impacts with a pothole or crack in the road, and considering geometrical damping only, vibration levels could decrease by at least one-third for each doubling of the distance if the soil is homogeneous. Attenuation relationships are in most cases site-specific and therefore must be measured on-site to determine the necessary distance.

In-ground barriers are trenches that are either left open or filled with a material (such as bentonite or concrete) that has stiffness or density significantly different from that of the surrounding soil (Figure 5). These barriers could be effective since traffic vibrations are mainly transmitted by the soil in the form of Rayleigh waves, which propagate near the ground surface.

Trenches however may be too costly for situations involving mitigating impacts to houses. They could perhaps be justified for larger buildings with strict vibration limits, such as operating theatres of hospitals or high-tech factories with sensitive processes.

An economical alternative to trenches in a residential area could be a row of lime or cement piles in the right-of-way adjacent to the road. Such piles are constructed in situ by mechanical mixing of the soil with either quick lime or ordinary cement. The piles could have a diameter of 0.5 to 1 m and a depth of 15 m. However, the effectiveness of such pile-walls in reducing traffic vibrations has not yet been demonstrated.

Home and building owners are likely to complain about traffic vibrations if the levels are only slightly above the perception threshold, the main concern being fear of damage to their property. Building damage may occur but it is unlikely to be caused solely by the vibrations themselves. Reducing vibrations to an acceptable level could be difficult and expensive. For existing buildings, the most practical remedial measure is road maintenance. For new developments, increasing the distance between buildings and roads, improvement of soil structure, and in-ground pile barriers could prove effective.

Prepare and maintain haul routes to minimize vibration. Methods may include speed posting, pavement maintenance and avoiding haul routes where road is close in proximity to homes, buildings and other structures.

2. Implementation and Responsibility

The identification of preferred haul routes should be conducted by the town well in advance of any planned permitting activity based upon the proximity to structures of relevance. Structures of relevance shall be determined by the permitting agency, however typically include historic properties, and structures with stone foundations, and structures with limited setback distance from roads. The use of professional services, such as consultants experienced in geotechnical, structural and foundation engineering should also be considered to assist in this activity.

The general maintenance and condition of the road surface shall remain the responsibility of the town. By limiting bumps, protrusions and irregularity in pavement surfaces, vibration in many cases can be minimized.

In cases where the applicant intends to use roadways other than those preferred by the town, the applicant should be responsible for funding the installation of physical measures that are to be employed to the satisfaction of the permitting agency. In addition the hauler shall modify the effectiveness of these measures throughout the life of the permit. This shall include making improvements to measures as needed.

Many of the physical measures examined above are not practical in many cases and should not necessarily be considered as the most feasible solution to mitigate issues.

Implementation haul route designation should take into account roads in close proximity to structures and designate those areas as non preferred haul routes in advance of any permitting activity.

3. Schedule

Haul route ranking shall be conducted by the town in advance of any permitting taking into account the susceptibility of nearby structures to be damaged by vibration.

Road improvements to provide a smooth road surface shall be scheduled prior to any permitting of haul routes.

In instances where the applicant wishes to mitigate vibration effects along a non-preferred haul route, the applicant shall be responsible for funding the proposed measures prior to any permitting.

4. References

Appendix I: "Traffic Vibrations in Buildings", Construction Technology Update No. 39, Institute for Research and Construction, 2000 National Research Council of Canada June 2000 ISSN 1206-1220

J. Impact on Aesthetic Resources

i. Background

The NYSDEC established Program Policy for Assessing and Mitigating Visual Impacts. This policy, Appendix J, assists in the evaluation of aesthetic and visual impacts from proposed developments and facilities. Although the action being discussed is not a fixed development or facility, the guidance material contained within provides useful direction in evaluating these impacts and some mitigation measures that may be employed.

ii. Impacts

By designating haul routes for truck traffic there exists the potential to impact visual representation of views known to be important to the public. Although these are generally temporary and not fixed, they do present the possibility to temporarily impact scenic views of and from important locations. Certain aspects come into play when evaluating the Aesthetic Resources in a local. These include presence of historic districts, park, scenic overlooks, places of common photo opportunities, residential areas and other districts.

iii. Mitigation

1. Measures

Mitigation of this impact can be accomplished by designating historic and aesthetically important areas within the town and restricting, where possible, designated haul routes from being chosen.

By choosing haul routes that employ natural in place screening, trees, or other features the visual impact of heavy traffic can be visually mitigated from important views as well as provide mitigation to other impacts such as noise and vibration.

2. Implementation

Implementation methods may include formal actions such as creating local historic or architectural districts.

Less formal methods could include a user survey to residents asking for their opinion and ranking of the Municipalities most important historic and aesthetic resources.

3. Responsibility and Implementation

A plan to identify significant areas in a community should be undertaken by the Town and utilize the opinion and expertise of historical societies, public park user groups and Local environmental and planning agencies.

4. Schedule

The task of identifying and inventorying historical and aesthetic resources within the community shall be undertaken well in advance of any proposed permit applications.

5. References

Appendix J: NYSDEC Policy on Assessing and Evaluating Visual and Aesthetic Impacts.

VIII. Summary

A. Major Conclusions

Many of the measures outlined in this document to mitigate the impacts of the proposed action identify existing laws and enforcement that are all ready on the books with Federal, State Environmental Law.

Many other mitigation measures involve the haul route selection process. The process of selecting haul route segments can potentially have the greatest effect on residents and will surely not be able to balance all of the public's concerns at one time. Municipalities must rank by importance their most vital routes in terms of public safety and emergency services, environmental resources, economic development and commerce, historical and cultural resources and general quality of life. Other specific factors specifically addressed in this document include a roads proximity to structures, presence of buffer vegetation and other factors.

B. Areas of Controversy

Most controversy as related to the impact will be on the applicants themselves. Some instances haul routes may include additional mileage to avoid roads of importance and the cost associated with upgrading roads to carry the expected loading and frequency. That is why it is imperative that this law, the classification of road segment importance, and the requirement of the action be in place well in advance of any permitting or subsequent legal challenge.

C. Issues to Be Resolved

Although this document attempts to identify mitigation for each area of impact, it is clear that the proposed action and the activities that have driven the law and its inception will have an effect of the quality of life for area residents for years to come. The mitigation measures outlined in this document are designed to minimize the effects of such identified impacts.

APPENDIX A

Road Inventories of Member Towns

(Includes County and State Roads)

Member Towns
 NYSDOT Road Inventory
 (Includes County and State Roads)

County	DOT ID	Name	From	To	Beg	End	Length	Muni Type	Municipality	Jurisdiction	Lanes	Pvmnt	AADT - Actual	AADT Yr
SULLIVAN	218528	A P FULTON RD			0	0.47	0.47	Town	Bethel	03 Town	2	A		
SULLIVAN	218529	ABPLANALP ROAD	DEAD END	BAIM RD	0	0.25	0.25	Town	Bethel	03 Town	2	U		
SULLIVAN	218530	ADIRONDACK TR E			0	0.05	0.05	Town	Bethel	03 Town	2	U		
SULLIVAN	218531	ADIRONDACK TR W			0	0.13	0.13	Town	Bethel	03 Town	2	A		
SULLIVAN	218532	ALLEGHENY TRAIL			0	0.06	0.06	Town	Bethel	03 Town	2	U		
SULLIVAN	218532	ALLEGHENY TRAIL			0.06	0.08	0.02	Town	Bethel	03 Town	2	A		
SULLIVAN	218533	ANDREW LA			0	0.07	0.07	Town	Bethel	03 Town	2	A		
SULLIVAN	218534	ANTELOPE TRAIL	E MONGAUP TR	BERKSHIRE TR	0	0.11	0.11	Town	Bethel	03 Town	2	U		
SULLIVAN	218535	BAIM RD	CR 144 BRISCOE RD	DEAD END	0	0.28	0.28	Town	Bethel	03 Town	2	U		
SULLIVAN	218536	BALLARD ROAD			0	1.2	1.2	Town	Bethel	03 Town	2	A		
SULLIVAN	218537	BALLARD ST/SMAL			0	0.17	0.17	Town	Bethel	03 Town	2	A		
SULLIVAN	218538	BASS LANE W SHO			0	0.03	0.03	Town	Bethel	03 Town	2	A		
SULLIVAN	218539	BEAR TRAIL SMAL			0	0.21	0.21	Town	Bethel	03 Town	2	A		
SULLIVAN	218540	BEAVER TRAIL SM			0	0.1	0.1	Town	Bethel	03 Town	2	A		
SULLIVAN	218541	BEECHWOOD ROAD	SR 17B	DEAD END	0	0.34	0.34	Town	Bethel	03 Town	2	A		
SULLIVAN	218542	BEHR ROAD			0	2.02	2.02	Town	Bethel	03 Town	2	A		
SULLIVAN	218543	BERKSHIRE TRAIL			0	0.2	0.2	Town	Bethel	03 Town	2	A		
SULLIVAN	218544	BERNHARDT ROAD			0	0.41	0.41	Town	Bethel	03 Town	2	A		
SULLIVAN	218545	BEST ROAD	W SHORE RD	PRINCE RD	0	1.6	1.6	Town	Bethel	03 Town	2	A		
SULLIVAN	218545	BEST ROAD	PRINCE RD	LAYMON RD	1.6	1.84	0.24	Town	Bethel	03 Town	2	U		
SULLIVAN	218546	BETHEL PL	GABRIEL ST	LAKESITE DR	0	0.16	0.16	Town	Bethel	03 Town	2	A		
SULLIVAN	218547	BETTIN RD	BEHR RD	END	0	0.24	0.24	Town	Bethel	03 Town	2	A		
SULLIVAN	218548	BIRCH RIDGE RD			0	1	1	Town	Bethel	03 Town	2	A		
SULLIVAN	218549	BLANCHARD ROAD			0	1.19	1.19	Town	Bethel	03 Town	2	A		
SULLIVAN	218550	BRADY AVE SMALL			0	0.36	0.36	Town	Bethel	03 Town	2	A		
SULLIVAN	218551	BRITMAN RD	SR 17B	DIESCHER DR	0	0.39	0.39	Town	Bethel	03 Town	2	A		
SULLIVAN	218551	BRITMAN ROAD	DIESCHER DR	PAVE CHANGE	0.39	0.61	0.22	Town	Bethel	03 Town	2	A		
SULLIVAN	218551	BRITMAN ROAD	PAVE CHANGE	DEAD END	0.61	0.66	0.05	Town	Bethel	03 Town	2	U		
SULLIVAN	218552	BROADWAY RD			0	0.38	0.38	Town	Bethel	03 Town	2	A		
SULLIVAN	218553	BROG ROAD			0	0.26	0.26	Town	Bethel	03 Town	2	A		
SULLIVAN	218553	BROG ROAD			0.26	0.29	0.03	Town	Bethel	03 Town	2	U		
SULLIVAN	218554	BROOK RD			0	0.69	0.69	Town	Bethel	03 Town	2	U		
SULLIVAN	218555	BROOKSIDE WAY S			0	0.21	0.21	Town	Bethel	03 Town	2	A		
SULLIVAN	218556	BROWER PL SMALL	DEAD END	DEITRICH PL	0	0.02	0.02	Town	Bethel	03 Town	2	U		
SULLIVAN	218556	BROWER PL SMALL	DEITRICH PL	LAKE VIEW DR	0.02	0.11	0.09	Town	Bethel	03 Town	2	A		
SULLIVAN	218557	BUFFALO TRAIL S	E MONGAUP TR	BERKSHIRE TR	0	0.11	0.11	Town	Bethel	03 Town	2	A		
SULLIVAN	218558	BURR RD			0	2.05	2.05	Town	Bethel	03 Town	2	A		
SULLIVAN	218559	BUSHVILLE-SWAN			0	1.58	1.58	Town	Bethel	03 Town	2	A		
SULLIVAN	218560	BUTRICK RD			0	1.2	1.2	Town	Bethel	03 Town	2	A		
SULLIVAN	218561	CAL STEWART RD	CR 14	DEAD END	0	0.39	0.39	Town	Bethel	03 Town	2	A		
SULLIVAN	218562	CASCADE TRAIL S			0	0.24	0.24	Town	Bethel	03 Town	2	A		
SULLIVAN	218563	CATSKILL TR W			0	0.06	0.06	Town	Bethel	03 Town	2	A		
SULLIVAN	218564	CATSKILL TR E			0	0.23	0.23	Town	Bethel	03 Town	2	A		
SULLIVAN	218565	CENTRAL AVE WHI			0	0.33	0.33	Town	Bethel	03 Town	2	A		
SULLIVAN	218566	CIRCLE PL SMALL			0	0.13	0.13	Town	Bethel	03 Town	2	A		
SULLIVAN	218567	CLAUDE LA	DEAD END	FOSTER RD	0	0.1	0.1	Town	Bethel	03 Town	2	A		
SULLIVAN	218568	CLIFF ST SMALLW			0	0.15	0.15	Town	Bethel	03 Town	2	A		
SULLIVAN	218569	COHEN & COHEN R			0	0.57	0.57	Town	Bethel	03 Town	2	U		

Member Towns
 NYSDOT Road Inventory
 (Includes County and State Roads)

SULLIVAN	218569	COHEN & COHEN R			0.57	1.57	1	Town	Bethel	03 Town	2	A		
SULLIVAN	218570	COOPER DRIVE			0	0.08	0.08	Town	Bethel	03 Town	2	A		
SULLIVAN	218571	CORWIN AVE W			0	0.1	0.1	Town	Bethel	03 Town	2	A		
SULLIVAN	218572	CORWIN AVE E			0	0.18	0.18	Town	Bethel	03 Town	2	U		
SULLIVAN	218573	CREAMERY RD			0	3.55	3.55	Town	Bethel	03 Town	2	A		
SULLIVAN	218574	CRUMLEY VAN VA			0	0.38	0.38	Town	Bethel	03 Town	2	A		
SULLIVAN	218574	CRUMLEY VAN VA			0.38	1.21	0.83	Town	Bethel	03 Town	2	U		
SULLIVAN	218574	CRUMLEY VAN VA			1.21	1.58	0.37	Town	Bethel	03 Town	2	A		
SULLIVAN	218575	CUMBERLAND TR S			0	0.39	0.39	Town	Bethel	03 Town	2	A		
SULLIVAN	218576	DARLING ROAD	DEAD END	BEST RD	0	0.28	0.28	Town	Bethel	03 Town	2	U		
SULLIVAN	218577	DAVIS ROAD	DEAD END	CR 141	0	0.35	0.35	Town	Bethel	03 Town	2	U		
SULLIVAN	218578	DEPPA RD	CR 144	LIBERTY T/L	0	0.8	0.8	Town	Bethel	03 Town	2	U		
SULLIVAN	218579	DIESCHER DR	BRITMAN RD	DEAD END	0	0.25	0.25	Town	Bethel	03 Town	2	A		
SULLIVAN	218580	DIETRICH PL SMA	BROWER PL	STRATTON AVE	0	0.12	0.12	Town	Bethel	03 Town	2	A		
SULLIVAN	218581	DONALDSON ROAD	SR 17B	PAVEMENT CHANGE	0	0.07	0.07	Town	Bethel	03 Town	2	A		
SULLIVAN	218581	DONALDSON ROAD	PAVEMENT CHANGE	DEAD END	0.07	0.3	0.23	Town	Bethel	03 Town	2	U		
SULLIVAN	218582	DONENFELD DR W			0	0.08	0.08	Town	Bethel	03 Town	2	A		
SULLIVAN	218583	DOUGLAS TERRACE			0	0.09	0.09	Town	Bethel	03 Town	2	A		
SULLIVAN	218584	DR DUGGAN RD			0	2.71	2.71	Town	Bethel	03 Town	2	A		
SULLIVAN	218585	E BEECH ST			0	0.16	0.16	Town	Bethel	03 Town	2	A		
SULLIVAN	218586	E CHERRY TRAIL			0	0.21	0.21	Town	Bethel	03 Town	2	A		
SULLIVAN	218587	E DELAWARE PL S			0	0.18	0.18	Town	Bethel	03 Town	2	A		
SULLIVAN	218588	E KENOZA PLACE			0	0.26	0.26	Town	Bethel	03 Town	2	A		
SULLIVAN	218588	E KENOZA PLACE			0.26	0.28	0.02	Town	Bethel	03 Town	2	U		
SULLIVAN	218589	E MONGAUP TRAIL			0	0.18	0.18	Town	Bethel	03 Town	2	A		
SULLIVAN	218590	E OAK ST SMALLW			0	0.19	0.19	Town	Bethel	03 Town	2	A		
SULLIVAN	218591	E SULLIVAN PL S			0	0.14	0.14	Town	Bethel	03 Town	2	A		
SULLIVAN	218592	E THOMPSON PL S			0	0.34	0.34	Town	Bethel	03 Town	2	A		
SULLIVAN	218593	E TUSTEN PL/SMA			0	0.34	0.34	Town	Bethel	03 Town	2	A		
SULLIVAN	218594	E WALNUT ST/SMA			0	0.12	0.12	Town	Bethel	03 Town	2	A		
SULLIVAN	218595	ELK TRAIL SMALL	E. MONGAUP TR	BERKSHIRE TRAIL	0	0.11	0.11	Town	Bethel	03 Town	2	U		
SULLIVAN	218596	ELTZ ROAD			0	0.38	0.38	Town	Bethel	03 Town	2	A		
SULLIVAN	218597	FAIRWEATHER RD			0	0.95	0.95	Town	Bethel	03 Town	2	A		
SULLIVAN	218598	FISHER RD	DEAD END	GABRIEL RD	0	0.29	0.29	Town	Bethel	03 Town	2	A		
SULLIVAN	218599	FITTKAU ROAD	DEAD END	BLANCHARD	0	0.22	0.22	Town	Bethel	03 Town	2	A		
SULLIVAN	218600	FOSTER RD			0	0.42	0.42	Town	Bethel	03 Town	2	A		
SULLIVAN	218601	FOX TRAIL SMALL			0	0.04	0.04	Town	Bethel	03 Town	2	U		
SULLIVAN	218602	FRASER ROAD			0	1.52	1.52	Town	Bethel	03 Town	2	A		
SULLIVAN	218603	FUHRER RD			0	0.29	0.29	Town	Bethel	03 Town	2	A		
SULLIVAN	218604	FULTON RD			0	0.57	0.57	Town	Bethel	03 Town	2	A		
SULLIVAN	218605	GABRIEL ROAD			0	1.55	1.55	Town	Bethel	03 Town	2	A		
SULLIVAN	218605	GABRIEL ROAD			1.55	2.21	0.66	Town	Bethel	03 Town	2	U		
SULLIVAN	218606	GABRIEL ST SMAL			0	0.84	0.84	Town	Bethel	03 Town	2	A		
SULLIVAN	218607	GALE ROAD	SR 17B	CREAMERY RD	0	0.09	0.09	Town	Bethel	03 Town	2	A		
SULLIVAN	218607	GALE ROAD	CREAMERY RD	CR 73	0.09	2.49	2.4	Town	Bethel	03 Town	2	A	120	2005
SULLIVAN	218608	GALIA RD SMALL	HARTWOOD DR	E GLENWILD DR	0	0.09	0.09	Town	Bethel	03 Town	2	A		
SULLIVAN	218609	GEMPLER ROAD	DEAD END	HURD RD	0	0.25	0.25	Town	Bethel	03 Town	2	U		
SULLIVAN	218610	GENE LA			0	0.06	0.06	Town	Bethel	03 Town	2	A		
SULLIVAN	218611	GEO B STEPHENSO	DEAD END	PAVEMENT CHANGE	0	0.05	0.05	Town	Bethel	03 Town	2	U		
SULLIVAN	218611	GEO B STEPHENSO	PAVEMENT CHANGE	MATTISON RD	0.05	0.18	0.13	Town	Bethel	03 Town	2	A		
SULLIVAN	218612	GEO SEGAR RD	CR 144	DEAD END	0	0.13	0.13	Town	Bethel	03 Town	2	A		

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SULLIVAN	218613	GEO STEIDER DR			0	0.05	0.05	Town	Bethel	03 Town	2	A		
SULLIVAN	218614	GINA LA			0	0.51	0.51	Town	Bethel	03 Town	2	A		
SULLIVAN	218615	E GLENWILD DR			0	0.26	0.26	Town	Bethel	03 Town	2	A		
SULLIVAN	218615	E GLENWILD DR			0.26	0.28	0.02	Town	Bethel	03 Town	2	U		
SULLIVAN	218616	E GLENWILD DR			0	0.06	0.06	Town	Bethel	03 Town	2	A		
SULLIVAN	218617	GOLD DAN RD			0	0.24	0.24	Town	Bethel	03 Town	2	A		
SULLIVAN	218618	GOLDSMITH A ROA	BEHR RD	PERRY RD	0	0.64	0.64	Town	Bethel	03 Town	2	A		
SULLIVAN	218619	GOLF PARK RD SM			0	0.29	0.29	Town	Bethel	03 Town	2	A		
SULLIVAN	218620	GRANT ROAD			0	0.3	0.3	Town	Bethel	03 Town	2	U		
SULLIVAN	218621	H GOBEL RD			0	0.49	0.49	Town	Bethel	03 Town	2	U		
SULLIVAN	218622	HANS FISCHER RD	DEAD END	CR 115	0	0.31	0.31	Town	Bethel	03 Town	2	U		
SULLIVAN	218623	HAPPY AVENUE			0	2.67	2.67	Town	Bethel	03 Town	2	A		
SULLIVAN	218624	HARDEN RD	DEAD END	PAVEMENT CHANGE	0	0.26	0.26	Town	Bethel	03 Town	2	U		
SULLIVAN	218624	HARDEN RD	PAVEMENT CHANGE	PRASER RD	0.26	0.44	0.18	Town	Bethel	03 Town	2	A		
SULLIVAN	218625	HART LANE/W SHO			0	0.06	0.06	Town	Bethel	03 Town	2	A		
SULLIVAN	218626	HARTMAN AVE SMA			0	0.05	0.05	Town	Bethel	03 Town	2	A		
SULLIVAN	218627	HARTWOOD DR SMA			0	0.6	0.6	Town	Bethel	03 Town	2	A		
SULLIVAN	218627	HARTWOOD DR SMA			0.6	0.64	0.04	Town	Bethel	03 Town	2	U		
SULLIVAN	218628	HEMLOCK AVE SMA			0	0.02	0.02	Town	Bethel	03 Town	2	U		
SULLIVAN	218628	HEMLOCK AVE SMA			0.02	0.22	0.2	Town	Bethel	03 Town	2	A		
SULLIVAN	218628	HEMLOCK AVE SMA			0.22	0.26	0.04	Town	Bethel	03 Town	2	U		
SULLIVAN	218629	HIAWATHA TR SMA	DEAD END	TOMAHAWK	0	0.04	0.04	Town	Bethel	03 Town	2	A		
SULLIVAN	218630	HIGHLAND AVE	OVERLOOK DR		0	0.48	0.48	Town	Bethel	03 Town	2	A		
SULLIVAN	218631	HIGHLAND AVE E			0	0.02	0.02	Town	Bethel	03 Town	2	A		
SULLIVAN	218632	HIGHLAND PL W			0	0.05	0.05	Town	Bethel	03 Town	2	A		
SULLIVAN	218633	HIGHLAND DRIVE			0	0.04	0.04	Town	Bethel	03 Town	2	A		
SULLIVAN	218634	HIGHVIEW DR SMA			0	0.24	0.24	Town	Bethel	03 Town	2	A		
SULLIVAN	218635	HILL TOP RD/W S			0	0.24	0.24	Town	Bethel	03 Town	2	A		
SULLIVAN	218636	HORACE WHEELER	DEAD END	MOUNT HOPE RD	0	0.14	0.14	Town	Bethel	03 Town	2	A		
SULLIVAN	218637	HUBERT ROAD			0	0.88	0.88	Town	Bethel	03 Town	2	A		
SULLIVAN	218638	HUFF RD	CR 144 BRISCOE RD	CALLICOON T/L	0	0.56	0.56	Town	Bethel	03 Town	2	A	120	2008
SULLIVAN	218639	HUGHSTON ROAD	CR 141	DEAD END	0	0.07	0.07	Town	Bethel	03 Town	2	A		
SULLIVAN	218640	HUNTINGTON AVE			0	0.13	0.13	Town	Bethel	03 Town	2	A		
SULLIVAN	218641	HURD & PARKS RD	CR 14	JOHN BISHOP RD	0	0.85	0.85	Town	Bethel	03 Town	2	A		
SULLIVAN	218641	HURD & PARKS RD	JOHN BISHOP RD	SCHOOL HOUSE RD	0.85	1.12	0.27	Town	Bethel	03 Town	2	A		
SULLIVAN	218641	HURD & PARKS RD	SCHOOL HOUSE RD	MOUNT HOPE RD	1.12	2.95	1.83	Town	Bethel	03 Town	2	A		
SULLIVAN	218642	HURD RD	SR 17B	WIDTH CHANGE	0	0.04	0.04	Town	Bethel	03 Town	2	A		
SULLIVAN	218642	HURD RD	WIDTH CHANGE	GEMPLER RD	0.04	0.92	0.88	Town	Bethel	03 Town	2	A		
SULLIVAN	218642	HURD RD	GEMPLER RD	W SHORE RD	0.92	1.18	0.26	Town	Bethel	03 Town	2	A		
SULLIVAN	218642	HURD RD	W SHORE RD	PRINCE RD	1.18	2.65	1.47	Town	Bethel	03 Town	2	A		
SULLIVAN	218642	HURD RD	PRINCE RD	LAYMON RD	2.65	2.96	0.31	Town	Bethel	03 Town	2	A		
SULLIVAN	218642	HURD RD	LAYMON RD	MEIHOFFER RD	2.96	3.14	0.18	Town	Bethel	03 Town	2	A		
SULLIVAN	218642	HURD RD	MEIHOFFER RD	JIM STEPHENSON	3.14	3.75	0.61	Town	Bethel	03 Town	2	A		
SULLIVAN	218642	HURD RD	JIM STEPHENSON	MICHAEL RD	3.75	3.88	0.13	Town	Bethel	03 Town	2	A		
SULLIVAN	218642	HURD RD	MICHAEL RD	FAIRWEATHER RD	3.88	4.95	1.07	Town	Bethel	03 Town	2	A		
SULLIVAN	218642	HURD RD	FAIRWEATHER RD	CR 144	4.95	5.8	0.85	Town	Bethel	03 Town	2	A	1040	1999
SULLIVAN	218643	INDIAN FIELD RD			0	0.86	0.86	Town	Bethel	03 Town	2	A		
SULLIVAN	218644	IROQUOIS TR			0	0.36	0.36	Town	Bethel	03 Town	2	A		
SULLIVAN	218645	J K MILLCH ROAD	MCKAY RD	CR 141	0	0.73	0.73	Town	Bethel	03 Town	2	A		
SULLIVAN	218646	JAKETOWN ROAD			0	1.92	1.92	Town	Bethel	03 Town	2	A		
SULLIVAN	218647	JAMES AVE W			0	0.12	0.12	Town	Bethel	03 Town	2	U		

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SULLIVAN	218647	JAMES AVE W			0.12	0.17	0.05	Town	Bethel	03 Town	2	A		
SULLIVAN	218648	JAMES AVE E			0	0.13	0.13	Town	Bethel	03 Town	2	U		
SULLIVAN	218649	JIM STEPHENSON	BEHR RD	HURD RD	0	1.13	1.13	Town	Bethel	03 Town	2	A		
SULLIVAN	218650	JOHN BISHOP RD	CR 141	HURD & PARKS RD	0	0.73	0.73	Town	Bethel	03 Town	2	U		
SULLIVAN	218651	KARL AVE SMALLW			0	0.04	0.04	Town	Bethel	03 Town	2	U		
SULLIVAN	218651	KARL AVE SMALLW			0.04	0.31	0.27	Town	Bethel	03 Town	2	A		
SULLIVAN	218652	KELLER AVE SMAL			0	0.38	0.38	Town	Bethel	03 Town	2	A		
SULLIVAN	218653	KILCOIN RD	CR 13	DEAD END	0	0.54	0.54	Town	Bethel	03 Town	2	A		
SULLIVAN	218654	KORTRIGHT RD	BETHEL\THOMPSON	CR 73 LT BENDER HWY	0	0.95	0.95	Town	Bethel	03 Town	2	A	160	2005
SULLIVAN	218655	KRYSTYNA LA			0	0.67	0.67	Town	Bethel	03 Town	2	A		
SULLIVAN	218656	LAFAYETTE AVE S			0	0.13	0.13	Town	Bethel	03 Town	2	A		
SULLIVAN	218657	LAIRD RD			0	2.13	2.13	Town	Bethel	03 Town	2	A		
SULLIVAN	218658	LAKE DRIVE HORS	DEAD END	MOUNT HOPE RD	0	0.43	0.43	Town	Bethel	03 Town	2	A		
SULLIVAN	218659	LAKE SHORE DR		SPRING RD	0	1.29	1.29	Town	Bethel	03 Town	2	A		
SULLIVAN	218659	LAKE SHORE DR	SPRING RD	SGT ANDREW BRUCHER	1.29	1.51	0.22	Town	Bethel	03 Town	2	A	100	2007
SULLIVAN	218660	LAKESHORE DRIVE			0	0.32	0.32	Town	Bethel	03 Town	2	A		
SULLIVAN	218661	LAKE SITE DR SM			0	0.24	0.24	Town	Bethel	03 Town	2	A		
SULLIVAN	218662	LAKE STREET WHI			0	0.41	0.41	Town	Bethel	03 Town	2	A		
SULLIVAN	218663	LAKE VIEW DR SM			0	0.45	0.45	Town	Bethel	03 Town	2	A		
SULLIVAN	218664	LAKE VIEW RD W			0	0.26	0.26	Town	Bethel	03 Town	2	A		
SULLIVAN	218665	LAURA AVE SMALL			0	0.02	0.02	Town	Bethel	03 Town	2	U		
SULLIVAN	218665	LAURA AVE SMALL			0.02	0.24	0.22	Town	Bethel	03 Town	2	A		
SULLIVAN	218666	LAYMON RD	HURD RD	LAIRD RD	0	0.14	0.14	Town	Bethel	03 Town	2	A		
SULLIVAN	218666	LAYMON RD	LAIRD RD	BEST RD	0.14	0.69	0.55	Town	Bethel	03 Town	2	A		
SULLIVAN	218666	LAYMON RD	BEST RD	RANGER RD	0.69	1.1	0.41	Town	Bethel	03 Town	2	U		
SULLIVAN	218666	LAYMON RD	RANGER RD	HAPPY AVE	1.1	1.6	0.5	Town	Bethel	03 Town	2	A		
SULLIVAN	218666	LAYMON RD	HAPPY AVE	CR 141	1.6	2.16	0.56	Town	Bethel	03 Town	2	A		
SULLIVAN	218667	LEE COLE RD			0	1.02	1.02	Town	Bethel	03 Town	2	A		
SULLIVAN	218668	LEHIGH ST E SM			0	0.05	0.05	Town	Bethel	03 Town	2	A		
SULLIVAN	218669	LEHIGH ST W SM			0	0.02	0.02	Town	Bethel	03 Town	2	A		
SULLIVAN	218670	LESTER LA			0	0.12	0.12	Town	Bethel	03 Town	2	A		
SULLIVAN	218671	LIBERTY PLACE	W OAK ST	W DELAWARE PL	0	0.04	0.04	Town	Bethel	03 Town	2	A		
SULLIVAN	218672	LYNN LANE	CR 141	DEAD END	0	0.16	0.16	Town	Bethel	03 Town	2	A		
SULLIVAN	218673	LYONS ROAD			0	0.16	0.16	Town	Bethel	03 Town	2	A		
SULLIVAN	218673	LYONS ROAD			0.16	0.29	0.13	Town	Bethel	03 Town	2	U		
SULLIVAN	218674	MAJ MARIE ROSSI			0	0.47	0.47	Town	Bethel	03 Town	2	U		
SULLIVAN	218675	MAPLE AVE SMALL			0	0.07	0.07	Town	Bethel	03 Town	2	A		
SULLIVAN	218676	MAPLE AVE WHITE			0	0.27	0.27	Town	Bethel	03 Town	2	A		
SULLIVAN	218677	MARKLEY LANE SM			0	0.18	0.18	Town	Bethel	03 Town	2	A		
SULLIVAN	218678	MARA WAY	DEAD END	SULLIVAN PL	0	0.04	0.04	Town	Bethel	03 Town	2	A		
SULLIVAN	218679	MARTIN RD	SR17B	DEAD END	0	0.14	0.14	Town	Bethel	03 Town	2	U		
SULLIVAN	218680	MATTISON RD			0	0.66	0.66	Town	Bethel	03 Town	2	A		
SULLIVAN	218681	MATT SMITH RD A			0	0.22	0.22	Town	Bethel	03 Town	2	U		
SULLIVAN	218681	MATT SMITH RD A			0.22	0.52	0.3	Town	Bethel	03 Town	2	A		
SULLIVAN	218682	MAY AVE SMALLWO			0	0.16	0.16	Town	Bethel	03 Town	2	A		
SULLIVAN	218683	MCKAY ROAD	SILVER LAKE RD		0	0.66	0.66	Town	Bethel	03 Town	2	U		
SULLIVAN	218683	MCKAY ROAD		PAVEMENT CHANGE	0.66	0.81	0.15	Town	Bethel	03 Town	2	A		
SULLIVAN	218683	MCKAY ROAD	PAVEMENT CHANGE	STALKER RD	0.81	0.9	0.09	Town	Bethel	03 Town	2	A		
SULLIVAN	218683	MCKAY ROAD	STALKER RD	LAIRD RD	0.9	1.38	0.48	Town	Bethel	03 Town	2	A		
SULLIVAN	218684	MICHEL ROAD	HURD RD	DEAD END	0	0.24	0.24	Town	Bethel	03 Town	2	U		
SULLIVAN	218685	MINK TRAIL SMAL			0	0.04	0.04	Town	Bethel	03 Town	2	U		

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SULLIVAN	218686	MITCHEL RD	DEAD END	CR 13	0	0.21	0.21	Town	Bethel	03 Town	2 A		
SULLIVAN	218687	MITCHELL ST E			0	0.19	0.19	Town	Bethel	03 Town	2 A		
SULLIVAN	218688	MITCHELL ST W			0	0.11	0.11	Town	Bethel	03 Town	2 A		
SULLIVAN	218689	MOHAWK TR PT 1			0	0.33	0.33	Town	Bethel	03 Town	2 A		
SULLIVAN	218690	MOHAWK TR PT 2			0	0.02	0.02	Town	Bethel	03 Town	2 A		
SULLIVAN	218691	MOLLER RD			0	0.81	0.81	Town	Bethel	03 Town	2 A		
SULLIVAN	218692	MOOSE TRAIL SMA	E MONGAUP TR	BERKSHIRE TR	0	0.11	0.11	Town	Bethel	03 Town	2 U		
SULLIVAN	218693	MOSCOE RD			0	0.81	0.81	Town	Bethel	03 Town	2 A		
SULLIVAN	218694	MOUNT HOPE ROAD	HORSESHOE LAKE RD	SOUL RD	0	1.19	1.19	Town	Bethel	03 Town	2 A		
SULLIVAN	218694	MOUNT HOPE ROAD	SOUL RD	COHEN AND COHEN RD	1.19	2.77	1.58	Town	Bethel	03 Town	2 A		
SULLIVAN	218694	MOUNT HOPE ROAD	COHEN AND COHEN	NY 55 SWAN LAKE RD	2.77	3.33	0.56	Town	Bethel	03 Town	2 A	920	2008
SULLIVAN	218695	MOUNTAIN LAKES			0	0.38	0.38	Town	Bethel	03 Town	2 A		
SULLIVAN	218696	MURPHY RD	MT. HOPE RD	LIBERTY T/L	0	1.4	1.4	Town	Bethel	03 Town	2 A		
SULLIVAN	218697	NAYLOR RD	SR 17B	DEAD END	0	0.66	0.66	Town	Bethel	03 Town	2 A		
SULLIVAN	218698	N THOMPSON PL S			0	0.08	0.08	Town	Bethel	03 Town	2 A		
SULLIVAN	218699	NORRIS DRIVE			0	0.02	0.02	Town	Bethel	03 Town	2 U		
SULLIVAN	218700	NEARING LA			0	0.15	0.15	Town	Bethel	03 Town	2 U		
SULLIVAN	218701	NORTH ROAD A			0	0.18	0.18	Town	Bethel	03 Town	2 A		
SULLIVAN	218702	NORTH ROAD B			0	0.15	0.15	Town	Bethel	03 Town	2 A		
SULLIVAN	218703	OAKLAND DR E	GABRIEL ST	DEAD END	0	0.05	0.05	Town	Bethel	03 Town	2 U		
SULLIVAN	218704	OAKLAND DR W	DEAD END	GABRIEL ST	0	0.06	0.06	Town	Bethel	03 Town	2 A		
SULLIVAN	218705	OLD COUNTY RD N			0	0.12	0.12	Town	Bethel	03 Town	2 A		
SULLIVAN	218706	OLD COUNTY RD N			0	0.15	0.15	Town	Bethel	03 Town	2 A		
SULLIVAN	218707	OLD ROUTE 17B	SR 17B	DEAD END	0	0.24	0.24	Town	Bethel	03 Town	2 A		
SULLIVAN	218708	OLD TACY RD			0	1.49	1.49	Town	Bethel	03 Town	2 A		
SULLIVAN	218708	OLD TACY RD			1.49	2.1	0.61	Town	Bethel	03 Town	2 U		
SULLIVAN	218708	OLD TACY RD			2.1	2.16	0.06	Town	Bethel	03 Town	2 A		
SULLIVAN	218709	OLD TAYLOR RD			0	1.3	1.3	Town	Bethel	03 Town	2 A		
SULLIVAN	218710	OLD WHITE LAKE		CREAMERY RD	0	0.39	0.39	Town	Bethel	03 Town	2 A		
SULLIVAN	218710	OLD WHITE LAKE	CREAMERY RD	FRASER RD	0.39	0.77	0.38	Town	Bethel	03 Town	2 A	340	2007
SULLIVAN	218710	OLD WHITE LAKE	FRASER RD		0.77	3	2.23	Town	Bethel	03 Town	2 A		
SULLIVAN	218711	ORANGE AVE/SMAL			0	0.11	0.11	Town	Bethel	03 Town	2 U		
SULLIVAN	218711	ORANGE AVE/SMAL			0.11	0.42	0.31	Town	Bethel	03 Town	2 A		
SULLIVAN	218712	ORANGE AVE EXT/			0	0.05	0.05	Town	Bethel	03 Town	2 A		
SULLIVAN	218713	OVERLOOK DR 1			0	0.09	0.09	Town	Bethel	03 Town	2 A		
SULLIVAN	218714	OVERLOOK DR 2			0	0.29	0.29	Town	Bethel	03 Town	2 A		
SULLIVAN	218715	OVERLOOK DR 3			0	0.08	0.08	Town	Bethel	03 Town	2 U		
SULLIVAN	218716	OZARK TR SM W			0	0.1	0.1	Town	Bethel	03 Town	2 A		
SULLIVAN	218717	OZARK TR SM E			0	0.04	0.04	Town	Bethel	03 Town	2 U		
SULLIVAN	218718	PERRY RD			0	2.96	2.96	Town	Bethel	03 Town	2 A		
SULLIVAN	218719	PIERCE AVE PT 1			0	0.29	0.29	Town	Bethel	03 Town	2 A		
SULLIVAN	218720	PIERCE AVE PT 2			0	0.1	0.1	Town	Bethel	03 Town	2 A		
SULLIVAN	218721	PINE GROVE RD	SPLIT ROCK RD	CLIFF ST	0	1.61	1.61	Town	Bethel	03 Town	2 U		
SULLIVAN	218721	PINE GROVE RD	CLIFF ST	ORANGE AVE	1.61	1.81	0.2	Town	Bethel	03 Town	2 A		
SULLIVAN	218721	PINE GROVE RD	ORANGE AVE	GOLF PARK RD	1.81	1.91	0.1	Town	Bethel	03 Town	2 A		
SULLIVAN	218721	PINE GROVE RD	GOLF PARK RD	POLARIS	1.91	1.96	0.05	Town	Bethel	03 Town	2 A		
SULLIVAN	218721	PINE GROVE RD	POLARIS	DOUGLAS TR	1.96	2.03	0.07	Town	Bethel	03 Town	2 A		
SULLIVAN	218721	PINE GROVE RD	DOUGLAS TR	ELDRICH ST N	2.03	2.07	0.04	Town	Bethel	03 Town	2 A		
SULLIVAN	218721	PINE GROVE RD	ELDRICH ST N	E POCAHONTAS	2.07	2.09	0.02	Town	Bethel	03 Town	2 A		
SULLIVAN	218721	PINE GROVE RD	E POCAHONTAS	LAKESHORE	2.09	2.11	0.02	Town	Bethel	03 Town	2 A		
SULLIVAN	218721	PINE GROVE RD	LAKESHORE	MT LAKES	2.11	2.18	0.07	Town	Bethel	03 Town	2 A		

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SULLIVAN	218721	PINE GROVE RD	MT LAKES	STRATTON AVE	2.18	2.45	0.27	Town	Bethel	03 Town	2	A		
SULLIVAN	218721	PINE GROVE RD	STRATTON AVE	E PIERCE	2.45	2.49	0.04	Town	Bethel	03 Town	2	A		
SULLIVAN	218721	PINE GROVE RD	E PIERCE	BRADY AVE	2.49	2.56	0.07	Town	Bethel	03 Town	2	A		
SULLIVAN	218721	PINE GROVE RD	BRADY AVE	W MITCHELL	2.56	2.58	0.02	Town	Bethel	03 Town	2	A		
SULLIVAN	218721	PINE GROVE RD	W MITCHELL	W MONGAUP	2.58	2.63	0.05	Town	Bethel	03 Town	2	A		
SULLIVAN	218721	PINE GROVE RD	W MONGAUP	TACONIC	2.63	2.68	0.05	Town	Bethel	03 Town	2	A		
SULLIVAN	218721	PINE GROVE RD	TACONIC	POCONO	2.68	2.72	0.04	Town	Bethel	03 Town	2	A		
SULLIVAN	218721	PINE GROVE RD	POCONO	BERKSHIRE	2.72	2.75	0.03	Town	Bethel	03 Town	2	A		
SULLIVAN	218721	PINE GROVE RD	BERKSHIRE	A BRUCHER	2.75	2.79	0.04	Town	Bethel	03 Town	2	A		
SULLIVAN	218721	PINE GROVE RD	A BRUCHER	GINA LA	2.79	3.11	0.32	Town	Bethel	03 Town	2	A		
SULLIVAN	218721	PINE GROVE RD	GINA LA	WALDHEIM	3.11	3.31	0.2	Town	Bethel	03 Town	2	A		
SULLIVAN	218721	PINE GROVE RD	WALDHEIM	SR 17B	3.31	3.33	0.02	Town	Bethel	03 Town	2	A		
SULLIVAN	218722	PLANK RD			0	1.73	1.73	Town	Bethel	03 Town	2	A		
SULLIVAN	218723	PLANK SPUR			0	0.14	0.14	Town	Bethel	03 Town	2	U		
SULLIVAN	218724	PLAYGROUND RD S			0	0.04	0.04	Town	Bethel	03 Town	2	U		
SULLIVAN	218725	POCAHONTAS TR S			0	0.41	0.41	Town	Bethel	03 Town	2	A		
SULLIVAN	218726	POCONO TRAIL SM			0	0.05	0.05	Town	Bethel	03 Town	2	U		
SULLIVAN	218726	POCONO TRAIL SM			0.05	0.11	0.06	Town	Bethel	03 Town	2	A		
SULLIVAN	218727	POLARIS ST SMAL	PINE GROVE RD	DOUGLAS TERR	0	0.1	0.1	Town	Bethel	03 Town	2	U		
SULLIVAN	218728	POWHATAN TR SM			0	0.08	0.08	Town	Bethel	03 Town	2	U		
SULLIVAN	218729	PRINCE ROAD			0	0.48	0.48	Town	Bethel	03 Town	2	A		
SULLIVAN	218730	PUCKY HUDDLE RD			0	0.94	0.94	Town	Bethel	03 Town	2	U		
SULLIVAN	218730	PUCKY HUDDLE RD			0.94	2.53	1.59	Town	Bethel	03 Town	2	A		
SULLIVAN	218731	RANGER RD	LAYMON RD	LYONS RD	0	0.39	0.39	Town	Bethel	03 Town	2	A		
SULLIVAN	218731	RANGER RD	LYONS RD	SILVER LAKE RD	0.39	0.5	0.11	Town	Bethel	03 Town	2	A		
SULLIVAN	218732	READ AVE SM E			0	0.26	0.26	Town	Bethel	03 Town	2	A		
SULLIVAN	218733	READ AVE SM W			0	0.02	0.02	Town	Bethel	03 Town	2	U		
SULLIVAN	218733	READ AVE SM W			0.02	0.06	0.04	Town	Bethel	03 Town	2	A		
SULLIVAN	218733	READ AVE SM W			0.06	0.12	0.06	Town	Bethel	03 Town	2	U		
SULLIVAN	218734	REINDEER TR W			0	0.03	0.03	Town	Bethel	03 Town	2	U		
SULLIVAN	218735	REINDEER TR E			0	0.2	0.2	Town	Bethel	03 Town	2	A		
SULLIVAN	218736	REMENSCHNEIDER			0	0.31	0.31	Town	Bethel	03 Town	2	U		
SULLIVAN	218736	REMENSCHNEIDER			0.31	0.53	0.22	Town	Bethel	03 Town	2	A		
SULLIVAN	218736	REMENSCHNEIDER			0.53	0.83	0.3	Town	Bethel	03 Town	2	U		
SULLIVAN	218736	REMENSCHNEIDER			0.83	0.95	0.12	Town	Bethel	03 Town	2	A		
SULLIVAN	218736	REMENSCHNEIDER			0.95	1.03	0.08	Town	Bethel	03 Town	2	U		
SULLIVAN	218736	REMENSCHNEIDER			1.03	1.06	0.03	Town	Bethel	03 Town	2	A		
SULLIVAN	218737	PVT B. RESNICK RD	CR 183	PAVEMENT CHANGE	0	0.31	0.31	Town	Bethel	03 Town	2	A		
SULLIVAN	218737	PVT B. RESNICK RD	PAVEMENT CHANGE	DEAD END	0.31	0.39	0.08	Town	Bethel	03 Town	2	U		
SULLIVAN	218738	ROCKY TRAIL SMA			0	0.21	0.21	Town	Bethel	03 Town	2	A		
SULLIVAN	218739	ROSYLN RIDGE RD	DEAD END	SR 17B	0	0.55	0.55	Town	Bethel	03 Town	2	A		
SULLIVAN	218740	ROYCE ROAD	SR 17B		0	0.78	0.78	Town	Bethel	03 Town	2	A		
SULLIVAN	218740	ROYCE RD			0.78	1.25	0.47	Town	Bethel	03 Town	2	U		
SULLIVAN	218740	ROYCE RD			1.25	1.83	0.58	Town	Bethel	03 Town	2	A		
SULLIVAN	218741	RUTHWAY RD SMAL			0	0.21	0.21	Town	Bethel	03 Town	2	A		
SULLIVAN	218742	SCHOOLHOUSE ROA	HURD & PARKS	CR 14	0	0.64	0.64	Town	Bethel	03 Town	2	A		
SULLIVAN	218743	SCHULTZ RD	MATTISON RD	SR17B	0	0.53	0.53	Town	Bethel	03 Town	2	A		
SULLIVAN	218744	SCOTT AVE WHITE			0	0.07	0.07	Town	Bethel	03 Town	2	A		
SULLIVAN	218745	SEGAR AND ROSEN			0	1.42	1.42	Town	Bethel	03 Town	2	A		
SULLIVAN	218746	SEMINOLE TR			0	0.1	0.1	Town	Bethel	03 Town	2	U		
SULLIVAN	218747	SEMINOLE TR			0	0.16	0.16	Town	Bethel	03 Town	2	A		

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SULLIVAN	218747	SEMINOLE TR			0.16	0.24	0.08	Town	Bethel	03 Town	2	U			
SULLIVAN	218748	SGT ANDREW BRUC			0	0.67	0.67	Town	Bethel	03 Town	2	A			
SULLIVAN	218749	SILVER LAKE ROA	MCKAY RD	CR 141	0	0.77	0.77	Town	Bethel	03 Town	2	A			
SULLIVAN	218750	SMITH RD			0	0.19	0.19	Town	Bethel	03 Town	2	A			
SULLIVAN	218751	SOULE ROAD	BLANCHARD RD	MOUNT HOPE RD	0	0.89	0.89	Town	Bethel	03 Town	2	A			
SULLIVAN	218752	SPRING ST SMALL			0	0.07	0.07	Town	Bethel	03 Town	2	A			
SULLIVAN	218754	STARLIGHT DR			0	0.04	0.04	Town	Bethel	03 Town	2	A			
SULLIVAN	218755	STARLIGHT DR W			0	0.35	0.35	Town	Bethel	03 Town	2	A			
SULLIVAN	218756	STARLIGHT DR E	DEAD END	LAURA AVE	0	0.04	0.04	Town	Bethel	03 Town	2	A			
SULLIVAN	218757	STEVENSON RD			0	0.15	0.15	Town	Bethel	03 Town	2	U			
SULLIVAN	218757	STEVENSON RD			0.15	0.22	0.07	Town	Bethel	03 Town	2	A			
SULLIVAN	218757	STEVENSON RD			0.22	0.5	0.28	Town	Bethel	03 Town	2	U			
SULLIVAN	218758	STRATTON AVE SM			0	0.34	0.34	Town	Bethel	03 Town	2	A			
SULLIVAN	218759	STRONG RD	CR 73	THOMPSON T/L	0	0.43	0.43	Town	Bethel	03 Town	2	U			
SULLIVAN	218760	STROUT RD	DEAD END	PAVEMENT CHANGE	0	0.47	0.47	Town	Bethel	03 Town	2	U			
SULLIVAN	218760	STROUT RD	PAVEMENT CHANGE	PLANK RD	0.47	0.51	0.04	Town	Bethel	03 Town	2	A			
SULLIVAN	218761	SUMMERS RD	DEAD END	MURPHY RD	0	0.15	0.15	Town	Bethel	03 Town	2	U			
SULLIVAN	218762	SWISS HILL ROAD			0	2.86	2.86	Town	Bethel	03 Town	2	A			
SULLIVAN	218763	TACONIC TR SM	SGT. A BRUCHER	PINE GROVE RD	0	0.23	0.23	Town	Bethel	03 Town	2	A			
SULLIVAN	218764	T DWORETSKY LA	CR 73	CR 75	0	1	1	Town	Bethel	03 Town	2	A			
SULLIVAN	218765	TAGGART RD			0	0.08	0.08	Town	Bethel	03 Town	2	U			
SULLIVAN	218765	TAGGART RD			0.08	0.97	0.89	Town	Bethel	03 Town	2	A			
SULLIVAN	218766	THE MALL KAUNEO	CR 141	CR 14	0	0.06	0.06	Town	Bethel	03 Town	2	A			
SULLIVAN	218767	W THOMPSON PL			0	0.04	0.04	Town	Bethel	03 Town	2	A			
SULLIVAN	218768	TOMAHAWK TR SMA			0	0.12	0.12	Town	Bethel	03 Town	2	A			
SULLIVAN	218769	TOWNSEND RD			0	0.33	0.33	Town	Bethel	03 Town	2	A			
SULLIVAN	218770	TUSTEN PL SMALL	HEMLOCK AVE	GABERIEL ST	0	0.18	0.18	Town	Bethel	03 Town	2	A			
SULLIVAN	218771	VAN KEUREN AVE			0	0.02	0.02	Town	Bethel	03 Town	2	U			
SULLIVAN	218771	VAN KEUREN AVE			0.02	0.17	0.15	Town	Bethel	03 Town	2	A			
SULLIVAN	218772	W BEECH ST SMAL			0	0.05	0.05	Town	Bethel	03 Town	2	A			
SULLIVAN	218773	W CHERRY TRAIL			0	0.05	0.05	Town	Bethel	03 Town	2	U			
SULLIVAN	218774	W DELAWARE PT 1			0	0.25	0.25	Town	Bethel	03 Town	2	A			
SULLIVAN	218775	W DELAWARE EXT			0	0.19	0.19	Town	Bethel	03 Town	2	A			
SULLIVAN	218776	W KENOZA PL SM			0	0.22	0.22	Town	Bethel	03 Town	2	A			
SULLIVAN	218777	W MONGAUP TRAIL			0	0.28	0.28	Town	Bethel	03 Town	2	U			
SULLIVAN	218777	W MONGAUP TRAIL			0.28	0.35	0.07	Town	Bethel	03 Town	2	A			
SULLIVAN	218778	W OAK ST SMALLW			0	0.7	0.7	Town	Bethel	03 Town	2	A			
SULLIVAN	218779	W SHORE DR PT 1			0	0.67	0.67	Town	Bethel	03 Town	2	A			
SULLIVAN	218780	W SHORE DR PT 2			0	0.15	0.15	Town	Bethel	03 Town	2	A			
SULLIVAN	218781	W SULLIVAN PL			0	0.62	0.62	Town	Bethel	03 Town	2	A			
SULLIVAN	218782	W THOMPSON PL S			0	0.15	0.15	Town	Bethel	03 Town	2	A			
SULLIVAN	218783	W TUSTEN PLACE	DEAD END	MAY AVE	0	0.13	0.13	Town	Bethel	03 Town	2	A			
SULLIVAN	218784	WACHER DRIVE W			0	0.1	0.1	Town	Bethel	03 Town	2	A			
SULLIVAN	218785	WALDHEIM RD SMA	PINE GROVE RD	DEAD END	0	0.07	0.07	Town	Bethel	03 Town	2	A			
SULLIVAN	218786	W WALNUT ST			0	0.05	0.05	Town	Bethel	03 Town	2	A			
SULLIVAN	218787	WALT BISHOP RD			0	0.71	0.71	Town	Bethel	03 Town	2	A			
SULLIVAN	218788	WEST SHORE ROAD			0	3.47	3.47	Town	Bethel	03 Town	2	A			
SULLIVAN	218789	WHITMORE RD			0	0.27	0.27	Town	Bethel	03 Town	2	A			
SULLIVAN	218789	WHITMORE RD			0.27	0.43	0.16	Town	Bethel	03 Town	2	U			
SULLIVAN	218790	WILLHILL RD	CR 144	LIBERTY T/L	0	0.22	0.22	Town	Bethel	03 Town	2	A		80	2007
SULLIVAN	218791	WOODLAND WAY SM			0	0.13	0.13	Town	Bethel	03 Town	2	A			

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SULLIVAN	218792	WORMUTH RD	DEAD END	PAVEMENT CHG	0	0.05	0.05	Town	Bethel	03 Town	2	U		
SULLIVAN	218792	WORMUTH RD	PAVEMENT CHG	CR 13	0.05	0.29	0.24	Town	Bethel	03 Town	2	A		
SULLIVAN	218793	WULLEN LANE/W S			0	0.08	0.08	Town	Bethel	03 Town	2	A		
SULLIVAN	218794	YASGUR RD	SR 17B	DEAD END	0	0.19	0.19	Town	Bethel	03 Town	2	U		
SULLIVAN	262508	MEIHOEFER RD	HURD RD	DEAD END	0	0.07	0.07	Town	Bethel	03 Town	2	U		
SULLIVAN	262625	MOUNT HOPE RD			0	0.04	0.04	Town	Bethel	03 Town	2	A		
SULLIVAN	270945	PINE ST	HARTWOOD DR	DEAD END	0	0.14	0.14	Town	Bethel	03 Town	2	A		
SULLIVAN	270946	OTTER TRAIL	DEAD END	SGT ANDREW BRUC	0	0.03	0.03	Town	Bethel	03 Town	2	A		
SULLIVAN	100109		TOWN OF COCHECTI	CR 115	9.14	10.07	0.93	Town	Bethel	01 NYSDOT	2	A	2650	2007
SULLIVAN	100109		CR 115	START 17B/55 OLAP	10.1	14.15	4.08	Town	Bethel	01 NYSDOT	2	A	4550	2009
SULLIVAN	100109		START 17B/55 OLAP	END 17B/55 OLAP	14.2	14.82	0.67	Town	Bethel	01 NYSDOT	2	A	6200	2007
SULLIVAN	100109		END 17B/55 OLAP		14.8	15.18	0.36	Town	Bethel	01 NYSDOT	3	O	7000	2007
SULLIVAN	100109				15.2	15.82	0.64	Town	Bethel	01 NYSDOT	2	O	7000	2007
SULLIVAN	100109				15.8	16.26	0.44	Town	Bethel	01 NYSDOT	3	O	7000	2007
SULLIVAN	100109			CR 183 AIRPORT RD	16.3	16.6	0.34	Town	Bethel	01 NYSDOT	2	O	7000	2007
SULLIVAN	100109		CR 183 AIRPORT RD	TOWN OF BETHEL & TOWN	16.6	17.38	0.78	Town	Bethel	01 NYSDOT	2	O	11400	2009
SULLIVAN	218422	CRYSTAL RD	TUSTEN TL	CR13/NY55	3.98	6.25	2.27	Town	Bethel	02 County	2	A	570	2007
SULLIVAN	100438	NY55 & CR12	TOWN OF HIGHLAND	AND TOWN OF BETHEL	10.3	11.12	0.82	Town	Bethel	02 County	2	A	1120	2007
SULLIVAN	100438	NY55 & CR13		CR 26 TORONTO LAKE	11.1	11.34	0.22	Town	Bethel	02 County	2	A	1120	2007
SULLIVAN	100438	NY55 & CR13		CR 26 TORONTO LAKE	11.3	15.19	3.85	Town	Bethel	02 County	2	A	2000	2009
SULLIVAN	100438			START 17B/55 OLAP	15.2	15.41	0.22	Town	Bethel	01 NYSDOT	2	A	2000	2009
SULLIVAN	100438		START 17B/55 OLAP	END 17B/55 OLAP	15.4	16.08	0.67	Town	Bethel	01 NYSDOT	2	A	6200	2007
SULLIVAN	100438	NY55 & CR14		END 17B/55 OLAP	16.1	16.35	0.27	Town	Bethel	02 County	2	A	3300	2006
SULLIVAN	100438	NY55 & CR14		CR 141 KAUNEONGA LAKE	16.4	16.96	0.61	Town	Bethel	02 County	2	A	3300	2006
SULLIVAN	100438	NY55 & CR14	CR 141 KAUNEONGA	CR 183	17	18.99	2.03	Town	Bethel	02 County	2	A	2250	2008
SULLIVAN	100438	NY55 & CR14	CR 183		19	22.37	3.38	Town	Bethel	02 County	2	A	3200	2008
SULLIVAN	218451	LT JG BRENDER	GALE RD	KORTRIGHT RD	0	1.06	1.06	Town	Bethel	02 County	2	A	150	2008
SULLIVAN	218451	LT JG BRENDER	KORTRIGHT RD	FRASER RD	1.06	1.58	0.52	Town	Bethel	02 County	2	A	150	2008
SULLIVAN	218451	LT JG BRENDER	FRASER RD	APPLE GORDON	1.58	1.9	0.32	Town	Bethel	02 County	2	A	150	2008
SULLIVAN	218451	LT JR BRENDER	APPLE GORDON	AP FULTON RD	1.9	2.38	0.48	Town	Bethel	02 County	2	A	150	2008
SULLIVAN	218451	LT JG BRENDER	AP FULTON RD	BUSHVILLE SWAN	2.38	2.76	0.38	Town	Bethel	02 County	2	A	150	2008
SULLIVAN	218451	LT JG BRENDER	BUSHVILLE SWAN	CR 75	2.76	2.78	0.02	Town	Bethel	02 County	2	A	150	2008
SULLIVAN	218451	LT JG BRENDER	CR 75	STRONG RD	2.78	2.87	0.09	Town	Bethel	02 County	2	A	760	2008
SULLIVAN	218451	LT JG BRENDER	STRONG RD	BETHEL TL	2.87	3.97	1.1	Town	Bethel	02 County	2	A	760	2008
SULLIVAN	218453	HARRIS BUSHVILL	CR 73	APPLE GORDON	0	0.95	0.95	Town	Bethel	02 County	2	A	910	2007
SULLIVAN	218453	HARRIS BUSHVILL	BETHEL TL	BETHEL TL	0.95	1.53	0.58	Town	Bethel	02 County	2	A	910	2007
SULLIVAN	218479	COUNTY RD 115	BETHEL T/L	MATT SMITH RD	3.33	3.65	0.32	Town	Bethel	02 County	2	A	1240	2008
SULLIVAN	218479	COUNTY RD 115	MATT SMITH RD	FISCHER RD	3.65	4.93	1.28	Town	Bethel	02 County	2	A	1240	2008
SULLIVAN	218479	COUNTY RD 115	FISCHER RD	NY 17B	4.93	5.55	0.62	Town	Bethel	02 County	2	A	1240	2008
SULLIVAN	218494	HORSESHOE LAKE	NY55/CR14	MALL ST	0	0.05	0.05	Town	Bethel	02 County	2	A	260	2003
SULLIVAN	218494	HORSESHOE LAKE	MALL ST	WESTSHORE RD	0.05	0.41	0.36	Town	Bethel	02 County	2	A	260	2003
SULLIVAN	218494	HORSESHOE LAKE	WESTSHORE RD	BROADWAY	0.41	0.48	0.07	Town	Bethel	02 County	2	A	260	2003
SULLIVAN	218494	HORSESHOE LAKE	BROADWAY	SEGAR RD	0.48	1.33	0.85	Town	Bethel	02 County	2	A	260	2003
SULLIVAN	218494	HORSESHOE LAKE	SEGAR RD	BISHOP RD	1.33	1.44	0.11	Town	Bethel	02 County	2	A	260	2003
SULLIVAN	218494	HORSESHOE LAKE	BISHOP RD	OLD TACY RD	1.44	2.09	0.65	Town	Bethel	02 County	2	A	260	2003
SULLIVAN	218494	HORSESHOE LAKE	OLD TACY RD	SEGAR RD	2.09	2.69	0.6	Town	Bethel	02 County	2	A	260	2003
SULLIVAN	218494	HORSESHOE LAKE	SEGAR RD	LAYMON RD	2.69	2.79	0.1	Town	Bethel	02 County	2	A	260	2003
SULLIVAN	218494	HORSESHOE LAKE	LAYMON RD	SILVER LAKE RD	2.79	3.46	0.67	Town	Bethel	02 County	2	A	260	2003
SULLIVAN	218494	HORSESHOE RD	SILVER LAKE RD	JJ K MILCH RD	3.46	3.98	0.52	Town	Bethel	02 County	2	A	260	2003
SULLIVAN	218494	HORSESHOE LAKE	JJ K MILCH RD	GOLD DAN RD	3.98	4.3	0.32	Town	Bethel	02 County	2	A	260	2003
SULLIVAN	218494	HORSESHOE LAKE	GOLD DAN RD	MT HOPE RD	4.3	5.4	1.1	Town	Bethel	02 County	2	A	260	2003

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SULLIVAN	218494	HORSESHOE LAKE	MT HOPE RD	DAVIS RD	5.4	5.75	0.35	Town	Bethel	02 County	2	A	260	2003
SULLIVAN	218494	HORSESHOE LAKE	DAVIS RD	LIBERTY TL	5.75	6.41	0.66	Town	Bethel	02 County	2	A	260	2003
SULLIVAN	260471	BRISCOE RD	BETHEL TL	HUBERT RD	0.13	0.33	0.2	Town	Bethel	02 County	2	A	990	2005
SULLIVAN	260471	BRISCOE RD	HUBERT RD	HUFF RD	0.33	0.41	0.08	Town	Bethel	02 County	2	A	990	2005
SULLIVAN	260471	BRISCOE RD	HUFF RD	REMENTSCHNEIDER	0.41	0.5	0.09	Town	Bethel	02 County	2	A	990	2005
SULLIVAN	260471	BRISCOE RD	REMENTSCHNEIDER	BEHR RD	0.5	1.93	1.43	Town	Bethel	02 County	2	A	990	2005
SULLIVAN	260471	BRISCOE RD	BEHR RD	HURD RD	1.93	2.26	0.33	Town	Bethel	02 County	2	A	990	2005
SULLIVAN	260471	BRISCOE RD	HURD RD	FAIRWEATHER RD	2.26	3.12	0.86	Town	Bethel	02 County	2	A	990	2005
SULLIVAN	260471	BRISCOE RD	FAIRWEATHER RD	LIBERTY TL	3.12	3.47	0.35	Town	Bethel	02 County	2	A	990	2005
SULLIVAN	218524	AIRPORT RD	SR 17B	CR 183A	0	1.72	1.72	Town	Bethel	02 County	2	A	1540	2008
SULLIVAN	218524	AIRPORT RD	CR 183A	NY55/CR14	1.72	2.73	1.01	Town	Bethel	02 County	2	A	1440	2008
SULLIVAN	218525	AIRPORT ACCESS	CR 183	DEAD END	0	0.2	0.2	Town	Bethel	02 County	2	A		
SULLIVAN	218526	UPPER INDUSTRIAL	CR 183	PAVMT	0	0.23	0.23	Town	Bethel	02 County	2	A		
SULLIVAN	218526	UPPER INDUSTRIAL	PAVMT	DEAD END	0.23	0.29	0.06	Town	Bethel	02 County	2	U		
SULLIVAN	218527	LOWER INDUSTRIAL	CR 183	DEAD END	0	0.19	0.19	Town	Bethel	02 County	2	A		
SULLIVAN	218795	ANAWANDA LAKE R			0	1.69	1.69	Town	Callicoon	03 Town	2	A		
SULLIVAN	218796	ANAWANDA LK VIE			0	0.11	0.11	Town	Callicoon	03 Town	2	U		
SULLIVAN	218797	ANAWANDA LK VIE			0	0.04	0.04	Town	Callicoon	03 Town	2	U		
SULLIVAN	218798	BACK SHANDLEE	WALDEMERE	ROCKLAND T/L	0	0.36	0.36	Town	Callicoon	03 Town	2	A		
SULLIVAN	218799	BANUAT RD	CR 122	BAYER RD	0	0.12	0.12	Town	Callicoon	03 Town	2	A		
SULLIVAN	218800	BAYER ROAD			0	2.12	2.12	Town	Callicoon	03 Town	2	A		
SULLIVAN	218801	BETHLEHEM RD I			0	2.61	2.61	Town	Callicoon	03 Town	2	A		
SULLIVAN	218801	BETHLEHEM RD I			2.61	2.65	0.04	Town	Callicoon	03 Town	2	U		
SULLIVAN	218802	BETHLEHEM RD II	FREMONT T/L	FREMONT T/L	0	0.57	0.57	Town	Callicoon	03 Town	2	U		
SULLIVAN	218803	BOBAND RD	EASTHILL RD	PAVEMENT CHG	0	1.19	1.19	Town	Callicoon	03 Town	2	U		
SULLIVAN	218803	BOBAND RD	PAVEMENT CHG	CARL SPIELMAN RD	1.19	1.46	0.27	Town	Callicoon	03 Town	2	A		
SULLIVAN	218804	BUCK BROOK RD	FREMONT T/L	CALLICON/FREMONT TL	0	1.37	1.37	Town	Callicoon	03 Town	2	A	240	2005
SULLIVAN	218805	CARL SPIELMAN RD	LIBERTY T/L	BOBAND RD	0	0.37	0.37	Town	Callicoon	03 Town	2	A		
SULLIVAN	218805	CARL SPIELMAN RD	BOBAND RD	SR 52	0.37	0.66	0.29	Town	Callicoon	03 Town	2	A		
SULLIVAN	218806	CATTAIL ROAD	HARDENBURGH RD	LIBERTY T/L	0	2.28	2.28	Town	Callicoon	03 Town	2	A		
SULLIVAN	218807	DEWITT FLATS RD	SR 52	BOBAND RD	0	0.49	0.49	Town	Callicoon	03 Town	2	A	210	2008
SULLIVAN	218808	DIENER HILL RD	DELAWARE T/L	PAVEMENT CHG	0	0.18	0.18	Town	Callicoon	03 Town	2	A		
SULLIVAN	218808	DIENER HILL RD	PAVEMENT CHG	DELAWARE T/L	0.18	0.53	0.35	Town	Callicoon	03 Town	2	U		
SULLIVAN	218809	DIETZ ROAD	HESSINGER & LAR	STUMP POND RD	0	2.36	2.36	Town	Callicoon	03 Town	2	U		
SULLIVAN	218810	DURR RD			0	0.38	0.38	Town	Callicoon	03 Town	2	A		
SULLIVAN	218811	DUTCH HILL ROAD	CR 123	ROCKLAND T/L	0	1.55	1.55	Town	Callicoon	03 Town	2	A		
SULLIVAN	218812	DYKER ROAD			0	1.47	1.47	Town	Callicoon	03 Town	2	A		
SULLIVAN	218813	EAGIN ROAD	HEMMER RD	HESSINGER LA	0	0.78	0.78	Town	Callicoon	03 Town	2	A		
SULLIVAN	218814	EARL MEYERS RD	FAUBEL RD	CR 127	0	0.78	0.78	Town	Callicoon	03 Town	2	A		
SULLIVAN	218815	EAST HILL ROAD			0	1.74	1.74	Town	Callicoon	03 Town	2	A		
SULLIVAN	218816	ERLEMANN RD	SANDER RD	PAVEMENT CHG	0	0.27	0.27	Town	Callicoon	03 Town	2	A		
SULLIVAN	218816	ERLEMANN RD	PAVEMENT CHG	DEAD END	0.27	0.38	0.11	Town	Callicoon	03 Town	2	U		
SULLIVAN	218817	ESSELMANN ROAD			0	1.32	1.32	Town	Callicoon	03 Town	2	A		
SULLIVAN	218818	FAUBEL RD			0	1.62	1.62	Town	Callicoon	03 Town	2	A		
SULLIVAN	218819	FIRE HOUSE RD			0	0.09	0.09	Town	Callicoon	03 Town	2	A		
SULLIVAN	218820	FRED HESSINGER	CR 123	SCHMIDT LA	0	0.06	0.06	Town	Callicoon	03 Town	2	A		
SULLIVAN	218820	FRED HESSINGER	SCHMIDT LA	DEAD END	0.06	0.09	0.03	Town	Callicoon	03 Town	2	A		
SULLIVAN	218821	GORR RD	DELAWARE T/L	PAVEMENT CHG	0	1.23	1.23	Town	Callicoon	03 Town	2	U		
SULLIVAN	218821	GORR RD	PAVEMENT CHG	POLEY RD	1.23	1.24	0.01	Town	Callicoon	03 Town	2	A		
SULLIVAN	218822	GREBEL RD	ESSELMAN RD	PAVEMENT CHG	0	0.41	0.41	Town	Callicoon	03 Town	2	A		
SULLIVAN	218822	GREBEL RD	PAVEMENT CHG	HUST RD	0.41	1.24	0.83	Town	Callicoon	03 Town	2	U		

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SULLIVAN	218823	HAHN ROAD	WEISSMAN RD	STUMP POND RD	0	1.52	1.52	Town	Callicoon	03 Town	2 A		
SULLIVAN	218824	HARDENBURGH ROA			0	0.87	0.87	Town	Callicoon	03 Town	2 A		
SULLIVAN	218825	HAUSMAN RD	FAUBEL RD	DEAD END	0	0.08	0.08	Town	Callicoon	03 Town	2 A		
SULLIVAN	218826	HEMMER ROAD	CR 127	LIKEL RD	0	0.34	0.34	Town	Callicoon	03 Town	2 A		
SULLIVAN	218826	HEMMER ROAD	LIKEL RD	EAGIN RD	0.34	1.55	1.21	Town	Callicoon	03 Town	2 A		
SULLIVAN	218826	HEMMER ROAD	EAGIN RD	SR 52	1.55	2.08	0.53	Town	Callicoon	03 Town	2 A		
SULLIVAN	218827	HESSINGER & LAR			0	3.79	3.79	Town	Callicoon	03 Town	2 A		
SULLIVAN	218828	HUBER ROAD			0	2.42	2.42	Town	Callicoon	03 Town	2 A		
SULLIVAN	218829	HUBERT RD			0	1.15	1.15	Town	Callicoon	03 Town	2 A		
SULLIVAN	218830	HUST ROAD	CR122 N BRANCH RD	GREBEL RD	0	0.66	0.66	Town	Callicoon	03 Town	2 A	160	2009
SULLIVAN	218830	HUST ROAD	GREBEL RD	FAUBEL RD	0.66	1.63	0.97	Town	Callicoon	03 Town	2 A	160	2009
SULLIVAN	218830	HUST ROAD	FAUBEL RD	CR125 CALLCON C RD	1.63	2.32	0.69	Town	Callicoon	03 Town	2 A	160	2009
SULLIVAN	218831	J SPIELMAN RD	LIBERTY T/L	EAST HILL RD	0	0.46	0.46	Town	Callicoon	03 Town	2 U		
SULLIVAN	218832	J YOUNG ROAD	WEISSMAN RD	KLINGER RD	0	1.63	1.63	Town	Callicoon	03 Town	2 U		
SULLIVAN	218832	J YOUNG ROAD	KLINGER RD	STUMP POND RD	1.63	2.7	1.07	Town	Callicoon	03 Town	2 U		
SULLIVAN	218833	JACK MENGES RD	NY52	MENGES RD	0	0.26	0.26	Town	Callicoon	03 Town	2 A	180	2009
SULLIVAN	218833	JACK MENGES RD	MENGES RD		0.26	0.35	0.09	Town	Callicoon	03 Town	2 A		
SULLIVAN	218834	KELLER ROAD			0	1.09	1.09	Town	Callicoon	03 Town	2 A		
SULLIVAN	218835	KIMBALL ROAD			0	0.52	0.52	Town	Callicoon	03 Town	2 A		
SULLIVAN	218836	KINNEY RD	BUCK BROOK RD	DEAD END	0	0.31	0.31	Town	Callicoon	03 Town	2 A		
SULLIVAN	218837	KLINGER RD	J YOUNG RD	PAVEMENT CHG	0	1.97	1.97	Town	Callicoon	03 Town	2 U		
SULLIVAN	218837	KLINGER RD	PAVEMENT CHG	CR 123	1.97	2.44	0.47	Town	Callicoon	03 Town	2 A		
SULLIVAN	218838	KRATZ RD	DELAWARE T/L	POLEY RD	0	0.9	0.9	Town	Callicoon	03 Town	2 U		
SULLIVAN	218839	LEINS RD	FREMONT T/L	ANAWANDA LK RD	0	0.66	0.66	Town	Callicoon	03 Town	2 U		
SULLIVAN	218840	LIKEL RD	CR 127	HEMMER RD	0	0.94	0.94	Town	Callicoon	03 Town	2 A		
SULLIVAN	218841	MALL RD			0	0.37	0.37	Town	Callicoon	03 Town	2 A		
SULLIVAN	218841	MALL RD			0.37	1.12	0.75	Town	Callicoon	03 Town	2 U		
SULLIVAN	218842	MAUER RD			0	1.02	1.02	Town	Callicoon	03 Town	2 U		
SULLIVAN	218843	MENGES ROAD			0	2.41	2.41	Town	Callicoon	03 Town	2 A		
SULLIVAN	218844	MEYER ROAD			0	1.38	1.38	Town	Callicoon	03 Town	2 U		
SULLIVAN	218845	OLD CNTY RD 95	CR 95	CR 95	0	0.22	0.22	Town	Callicoon	03 Town	2 A		
SULLIVAN	218846	OLD CNTY RD 128			0	0.39	0.39	Town	Callicoon	03 Town	2 A		
SULLIVAN	218847	OLD DANZER ROAD	HESSINGER LARE	YAUN RD	0	1.6	1.6	Town	Callicoon	03 Town	2 A		
SULLIVAN	218848	OLD ROUTE 52	SR 52	CR 144	0	0.11	0.11	Town	Callicoon	03 Town	2 U		
SULLIVAN	218848	OLD ROUTE 52	CR 144	CR 52	0.11	0.22	0.11	Town	Callicoon	03 Town	2 U		
SULLIVAN	218849	OLD WALDEMERE			0	0.47	0.47	Town	Callicoon	03 Town	2 A		
SULLIVAN	218850	PLEASANT VALLEY	CR 121	CALLICON/FREMNT TL	0	1.28	1.28	Town	Callicoon	03 Town	2 A	80	2006
SULLIVAN	218851	POLEY ROAD	CR122 N BRANCH RD	SCHAFFER RD	0	1.23	1.23	Town	Callicoon	03 Town	2 A	230	2009
SULLIVAN	218852	SANDER RD			0	0.7	0.7	Town	Callicoon	03 Town	2 U		
SULLIVAN	218852	SANDER RD			0.7	1.43	0.73	Town	Callicoon	03 Town	2 A		
SULLIVAN	218853	SCHAFFER RD	POLEY RD	CR 128	0	0.63	0.63	Town	Callicoon	03 Town	2 A		
SULLIVAN	218854	SCHMIDT LA	FIREHOUSE RD	F HESSINGER RD	0	0.09	0.09	Town	Callicoon	03 Town	2 A		
SULLIVAN	218855	SEIBERT RD	HESSINGER-LARE	DIETZ RD	0	0.64	0.64	Town	Callicoon	03 Town	2 A		
SULLIVAN	218856	SHANDELEE LK RD			0	0.34	0.34	Town	Callicoon	03 Town	2 A		
SULLIVAN	218857	SOMMERS RD	CR 122	DEAD END	0	0.5	0.5	Town	Callicoon	03 Town	2 A		
SULLIVAN	218858	STEWART RD	CR 121	FREMONT T/L	0	1.02	1.02	Town	Callicoon	03 Town	2 A		
SULLIVAN	218859	STUMP POND ROAD			0	3.68	3.68	Town	Callicoon	03 Town	2 A		
SULLIVAN	218860	TEMPLE RD	SHANDLEE LK RD	OLD WALDEMERE RD	0	0.59	0.59	Town	Callicoon	03 Town	2 A		
SULLIVAN	218861	TONJES RD	DELAWARE T/L	POLEY RD	0	0.6	0.6	Town	Callicoon	03 Town	2 A		
SULLIVAN	218863	WAHL ROAD			0	1.99	1.99	Town	Callicoon	03 Town	2 A		
SULLIVAN	218864	WALDEMERE RD PT	HUBER RD	PAVEMENT CHG	0	0.81	0.81	Town	Callicoon	03 Town	2 U		

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SULLIVAN	218864	WALDEMER RD PT	PAVEMENT CHG	OLD WALDEMER RD	0.81	0.98	0.17	Town	Callicoon	03 Town	2	A		
SULLIVAN	218865	WEGMAN ROAD	CR 123	CR 123	0	0.22	0.22	Town	Callicoon	03 Town	2	A		
SULLIVAN	218866	WEISSMAN ROAD	CR123	HAHN RD	0	0.39	0.39	Town	Callicoon	03 Town	2	A	200	2005
SULLIVAN	218866	WEISSMAN ROAD	HAHN RD		0.39	2.34	1.95	Town	Callicoon	03 Town	2	A		
SULLIVAN	218867	WHITENDALE	STUMP POND RD	CR 149	0	0.91	0.91	Town	Callicoon	03 Town	2	U		
SULLIVAN	218868	YAUN ROAD			0	1.17	1.17	Town	Callicoon	03 Town	2	A		
SULLIVAN	100432		VILLAGE OF JEFFERS	CR 144 JEFFERSONVILLE	18.4	18.85	0.44	Town	Callicoon	01 NYSDOT	2	A	3000	2009
SULLIVAN	100432		CR 144 JEFFERSONVI	CR 149 YOUNGSVILLE	18.9	21.64	2.79	Town	Callicoon	01 NYSDOT	2	A	2550	2009
SULLIVAN	100432		CR 149 YOUNGSVILLE	TOWN OF CALLICOON TOV	21.6	22.36	0.72	Town	Callicoon	01 NYSDOT	2	A	2950	2008
SULLIVAN	218463	NB OBERNBURC RD	CR122	BUCKBROOK RD	0	0.91	0.91	Town	Callicoon	02 County	2	A	770	2009
SULLIVAN	218463	NB OBERNBURC RD	BUCKBROOK RD	CALLICOON TL	0.91	1.36	0.45	Town	Callicoon	02 County	2	A	770	2009
SULLIVAN	218482	NB HORTONVILLE	DELAWARE TL	PLEASANT VLY	2.51	2.65	0.14	Town	Callicoon	02 County	2	A	880	2009
SULLIVAN	218482	NB HORTONVILLE	PLEASANT VLY	STEWART RD	2.65	3.73	1.08	Town	Callicoon	02 County	2	A	880	2009
SULLIVAN	218482	NB HORTONVILLE	STEWART RD	CR 122	3.73	4.18	0.45	Town	Callicoon	02 County	2	A	880	2009
SULLIVAN	218483	NB CALLTOON CTR	CR 121	POLEY RD	0	0.52	0.52	Town	Callicoon	02 County	2	A	760	2005
SULLIVAN	218483	NB CALLTOON CTR	POLEY RD	TRADING POST	0.52	1	0.48	Town	Callicoon	02 County	2	A	760	2005
SULLIVAN	218483	NB CALLTOON CTR	TRADING POST	CR 128	1	1.04	0.04	Town	Callicoon	02 County	2	A	760	2005
SULLIVAN	218483	NB CALLTOON CTR	CR 128	HUST RD	1.04	2.71	1.67	Town	Callicoon	02 County	2	A	760	2005
SULLIVAN	218483	NB CALLTOON CTR	HUST RD	BAYER RD	2.71	3	0.29	Town	Callicoon	02 County	2	A	760	2005
SULLIVAN	218483	NB CALLTOON CTR	BAYER RD	MAUER RD	3	3.7	0.7	Town	Callicoon	02 County	2	A	760	2005
SULLIVAN	218483	NB CALLTOON CTR	MAUER RD	CR 125	3.7	3.84	0.14	Town	Callicoon	02 County	2	A	760	2005
SULLIVAN	218484	GULF RD	CR 125	FIREHOUSE RD	0	0.06	0.06	Town	Callicoon	02 County	2	A		
SULLIVAN	218484	GULF RD	FIREHOUSE RD	ANAWANDA LAKE	0.06	0.07	0.01	Town	Callicoon	02 County	2	A		
SULLIVAN	218484	GULF RD	ANAWANDA LAKE	FRED HESSENGER	0.07	0.15	0.08	Town	Callicoon	02 County	2	A		
SULLIVAN	218484	GULF RD	FRED HESSENGER	BETHLEHEM RD	0.15	0.17	0.02	Town	Callicoon	02 County	2	A		
SULLIVAN	218484	GULF RD	BETHLEHEM RD	WEISSMAN RD	0.17	1.14	0.97	Town	Callicoon	02 County	2	A		
SULLIVAN	218484	GULF RD	WEISSMAN RD	KELLER RD	1.14	1.15	0.01	Town	Callicoon	02 County	2	A		
SULLIVAN	218484	GULF RD	KELLER RD	DUTCH HILL RD	1.15	3.9	2.75	Town	Callicoon	02 County	2	A		
SULLIVAN	218484	GULF RD	DUTCH HILL RD	KLINGER RD	3.9	5.42	1.52	Town	Callicoon	02 County	2	A		
SULLIVAN	218484	GULF RD	KLINGER RD	ROCKLAND TL	5.42	5.57	0.15	Town	Callicoon	02 County	2	A	440	2002
SULLIVAN	218486	CALLTOON CTR RD	CR127	HUST RD	0	0.35	0.35	Town	Callicoon	02 County	2	A	670	2006
SULLIVAN	218486	CALLTOON CTR RD	SANDER RD	SANDER RD	0.35	2.09	1.74	Town	Callicoon	02 County	2	A	670	2006
SULLIVAN	218486	CALLTOON CTR RD	SANDER RD	HESSINGER LARE	2.09	2.92	0.83	Town	Callicoon	02 County	2	A	670	2006
SULLIVAN	218486	CALLTOON CTR RD	HESSINGER LARE	CR123	2.92	3.17	0.25	Town	Callicoon	02 County	2	A	670	2006
SULLIVAN	218487	CALLTOON CTR RD	JEFF VL	LIKEL RD	0	0.43	0.43	Town	Callicoon	02 County	2	A	900	2006
SULLIVAN	218487	CALLTOON CTR RD	LIKEL RD	EARL MYERS RD	0.43	1.17	0.74	Town	Callicoon	02 County	2	A	900	2006
SULLIVAN	218487	CALLTOON CTR RD	EARL MYERS RD	CR 125	1.17	1.47	0.3	Town	Callicoon	02 County	2	A	900	2006
SULLIVAN	218488	JEFF N BRANCH	CR 122	ESSELMANN RD	0	1.24	1.24	Town	Callicoon	02 County	2	A	980	2007
SULLIVAN	218488	JEFF N BRANCH	ESSELMANN RD	MALL RD	1.24	1.75	0.51	Town	Callicoon	02 County	2	A	980	2007
SULLIVAN	218488	JEFF N BRANCH	MALL RD	DELAWARE TL	1.75	2.63	0.88	Town	Callicoon	02 County	2	A	980	2007
SULLIVAN	260471	BRISCOE	SR 52	BETHEL TL	0	0.13	0.13	Town	Callicoon	02 County	2	A	990	2005
SULLIVAN	218499	SHANDELEE RD	SR 52	SR 52	0	0.75	0.75	Town	Callicoon	02 County	2	A		
SULLIVAN	218499	SHANDELEE RD	SR 52	STUMP POND RD	0.75	1.32	0.57	Town	Callicoon	02 County	2	A	1000	2006
SULLIVAN	218499	SHANDELEE RD	STUMP POND RD	CR 178	1.32	1.7	0.38	Town	Callicoon	02 County	2	A	1000	2006
SULLIVAN	218499	SHANDELEE RD	CR 178	HARDENBURG RD	1.7	2.2	0.5	Town	Callicoon	02 County	2	A	1000	2006
SULLIVAN	218499	SHANDELEE RD	HARDENBURG RD	MOYER RD	2.2	2.65	0.45	Town	Callicoon	02 County	2	A	1000	2006
SULLIVAN	218499	SHANDELEE RD	MOYER RD	WHITENDALE RD	2.65	3.04	0.39	Town	Callicoon	02 County	2	A	1000	2006
SULLIVAN	218499	SHANDELEE RD	WHITENDALE RD	MOYER RD	3.04	3.66	0.62	Town	Callicoon	02 County	2	A	1000	2006
SULLIVAN	218499	SHANDELEE RD	MOYER RD	STUMP POND RD	3.66	3.75	0.09	Town	Callicoon	02 County	2	A	1000	2006
SULLIVAN	218499	SHANDELEE RD	STUMP POND RD	HUBER RD	3.75	4.79	1.04	Town	Callicoon	02 County	2	A	1000	2006
SULLIVAN	218499	SHANDELEE RD	SHANDLEE LK RD	SHANDLEE LK RD	4.79	5.39	0.6	Town	Callicoon	02 County	2	A	920	2006

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SULLIVAN	218499	SHANDELEE RD	SHANDLEE LK RD	ROCKLAND TL	5.39	6.74	1.35	Town	Callicoon	02 County	2 A	920	2006
SULLIVAN	218869	BERNAS ROAD			0	2.75	2.75	Town	Cochecton	03 Town	2 A		
SULLIVAN	218870	BRIGHAM ROAD			0	0.37	0.37	Town	Cochecton	03 Town	2 U		
SULLIVAN	218871	BROOK RD			0	0.48	0.48	Town	Cochecton	03 Town	2 A		
SULLIVAN	218871	BROOK RD			0.48	1.34	0.86	Town	Cochecton	03 Town	2 U		
SULLIVAN	218871	BROOK RD			1.34	1.62	0.28	Town	Cochecton	03 Town	2 A		
SULLIVAN	218871	BROOK RD			1.62	1.94	0.32	Town	Cochecton	03 Town	2 U		
SULLIVAN	218872	BUFF ROAD			0	1.12	1.12	Town	Cochecton	03 Town	2 U		
SULLIVAN	218872	BUFF ROAD			1.12	1.72	0.6	Town	Cochecton	03 Town	2 A		
SULLIVAN	218873	C MEYER ROAD			0	0.05	0.05	Town	Cochecton	03 Town	2 U		
SULLIVAN	218874	CLINTONIA WAY			0	0.23	0.23	Town	Cochecton	03 Town	2 A		
SULLIVAN	218875	COCHECTON ROAD			0	0.7	0.7	Town	Cochecton	03 Town	2 A		
SULLIVAN	218876	CRESTWOOD ROAD			0	0.21	0.21	Town	Cochecton	03 Town	2 A		
SULLIVAN	218877	CROSS ROAD			0	0.55	0.55	Town	Cochecton	03 Town	2 A		
SULLIVAN	218878	CUSHETUNK DR			0	2.79	2.79	Town	Cochecton	03 Town	2 A		
SULLIVAN	218879	DAILEY ROAD			0	0.28	0.28	Town	Cochecton	03 Town	2 A		
SULLIVAN	218879	DAILEY ROAD			0.28	0.77	0.49	Town	Cochecton	03 Town	2 U		
SULLIVAN	218880	DAUB RD			0	0.05	0.05	Town	Cochecton	03 Town	2 U		
SULLIVAN	218880	DAUB RD			0.05	1.03	0.98	Town	Cochecton	03 Town	2 A		
SULLIVAN	218881	DEPOT ROAD			0	0.13	0.13	Town	Cochecton	03 Town	2 A		
SULLIVAN	218882	DEVILS ROAD			0	0.67	0.67	Town	Cochecton	03 Town	2 A		
SULLIVAN	218883	EHRLEY RD			0	1.02	1.02	Town	Cochecton	03 Town	2 U		
SULLIVAN	218884	FISHER RD			0	0.16	0.16	Town	Cochecton	03 Town	2 U		
SULLIVAN	218884	FISHER RD			0.16	0.23	0.07	Town	Cochecton	03 Town	2 A		
SULLIVAN	218885	FORMAN RD			0	0.53	0.53	Town	Cochecton	03 Town	2 A		
SULLIVAN	218886	FRED WHITE RD			0	0.98	0.98	Town	Cochecton	03 Town	2 A		
SULLIVAN	218887	HAASE RD			0	0.94	0.94	Town	Cochecton	03 Town	2 U		
SULLIVAN	218888	HARTMANN RD			0	0.13	0.13	Town	Cochecton	03 Town	2 U		
SULLIVAN	218889	HOFFMAN RD			0	0.57	0.57	Town	Cochecton	03 Town	2 U		
SULLIVAN	218890	JOHNS ROAD			0	0.73	0.73	Town	Cochecton	03 Town	2 A		
SULLIVAN	218891	KELLY ROAD			0	0.86	0.86	Town	Cochecton	03 Town	2 A		
SULLIVAN	218892	LENNI LENAPE RD			0	0.9	0.9	Town	Cochecton	03 Town	2 A		
SULLIVAN	218893	LONG RD			0	0.06	0.06	Town	Cochecton	03 Town	2 A		
SULLIVAN	218893	LONG RD			0.06	0.5	0.44	Town	Cochecton	03 Town	2 U		
SULLIVAN	218894	LOUNSBURY RD			0	0.3	0.3	Town	Cochecton	03 Town	2 A		
SULLIVAN	218894	LOUNSBURY RD			0.3	0.4	0.1	Town	Cochecton	03 Town	2 U		
SULLIVAN	218895	LUX RD			0	0.16	0.16	Town	Cochecton	03 Town	2 A		
SULLIVAN	218895	LUX ROAD			0.16	0.21	0.05	Town	Cochecton	03 Town	2 U		
SULLIVAN	218896	MEADOWSWEET LAN			0	0.12	0.12	Town	Cochecton	03 Town	2 A		
SULLIVAN	218897	MILL ROAD			0	1.87	1.87	Town	Cochecton	03 Town	2 U		
SULLIVAN	218898	MITCHELL POND E			0	2.52	2.52	Town	Cochecton	03 Town	2 A		
SULLIVAN	218899	MITCHELL POND W	MITCHELL POND	BROOK RD	0	0.57	0.57	Town	Cochecton	03 Town	2 A		
SULLIVAN	218899	MITCHELL POND W	BROOK RD	PAVT CHGE	0.57	1.11	0.54	Town	Cochecton	03 Town	2 A		
SULLIVAN	218899	MITCHELL POND W	PAVT CHGE	CR 114	1.11	1.69	0.58	Town	Cochecton	03 Town	2 A		
SULLIVAN	218900	MOHN ROAD			0	0.72	0.72	Town	Cochecton	03 Town	2 U		
SULLIVAN	218900	MOHN ROAD			0.72	1.48	0.76	Town	Cochecton	03 Town	2 A		
SULLIVAN	218901	MUELLER RD			0	1.13	1.13	Town	Cochecton	03 Town	2 A		
SULLIVAN	218902	MY PLACE RD			0	0.03	0.03	Town	Cochecton	03 Town	2 U		
SULLIVAN	218902	MY PLACE RD			0.03	0.08	0.05	Town	Cochecton	03 Town	2 A		
SULLIVAN	218903	NEARING RD			0	0.97	0.97	Town	Cochecton	03 Town	2 A		
SULLIVAN	218904	NELSON RD			0	0.17	0.17	Town	Cochecton	03 Town	2 A		

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SULLIVAN	218905	NEW TURNPIKE A			0	0.96	0.96	Town	Cochecton	03 Town	2	U		
SULLIVAN	218905	NEW TURNPIKE A			0.96	2.04	1.08	Town	Cochecton	03 Town	2	A		
SULLIVAN	218905	NEW TURNPIKE A			2.04	2.38	0.34	Town	Cochecton	03 Town	2	U		
SULLIVAN	218906	NEW TURNPIKE B			0	0.63	0.63	Town	Cochecton	03 Town	2	U		
SULLIVAN	218906	NEW TURNPIKE B			0.63	1.47	0.84	Town	Cochecton	03 Town	2	A		
SULLIVAN	218907	NEWMAN ROAD			0	0.09	0.09	Town	Cochecton	03 Town	2	A		
SULLIVAN	218908	NOBODY ROAD			0	0.34	0.34	Town	Cochecton	03 Town	2	A		
SULLIVAN	218909	OLD CR			0	1.2	1.2	Town	Cochecton	03 Town	2	A		
SULLIVAN	218910	OLSEN RD			0	0.48	0.48	Town	Cochecton	03 Town	2	U		
SULLIVAN	218911	PARSONAGE RD			0	0.25	0.25	Town	Cochecton	03 Town	2	A		
SULLIVAN	218912	PINE WOOD ROAD			0	0.47	0.47	Town	Cochecton	03 Town	2	A		
SULLIVAN	218912	PINE WOOD ROAD			0.47	0.84	0.37	Town	Cochecton	03 Town	2	U		
SULLIVAN	218913	QUALLS RD			0	0.31	0.31	Town	Cochecton	03 Town	2	U		
SULLIVAN	218914	RAUCH ROAD			0	0.48	0.48	Town	Cochecton	03 Town	2	A		
SULLIVAN	218915	SCHALCK ROAD			0	0.32	0.32	Town	Cochecton	03 Town	2	U		
SULLIVAN	218915	SCHALCK ROAD			0.32	1.52	1.2	Town	Cochecton	03 Town	2	A		
SULLIVAN	218916	SHORT CUT ROAD			0	1.68	1.68	Town	Cochecton	03 Town	2	A		
SULLIVAN	218917	SKINNERS FLS W	STATE LN	SKINNER FALLS	0	0.21	0.21	Town	Cochecton	03 Town	2	A	500	2008
SULLIVAN	218918	SKINNERS FLS RD	NYS RT 97	SKINNER FLS W	0	0.49	0.49	Town	Cochecton	03 Town	2	A		
SULLIVAN	218918	SKINNERS FLS RD	SKINNER FLS W	NYS 97	0.49	1.05	0.56	Town	Cochecton	03 Town	2	A		
SULLIVAN	218919	SKIPPERENE RD			0	3.51	3.51	Town	Cochecton	03 Town	2	A		
SULLIVAN	218920	SMALES ROAD			0	0.43	0.43	Town	Cochecton	03 Town	2	A		
SULLIVAN	218921	STONY ROAD			0	0.84	0.84	Town	Cochecton	03 Town	2	A		
SULLIVAN	218921	STONY ROAD			0.84	1.42	0.58	Town	Cochecton	03 Town	2	U		
SULLIVAN	218922	SWAMP POND RD			0	0.54	0.54	Town	Cochecton	03 Town	2	U		
SULLIVAN	218923	TOMEL ROAD			0	0.28	0.28	Town	Cochecton	03 Town	2	U		
SULLIVAN	218924	TRILLIUM TRAIL			0	0.12	0.12	Town	Cochecton	03 Town	2	A		
SULLIVAN	218925	TYLER RD	CR111/NY52	DAUB RD	0	0.6	0.6	Town	Cochecton	03 Town	2	A	270	2008
SULLIVAN	218925	TYLER RD	DAUB RD	SCHALCK RD	0.6	1.57	0.97	Town	Cochecton	03 Town	2	A		
SULLIVAN	218925	TYLER RD	SCHALCK RD	PVMT CHG	1.57	2.39	0.82	Town	Cochecton	03 Town	2	A		
SULLIVAN	218925	TYLER RD	PVMT CHG	ERHLEY RD	2.39	2.79	0.4	Town	Cochecton	03 Town	2	U		
SULLIVAN	218925	TYLER RD	ERHLEY RD	LEO KUEN RD	2.79	2.98	0.19	Town	Cochecton	03 Town	2	U		
SULLIVAN	218925	TYLER RD	LEO KUEN RD	BETHEL LN	2.98	3.39	0.41	Town	Cochecton	03 Town	2	U		
SULLIVAN	218926	WESTERVELT RD			0	0.69	0.69	Town	Cochecton	03 Town	2	U		
SULLIVAN	218927	ZYLSTRA ROAD			0	0.19	0.19	Town	Cochecton	03 Town	2	A		
SULLIVAN	100109	CR117 MESMER HILL RD	TOWN OF DELAWAR	NEW TURNPIKE	5.92	6.25	0.33	Town	Cochecton	02 County	2	A	1980	2008
SULLIVAN	100109		NEW TURNPIKE	START 17B/52 OLAP	6.25	6.42	0.17	Town	Cochecton	02 County	2	A	1980	2008
SULLIVAN	100109		START 17B/52 OLAP	END 17B/ 52 OLAP	6.42	6.88	0.46	Town	Cochecton	01 NYSDOT	2	A	2650	2009
SULLIVAN	100109		END 17B/ 52 OLAP	TOWN OF COCHECTION &	6.88	9.14	2.26	Town	Cochecton	01 NYSDOT	2	A	2650	2007
SULLIVAN	100432	STATE RT 52	TUSTEN/COCHECTON	CR 115 COCHECTON CTR	4.98	6.6	1.62	Town	Cochecton	02 County	2	A	1160	2007
SULLIVAN	100432	STATE RT 52	CR 115 COCHECTON CTR		6.6	7.98	1.38	Town	Cochecton	02 County	2	A	630	2007
SULLIVAN	100432	STATE RT 52		CR 116 LAKE HUNTINGTON	7.98	8.85	0.87	Town	Cochecton	02 County	2	A	630	2007
SULLIVAN	100432	STATE RT 52	CR 116 LAKE HUNTINGTON		8.85	10.33	1.48	Town	Cochecton	02 County	2	A	890	2009
SULLIVAN	100432	STATE RT 52		START 17B/52 OLAP	10.3	11.13	0.8	Town	Cochecton	02 County	2	A	890	2009
SULLIVAN	100432		START 17B/52 OLAP	END 17B/52 OLAP	11.1	11.59	0.46	Town	Cochecton	01 NYSDOT	2	A	2650	2009
SULLIVAN	100432		END 17B/52 OLAP	TOWN OF COCHECTON AN	11.6	11.98	0.39	Town	Cochecton	01 NYSDOT	2	A	1400	2007
SULLIVAN	100783		TOWN OF TUSTEN AN	CR 116	31	33.52	2.53	Town	Cochecton	01 NYSDOT	2	A	1300	2008
SULLIVAN	100783		CR 116	CR 114 1ST TIME	33.5	35.57	2.05	Town	Cochecton	01 NYSDOT	2	A	1260	2009
SULLIVAN	100783		CR 114 1ST TIME	CR 114 2ND TIME	35.6	35.67	0.1	Town	Cochecton	01 NYSDOT	2	A	2150	2007
SULLIVAN	100783		CR 114 2ND TIME		35.7	36.53	0.86	Town	Cochecton	01 NYSDOT	2	A	1660	2008
SULLIVAN	100783			TOWN OF COCHECTON AN	36.5	37.37	0.84	Town	Cochecton	01 NYSDOT	2	A	1660	2008

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SULLIVAN	218475	STATE RT 52	TUSTEN TL	CR 115 COCHECTON CTR	0	1.62	1.62	Town	Cochecton	02 County	2	A	1160	2007
SULLIVAN	218475	STATE RT 52		CR 115 COCHECTON CTR	1.62	3	1.38	Town	Cochecton	02 County	2	A	630	2007
SULLIVAN	218475	STATE RT 52		CR 116 LAKE HUNTINGTON	3	3.87	0.87	Town	Cochecton	02 County	2	A	630	2007
SULLIVAN	218476	STATE RT 52	CR 116		0	1.48	1.48	Town	Cochecton	02 County	2	A	890	2009
SULLIVAN	218476	STATE RT 52		START 17B/52 OLAP	1.48	2.28	0.8	Town	Cochecton	02 County	2	A	890	2009
SULLIVAN	218478	NEWBURGH TPK	INTERSTATE BR	NEWMAN RD	0	0.09	0.09	Town	Cochecton	02 County	2	A	1380	2008
SULLIVAN	218478	NEWBURGH TPK	NEWMAN RD	COCHECTON RD	0.09	0.2	0.11	Town	Cochecton	02 County	2	A	1380	2008
SULLIVAN	218478	NEWBURGH TPK	COCHECTON RD	DEPOT RD	0.2	0.22	0.02	Town	Cochecton	02 County	2	A	1380	2008
SULLIVAN	218478	NEWBURGH TPK	DEPOT RD	PARSONAGE RD	0.22	0.4	0.18	Town	Cochecton	02 County	2	A	1380	2008
SULLIVAN	218478	NEWBURGH TPK	PARSONAGE RD	SR 97	0.4	0.64	0.24	Town	Cochecton	02 County	2	A	1380	2008
SULLIVAN	218478	COUNTY RD 114	SR 97	BRINGHAM RD	0.64	0.86	0.22	Town	Cochecton	02 County	2	A	1000	2008
SULLIVAN	218478	COUNTY RD 114	BRINGHAM RD	NEW TURNPIKE	0.86	1.39	0.53	Town	Cochecton	02 County	2	A	1000	2008
SULLIVAN	218478	COUNTY RD 114	NEW TURNPIKE	MILL RD	1.39	1.77	0.38	Town	Cochecton	02 County	2	A	1000	2008
SULLIVAN	218478	COUNTY RD 114	MILL RD	CROSS RD	1.77	2.99	1.22	Town	Cochecton	02 County	2	A	1000	2008
SULLIVAN	218478	COUNTY RD 114	CROSS RD	MITCHELL PONDW	2.99	3.67	0.68	Town	Cochecton	02 County	2	A	1000	2008
SULLIVAN	218478	COUNTY RD 114	MITCHELL PONDW	MITCHELL PONDE	3.67	4.22	0.55	Town	Cochecton	02 County	2	A	1260	2008
SULLIVAN	218478	COUNTY RD 114	MITCHELL PONDE	SR 17B	4.22	5.42	1.2	Town	Cochecton	02 County	2	A	1260	2008
SULLIVAN	218479	COUNTY RD 115	NY52/CR112	DAILY RD	0	0.71	0.71	Town	Cochecton	02 County	2	A	1240	2008
SULLIVAN	218479	COUNTY RD 115	FRED WHITE RD	FRED WHITE RD	0.71	1.55	0.84	Town	Cochecton	02 County	2	A	1240	2008
SULLIVAN	218479	COUNTY RD 115	FRED WHITE RD	BETHEL T/L	1.55	3.33	1.78	Town	Cochecton	02 County	2	A	1240	2008
SULLIVAN	218480	COUNTY RD 116	SR 97	LONG RD	0	0.53	0.53	Town	Cochecton	02 County	2	A	380	2008
SULLIVAN	218480	COUNTY RD 116	LONG RD	CUSHENTUNK RD	0.53	0.94	0.41	Town	Cochecton	02 County	2	A	380	2008
SULLIVAN	218480	COUNTY RD 116	CUSHENTUNK RD	BROOK RD	0.94	1.36	0.42	Town	Cochecton	02 County	2	A	380	2008
SULLIVAN	218480	COUNTY RD 116	BROOK RD	STONY RD	1.36	2.61	1.25	Town	Cochecton	02 County	2	A	380	2008
SULLIVAN	218480	COUNTY RD 116	STONY RD	MITCHELL PONDE	2.61	2.73	0.12	Town	Cochecton	02 County	2	A	380	2008
SULLIVAN	218480	COUNTY RD 116	MITCHELL PONDE	RANCH RD	2.73	2.89	0.16	Town	Cochecton	02 County	2	A	380	2008
SULLIVAN	218480	COUNTY RD 116	RANCH RD	SMALES RD	2.89	3.14	0.25	Town	Cochecton	02 County	2	A	380	2008
SULLIVAN	218480	COUNTY RD 116	SMALES RD	NELSON RD	3.14	3.24	0.1	Town	Cochecton	02 County	2	A	380	2008
SULLIVAN	218480	COUNTY RD 116	NELSON RD	NY52/CR113	3.24	3.3	0.06	Town	Cochecton	02 County	2	A	380	2008
SULLIVAN	218481		SR 52	NEW TURNPIKE	0	0.17	0.17	Town	Cochecton	02 County	2	A	1980	2008
SULLIVAN	218481	CR117 MESMER HILL RD	NEW TURNPIKE	DELAWARE/COCHECTION	0.17	0.5	0.33	Town	Cochecton	02 County	2	A	1980	2008
SULLIVAN	218928	A DORRER DR			0	0.15	0.15	Town	Delaware	03 Town	2	A		
SULLIVAN	218929	BACK RD	SR 52	DEAD END	0	0.12	0.12	Town	Delaware	03 Town	2	A	30	2007
SULLIVAN	218930	BAER ROAD	CROSS RD	DEAD END	0	0.36	0.36	Town	Delaware	03 Town	2	A		
SULLIVAN	218931	BAUERNFEIND RD	CR164	BEECHWOODS RD	0	0.73	0.73	Town	Delaware	03 Town	2	A		
SULLIVAN	218932	BLEECHWOODS RD		SCHWARTZ RD	0	1.72	1.72	Town	Delaware	03 Town	2	A		
SULLIVAN	218932	BEECHWOODS ROAD	SCHWARTZ RD	RADIO TOWER RD	1.72	2.7	0.98	Town	Delaware	03 Town	2	A	220	2005
SULLIVAN	218932	BEECHWOODS ROAD	RADIO TOWER RD		2.7	3.14	0.44	Town	Delaware	03 Town	2	A		
SULLIVAN	218933	BOETTGER ROAD			0	0.3	0.3	Town	Delaware	03 Town	2	A		
SULLIVAN	218934	BUDDENHAGEN ROA	SCHWARTZ RD	RADIO TOWER RD	0	0.75	0.75	Town	Delaware	03 Town	2	A		
SULLIVAN	218935	COUNTRY LA	NY 97	MTN TOP LA	0	0.26	0.26	Town	Delaware	03 Town	2	A		
SULLIVAN	218935	COUNTRY LA	MTN TOP LA	DEER RUN	0.26	0.72	0.46	Town	Delaware	03 Town	2	A		
SULLIVAN	218935	COUNTRY LA	DEER RUN	DIV HWY	0.72	0.78	0.06	Town	Delaware	03 Town	2	A		
SULLIVAN	218935	COUNTRY LA	DIV HWY	SERENITY DR	0.78	0.9	0.12	Town	Delaware	03 Town	2	A		
SULLIVAN	218935	COUNTRY LA	SERENITY DR	DEER RUN	0.9	0.99	0.09	Town	Delaware	03 Town	2	A		
SULLIVAN	218935	COUNTRY LA	DEER RUN	HILLSIDE LA	0.99	1.21	0.22	Town	Delaware	03 Town	2	A		
SULLIVAN	218936	CREAMERY RD	DEAD END	VIADUCT RD	0	0.28	0.28	Town	Delaware	03 Town	2	A	1500	2005
SULLIVAN	218936	CREAMERY RD	VIADUCT RD	CR133 L MAIN ST	0.28	0.32	0.04	Town	Delaware	03 Town	2	A	1500	2005
SULLIVAN	218936	CREAMERY RD	CR133 L MAIN ST		0.32	0.33	0.01	Town	Delaware	03 Town	2	A	1500	2005
SULLIVAN	218937	CROSS ROAD	TOWER RD	NY97	0	0.16	0.16	Town	Delaware	03 Town	2	A		
SULLIVAN	218937	CROSS ROAD	NY97	LAHM RD	0.16	0.49	0.33	Town	Delaware	03 Town	2	U		

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SULLIVAN	218938	DEL VUE RD			0	0.43	0.43	Town	Delaware	03 Town	2 A		
SULLIVAN	218939	DUENER HILL RD			0	0.13	0.13	Town	Delaware	03 Town	2 A		
SULLIVAN	218940	DEUNER HILL RD			0	0.05	0.05	Town	Delaware	03 Town	2 A		
SULLIVAN	218941	DIEHL ROAD	NY52A	VILLA ROMA RD	0	0.82	0.82	Town	Delaware	03 Town	2 A		
SULLIVAN	218942	FUEHRER ROAD			0	0.05	0.05	Town	Delaware	03 Town	2 A		
SULLIVAN	218943	FRED SCHWARTZ R			0	0.17	0.17	Town	Delaware	03 Town	2 A		
SULLIVAN	218944	FULTON HILL ROA	NY52A	MESMER HILL RD	0	0.19	0.19	Town	Delaware	03 Town	2 A		
SULLIVAN	218944	FULTON HILL ROA	MESMER HILL RD		0.19	1.86	1.67	Town	Delaware	03 Town	2 A		
SULLIVAN	218945	GABEL ROAD			0	2.63	2.63	Town	Delaware	03 Town	2 A		
SULLIVAN	218946	GREGORY ST CALL			0	0.12	0.12	Town	Delaware	03 Town	2 A		
SULLIVAN	218947	HESS RD	CR121	FREEMONT TL	0	0.12	0.12	Town	Delaware	03 Town	2 A		
SULLIVAN	218948	HIGH ST/CALLICO	GREGORY ST	DEAD END	0	0.07	0.07	Town	Delaware	03 Town	2 A		
SULLIVAN	218949	HIGHVIEW AVE/CL			0	0.06	0.06	Town	Delaware	03 Town	2 A		
SULLIVAN	218950	HILLSIDE LANE			0	0.16	0.16	Town	Delaware	03 Town	2 A		
SULLIVAN	218951	HILLTOP ROAD	KAUTZ RD	DEAD END	0	0.14	0.14	Town	Delaware	03 Town	2 A		
SULLIVAN	218952	HORSESHOE LANE			0	0.17	0.17	Town	Delaware	03 Town	2 A		
SULLIVAN	218953	HORTON AVE 48 A			0	0.21	0.21	Town	Delaware	03 Town	2 A		
SULLIVAN	218954	HORTONVILLE MN RD		N HORTON AVE	0	0.55	0.55	Town	Delaware	03 Town	2 A		
SULLIVAN	218954	HORTONVILLE MN RD	N HORTON AVE	CR121 N BRANCH RD	0.55	0.72	0.17	Town	Delaware	03 Town	2 A	350	2008
SULLIVAN	218955	HOSPITAL ROAD			0	1.88	1.88	Town	Delaware	03 Town	2 A		
SULLIVAN	218956	HUBBARD RD	DEAD END	GABEL RD	0	0.37	0.37	Town	Delaware	03 Town	2 U		
SULLIVAN	218957	JAKETOWN RD	BETHEL TL	OLD TAYLOR	0	0.3	0.3	Town	Delaware	03 Town	2 A		
SULLIVAN	218958	KAUTZ RD			0	2.26	2.26	Town	Delaware	03 Town	2 A		
SULLIVAN	218959	KEEGAN ROAD	CR164	DEAD END	0	0.18	0.18	Town	Delaware	03 Town	2 A		
SULLIVAN	218960	KNACK HILL ROAD	CR121	DEAD END	0	0.73	0.73	Town	Delaware	03 Town	2 A		
SULLIVAN	218961	KRATZ ROAD			0	0.84	0.84	Town	Delaware	03 Town	2 A		
SULLIVAN	218962	LAHM RD	CROSS RD	PVMT CHANGE	0	0.22	0.22	Town	Delaware	03 Town	2 A		
SULLIVAN	218962	LAHM RD	PVMT CHANGE	FREEMONT TL	0.22	0.89	0.67	Town	Delaware	03 Town	2 U		
SULLIVAN	218963	LARE RD	DEAD END	NY52	0	0.1	0.1	Town	Delaware	03 Town	2 U		
SULLIVAN	218964	LONG RD	GABEL RD	CR164	0	0.84	0.84	Town	Delaware	03 Town	2 A		
SULLIVAN	218965	LUX RD	NY17B	GABEL RD	0	1.22	1.22	Town	Delaware	03 Town	2 A		
SULLIVAN	218966	MESMER HILL RD			0	0.39	0.39	Town	Delaware	03 Town	2 A		
SULLIVAN	218967	MILLER ROAD			0	1.4	1.4	Town	Delaware	03 Town	2 A		
SULLIVAN	218968	MITCHELL AVE CL	DEAD END	NY97	0	0.04	0.04	Town	Delaware	03 Town	2 A		
SULLIVAN	218969	MOUNTAINTOP LAN	COUNTRY LA	DEAD END	0	0.12	0.12	Town	Delaware	03 Town	2 A		
SULLIVAN	218970	MUELLER ROAD	COCHECTON TL	NY52	0	0.62	0.62	Town	Delaware	03 Town	2 A		
SULLIVAN	218971	N HORTON AVE			0	0.24	0.24	Town	Delaware	03 Town	2 A		
SULLIVAN	218972	NEW TURNPIKE RD	COCHECTON TL	COCHECTON TL	0	1.03	1.03	Town	Delaware	03 Town	2 A		
SULLIVAN	218973	OLD TAYLOR RD			0	1.18	1.18	Town	Delaware	03 Town	2 A		
SULLIVAN	218974	POLSTER ROAD	VILLA ROMA RD	CR164	0	0.72	0.72	Town	Delaware	03 Town	2 A		
SULLIVAN	218975	RADIO TOWER RD	BEECHWOOD RD	BUDDENHAGEN RD	0	0.79	0.79	Town	Delaware	03 Town	2 A		
SULLIVAN	218976	RAILROAD AVE CL	DEAD END	CR133A	0	0.17	0.17	Town	Delaware	03 Town	2 A		
SULLIVAN	218977	REUM ROAD	GABEL RD	CR164	0	0.79	0.79	Town	Delaware	03 Town	2 A		
SULLIVAN	218978	RIVER RD			0	4.34	4.34	Town	Delaware	03 Town	2 A		
SULLIVAN	218979	ROBISCH HILL RO	BEECHWOOD RD	HEMBT RD	0	1.64	1.64	Town	Delaware	03 Town	2 A		
SULLIVAN	218979	ROBISCH HILL RO	HEMBT RD	DUENER HILL RD	1.64	1.66	0.02	Town	Delaware	03 Town	2 A	90	2009
SULLIVAN	218979	ROBISCH HILL RO	DUENER HILL RD	CR121 N BRANCH RD	1.66	1.83	0.17	Town	Delaware	03 Town	2 A	90	2009
SULLIVAN	218980	SCHOOL HOUSE HI	CALLICOON TL	NY52	0	0.37	0.37	Town	Delaware	03 Town	2 A		
SULLIVAN	218981	SCHWARTZ RD	BEECHWOOD RD	BUDDENHAGEN RD	0	1.2	1.2	Town	Delaware	03 Town	2 A		
SULLIVAN	218982	SERENITY DRIVE	DEAD END	COUNRTY LA	0	0.61	0.61	Town	Delaware	03 Town	2 A		
SULLIVAN	218983	SHAMFIELD HEIGH			0	0.13	0.13	Town	Delaware	03 Town	2 A		

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SULLIVAN	218984	SICKMILLER RD	NY52	EGGLER RD	0	0.13	0.13	Town	Delaware	03 Town	2 A	130	2008
SULLIVAN	218984	SICKMILLER RD	EGGLER RD		0.13	0.94	0.81	Town	Delaware	03 Town	2 A		
SULLIVAN	218985	STARCKS LANE			0	0.13	0.13	Town	Delaware	03 Town	2 A		
SULLIVAN	218986	STONE ARCH ROAD	NY52	DEAD END	0	0.16	0.16	Town	Delaware	03 Town	2 A		
SULLIVAN	218987	SWISS HILL A RD			0	0.23	0.23	Town	Delaware	03 Town	2 A		
SULLIVAN	218988	TAYLOR RD	DEAD END	CALLICOON TL	0	0.14	0.14	Town	Delaware	03 Town	2 A		
SULLIVAN	218989	TERRACE AVE/JEF			0	0.05	0.05	Town	Delaware	03 Town	2 A		
SULLIVAN	218990	TONJES ROAD	CR 164	CALLICOON TL	0	0.92	0.92	Town	Delaware	03 Town	2 A		
SULLIVAN	218991	TOWER ROAD			0	1.42	1.42	Town	Delaware	03 Town	2 A		
SULLIVAN	218992	VIADUCT ROAD	HARRIS BSHVLL RD	NY17B	0	1.7	1.7	Town	Delaware	03 Town	2 A	70	2008
SULLIVAN	218993	VILLA ROMA ROAD	CR164 BEECHWOOD	CR164	0	0.56	0.56	Town	Delaware	03 Town	2 A	1860	2005
SULLIVAN	218993	VILLA ROMA ROAD	CR164	MILLER RD	0.56	1.96	1.4	Town	Delaware	03 Town	2 A	1860	2005
SULLIVAN	218994	WAGNER LANE	DEAD END	KAUTZ RD	0	0.38	0.38	Town	Delaware	03 Town	2 A		
SULLIVAN	218995	WELSH RD	NY52A	NY52	0	0.64	0.64	Town	Delaware	03 Town	2 A	20	2004
SULLIVAN	218996	WINKLESTERN LAN	NY52A	DEAD END	0	0.17	0.17	Town	Delaware	03 Town	2 A	30	2005
SULLIVAN	218996	WINKLESTERN LA	DEAD END		0.17	0.2	0.03	Town	Delaware	03 Town	2 U		
SULLIVAN	218996	WINKLESTERN LAN			0.2	0.21	0.01	Town	Delaware	03 Town	2 A		
SULLIVAN	262628	OLD HANKINS RD	NY97		0	0.46	0.46	Town	Delaware	03 Town	2 A		
SULLIVAN	262628	OLD HANKINS RD		CROSS RD	0.46	1.36	0.9	Town	Delaware	03 Town	2 U		
SULLIVAN	262629	SEMINARY RD			0	1.83	1.83	Town	Delaware	03 Town	2 A		
SULLIVAN	270904	DEER RUN	COUNTRY LA	WHITE TAIL DR	0	1.05	1.05	Town	Delaware	03 Town	2 A		
SULLIVAN	270904	DEER RUN	WHITE TAIL DR	COUNTRY LA	1.05	1.24	0.19	Town	Delaware	03 Town	2 A		
SULLIVAN	270907	WHITE TAIL DR	DEER RUN	FAWN PL	0	0.21	0.21	Town	Delaware	03 Town	2 A		
SULLIVAN	270907	WHITE TAIL DR	FAWN PL	DEAD END	0.21	0.35	0.14	Town	Delaware	03 Town	2 A		
SULLIVAN	270908	FAWN PL	DEAD END	WHITE TAIL DR	0	0.23	0.23	Town	Delaware	03 Town	2 A		
SULLIVAN	100109		RT 97 CALLICOON	CR 121 HORTONVILLE	0	1.24	1.24	Town	Delaware	01 NYSDOT	2 A	3300	2008
SULLIVAN	100109		CR 121 HORTONVILL	CR 164 HORTONVILLE	1.24	1.81	0.57	Town	Delaware	01 NYSDOT	2 A	2350	2009
SULLIVAN	100109		CR 164 HORTONVILLE		1.81	4.73	2.92	Town	Delaware	01 NYSDOT	2 A	1560	2009
SULLIVAN	100109		RT 52A	RT 52A	4.73	5.2	0.47	Town	Delaware	01 NYSDOT	2 A	1560	2009
SULLIVAN	100109	CR117 MESMER HILL RD	RT 52A		5.2	5.28	0.08	Town	Delaware	02 County	2 A	1980	2008
SULLIVAN	100109	CR117 MESMER HILL RD		TOWN OF DELAWARE & T	5.28	5.92	0.64	Town	Delaware	02 County	2 A	1980	2008
SULLIVAN	100432		TOWN OF COCHECTO	RT 52A	12	14.83	2.85	Town	Delaware	01 NYSDOT	2 A	1400	2007
SULLIVAN	100432		RT 52A	CR 128 JEFFERSONVILLE	14.8	16.99	2.16	Town	Delaware	01 NYSDOT	2 A	2450	2008
SULLIVAN	100432		CR 128 JEFFERSONVI	TOWN OF DELAWARE VILL	17	17.32	0.33	Town	Delaware	01 NYSDOT	2 A	4850	2008
SULLIVAN	100431		RT 17B	RT 52 END RT 52A	0	2.77	2.77	Town	Delaware	01 NYSDOT	2 A	560	2008
SULLIVAN	100783		TOWN OF COCHECTON AND TOWN OF DELAWA		37.4	39.51	2.14	Town	Delaware	01 NYSDOT	2 A	1660	2008
SULLIVAN	100783			RT 17B CALLICOON	39.5	40.02	0.51	Town	Delaware	01 NYSDOT	2 A	1660	2008
SULLIVAN	100783		RT 17B CALLICOON		40	40.07	0.05	Town	Delaware	01 NYSDOT	2 A	1460	2006
SULLIVAN	100783			TOWN OF DELAWARE & T	40.1	43.01	2.94	Town	Delaware	01 NYSDOT	2 A	1460	2006
SULLIVAN	218481	CR117 MESMER HILL RD	DELAWARE/COCHECTION TL		0.5	1.14	0.64	Town	Delaware	02 County	2 A	1980	2008
SULLIVAN	218481	CR117 MESMER HILL RD		RT 52A	1.14	1.22	0.08	Town	Delaware	02 County	2 A	1980	2008
SULLIVAN	218482	COUNTY RTE 121	SR 17 B	HORTONVILLE RD	0	0.59	0.59	Town	Delaware	02 County	2 A	1300	2005
SULLIVAN	218482	COUNTY RTE 121	HORTONVILLE RD	CR 131	0.59	0.66	0.07	Town	Delaware	02 County	2 A	1300	2005
SULLIVAN	218482	COUNTY RTE 121	CR 131	KNACK HILL RD	0.66	1.83	1.17	Town	Delaware	02 County	2 A	1300	2005
SULLIVAN	218482	COUNTY RTE 121	KNACK HILL RD	ROBISCH HILL	1.83	2.29	0.46	Town	Delaware	02 County	2 A	1300	2005
SULLIVAN	218482	COUNTY RTE 121	ROBISCH HILL	HESS RD	2.29	2.4	0.11	Town	Delaware	02 County	2 A	1300	2005
SULLIVAN	218482	COUNTY RTE 121	HESS RD	DELAWARE TL	2.4	2.51	0.11	Town	Delaware	02 County	2 A	1300	2005
SULLIVAN	218488	JEFF N BRANCH	DELAWARE TL	SR 52	2.63	3.05	0.42	Town	Delaware	02 County	2 A	980	2007
SULLIVAN	218489	COUNTY RTE 131	CR 121	HOSPITAL RD	0	0.94	0.94	Town	Delaware	02 County	2 A	380	2008
SULLIVAN	218489	COUNTY RTE 131	HOSPITAL RD	KAUTZ RT	0.94	1.22	0.28	Town	Delaware	02 County	2 A	380	2008
SULLIVAN	218489	COUNTY RTE 131	KAUTZ RT	FREMONT TL	1.22	2.09	0.87	Town	Delaware	02 County	2 A	380	2008

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SULLIVAN	218491	LOWER MAIN ST	CONRAIL BRIDGE (OV	A DORRER DR	0	0.1	0.1	Town	Delaware	02 County	2	A		
SULLIVAN	218491	LOWER MAIN ST	A DORRER DR	BRIDGE ST	0.1	0.24	0.14	Town	Delaware	02 County	2	A		
SULLIVAN	218492	FREMONT ST	SR 97	RAILROAD AVE	0	0.26	0.26	Town	Delaware	02 County	2	A	120	2008
SULLIVAN	218492	UPPER MAIN ST	RAILROAD AVE	GREGORY ST	0.26	0.38	0.12	Town	Delaware	02 County	2	A	1300	2008
SULLIVAN	218492	UPPER MAIN ST	GREGORY ST	SR 97	0.38	0.53	0.15	Town	Delaware	02 County	2	A	1300	2008
SULLIVAN	218510	BEECHWOOD RD	SR 17B	GABEL RD	0	0.62	0.62	Town	Delaware	02 County	2	A	850	2007
SULLIVAN	218510	BEECHWOOD RD	GABEL RD	KEEGAN RD	0.62	1.74	1.12	Town	Delaware	02 County	2	A	850	2007
SULLIVAN	218510	BEECHWOOD RD	KEEGAN RD	LONG RD	1.74	1.85	0.11	Town	Delaware	02 County	2	A	850	2007
SULLIVAN	218510	BEECHWOOD RD	LONG RD	REUM RD	1.85	2.39	0.54	Town	Delaware	02 County	2	A	850	2007
SULLIVAN	218510	BEECHWOOD RD	REUM RD	BAUERNFEIND RD	2.39	2.97	0.58	Town	Delaware	02 County	2	A	850	2007
SULLIVAN	218510	BEECHWOOD RD	BAUERNFEIND RD	VILLA ROMA RD	2.97	3.12	0.15	Town	Delaware	02 County	2	A	850	2007
SULLIVAN	218510	BEECHWOOD RD	VILLA ROMA RD	KAUTZ RD	3.12	3.79	0.67	Town	Delaware	02 County	2	A	1200	2007
SULLIVAN	218510	BEECHWOOD RD	KAUTZ RD	POLSTER RD	3.79	4.73	0.94	Town	Delaware	02 County	2	A	1200	2007
SULLIVAN	218510	BEECHWOOD RD	POLSTER RD	MILLER RD	4.73	5.34	0.61	Town	Delaware	02 County	2	A	1200	2007
SULLIVAN	218510	BEECHWOOD RD	MILLER RD	SR 52	5.34	6.14	0.8	Town	Delaware	02 County	2	A	1200	2007
SULLIVAN	219386	AIRPORT ROAD			0	3.49	3.49	Town	Highland	03 Town	2	A		
SULLIVAN	219387	AUSTIN RD/BARRY			0	0.05	0.05	Town	Highland	03 Town	2	A		
SULLIVAN	219388	BARKER ROAD	LUMBERLAND TL	CR32	0	1.18	1.18	Town	Highland	03 Town	2	A		
SULLIVAN	219389	BECKS HILL RD/B	DEAD END	SR97	0	0.13	0.13	Town	Highland	03 Town	2	A		
SULLIVAN	219390	BODINE LAKE ROA			0	0.55	0.55	Town	Highland	03 Town	2	A		
SULLIVAN	219391	BOWER RD			0	0.6	0.6	Town	Highland	03 Town	2	U		
SULLIVAN	219392	CEMTERY DR	NY55/CR12	NY55/CR12	0	0.13	0.13	Town	Highland	03 Town	2	A		
SULLIVAN	219393	CLARK RD			0	1.21	1.21	Town	Highland	03 Town	2	A		
SULLIVAN	219393	CLARK RD			1.21	3.41	2.2	Town	Highland	03 Town	2	U		
SULLIVAN	219394	COLLINS ROAD	CR32	CR47	0	0.92	0.92	Town	Highland	03 Town	2	A		
SULLIVAN	219395	CRAWFORD ROAD			0	2.27	2.27	Town	Highland	03 Town	2	A		
SULLIVAN	219396	DEVLIN RD	CR32	CR47	0	1.05	1.05	Town	Highland	03 Town	2	A		
SULLIVAN	219397	DRY BROOK ROAD			0	0.87	0.87	Town	Highland	03 Town	2	A		
SULLIVAN	219398	ELDRED HEIGHTS			0	0.06	0.06	Town	Highland	03 Town	2	A		
SULLIVAN	219399	ELDRED STREET	DEAD END	NY55/CR11	0	0.06	0.06	Town	Highland	03 Town	2	A		
SULLIVAN	219400	FRAZIER ROAD	DEAD END	CR32	0	0.37	0.37	Town	Highland	03 Town	2	A		
SULLIVAN	219401	HARDER ROAD	DEAD END	CORKSCREW RD	0	0.41	0.41	Town	Highland	03 Town	2	A		
SULLIVAN	219402	HARTUNG ROAD	CR47	STEGES RD	0	1.18	1.18	Town	Highland	03 Town	2	A		
SULLIVAN	219403	HICKORY LA	CR21	MAIL RD	0	0.2	0.2	Town	Highland	03 Town	2	A		
SULLIVAN	219404	HILLSIDE ROAD			0	1.13	1.13	Town	Highland	03 Town	2	A		
SULLIVAN	219405	HUGHES ROAD	TUTSEN TL	IRISHTOWN RD	0	1.26	1.26	Town	Highland	03 Town	2	U		
SULLIVAN	219406	IRISHTOWN ROAD			0	1.19	1.19	Town	Highland	03 Town	2	A		
SULLIVAN	219407	JAMES LEAVENWOR	DEAD END	AIRPORT RD	0	0.18	0.18	Town	Highland	03 Town	2	A		
SULLIVAN	219408	KERN ROAD	CR21	DEAD END	0	0.53	0.53	Town	Highland	03 Town	2	A		
SULLIVAN	219409	KIEFERLE ROAD	DEAD END	NY55/CR12	0	0.2	0.2	Town	Highland	03 Town	2	A		
SULLIVAN	219410	KOINONIA LK & M			0	0.34	0.34	Town	Highland	03 Town	2	A		
SULLIVAN	219410	KOINONIA LK M			0.34	1.44	1.1	Town	Highland	03 Town	2	U		
SULLIVAN	219411	LAKE VIEW DR/HI			0	2.29	2.29	Town	Highland	03 Town	2	A		
SULLIVAN	219412	MAIL ROAD			0	2.88	2.88	Town	Highland	03 Town	2	A		
SULLIVAN	219413	MAIL ROAD EXT/B	CR11A	SR97	0	0.06	0.06	Town	Highland	03 Town	2	A		
SULLIVAN	219414	MARCEL FOUR RD			0	0.11	0.11	Town	Highland	03 Town	2	U		
SULLIVAN	219415	MOHICAN LAKE RD			0	0.47	0.47	Town	Highland	03 Town	2	A		
SULLIVAN	219416	MONTOZA DR	MAIL RD	MAIL RD	0	0.16	0.16	Town	Highland	03 Town	2	A		
SULLIVAN	219417	NEW SAMYN RD			0	0.29	0.29	Town	Highland	03 Town	2	A		
SULLIVAN	219418	OLD BROOK RD	NY55 \ CR11	NY55 \ CR11	0	0.61	0.61	Town	Highland	03 Town	2	A	20	2007
SULLIVAN	219419	OLD MINISINK FO			0	1.28	1.28	Town	Highland	03 Town	2	A		

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SULLIVAN	219420	OLD MINISINK FO			0	0.15	0.15	Town	Highland	03 Town	2	U		
SULLIVAN	219421	PARK LANE			0	0.47	0.47	Town	Highland	03 Town	2	A		
SULLIVAN	219422	PARK ROAD			0	0.67	0.67	Town	Highland	03 Town	2	A		
SULLIVAN	219423	QUICK ROAD/BARR	NY55 \ CR11	DEAD END	0	0.15	0.15	Town	Highland	03 Town	2	A		90 2007
SULLIVAN	219424	SCHOOLHOUSE RD/			0	0.06	0.06	Town	Highland	03 Town	2	A		
SULLIVAN	219425	SCHUMACHER POND	WOODS RD		0	0.09	0.09	Town	Highland	03 Town	2	U		80 2005
SULLIVAN	219425	SCHUMACHER POND		SAMYN RD	0.09	0.73	0.64	Town	Highland	03 Town	2	A		80 2005
SULLIVAN	219425	SCHUMACHER POND	SAMYN RD	CR21	0.73	0.92	0.19	Town	Highland	03 Town	2	A		80 2005
SULLIVAN	219426	SEITZ ROAD			0	0.45	0.45	Town	Highland	03 Town	2	A		
SULLIVAN	219427	STEGES ROAD	NY55 \ CR12	HARTUNG RD	0	1.53	1.53	Town	Highland	03 Town	2	A		210 2009
SULLIVAN	219428	TOW PATH RD/BAR	DEAD END	NY97	0	0.06	0.06	Town	Highland	03 Town	2	A		
SULLIVAN	219429	WALTERS FARM R			0	0.32	0.32	Town	Highland	03 Town	2	A		
SULLIVAN	219430	WASHINGTON BEAC	DEAD END	AIRPORT RD	0	0.21	0.21	Town	Highland	03 Town	2	A		
SULLIVAN	219431	WASHINGTON LAKE			0	0.46	0.46	Town	Highland	03 Town	2	A		
SULLIVAN	219432	WOODS RD	YORK LK RD	SCHUMACHER POND RD	0	2.13	2.13	Town	Highland	03 Town	2	A		
SULLIVAN	219432	WOODS RD	SCHUMACHER POND	SCHUMACHER RD	2.13	2.6	0.47	Town	Highland	03 Town	2	A		140 2005
SULLIVAN	219432	WOODS RD	SCHUMACHER RD	CR 22	2.6	3.13	0.53	Town	Highland	03 Town	2	A		140 2005
SULLIVAN	219433	YORK LAKE ROAD			0	0.59	0.59	Town	Highland	03 Town	2	A		
SULLIVAN	262632	WATER ST	ELDRED HGTS RD	DEAD END	0	0.02	0.02	Town	Highland	03 Town	1	A		
SULLIVAN	218409	RIVER RD	SR 97	MAIL RD EXT	0	0.55	0.55	Town	Highland	02 County	2	A		110 2005
SULLIVAN	218409	RIVER RD	MAIL RD EXT	CUL-DE-SAC	0.55	0.64	0.09	Town	Highland	02 County	2	A		110 2005
SULLIVAN	218416	BARRYVILLE YLAN	SR 97	MAIL RD	0	0.04	0.04	Town	Highland	02 County	2	A		820 2006
SULLIVAN	218416	BARRYVILLE YLAN	MAIL RD	CR 21A	0.04	0.58	0.54	Town	Highland	02 County	2	A		820 2006
SULLIVAN	218416	BARRYVILLE YLAN	CR 21A	CORKSCREW RD	0.58	1.47	0.89	Town	Highland	02 County	2	A		820 2006
SULLIVAN	218416	BARRYVILLE YLAN	CORKSCREW RD	CORKSCREW RD	1.47	2.32	0.85	Town	Highland	02 County	2	A		830 2006
SULLIVAN	218416	BARRYVILLE YLAN	CORKSCREW RD	SCHMACKER PD	2.32	3.01	0.69	Town	Highland	02 County	2	A		830 2006
SULLIVAN	218416	BARRYVILLE YLAN	SCHMACKER PD	MAIL RD EXT	3.01	3.02	0.01	Town	Highland	02 County	2	A		830 2006
SULLIVAN	218416	BARRYVILLE YLAN	MAIL RD EXT	CR 33	3.02	3.83	0.81	Town	Highland	02 County	2	A		830 2006
SULLIVAN	218417		NY97	CR21	0	0.09	0.09	Town	Highland	02 County	2	A		260 2006
SULLIVAN	218418	BEAVER BROOK RD	CR 33	PARK RD	0	0.31	0.31	Town	Highland	02 County	2	A		490 2005
SULLIVAN	218418	BEAVER BROOK RD	PARK RD	WOODS RD	0.31	0.48	0.17	Town	Highland	02 County	2	A		490 2005
SULLIVAN	218418	BEAVER BROOK RD	WOODS RD	IRISH TOWN RD	0.48	0.57	0.09	Town	Highland	02 County	2	A		490 2005
SULLIVAN	218418	BEAVER BROOK RD	IRISH TOWN RD	TUSTEN TL	0.57	1.82	1.25	Town	Highland	02 County	2	A		490 2005
SULLIVAN	218422	CRYSTAL LAKE RD	TUSTEN TL	TUSTEN TL	3.78	3.98	0.2	Town	Highland	02 County	2	A		570 2007
SULLIVAN	218424	PROCTOR RD	CR12/NY55	CR 47	0	0.11	0.11	Town	Highland	02 County	2	A		2250 2009
SULLIVAN	218424	PROCTOR RD	CR 47	COLLINS RD	0.11	0.88	0.77	Town	Highland	02 County	2	A		1340 2006
SULLIVAN	218424	PROCTOR RD	COLLINS RD	BARKER RD	0.88	1.42	0.54	Town	Highland	02 County	2	A		1340 2006
SULLIVAN	218424	PROCTOR RD	BARKER RD	DEVLIN RD	1.42	1.44	0.02	Town	Highland	02 County	2	A		1340 2006
SULLIVAN	218424	PROCTOR RD	DEVLIN RD	LUMBERLAND TL	1.44	2.25	0.81	Town	Highland	02 County	2	A		1340 2006
SULLIVAN	218425	ELDRED YULAN RD	CR 21	CRAWFORD RD	0	2.3	2.3	Town	Highland	02 County	2	A		1160 2006
SULLIVAN	218425	ELDRED YULAN RD	CRAWFORD RD	AIRPORT RD	2.3	2.65	0.35	Town	Highland	02 County	2	A		1380 2006
SULLIVAN	218425	ELDRED YULAN RD	AIRPORT RD	CLARK RD	2.65	2.7	0.05	Town	Highland	02 County	2	A		1380 2006
SULLIVAN	218425	ELDRED YULAN RD	CLARK RD	CR12/NY55	2.7	2.82	0.12	Town	Highland	02 County	2	A		1380 2006
SULLIVAN	218432	HIGHLAND LK RD	CR 32	HARTUNG RD	0	1.13	1.13	Town	Highland	02 County	2	A		820 2008
SULLIVAN	218432	HIGHLAND LK RD	HARTUNG RD	COLLINS RD	1.13	1.25	0.12	Town	Highland	02 County	2	A		820 2008
SULLIVAN	218432	HIGHLAND LK RD	COLLINS RD	DEVLIN RD	1.25	1.98	0.73	Town	Highland	02 County	2	A		820 2008
SULLIVAN	218432	HIGHLAND LK RD	DEVLIN RD	LAKEVIEW DR	1.98	2.03	0.05	Town	Highland	02 County	2	A		820 2008
SULLIVAN	100438		PENN ST LN	RT 97	0	0.15	0.15	Town	Highland	01 NYSDOT	2	A		1420 2009
SULLIVAN	100438	NY55 & CR11	RT 97	N ENT OLD BROOK RD	0.15	1.89	1.74	Town	Highland	02 County	2	A		1420 2009
SULLIVAN	100438	NY55 & CR11		N ENT OLD BROOK RD	1.89	4.11	2.22	Town	Highland	02 County	2	A		1540 2009
SULLIVAN	100438	NY55 & CR12		CR 33 ELDRED	4.11	4.12	0.01	Town	Highland	02 County	2	A		1540 2009

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SULLIVAN	100438	NY55 & CR12	CR 33 ELDRED	TOWN OF HIGHLAND AND	4.12	10.3	6.18	Town	Highland	02 County	2	A		1120	2007
SULLIVAN	100783		TOWN OF LUMBERLAND	RT 55 BARRYVILLE	10.9	12.1	1.21	Town	Highland	01 NYSDOT	2	A		1300	2007
SULLIVAN	100783		RT 55 BARRYVILLE		12.1	12.2	0.1	Town	Highland	01 NYSDOT	2	A		1260	2009
SULLIVAN	100783			ACC PENN STATE TOLL BR	12.2	16.24	4.04	Town	Highland	01 NYSDOT	2	A		1260	2009
SULLIVAN	100783			ACC PENN STATE TOLL BR ROEBLING BR	16.2	16.29	0.05	Town	Highland	01 NYSDOT	2	A		770	2007
SULLIVAN	100783			TOWN OF HIGHLAND & TOWN OF	16.3	17.8	1.51	Town	Highland	01 NYSDOT	2	A		770	2007
SULLIVAN	218513	MINISINK BTL GD	SR 97	OLD MINISINK	0	0.08	0.08	Town	Highland	02 County	2	A		70	2008
SULLIVAN	218513	MINISINK BTL GD	OLD MINISINK	YORKLAKE RD	0.08	0.78	0.7	Town	Highland	02 County	2	A		70	2008
SULLIVAN	219577	AKESON ROAD			0	0.44	0.44	Town	Lumberland	03 Town	2	A			
SULLIVAN	219578	ALFRED RD	BLOOM RD	DEAD END	0	0.28	0.28	Town	Lumberland	03 Town	2	A			
SULLIVAN	219579	ANDREW PAYE ROA	CR 41	DEAD END	0	0.16	0.16	Town	Lumberland	03 Town	2	A			
SULLIVAN	219580	ANNA DR			0	0.29	0.29	Town	Lumberland	03 Town	2	A			
SULLIVAN	219581	AUSTRALIA RD			0	0.48	0.48	Town	Lumberland	03 Town	2	A			
SULLIVAN	219582	BARAN DRIVE			0	0.3	0.3	Town	Lumberland	03 Town	2	A			
SULLIVAN	219583	BARNES ROAD	DEAD END	DECKER RD	0	0.57	0.57	Town	Lumberland	03 Town	2	U			
SULLIVAN	219584	BASS RD			0	0.12	0.12	Town	Lumberland	03 Town	2	U			
SULLIVAN	219585	BEAVER TRAIL/MO			0	0.08	0.08	Town	Lumberland	03 Town	2	A			
SULLIVAN	219586	BERM & CHURCH R	NY 97		0	0.26	0.26	Town	Lumberland	03 Town	2	U		120	2007
SULLIVAN	219586	BERM & CHURCH R		CR 41 HIGH RD	0.26	1.09	0.83	Town	Lumberland	03 Town	2	A		120	2007
SULLIVAN	219587	BIRCH ROAD SALA			0	0.12	0.12	Town	Lumberland	03 Town	2	A			
SULLIVAN	219588	BIRDSALL ROAD			0	0.24	0.24	Town	Lumberland	03 Town	2	A			
SULLIVAN	219589	BLOOM ROAD			0	1.01	1.01	Town	Lumberland	03 Town	2	A			
SULLIVAN	219590	BOHDAN LEPKY			0	0.22	0.22	Town	Lumberland	03 Town	2	A			
SULLIVAN	219591	BROOKSIDE DRIVE			0	0.12	0.12	Town	Lumberland	03 Town	2	A			
SULLIVAN	219592	BROOKWOOD ROAD	LOCHAOA RD	CR 32	0	1.04	1.04	Town	Lumberland	03 Town	2	U			
SULLIVAN	219593	CAHOONZIE TRAIL			0	0.04	0.04	Town	Lumberland	03 Town	2	A			
SULLIVAN	219594	CASKEY ROAD	DECKER RD	CR 31	0	0.69	0.69	Town	Lumberland	03 Town	2	U			
SULLIVAN	219595	CEMETERY RD			0	0.16	0.16	Town	Lumberland	03 Town	2	A			
SULLIVAN	219595	CEMETERY RD			0.16	0.2	0.04	Town	Lumberland	03 Town	2	U			
SULLIVAN	219596	CHAPIN ROAD	CR 43	PAVEMENT CHANGE	0	0.09	0.09	Town	Lumberland	03 Town	2	A			
SULLIVAN	219596	CHAPIN ROAD	PAVEMENT CHANGE	LEBANON RD	0.09	1.16	1.07	Town	Lumberland	03 Town	2	U			
SULLIVAN	219597	CRANES SPRING			0	0.14	0.14	Town	Lumberland	03 Town	2	A			
SULLIVAN	219598	DECKER ROAD			0	2.43	2.43	Town	Lumberland	03 Town	2	U			
SULLIVAN	219598	DECKER ROAD			2.43	3.05	0.62	Town	Lumberland	03 Town	2	A			
SULLIVAN	219599	DELAWARE TRAIL/	MOHICAN LAKE RD	DEER TR	0	0.57	0.57	Town	Lumberland	03 Town	2	A			
SULLIVAN	219600	EDGAR LEWIS RD	VAN TUYL RD	DEAD END	0	0.22	0.22	Town	Lumberland	03 Town	2	U			
SULLIVAN	219601	ELK TRAIL/MOHIC			0	0.23	0.23	Town	Lumberland	03 Town	2	A			
SULLIVAN	219602	FISH CABIN RD	DEAD END	DECKER RD	0	0.59	0.59	Town	Lumberland	03 Town	2	U			
SULLIVAN	219603	GEBA DRIVE			0	0.62	0.62	Town	Lumberland	03 Town	2	A			
SULLIVAN	219604	HALLENBACH RD			0	0.52	0.52	Town	Lumberland	03 Town	2	U			
SULLIVAN	219605	HALLOCK ROAD	SR 97	PAVEMENT CHANGE	0	0.07	0.07	Town	Lumberland	03 Town	2	A			
SULLIVAN	219605	HALLOCK ROAD	PAVEMENT CHANGE	TUTHILL RD	0.07	1.03	0.96	Town	Lumberland	03 Town	2	U			
SULLIVAN	219606	HARING RD			0	3.32	3.32	Town	Lumberland	03 Town	2	A			
SULLIVAN	219607	HOLLOW RD			0	3.35	3.35	Town	Lumberland	03 Town	2	A			
SULLIVAN	219608	HOLLOWATY-KOZAK			0	0.13	0.13	Town	Lumberland	03 Town	2	A			
SULLIVAN	219609	HOMEYER ROAD	DEAD END	SR 97	0	0.39	0.39	Town	Lumberland	03 Town	2	A			
SULLIVAN	219610	HOYT ROAD			0	0.26	0.26	Town	Lumberland	03 Town	2	U			
SULLIVAN	219611	HUNCZAK BOULEVA			0	0.17	0.17	Town	Lumberland	03 Town	2	U			
SULLIVAN	219612	HURON TRAIL/MOH	BEAVER TR	DEAD END	0	0.03	0.03	Town	Lumberland	03 Town	2	A			
SULLIVAN	219613	IVAN FRANKO RD			0	0.37	0.37	Town	Lumberland	03 Town	2	A			
SULLIVAN	219614	KALIN-WEBER ROA			0	2.55	2.55	Town	Lumberland	03 Town	2	A			

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SULLIVAN	219615	KINDRACHUK RD			0	0.28	0.28	Town	Lumberland	03 Town	2	A		
SULLIVAN	219616	KNIGHT RD			0	0.96	0.96	Town	Lumberland	03 Town	2	A		
SULLIVAN	219617	LEBANON ROAD	LEERS RD		0	0.16	0.16	Town	Lumberland	03 Town	2	A		
SULLIVAN	219617	LEBANON ROAD		CR 43	0.16	3.34	3.18	Town	Lumberland	03 Town	2	U		
SULLIVAN	219618	LEERS ROAD	MOHICAN LAKE RD	FORESTBURGH RD	0	1.67	1.67	Town	Lumberland	03 Town	2	A		
SULLIVAN	219619	LOCH ADA ROAD			0	0.77	0.77	Town	Lumberland	03 Town	2	U		
SULLIVAN	219620	MAGNOLIA DRIVE			0	0.44	0.44	Town	Lumberland	03 Town	2	A		
SULLIVAN	219621	MAPES ROAD			0	2.45	2.45	Town	Lumberland	03 Town	2	U		
SULLIVAN	219622	MAXWELL ROAD	BERM & CHURCH	DEAD END	0	0.1	0.1	Town	Lumberland	03 Town	2	A		
SULLIVAN	219623	MCDONALD ROAD	SMITH RD	METAUQUE RD	0	0.5	0.5	Town	Lumberland	03 Town	2	U		
SULLIVAN	219624	METAUQUE ROAD			0	0.32	0.32	Town	Lumberland	03 Town	2	U		
SULLIVAN	219625	MINISINK TRAIL/	MOHICAN LAKE RD	ELK TR	0	0.17	0.17	Town	Lumberland	03 Town	2	A		
SULLIVAN	219625	MINISINK TRAIL/	ELK TR	DEER TR	0.17	0.58	0.41	Town	Lumberland	03 Town	2	A		
SULLIVAN	219625	MINISINK TRAIL/	DEER TR	MINK TR	0.58	0.72	0.14	Town	Lumberland	03 Town	2	A		
SULLIVAN	219626	MINK TRAIL/MOHI			0	0.08	0.08	Town	Lumberland	03 Town	2	U		
SULLIVAN	219626	MINK TRAIL/MOHI			0.08	0.15	0.07	Town	Lumberland	03 Town	2	A		
SULLIVAN	219626	MINK TRAIL/MOHI			0.15	0.22	0.07	Town	Lumberland	03 Town	2	U		
SULLIVAN	219627	MOHAPH ROAD	CR 32	PAVEMENT CHANGE	0	0.33	0.33	Town	Lumberland	03 Town	2	A		
SULLIVAN	219627	MOHAPH ROAD	PAVEMENT CHANGE	DEAD END	0.33	0.65	0.32	Town	Lumberland	03 Town	2	U		
SULLIVAN	219628	MOHICAN LAKE RO	HIGHLAND T/L		0	1.43	1.43	Town	Lumberland	03 Town	2	A		
SULLIVAN	219628	MOHICAN LAKE RO		CR 42	1.43	3	1.57	Town	Lumberland	03 Town	2	A		
SULLIVAN	219629	MOHICAN TRAIL/M	MOHICAN LAKE RD	DEAD END	0	0.89	0.89	Town	Lumberland	03 Town	2	A		
SULLIVAN	219630	OAK ROAD SALAK			0	0.26	0.26	Town	Lumberland	03 Town	2	A		
SULLIVAN	219631	OGDEN ROAD	CR 42	SMITH RD	0	0.91	0.91	Town	Lumberland	03 Town	2	A		
SULLIVAN	219632	ONEIDA TRAIL/MO			0	0.18	0.18	Town	Lumberland	03 Town	2	A		
SULLIVAN	219633	OTTER TRAIL/MOH	DEAD END	MINISINK TR	0	0.16	0.16	Town	Lumberland	03 Town	2	A		
SULLIVAN	219634	OUTBACK RD	DEAD END	AUSTRALIA RD	0	0.14	0.14	Town	Lumberland	03 Town	2	A		
SULLIVAN	219635	OZERIANY ROAD			0	0.71	0.71	Town	Lumberland	03 Town	2	U		
SULLIVAN	219636	PARKSIDE DRIVE			0	0.2	0.2	Town	Lumberland	03 Town	2	A		
SULLIVAN	219637	PINE ROAD SALA			0	0.25	0.25	Town	Lumberland	03 Town	2	A		
SULLIVAN	219638	PITIO ROAD			0	0.21	0.21	Town	Lumberland	03 Town	2	A		
SULLIVAN	219639	RIO DAM RD			0	2	2	Town	Lumberland	03 Town	2	A		
SULLIVAN	219640	ROWLEY RD	HARING RD	HIGHLAND TL	0	0.9	0.9	Town	Lumberland	03 Town	2	A		
SULLIVAN	219641	SCHWAB ROAD			0	0.18	0.18	Town	Lumberland	03 Town	2	A		
SULLIVAN	219642	SHORTELL RD			0	0.79	0.79	Town	Lumberland	03 Town	2	U		
SULLIVAN	219643	SMITH ROAD			0	0.61	0.61	Town	Lumberland	03 Town	2	A		
SULLIVAN	219644	STEFANYK ROAD			0	0.54	0.54	Town	Lumberland	03 Town	2	A		
SULLIVAN	219645	SUNFLOWER DRIVE			0	0.46	0.46	Town	Lumberland	03 Town	2	U		
SULLIVAN	219646	SWANERBURY RD	DEAD END	CHURCH & BERM	0	0.07	0.07	Town	Lumberland	03 Town	2	A		
SULLIVAN	219646	SWANERBURY RD	CHURCH & BERM	DEAD END	0.07	0.27	0.2	Town	Lumberland	03 Town	2	A		
SULLIVAN	219647	SWEENEY ROAD			0	0.2	0.2	Town	Lumberland	03 Town	2	U		
SULLIVAN	219648	TARAS SHEVCHENK			0	1.15	1.15	Town	Lumberland	03 Town	2	A		
SULLIVAN	219649	TOW PATH ROAD			0	0.69	0.69	Town	Lumberland	03 Town	2	U		
SULLIVAN	219650	TUTHILL RD			0	1.62	1.62	Town	Lumberland	03 Town	2	U		
SULLIVAN	219651	VALLEY VIEW DR			0	0.19	0.19	Town	Lumberland	03 Town	2	A		
SULLIVAN	219652	VAN TUYL RD			0	2.69	2.69	Town	Lumberland	03 Town	2	A		
SULLIVAN	219653	VAN TUYL SPUR			0	0.03	0.03	Town	Lumberland	03 Town	2	A		
SULLIVAN	219654	W MOHICAN TR/MO	MINK TR	DEAD END	0	0.21	0.21	Town	Lumberland	03 Town	2	A		
SULLIVAN	219655	WHITE ROAD	CR 41	CR 31	0	2.68	2.68	Town	Lumberland	03 Town	2	A		
SULLIVAN	219656	WILLOW LANE SA			0	0.14	0.14	Town	Lumberland	03 Town	2	A		
SULLIVAN	219657	WOODLAND DR			0	0.3	0.3	Town	Lumberland	03 Town	2	A		

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SULLIVAN	218423	UPR MONGAUP RD	SR 97	BIRDSALL RD		0	0.1	0.1	Town	Lumberland	02 County	2	A		1720	2008
SULLIVAN	218423	UPR MONGAUP RD	BIRDSALL RD	DECKER RD		0.1	0.11	0.01	Town	Lumberland	02 County	2	A		1720	2008
SULLIVAN	218423	UPR MONGAUP RD	DECKER RD	CASKEY RD		0.11	0.54	0.43	Town	Lumberland	02 County	2	A		1720	2008
SULLIVAN	218423	UPR MONGAUP RD	CASKEY RD	KNIGHT RD		0.54	2.03	1.49	Town	Lumberland	02 County	2	A		1720	2008
SULLIVAN	218423	UPR MONGAUP RD	KNIGHT RD	WHITE RD		2.03	2.77	0.74	Town	Lumberland	02 County	2	A		1720	2008
SULLIVAN	218423	UPR MONGAUP RD	WHITE RD	KALIN WEBER RD		2.77	3.15	0.38	Town	Lumberland	02 County	2	A		1720	2008
SULLIVAN	218423	UPR MONGAUP RD	KALIN WEBER RD	SWEENEY RD		3.15	4.15	1	Town	Lumberland	02 County	2	A		1720	2008
SULLIVAN	218423	UPR MONGAUP RD	SWEENEY RD	CR 41		4.15	5.28	1.13	Town	Lumberland	02 County	2	A		1720	2008
SULLIVAN	218424	PROCTOR RD	LUMBERLAND TL	HARING RD		2.25	3.48	1.23	Town	Lumberland	02 County	2	A		1340	2006
SULLIVAN	218424	PROCTOR RD	HARING RD	MOHAPH RD		3.48	4.77	1.29	Town	Lumberland	02 County	2	A		1340	2006
SULLIVAN	218424	PROCTOR RD	MOHAPH RD	HOLLOW RD		4.77	5.05	0.28	Town	Lumberland	02 County	2	A		1340	2006
SULLIVAN	218424	PROCTOR RD	HOLLOW RD	CR 42		5.05	5.14	0.09	Town	Lumberland	02 County	2	A		1340	2006
SULLIVAN	218426	HIGH RD	PA STATE LINE	SR 97		0	0.06	0.06	Town	Lumberland	02 County	2	A		60	2005
SULLIVAN	218426	HIGH RD	SR 97	WHITE RD		0.06	0.85	0.79	Town	Lumberland	02 County	2	A		240	2008
SULLIVAN	218426	HIGH RD	WHITE RD	TARA SHEVCHENK		0.85	1.9	1.05	Town	Lumberland	02 County	2	A		240	2008
SULLIVAN	218426	HIGH RD	TARA SHEVCHENK	CR 31		1.9	2.85	0.95	Town	Lumberland	02 County	2	A		240	2008
SULLIVAN	218426	HIGH RD	CR 31	CR 32		2.85	2.92	0.07	Town	Lumberland	02 County	2	A			
SULLIVAN	218427	FORESTBURGH RD	CR 32	MOHICAN LK RD		0	0.91	0.91	Town	Lumberland	02 County	2	A		900	2002
SULLIVAN	218427	FORESTBURGH RD	MOHICAN LK RD	OGDEN RD		0.91	1.07	0.16	Town	Lumberland	02 County	2	A		900	2002
SULLIVAN	218427	FORESTBURGH RD	OGDEN RD	SMITH RD		1.07	2.2	1.13	Town	Lumberland	02 County	2	A		900	2002
SULLIVAN	218427	FORESTBURGH RD	SMITH RD	LEBANON RD		2.2	3.03	0.83	Town	Lumberland	02 County	2	A		900	2002
SULLIVAN	218427	FORESTBURGH RD	LEBANON RD	LEERS RD		3.03	3.29	0.26	Town	Lumberland	02 County	2	A		900	2002
SULLIVAN	218427	FORESTBURGH	LEERS RD	CR 43		3.29	3.31	0.02	Town	Lumberland	02 County	2	A			
SULLIVAN	218428	FORESTBURGH RD	CR 42	CHAPIN RD		0	2.63	2.63	Town	Lumberland	02 County	2	A		810	2007
SULLIVAN	218428	FORESTBURG RD	CHAPIN RD	FORESTBURGH TL		2.63	2.71	0.08	Town	Lumberland	02 County	2	A		810	2007
SULLIVAN	100783		Orange/Sulliv Co Line	CR 31 MONGAUP		0	0.06	0.06	Town	Lumberland	01 NYSDOT	2	O		3550	2007
SULLIVAN	100783			CR 31 MONGAUP	CR 41 POND EDDY	0.06	4.57	4.51	Town	Lumberland	01 NYSDOT	2	O		1680	2006
SULLIVAN	100783			CR 41 POND EDDY		4.57	5.49	0.92	Town	Lumberland	01 NYSDOT	2	O		1300	2007
SULLIVAN	100783					5.49	5.62	0.13	Town	Lumberland	01 NYSDOT	2	A		1300	2007
SULLIVAN	100783			PARKING AREA ON LEFT		5.62	8.18	2.56	Town	Lumberland	01 NYSDOT	2	A		1300	2007
SULLIVAN	100783			PARKING AREA ON LEFT	TOWN OF LUMBERLAND T	8.18	10.89	2.71	Town	Lumberland	01 NYSDOT	2	A		1300	2007
SULLIVAN	262509	PARK DR	HUNTER LK RD	END		0	0.59	0.59	Town	Rockland	03 Town	2	A			
SULLIVAN	264105					0	4.9	4.9	Town	Rockland	21 Other State	0				
SULLIVAN	277460	PAT CASEY WAY	CREAMERY RD	CR 149		0	0.04	0.04	Town	Rockland	03 Town	2	A			
SULLIVAN	100113		Del/Sulliv Co Line	RT 206 & CR 124 ROSCOE		0	1.4	1.4	Town	Rockland	01 NYSDOT	4	O		8200	2008
SULLIVAN	100113			RT 206 & CR 124 ROSCOE EXIT 94		1.4	1.74	0.34	Town	Rockland	01 NYSDOT	4	O		8400	2009
SULLIVAN	100113					1.74	3.7	1.96	Town	Rockland	01 NYSDOT	4	O		8400	2009
SULLIVAN	100113			REST AREA SERVICE RD		3.7	4.24	0.54	Town	Rockland	01 NYSDOT	4	O		8400	2009
SULLIVAN	100113			REST AREA SERVICE RD	CR 81 LIVINGSTON MANOR	4.24	7.57	3.33	Town	Rockland	01 NYSDOT	4	O		8400	2009
SULLIVAN	100113			CR 81 LIVINGSTON MANOR EXIT 96		7.57	7.79	0.22	Town	Rockland	01 NYSDOT	5	O		10900	2007
SULLIVAN	100113			MORRSTON EXIT 97		7.79	9.88	2.09	Town	Rockland	01 NYSDOT	4	O		10900	2007
SULLIVAN	100113			MORRSTON EXIT 97	TOWN OF ROCKLAND & T	9.88	10.43	0.55	Town	Rockland	01 NYSDOT	4	O		8700	2007
SULLIVAN	218454	DEBRUCE RD	CR 178	OLD WHITE ROE		0	0.1	0.1	Town	Rockland	02 County	2	A			
SULLIVAN	218454	DEBRUCE RD	OLD WHITE ROE	FELD RD		0.1	1.19	1.09	Town	Rockland	02 County	2	A		610	2008
SULLIVAN	218454	DEBRUCE RD	FELD RD	TUTTLE HILL RD		1.19	1.89	0.7	Town	Rockland	02 County	2	A		610	2008
SULLIVAN	218454	DEBRUCE RD	TUTTLE HILL RD	CR 82		1.89	2.46	0.57	Town	Rockland	02 County	2	A		610	2008
SULLIVAN	218455	DEBRUCE RD	CR 81	PARKSTON RD		0	0.61	0.61	Town	Rockland	02 County	2	A		310	2004
SULLIVAN	218455	DEBRUCE RD	PARKSTON RD	OLD CR 82A		0.61	1.31	0.7	Town	Rockland	02 County	2	A		310	2004
SULLIVAN	218455	DEBRUCE RD	OLD CR 82A	OLD CR 82B		1.31	1.96	0.65	Town	Rockland	02 County	2	A		310	2004
SULLIVAN	218455	DEBRUCE RD	OLD CR 82B	KNICKERBOCKER		1.96	3.22	1.26	Town	Rockland	02 County	2	A		310	2004
SULLIVAN	218455	DEBRUCE RD	KNICKERBOCKER	CR 83		3.22	3.41	0.19	Town	Rockland	02 County	2	A		310	2004

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SULLIVAN	218456	DEBRUCE RD	CR 82	MONGAUP RD	0	0.11	0.11	Town	Rockland	02 County	2	A	280	2004
SULLIVAN	218456	DEBRUCE RD	MONGAUP RD	BROWN SETTLEMT	0.11	0.18	0.07	Town	Rockland	02 County	2	A	280	2004
SULLIVAN	218456	DEBRUCE RD	BROWN SETTLEMT	WILLOWEMOC RD	0.18	0.27	0.09	Town	Rockland	02 County	2	A	280	2004
SULLIVAN	218457	COOLEY RD	LIBERTY TL	CONKLIN HILL	0.23	1.22	0.99	Town	Rockland	02 County	2	A	280	2006
SULLIVAN	218457	COOLEY RD	CONKLIN HILL	LIBERTY TL	1.22	1.96	0.74	Town	Rockland	02 County	2	A	280	2006
SULLIVAN	218459	ROCKLAND RD	OLD RT 17	SULLIVAN CO LN	0	1.6	1.6	Town	Rockland	02 County	2	O	2450	2006
SULLIVAN	218460	TENNANAH LAKE	FREEMONT TL	PUNCH BOWL RD	1.36	3.28	1.92	Town	Rockland	02 County	2	A	820	2007
SULLIVAN	218460	RIVERSIDE DR	PUNCH BOWL RD	CR 124	3.28	3.57	0.29	Town	Rockland	02 County	2	A	820	2007
SULLIVAN	218484	GULF RD	ROCKLAND TL	HUBER RD	5.57	6.35	0.78	Town	Rockland	02 County	2	A	440	2002
SULLIVAN	218484	GULF RD	HUBER RD	ALPINE RD	6.35	7.19	0.84	Town	Rockland	02 County	2	A	440	2002
SULLIVAN	218484	GULF RD	ALPINE RD	ALPINE RD	7.19	7.31	0.12	Town	Rockland	02 County	2	A	910	2004
SULLIVAN	218484	GULF RD	ALPINE RD	YORKTOWN RD	7.31	7.48	0.17	Town	Rockland	02 County	2	A	910	2004
SULLIVAN	218484	GULF RD	YORKTOWN RD	DUTCH HILL RD	7.48	7.81	0.33	Town	Rockland	02 County	2	A	910	2004
SULLIVAN	218484	GULF RD	DUTCH HILL RD	CR 124	7.81	7.96	0.15	Town	Rockland	02 County	2	A	910	2004
SULLIVAN	218485	STEWART AVE	TENNENAH LK RD	COPAKE ST	0	0.11	0.11	Town	Rockland	02 County	2	A	1940	2008
SULLIVAN	218485	STEWART AVE	COPAKE ST	NY 17 RMP	0.11	0.12	0.01	Town	Rockland	02 County	2	A	1940	2008
SULLIVAN	218485	STEWART AVE	NY 17 RMP	NY 206	0.12	0.28	0.16	Town	Rockland	02 County	2	A	1940	2008
SULLIVAN	218498	DAHLIA RD	ROCKLAND TL	OLD LIBERTY RD	3.42	3.79	0.37	Town	Rockland	02 County	2	A	420	2008
SULLIVAN	218498	DAHLIA RD	OLD LIBERTY RD	CR 178	3.79	4.01	0.22	Town	Rockland	02 County	2	A	420	2008
SULLIVAN	218499	MAIN ST	ROCKLAND TL	CATTAIL RD	6.99	7.35	0.36	Town	Rockland	02 County	2	A	920	2006
SULLIVAN	218499	MAIN ST	CATTAIL RD	TREYZ HILL RD	7.35	7.82	0.47	Town	Rockland	02 County	2	A	920	2006
SULLIVAN	218499	MAIN ST	TREYZ HILL RD	HOOS RD	7.82	8.1	0.28	Town	Rockland	02 County	2	A	920	2006
SULLIVAN	218499	MAIN ST	HOOS RD	BROWN ST	8.1	8.13	0.03	Town	Rockland	02 County	2	A	920	2006
SULLIVAN	218499	MAIN ST	BROWN ST	FINCH ST	8.13	8.18	0.05	Town	Rockland	02 County	2	A	920	2006
SULLIVAN	218499	MAIN ST	FINCH ST	CHURCH ST	8.18	8.21	0.03	Town	Rockland	02 County	2	A	920	2006
SULLIVAN	218499	MAIN ST	CHURCH ST	DUBOIS ST	8.21	8.28	0.07	Town	Rockland	02 County	2	A	920	2006
SULLIVAN	218499	MAIN ST	DUBOIS ST	CREAMERY RD	8.28	8.35	0.07	Town	Rockland	02 County	2	A	920	2006
SULLIVAN	218499	MAIN ST	CREAMERY RD	PLEASANT ST	8.35	8.38	0.03	Town	Rockland	02 County	2	A	920	2006
SULLIVAN	218499	MAIN ST	PLEASANT ST	RIVER ST	8.38	8.42	0.04	Town	Rockland	02 County	2	A	3250	2006
SULLIVAN	218499	MAIN ST	RIVER ST	PEARL ST	8.42	8.46	0.04	Town	Rockland	02 County	2	A	3250	2006
SULLIVAN	218499	MAIN ST	PEARL ST	CR 178	8.46	8.69	0.23	Town	Rockland	02 County	2	A	3250	2006
SULLIVAN	218500	BEAVERKILL RD	CR 179	DECKERTOWN RD	0	0.06	0.06	Town	Rockland	02 County	2	A	1100	2005
SULLIVAN	218500	BEAVERKILL RD	DECKERTOWN RD	LITTLE IRELAND	0.06	0.28	0.22	Town	Rockland	02 County	2	A	1100	2005
SULLIVAN	218500	BEAVERKILL RD	LITTLE IRELAND	ELM HOLLOW RD	0.28	0.78	0.5	Town	Rockland	02 County	2	A	1100	2005
SULLIVAN	218500	BEAVERKILL RD	ELM HOLLOW RD	CAMP SITE RD	0.78	4.32	3.54	Town	Rockland	02 County	2	A	1100	2005
SULLIVAN	218501	BEAVERKILL RD	CAMP SITE RD	ELM HOLLOW RD	0	0.1	0.1	Town	Rockland	02 County	2	A	430	2008
SULLIVAN	218501	BEAVERKILL RD	SAIN CREEK RD	SAIN CREEK RD	0.1	1.59	1.49	Town	Rockland	02 County	2	A	430	2008
SULLIVAN	218501	BEAVERKILL RD	SAIN CREEK RD	ULSTER CL	1.59	3.79	2.2	Town	Rockland	02 County	2	A	430	2008
SULLIVAN	218520	OLD RTE 17	SR 17RAMP	OLD LIBERTY RD	0	0.08	0.08	Town	Rockland	02 County	2	A		
SULLIVAN	218520	OLD RTE 17	OLD LIBERTY RD	CROSS RD	0.08	0.41	0.33	Town	Rockland	02 County	2	A		
SULLIVAN	218520	OLD ROUTE 17	CROSS RD	SERVICE RD	0.41	0.66	0.25	Town	Rockland	02 County	2	A		
SULLIVAN	218520	OLD RTE 17	SERVICE RD	CR 146	0.66	1.32	0.66	Town	Rockland	02 County	2	A		
SULLIVAN	218520	OLD RTE 17	CR 146	JOHNSTON RD	1.32	1.38	0.06	Town	Rockland	02 County	2	A	1860	2006
SULLIVAN	218520	OLD RTE 17	JOHNSTON RD	GROVE ST	1.38	1.63	0.25	Town	Rockland	02 County	2	A	1860	2006
SULLIVAN	218520	OLD RTE 17	GROVE ST	PEARL ST	1.63	2.62	0.99	Town	Rockland	02 County	2	A	1860	2006
SULLIVAN	218520	OLD RTE 17	PEARL ST	ORCHARD ST	2.62	2.67	0.05	Town	Rockland	02 County	2	A		
SULLIVAN	218520	OLD RTE 17	ORCHARD ST	MAIDEN LA	2.67	2.74	0.07	Town	Rockland	02 County	2	A		
SULLIVAN	218520	OLD RTE 17	MAIDEN LA	WRIGHT ST	2.74	2.75	0.01	Town	Rockland	02 County	2	A		
SULLIVAN	218520	OLD RTE 17	WRIGHT ST	CR149	2.75	2.92	0.17	Town	Rockland	02 County	2	A		
SULLIVAN	218520	OLD RTE 17	CR149	SCHOOL ST	2.92	2.97	0.05	Town	Rockland	02 County	2	A	4650	2008
SULLIVAN	218520	OLD RTE 17	SCHOOL ST	CR 81	2.97	3.04	0.07	Town	Rockland	02 County	2	A		

Member Towns
 NYSDOT Road Inventory
 (Includes County and State Roads)

SULLIVAN	218520	OLD RTE 17	CR 81	WHITE ROE LK	3.04	3.12	0.08	Town	Rockland	02 County	2	A	2500	2006
SULLIVAN	218520	OLD RTE 17		WHITE ROE LK	3.12	3.21	0.09	Town	Rockland	02 County	2	A	2500	2006
SULLIVAN	218520	OLD RTE 17		ARTS BLVD	3.21	3.6	0.39	Town	Rockland	02 County	2	A	2500	2006
SULLIVAN	218521	OLD RTE 17	CR 91	ACC RT 17 END RT 206 (CT	0	0.49	0.49	Town	Rockland	02 County	2	O	3150	2009
SULLIVAN	218521	OLD RTE 17	ACC RT 17 END RT 206 (CT	HOOD RD	0.49	1.17	0.68	Town	Rockland	02 County	2	A	1140	2007
SULLIVAN	218521	OLD RTE 17		HOOD RD	1.17	1.22	0.05	Town	Rockland	02 County	2	A	1140	2007
SULLIVAN	218521	OLD RTE 17		MILLER HTS RD	1.22	2.42	1.2	Town	Rockland	02 County	2	A	1140	2007
SULLIVAN	218521	OLD RTE 17		BURNT HILLS RD	2.42	2.47	0.05	Town	Rockland	02 County	2	A	1140	2007
SULLIVAN	218521	OLD RT 17		HAZEL RD	2.47	4.22	1.75	Town	Rockland	02 County	2	A	1140	2007
SULLIVAN	218521	OLD RTE 17		AMBER LK RD	4.22	5.1	0.88	Town	Rockland	02 County	2	A	1020	2009
SULLIVAN	218521	OLD RTE 17		DECKER TN RD	5.1	5.21	0.11	Town	Rockland	02 County	2	A	1020	2009
SULLIVAN	218521	OLD RTE 17	CR 151	COVERED BDG RD	5.21	5.48	0.27	Town	Rockland	02 County	2	A	2300	2006
SULLIVAN	218521	OLD RTE 17		COVERED BDG RD	5.48	5.93	0.45	Town	Rockland	02 County	2	A	2300	2006
SULLIVAN	218522	OLD RTE 17	CR 91	HIGHLAND AVE	0	0.09	0.09	Town	Rockland	02 County	2	A	540	2007
SULLIVAN	218522	OLD RTE 17		HIGHLAND AVE	0.09	0.44	0.35	Town	Rockland	02 County	2	A	540	2007
SULLIVAN	218522	OLD RTE 17		BONAIR CEMETRY	0.44	1.4	0.96	Town	Rockland	02 County	2	A	540	2007
SULLIVAN	100154	ROCKLAND RD	Del/Sulliv Co Line	CR 179A	0	1.6	1.6	Town	Rockland	02 County	2	O	2450	2006
SULLIVAN	100154	OLD RTE 17	CR 179A	ACC RT 17 END RT 206 (CT	1.6	2.09	0.49	Town	Rockland	02 County	2	O	3150	2009
SULLIVAN	218420	BRIDGE ST		PENN STATE L	0	0.08	0.08	Town	Tusten	01 NYSDOT	2	A	2700	2007
SULLIVAN	220357	ACKERMAN RD			0	0.87	0.87	Town	Tusten	03 Town	2	U		
SULLIVAN	220357	ACKERMAN RD			0.87	0.91	0.04	Town	Tusten	03 Town	2	A		
SULLIVAN	220358	ARENA CT			0	0.26	0.26	Town	Tusten	03 Town	2	A		
SULLIVAN	220359	ASPEN WAY			0	0.15	0.15	Town	Tusten	03 Town	2	U		
SULLIVAN	220360	BEAR RUN RD	PERRY POND RD	BROOK DR	0	0.28	0.28	Town	Tusten	03 Town	2	U		
SULLIVAN	220361	BLIND POND RD	CR 22 BEAVER BROOK R		0	1.17	1.17	Town	Tusten	03 Town	2	A	60	2005
SULLIVAN	220361	BLIND POND RD		TUSTEN/HIGHLAND TL	1.17	2.12	0.95	Town	Tusten	03 Town	2	U	60	2005
SULLIVAN	220362	BROOK DR			0	0.36	0.36	Town	Tusten	03 Town	2	U		
SULLIVAN	220363	BROOK ROAD	SR97		0	0.79	0.79	Town	Tusten	03 Town	2	U	20	2005
SULLIVAN	220363	BROOK ROAD		CR23 LMBERLND MNT HO	0.79	1.33	0.54	Town	Tusten	03 Town	2	A	20	2005
SULLIVAN	220364	BUDDENHAGEN ROA	NY52/CR11	DEAD END	0	0.25	0.25	Town	Tusten	03 Town	2	A		
SULLIVAN	220365	CACKLETOWN RD	DEAD END	NY97	0	0.35	0.35	Town	Tusten	03 Town	2	A		
SULLIVAN	220366	CAMP UTOPIA RD			0	0.32	0.32	Town	Tusten	03 Town	2	A		
SULLIVAN	220367	CATHOLIC CEMETE	DEAD END	NY52/CR24	0	0.06	0.06	Town	Tusten	03 Town	2	A		
SULLIVAN	220368	COCHECTON TURNP			0	0.65	0.65	Town	Tusten	03 Town	2	A		
SULLIVAN	220368	COCHECTON TURNP			0.65	4.51	3.86	Town	Tusten	03 Town	2	U		
SULLIVAN	220369	CRAWFORD RD	HANKINS RD	NY97	0	0.31	0.31	Town	Tusten	03 Town	2	A		
SULLIVAN	220370	CULLEN ROAD/NAR			0	0.11	0.11	Town	Tusten	03 Town	2	A		
SULLIVAN	220371	DAUB RD	HOFFMAN RD	COCHECTON T/L	0	0.3	0.3	Town	Tusten	03 Town	2	U		
SULLIVAN	220372	DEEP HOLLOW ROA			0	2.24	2.24	Town	Tusten	03 Town	2	U		
SULLIVAN	220373	DEEP HOLLOW HIL			0	0.2	0.2	Town	Tusten	03 Town	2	A		
SULLIVAN	220374	DEEP HOLLOW HIL			0	0.39	0.39	Town	Tusten	03 Town	2	A		
SULLIVAN	220375	DELAWARE DR/NAR			0	0.48	0.48	Town	Tusten	03 Town	2	U		
SULLIVAN	220375	DELAWARE DR/NAR			0.48	1.04	0.56	Town	Tusten	03 Town	2	A		
SULLIVAN	220376	DEMAURO LA	CR 24	DEAD END	0	0.43	0.43	Town	Tusten	03 Town	2	A		
SULLIVAN	220377	DEXHEIMER ROAD	CR22	BLIND POND RD	0	1.1	1.1	Town	Tusten	03 Town	2	A		
SULLIVAN	220378	ENGELMANN LA NA			0	0.08	0.08	Town	Tusten	03 Town	2	A		
SULLIVAN	220379	ERIE AVE/NARROW	MAIN STREET	NY52/CR24	0	0.21	0.21	Town	Tusten	03 Town	2	A		
SULLIVAN	220380	EVERGREEN LA			0	0.85	0.85	Town	Tusten	03 Town	2	U		
SULLIVAN	220380	EVERGREEN LA			0.85	2.18	1.33	Town	Tusten	03 Town	2	A		
SULLIVAN	220381	FIFTH ST NARROW			0	0.32	0.32	Town	Tusten	03 Town	2	A		
SULLIVAN	220382	FOREST POND RD	PERRY POND RD	DEAD END	0	0.39	0.39	Town	Tusten	03 Town	2	A		

Member Towns
 NYSDOT Road Inventory
 (Includes County and State Roads)

SULLIVAN	220383	FOURTH AVE/NARR	DELAWARE DR		0	0.3	0.3	Town	Tusten	03 Town	2	A		
SULLIVAN	220384	FOURTH ST NARRO		FOURTH AVE	0	0.22	0.22	Town	Tusten	03 Town	2	A		
SULLIVAN	220385	FRANCIS DR	DEAD END	NY97	0	0.67	0.67	Town	Tusten	03 Town	2	U		
SULLIVAN	220386	GABLES ROAD			0	1.84	1.84	Town	Tusten	03 Town	2	A		
SULLIVAN	220387	GRASSY SWAMP RO			0	1.06	1.06	Town	Tusten	03 Town	2	U		
SULLIVAN	220387	GRASSY SWAMP RO			1.06	1.23	0.17	Town	Tusten	03 Town	2	A		
SULLIVAN	220387	GRASSY SWAMP RO			1.23	1.67	0.44	Town	Tusten	03 Town	2	U		
SULLIVAN	220388	GROVE ST/NARROW	DEAD END	ERIE AVE	0	0.13	0.13	Town	Tusten	03 Town	2	A		
SULLIVAN	220389	HALF MOON LAKE	CR26	RYER RD	0	0.23	0.23	Town	Tusten	03 Town	2	U		
SULLIVAN	220390	HANKINS RD	DEAD END	PVMT CHANGE	0	1.18	1.18	Town	Tusten	03 Town	2	U		
SULLIVAN	220390	HANKINS RD	PVMT CHANGE	CRAWFORD RD	1.18	1.9	0.72	Town	Tusten	03 Town	2	A		
SULLIVAN	220391	HEMLOCK LA			0	0.38	0.38	Town	Tusten	03 Town	2	U		
SULLIVAN	220392	HICKORY LA NARR	DEAD END		0	0.39	0.39	Town	Tusten	03 Town	2	A		
SULLIVAN	220392	HICKORY LA NARR		CULLEN RD	0.39	0.41	0.02	Town	Tusten	03 Town	2	U		
SULLIVAN	220393	HILLTOP LA NARR	DEAD END	SCHOOL ST	0	0.2	0.2	Town	Tusten	03 Town	2	U		
SULLIVAN	220394	HINKLEY RD			0	0.02	0.02	Town	Tusten	03 Town	2	A		
SULLIVAN	220395	HOFFMAN ROAD	NY55/CR111		0	0.23	0.23	Town	Tusten	03 Town	2	A	40	2005
SULLIVAN	220395	HOFFMAN ROAD		COCHECTION T/L	0.23	1.25	1.02	Town	Tusten	03 Town	2	U	40	2005
SULLIVAN	220396	HOMESTEAD RD	NY97	CR23	0	0.44	0.44	Town	Tusten	03 Town	2	U		
SULLIVAN	220397	HUMPHREY ROAD			0	2.1	2.1	Town	Tusten	03 Town	2	U		
SULLIVAN	220398	IRISHTOWN ROAD			0	1.08	1.08	Town	Tusten	03 Town	2	U		
SULLIVAN	220398	IRISHTOWN ROAD			1.08	1.46	0.38	Town	Tusten	03 Town	2	A		
SULLIVAN	220399	KIRKS RD/NARROW	NY52/CR24	NY97	0	0.44	0.44	Town	Tusten	03 Town	2	A		
SULLIVAN	220400	LACKAWAXEN RD	SR97	COCHECTON TPK RD	0	1.3	1.3	Town	Tusten	03 Town	2	A		
SULLIVAN	220401	LAKE RIDGE RD	LUXTON LAKE RD	MATHIS WEIDEN DR	0	0.37	0.37	Town	Tusten	03 Town	2	A	90	2005
SULLIVAN	220401	LAKE RIDGE RD	MATHIS WEIDEN DR	PVMT CHNG	0.37	0.39	0.02	Town	Tusten	03 Town	2	A	90	2005
SULLIVAN	220401	LAKE RIDGE RD	PVMT CHNG	DEAD END	0.39	1.33	0.94	Town	Tusten	03 Town	2	U	90	2005
SULLIVAN	220402	LAKE ST/NARROWS			0	0.17	0.17	Town	Tusten	03 Town	2	A		
SULLIVAN	220403	LAUREL LA			0	0.11	0.11	Town	Tusten	03 Town	2	U		
SULLIVAN	220404	LUXTON LAKE ROA	CR23	LAKE RIDGE RD	0	0.42	0.42	Town	Tusten	03 Town	2	U		
SULLIVAN	220404	LUXTON LAKE ROA	LAKE RIDGE RD	NY97	0.42	0.8	0.38	Town	Tusten	03 Town	2	A		
SULLIVAN	220405	MAHLS POND ROAD			0	2.44	2.44	Town	Tusten	03 Town	2	A		
SULLIVAN	220406	MAIN ST/NARROWS			0	0.21	0.21	Town	Tusten	03 Town	2	A		
SULLIVAN	220407	MAPLE LA			0	1.06	1.06	Town	Tusten	03 Town	2	U		
SULLIVAN	220408	MILE HILL RD			0	0.1	0.1	Town	Tusten	03 Town	2	A		
SULLIVAN	220409	NEWEIDEN RD	CR23	PVMT END	0	0.18	0.18	Town	Tusten	03 Town	2	A		
SULLIVAN	220409	NEWEIDEN RD	PVMT END	DEAD END	0.18	0.23	0.05	Town	Tusten	03 Town	2	U		
SULLIVAN	220410	NOBER-STRUNK RO	NY52/CR111	CR111	0	0.33	0.33	Town	Tusten	03 Town	2	A		
SULLIVAN	220411	OAK ST NARROWSB			0	0.6	0.6	Town	Tusten	03 Town	2	A		
SULLIVAN	220412	OLD COHECTON R	GABLES RD	DEAD END	0	0.24	0.24	Town	Tusten	03 Town	2	A		
SULLIVAN	220413	PARKER ROAD	NY52/CR111	NY52/CR111	0	0.51	0.51	Town	Tusten	03 Town	2	A		
SULLIVAN	220414	PERRY POND RD			0	1.64	1.64	Town	Tusten	03 Town	2	A		
SULLIVAN	220414	PERRY POND RD			1.64	2.24	0.6	Town	Tusten	03 Town	2	U		
SULLIVAN	220415	RYER ROAD			0	2.26	2.26	Town	Tusten	03 Town	2	A		
SULLIVAN	220416	SCHALCK RD	SWAMP POND RD	COHECTON TL	0	0.71	0.71	Town	Tusten	03 Town	2	U		
SULLIVAN	220417	SCHOOL ST/NARRO			0	0.42	0.42	Town	Tusten	03 Town	2	A		
SULLIVAN	220418	SECOND AVE/NARR			0	0.34	0.34	Town	Tusten	03 Town	2	A		
SULLIVAN	220419	SECOND ST/NARR			0	0.07	0.07	Town	Tusten	03 Town	2	U		
SULLIVAN	220420	THIRD ST/NARROW	DEAD END	FOURTH AVE	0	0.17	0.17	Town	Tusten	03 Town	2	A		
SULLIVAN	220421	SMITH HUGHES RD	DELAWARE DR	FOURTH AVE	0	0.18	0.18	Town	Tusten	03 Town	2	U		
SULLIVAN	220422	SWAMP POND	CR23		0	1.42	1.42	Town	Tusten	03 Town	2	A	750	2007

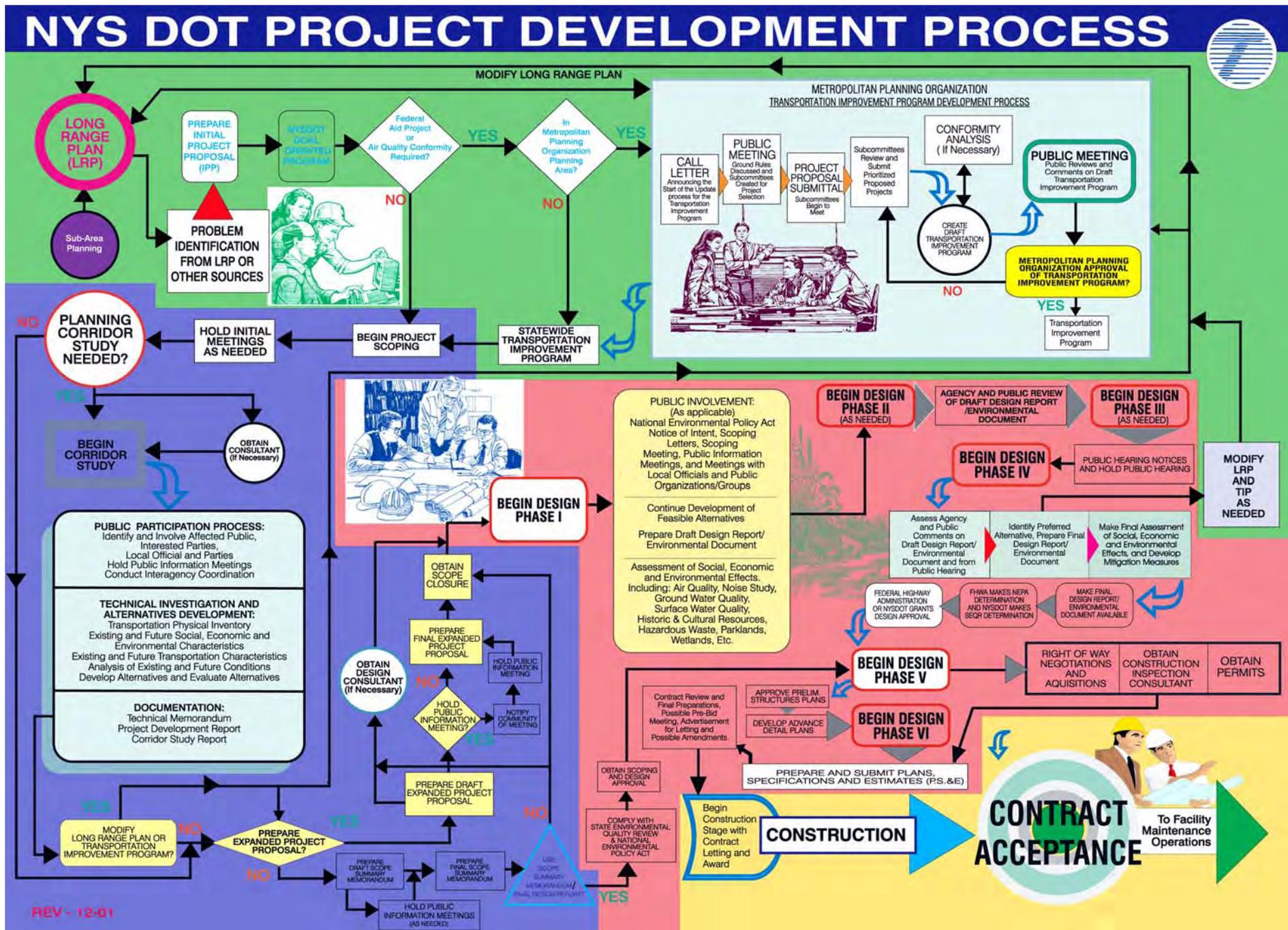
Member Towns
 NYSDOT Road Inventory
 (Includes County and State Roads)

SULLIVAN	220422	SWAMP POND		TUSTEN/COCHECTON TL	1.42	3.37	1.95	Town	Tusten	03 Town	2	U	750	2007
SULLIVAN	220423	TEN MILE RIVER			0	0.71	0.71	Town	Tusten	03 Town	2	U		
SULLIVAN	220424	THIRD AVE/NARRO			0	0.23	0.23	Town	Tusten	03 Town	2	A		
SULLIVAN	220425	TROUT POND RD A	RYER RD	CAMP UTOPIA RD	0	0.41	0.41	Town	Tusten	03 Town	2	A		
SULLIVAN	220426	TROUT POND RD B	DEAD END	CR26	0	0.89	0.89	Town	Tusten	03 Town	2	U		
SULLIVAN	220427	TUSTEN ROAD	TEN MILE RIVER RD	TEN MILE RIVER	0	0.03	0.03	Town	Tusten	03 Town	2	U	20	2008
SULLIVAN	220427	TUSTEN ROAD	TEN MILE RIVER	DEAD END	0.03	1.1	1.07	Town	Tusten	03 Town	2	U	20	2008
SULLIVAN	220428	WEBER RD	CR23	CR23	0	0.18	0.18	Town	Tusten	03 Town	2	A		
SULLIVAN	220429	WELCH ST/NARROW			0	0.03	0.03	Town	Tusten	03 Town	2	A		
SULLIVAN	220430	WOODOAK DR			0	1.41	1.41	Town	Tusten	03 Town	2	A		
SULLIVAN	276146	Upper Delaware River			0	0.12	0.12	Town	Tusten	66 National Pa	2	A		
SULLIVAN	218418	BEAVER BROOK RD	TUSTEN TL	DEEP HOLLOW RD	1.82	2.21	0.39	Town	Tusten	02 County	2	A	490	2005
SULLIVAN	218418	BEAVER BROOK RD	DEEP HOLLOW RD	DEXHETMER RD	2.21	2.93	0.72	Town	Tusten	02 County	2	A	490	2005
SULLIVAN	218418	BEAVER BROOK RD	DEXHETMER RD	BLIND POND RD	2.93	4.11	1.18	Town	Tusten	02 County	2	A	490	2005
SULLIVAN	218418	BEAVER BROOK RD	BLIND POND RD	CR 26	4.11	4.32	0.21	Town	Tusten	02 County	2	A	490	2005
SULLIVAN	218419	LMBRLND MT HOPE	SR 97	HOMESTEAD	0	0.32	0.32	Town	Tusten	02 County	2	A	540	2006
SULLIVAN	218419	LMBRLND MT HOPE	HOMESTEAD	BROOK RD	0.32	1.24	0.92	Town	Tusten	02 County	2	A	540	2006
SULLIVAN	218419	LMBRLND MT HOPE	BROOK RD	NEWEIDEN RD	1.24	1.31	0.07	Town	Tusten	02 County	2	A	540	2006
SULLIVAN	218419	LMBRLND MT HOPE	NEWEIDEN RD	SWAMP POND RD	1.31	1.49	0.18	Town	Tusten	02 County	2	A	540	2006
SULLIVAN	218419	LMBRLND MT HOPE	WEBER RD	WEBER RD	1.49	3.67	2.18	Town	Tusten	02 County	2	A	540	2006
SULLIVAN	218419	LMBRLND MT HOPE	WEBER RD	MAHLS POND RD	3.67	3.82	0.15	Town	Tusten	02 County	2	A	540	2006
SULLIVAN	218419	LMBRLND MT HOPE	MAHLS POND RD	CR 26	3.82	3.87	0.05	Town	Tusten	02 County	2	A	540	2006
SULLIVAN	218420	BRIDGE ST		START 52/97 OLAP	0.08	0.77	0.69	Town	Tusten	02 County	2	A	2700	2007
SULLIVAN	218474	STATE RT 52	SR 97	TUSTEN/COCHECTON TL	0	3.46	3.46	Town	Tusten	02 County	2	A	1160	2007
SULLIVAN	218421	ECKES RD	SR 97	CR 111	0	1.39	1.39	Town	Tusten	02 County	2	A	330	2008
SULLIVAN	218422	CRYSTAL LAKE RD	CR 22	CR 13	0	2.27	2.27	Town	Tusten	02 County	2	A	450	2007
SULLIVAN	218422	CRYSTAL LAKE RD	CR 13	HALF MOON LAKE	2.27	2.34	0.07	Town	Tusten	02 County	2	A	450	2007
SULLIVAN	218422	CRYSTAL LAKE	HALF MOON LAKE	RYDER RD	2.34	2.73	0.39	Town	Tusten	02 County	2	A	450	2007
SULLIVAN	218422	CRYSTAL LAKE	RYDER RD	TROUT POND RD	2.73	3.21	0.48	Town	Tusten	02 County	2	A	450	2007
SULLIVAN	218422	CRYSTAL LAKE	TROUT POND RD	TUSTEN TL	3.21	3.78	0.57	Town	Tusten	02 County	2	A	570	2007
SULLIVAN	100432	BRIDGE ST	PENN STATE LINE		0	0.08	0.08	Town	Tusten	01 NYSDOT	2	A	2700	2007
SULLIVAN	100432	BRIDGE ST		START 52/97 OLAP	0.08	0.77	0.69	Town	Tusten	02 County	2	A	2700	2007
SULLIVAN	100432		START 52/97 OLAP		0.77	0.79	0.02	Town	Tusten	01 NYSDOT	2	A	2850	2008
SULLIVAN	100432		END 52/97 OLAP		0.79	1.52	0.73	Town	Tusten	01 NYSDOT	2	A	2850	2008
SULLIVAN	100432	STATE RT 52	END 52/97 OLAP	TUSTEN/COCHECTON TL	1.52	4.98	3.46	Town	Tusten	02 County	2	A	1160	2007
SULLIVAN	100783		TOWN OF HIGHLAND	START 52/97 OLAP	17.8	25.95	8.15	Town	Tusten	01 NYSDOT	2	A	770	2007
SULLIVAN	100783		START 52/97 OLAP		26	26.68	0.73	Town	Tusten	01 NYSDOT	2	A	2850	2008
SULLIVAN	100783			END 52/97 OLAP	26.7	26.7	0.02	Town	Tusten	01 NYSDOT	2	A	2850	2008
SULLIVAN	100783		END 52/97 OLAP	TOWN OF TUSTEN AND TC	26.7	30.99	4.29	Town	Tusten	01 NYSDOT	2	A	1300	2008

APPENDIX B

NYSDOT Project Development Process

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APPENDIX C

NYSDEC Program Policy

“Assessing and Mitigating Noise Impacts”

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Assessing and Mitigating Noise Impacts



New York State
Department of Environmental Conservation

PROGRAM POLICY		Department ID: DEP-00-1	Program ID: n/a
Issuing Authority: Environmental Conservation Law Articles 3, 8, 23, 27		Originating Unit: Division of Environmental Permits	
Name: Jeffrey Sama		Office/Division: Environmental Permits	
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Signature: <u> /S/ </u> Date: 10/6/00		Phone: (518) 402-9167	
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Abstract: Facility operations regulated by the Department of Environmental Conservation located in close proximity to other land uses can produce sound that creates significant noise impacts for proximal sound receptors. This policy and guidance presents noise impact assessment methods, examines the circumstances under which sound creates significant noise impacts, and identifies avoidance and mitigative measures to reduce or eliminate noise impacts.

Related References: See references pages 27 and 28.

I. PURPOSE¹

This policy is intended to provide direction to the staff of the Department of Environmental Conservation for the evaluation of sound levels and characteristics (such as pitch and duration) generated from proposed or existing facilities. This guidance also serves to identify when noise levels may cause a significant environmental impact and gives methods for noise impact assessment, avoidance, and reduction measures. These methods can serve as a reference to applicants preparing environmental assessments in support of an application for a permit. Additionally, this guidance explains the Department's regulatory authority for undertaking noise evaluations and for imposing conditions for noise mitigation measures in the agency's approval

¹ A Program Policy Memorandum is designed to provide guidance and clarify program issues for Division staff to ensure compliance with statutory and regulatory requirements. It provides assistance to New York State Department of Environmental Conservation (DEC) staff and the regulated community in interpreting and applying regulations and statutes to assure that program uniformity is attained throughout the State. Nothing set forth in a Program Policy Memorandum prevents DEC staff from varying from that guidance as specific circumstances may dictate, provided the staff's actions comply with applicable statutory and regulatory requirements. As this guidance document is not a fixed rule, it does not create any enforceable right by any party using the Program Policy Memorandum.

of permits for various types of facilities pursuant to regulatory program regulations and the State Environmental Quality Review Act (SEQR).

II. BACKGROUND

Noise is defined as any loud, discordant or disagreeable sound or sounds. More commonly, in an environmental context, noise is defined simply as unwanted sound. Certain activities inherently produce sound levels or sound characteristics that have the potential to create noise. The sound generated by proposed or existing facilities may become noise due to land use surrounding the facility. When lands adjoining an existing or proposed facility contain residential, commercial, institutional or recreational uses that are proximal to the facility, noise is likely to be a matter of concern to residents or users of adjacent lands.

A. Sources of Noise Generation

The three major categories of noise sources associated with facilities are (1) fixed equipment or process operations; (2) mobile equipment or process operations; and (3) transport movements of products, raw material or waste. The fixed plant may include a very wide range of equipment including: generators; pumps; compressors; crushers of plastics, stone or metal; grinders; screens; conveyers; storage bins; or electrical equipment. Mobile operations may include: drilling; haulage; pug mills; mobile treatment units; and service operations. Transport movements may include truck traffic within the operation, loading and unloading trucks and movement in and out of the facility. Any or all of these activities may be in operation at any one time. Singular or multiple effects of sound generation from these operations may constitute a potential source of noise.

B. Potential for Adverse Impacts

Numerous environmental factors determine the level or perceptibility of sound at a given point of reception. These factors include: distance from the source of sound to receptor; surrounding terrain; ambient sound level; time of day; wind direction; temperature gradient; and relative humidity. The characteristics of a sound are also

important determining factors for considering it as noise. The amplitude (loudness), frequency (pitch), impulse patterns and duration of sound all affect the potential for a sound to be a noise. The combination of sound characteristics, environmental factors and the physical and mental sensitivity of a receptor to a sound determine whether or not a sound will be perceived as a noise. This guidance uses these factors in assessing the presence of noise and the significance of its impacts. It relies upon qualitative and quantitative sound evaluation techniques and sound pressure level impact modeling presented in accepted references on the subject.

C. Mitigation

Mitigation refers to actions that will be taken to reduce the effects of noise or the noise levels on a receptor. Adverse noise effects generated by a facility can be avoided or reduced at the point of generation thereby diminishing the effects of the noise at the point of reception. This guidance identifies various mitigation techniques and their proper application either at the source of noise generation or on a facility's property. Alternative construction or operational methods, equipment maintenance, selection of alternative equipment, physical barriers, siting of activities, set backs, and established hours of construction or operation, are among the techniques that can successfully avoid or reduce adverse noise effects.

D. Decision Making

When an assessment of the potential for adverse noise impacts indicates the need for noise mitigation, it is preferred that specifications for such measures be incorporated in a noise analysis and in the applicant's work or operational plan necessary for a complete application. Presenting a plan that incorporates effective noise mitigation provisions facilitates the Department's technical and environmental review and minimizes or negates the imposition of permit conditions by the Department. Adherence to these plans becomes a condition of a permit.

Noise avoidance and mitigation measures may also be imposed directly as conditions of permit issuance. This guidance will review the statutory authority under which the Department can require the mitigation of noise effects.

III. POLICY

In the review of an application for a permit, the Department of Environmental Conservation is to evaluate the potential for adverse impacts of sound generated and emanating to receptors outside of the facility or property. When a sound level evaluation indicates that receptors may experience sound levels or characteristics that produce significant noise impacts or impairment of property use, the Department is to require the permittee or applicant to employ reasonable and necessary measures to either eliminate or mitigate adverse noise effects. Options to be used to fulfill this guidance should be implemented within the existing regulatory and environmental review framework of the agency.

Regulatory authority for assessing and controlling noise effects are contained in both SEQR and specific Department program regulations. Specific regulatory references are as follows:

Section 3-0301(1)(i) of the Environmental Conservation Law (ECL) states that the commissioner shall have the power to: “i. Provide for prevention and abatement of all water, land and air pollution including but not limited to that related to particulates, gases, dust, vapors, noise, radiation, odor, nutrients and heated liquids.”

To comply with Article 8 of the ECL and 6 NYCRR Part 617, State Environmental Quality Review Act, consideration of all relevant environmental issues must be undertaken in making a determination of environmental significance. Noise impact potential is one of many potential issues for consideration in a SEQR review.

Environmental Conservation Law (ECL) Article 23, Title 27, Mined Land Reclamation Law (MLRL), requires applicants for permits to prepare and submit a mined land use plan to the Department for approval. The plan must describe, “the applicant’s mining method and measures

to be taken to minimize adverse environmental impacts resulting from the mining operation.” The provisions to be incorporated in a Mined Land Use Plan, as specified in 6 NYCRR Section 422.2, include the control of noise as a component of the plan.

The solid waste regulations at 6 NYCRR Subdivision 360-1.14(p), establish A-weighted decibel levels that are not to be exceeded at the property line of a facility.

The Division of Air Resources has regulations in 6 NYCRR Parts 450 through 454 that regulate the allowable sound level limits on certain motor vehicles. The statutory authority for these regulations is found in the New York State Vehicle and Traffic Law, Article 10, Section 386.

This guidance does not supercede any local noise ordinances or regulations.

IV. RESPONSIBILITY

The environmental analyst, acting as project manager for the review of applications for permits or permit modifications and working in concert with the program specialist, is responsible for ensuring that sound generation and noise emanating from proposed or existing facilities are properly evaluated. For new permits or significantly modified permits, there should be a determination as to the potential for noise impacts, and establishment of the requirements for noise impact assessment to be included in the application for permit. Where the Department is lead agency, the analyst is responsible for making a determination of significance pursuant to SEQRA with respect to potential noise impacts and include documentation for such determination.

Where impacts are to be avoided or reduced through mitigation measures, the analyst, or where there are program requirements to address noise, the program specialist, should determine the effectiveness and feasibility of those measures and ensure that the permit conditions contain specific details for such measures. It should also be determined if additional measures to control noise are to be imposed as a condition of permitting. Appropriate permit language for the permit conditions should be developed by the program specialist and the analyst. The results of noise impact evaluations and the effectiveness of mitigation measures

shall be incorporated into SEQR documents and, where necessary, permit conditions shall be placed in final permits to ensure effective noise control.

When it is determined that potential noise effects, as well as other issues, warrant evaluation of impacts and mitigation measures in a Draft Environmental Impact Statement (EIS) prepared pursuant to SEQR, the environmental analyst with the Division of Environmental Permits assumes responsibility for determining the level of evaluation needed to assess sound level generation, noise effects, and mitigation needs and feasibility.

For existing facilities, the program specialist will determine the need for additional mitigation measures to control noise effects either in response to complaints or other changes in circumstances such as new noise from existing facilities or a change in land-use proximal to the facility.

The applicant or their agent, in preparing an application for a permit and supporting documentation, is responsible for assessing the potential noise impacts on area receptors. When potential adverse noise impacts are identified, the applicant should incorporate noise avoidance and reduction measures in the construction or operating plans. The applicant's submittal should also assess the effectiveness of proposed mitigation measures in eliminating adverse noise reception. Where noise effects are determined to be a reason in support of a SEQR positive declaration, the applicant shall assess noise impacts, avoidance, and mitigation measures in a Draft EIS using methodologies acceptable to this Department.

V. PROCEDURE

The intent of this section is to: introduce terms related to noise analyses; describe some of the various methods used to determine the impacts of sound pressure levels on receptors; identify some of the various attenuators of noise; and list some of the mitigative techniques that can be used to reduce the effects of noise on a receptor. At the end of the section three levels of analysis are described. The first level determines the potential for adverse noise impacts based on noise characteristics and sound pressure increases solely on noise attenuation over distance between the source and receptor of the noise. The second level factors other considerations such as topography and noise abatement measures in determining if adverse

noise impacts will occur. The third level evaluates noise abatement alternatives and their effectiveness in avoiding or reducing noise impacts.

The environmental effects of sound and human perceptions of sound can be described in terms of four characteristics:

1. Sound Pressure Level (SPL may also be designated by the symbol L_p) or perceived loudness is expressed in decibels (dB) or A-weighted decibel scale dB(A) which is weighted towards those portions of the frequency spectrum, between 20 and 20,000 Hertz, to which the human ear is most sensitive. Both measure sound pressure in the atmosphere.
2. Frequency (perceived as pitch), the rate at which a sound source vibrates or makes the air vibrate.
3. Duration i.e., recurring fluctuation in sound pressure or tone at an interval; sharp or startling noise at recurring interval; the temporal nature (continuous vs. intermittent) of sound.
4. Pure tone which is comprised of a single frequency. Pure tones are relatively rare in nature but, if they do occur, they can be extremely annoying.

Another term, related to the average of the sound energy over time, is the Equivalent Sound Level or L_{eq} . The L_{eq} integrates fluctuating sound levels over a period of time to express them as a steady state sound level. As an example, if two sounds are measured and one sound has twice the energy but lasts half as long, the two sounds would be characterized as having the same equivalent sound level. Equivalent Sound Level is considered to be directly related to the effects of sound on people since it expresses the equivalent magnitude of the sound as a function of frequency of occurrence and time. By its derivation L_{eq} does not express the maximum nor minimum SPLs that may occur in a given time period. These maximum and minimum SPLs should be given in the noise analysis. The time interval over which the L_{eq} is measured should always be given. It is generally shown as a parenthetical; $L_{eq(8)}$ would indicate that the sound had been measured for a period of eight hours.

Equivalent Sound Level (L_{eq}) correlates well and can be combined with other types of noise analyses such as Composite Noise Rating, Community Noise Equivalent Level and day-night noise levels characterized by L_{dn} where an $L_{eq(24)}$ is measured and 10 dBA is added to all noise levels measured between 10 pm and 7 am. These different types of noise analyses

basically combine noise measurements into measures of cumulative noise exposure and may weight noise occurring at different times by adding decibels to the actual decibel level. Some of these analyses require more complex noise analysis than is mentioned in this guidance. They may be used in a noise analyses prepared for projects.

Designations for sound levels may also be shown as $L_{(10)}$ or $L_{(90)}$ in a noise analysis. These designations refer to the sound pressure level (SPL) that is exceeded for 10% of the time over which the sound is measured, in the case of $L_{(10)}$, and 90% of the time, in the case of $L_{(90)}$. For example, an $L_{(90)}$ of 70 dB(A) means that 70 dB(A) is exceeded for 90% the time for which the measurement was taken.

A. Environmental Setting and Effects on Noise Levels

1. Sound Level Reduction Over Distance - It is important to have an understanding of the way noise decreases with distance. The decrease in sound level from any single noise source normally follows the “inverse square law.” That is, SPL changes in inverse proportion to the square of the distance from the sound source. At distances greater than 50 feet from a sound source, every doubling of the distance produces a 6 dB reduction in the sound. Therefore, a sound level of 70 dB at 50 feet would have a sound level of approximately 64 dB at 100 feet. At 200 feet sound from the same source would be perceived at a level of approximately 58 dB.
2. Additive Effects of Multiple Sound Sources - The total sound pressure created by multiple sound sources does not create a mathematical additive effect. Below Table A is given to assist you in calculating combined noise sources. For instance, two proximal noise sources that are 70 dBA each do not have a combined noise level of 140 dBA. In this case the combined noise level is 73 dBA. Since the difference between the two sound levels is 0 dB, Table A tells us to add 3 dB to the sound level to compensate for the additive effects of the sound. To find the cumulative SPL assess the SPLs starting with the two lowest readings and work up to the difference between the two highest readings. For several pieces of equipment, operating at one

time, calculate the difference first between the two lowest SPLs, check Table A and add the appropriate number of decibels to the higher of the two sound levels. Next, take the sound level that was calculated using Table A and subtract the next lowest sound level to be considered for the operation. Consult Table A again for the additive effect and add this to the higher of the two sound levels. Follow this process until all the sound levels are accounted for. As an example, let us say that an area for a new facility is being cleared. The equipment to be used is: two chainsaws, one operating at 57 dBA and one at 60 dBA; a front end loader at 80 dBA; and a truck at 78 dBA. Start with the two lowest sound levels: $60 \text{ dBA} - 57 \text{ dBA} = 3 \text{ dBA}$ difference. Consulting the chart add 2 dBA to the higher sound level. The cumulative SPL of the two chainsaws is 62 dBA. Next, subtract 62 dBA from 78 dBA. $78 \text{ dBA} - 62 \text{ dBA} = 16 \text{ dBA}$. In this case, 0 dBA is added to the higher level so we end up with 78 dBA. Lastly, subtract 78 dBA from the 80 dBA. $80 \text{ dBA} - 78 \text{ dBA} = 2 \text{ dBA}$ a difference of 2 dBA adds 2 dBA to the higher SPL or 82 dBA. The SPL from these four pieces of equipment operating simultaneously is 82 dBA.

Table A
Approximate Addition of Sound Levels

Difference Between Two Sound Levels	Add to the Higher of the Two Sound Levels
1 dB or less	3 dB
2 to 3 dB	2 dB
4 to 9 dB	1 dB
10 dB or more	0 dB

(USEPA, Protective Noise Levels, 1978)

3. Temperature and Humidity - Sound energy is absorbed in the air as a function of temperature, humidity and the frequency of the sound. This attenuation can be up to 2 dB over 1,000 feet. Such attenuation is short term and, since it occurs over a great distance, should not be considered in calculations. Higher temperatures tend to increase sound velocity but does

not have an effect on the SPL. Sound waves bend towards cooler temperatures. Temperature inversions may cause temporary problems when cooler air is next to the earth allowing for more distant propagation of sound. Similarly, sound waves will bend towards water when it is cooler than the air and bounce along the highly reflective surface. Consequently large water bodies between the sound source and the receptor may affect noise attenuation over distance.

4. Time of Year - Summer time noises have the greatest potential for causing annoyance because of open windows, outside activities, etc. During the winter people tend to spend more time indoors and have the windows closed. In general, building walls and windows that are closed provide a 15 dB reduction in noise levels. Building walls with the windows open allow for only a 5 dB reduction in SPL.
5. Wind - Wind can further reduce the sound heard at a distance if the receptor is upwind of the sound. The action of the wind disperses the sound waves reducing the SPLs upwind. While it is true that sound levels upwind of a noise source will be reduced, receptors downwind of a noise source will not realize an increase in sound level over that experienced at the same distance without a wind. This dispels the common belief that sound levels are increased downwind due to wind carrying noise.
6. Land forms and structures - In certain circumstances, sound levels can be accentuated or focused by certain features to cause adverse noise impacts at specified locations. At a hard rock mine, curved quarry walls may have the potential to cause an amphitheater effect while straight cliffs and quarry walls may cause an echo. Buildings that line streets in cities can cause a canyon effect where sound can be reflected from the building surfaces similar to what might happen in a canyon. Consideration of noise impacts associated with these types of conditions may require specialized expertise to evaluate impact potential and to formulate suitable mitigation techniques.

Consideration of existing noise sources and sound receptors in proximity to a proposed activity can be important considerations even when the activity under review is not a noise source. Topography, vegetation, structures and the relative location of noise receptors and sources to these features are all aspects of the environmental setting that can influence noise impact potential. As such, land alteration may also indirectly create an adverse noise impact where natural land features or manmade features serve as a noise barrier or provide noise attenuation for existing sources of noise, i.e. highway, railroads, manufacturing activity. Removal of these features, i.e. hills, vegetation, large structures or walls, can expose receptors to increased sound pressure levels causing noise problems where none had previously existed.

B. Impact Assessment

1. Factors to Consider

Factors to consider in determining the impact of noise on humans, are as follows:

a. Evaluation of Sound Characteristics

- (1) Ambient noise level - A noise can only intrude if it differs in character or SPL from the normal ambient sound. Most objective attempts to assess nuisance noise adopt the technique of comparing the noise with actual ambient sound levels or with some derived criterion.
- (2) Future noise level - The ambient noise level plus the noise level from the new or proposed source.
- (3) Increase In Sound Pressure Level - A significant factor in determining the annoyance of a noise is Sound Pressure Level (SPL). SPLs are measured in decibels.
- (4) Sharp and Startling Noise - These high frequency and high intensity noises can be extremely annoying. When initially evaluating the effects

of noise from an operation, pay particular attention to noises that can be particularly annoying. One such noise is the back-up beepers required to be used on machinery. They definitely catch one's attention as they were meant to do. Continual beeping by machinery can be mitigated (see Section V.C. Mitigation - Best Management Practices). Another impulse noise source that can be very annoying is the exhaust from compressed air machinery. This exhaust is usually released in loud bursts. Compressed air exhaust can also be mitigated if it causes a noise problem by using readily available mufflers or specifically designed enclosures.

- (5) Frequency and Tone - Frequency is the rate at which a sound source vibrates or makes the air vibrate. Frequency is measured in Hertz (Hz). Frequency can also be classified as high ("sharp"), low ("dull"), and moderate. Pure tones are rare in nature. Tonal sounds usually consist of pure tones at several frequencies. Pure tones and tonal sounds are discerned more readily by the human ear. Pure tones and tonal sounds are compensated for in sound studies by adding a calculated number of dB(A) to the measured sound pressure.
- (6) Percentile of Sound Levels - Fluctuations of SPLs can be expressed as a percentile level designated as $L_{(n)}$ where a given decibel level is exceeded n % of the time. A designation of $L_{(10)} = 70$ dBA means the measured SPLs exceeded 70 dBA 10% of the time. A designation of $L_{(90)} = 70$ dBA means the measured SPLs were exceeded 90% of the time. $L_{(90)}$ is often used to designate the background noise level.
- (7) Expression of Overall Sound - Part of the overall assessment of sound is the *Equivalent Sound Level* (L_{eq}) which assigns a single value of sound level for a period of time in which varying levels of sound are experienced over that time period. The L_{eq} value provides an indication of the effects of sound on people. It is also useful in establishing the ambient sound levels at a potential noise source.

In order to evaluate the above factors in the appropriate context, one must identify the following: 1) appropriate receptor locations for sound level calculation or measurement; 2) ambient sound levels and characteristics at these receptor locations; and 3) the sound pressure increase and characteristics of the sound that represents a significant noise effect at a receptor location.

b. Receptor Locations

Appropriate receptor locations may be either at the property line of the parcel on which the facility is located or at the location of use or inhabitation on adjacent property. The solid waste regulations require the measurements of sound levels be at the property line. The most conservative approach utilizes the property line. The property line should be the point of reference when adjacent land use is proximal to the property line. Reference points at other locations on adjacent properties can be chosen after determining that existing property usage between the property line and the reference point would not be impaired by noise, i.e., property uses are relatively remote from the property line. The location of the facility should be shown on a map in relation to each potential receptor. Any future expansion should be described in a narrative as well as depicted on a map. The map and narrative should also include the distance of the operation to each point of reception including the distance at the point in time when an expanding operation will be closest to the receptors.

c. Thresholds for Significant Sound Pressure Level (SPL) Increase

The goal for any permitted operation should be to minimize increases in sound pressure level above ambient levels at the chosen point of sound reception. Increases ranging from 0-3 dB should have no appreciable effect on receptors. Increases from 3-6 dB may have potential for adverse noise impact only in cases where the most sensitive of receptors are present. Sound pressure increases of more than 6 dB may require a closer analysis of impact potential depending on

existing SPLs and the character of surrounding land use and receptors. SPL increases approaching 10 dB result in a perceived doubling of SPL. The perceived doubling of the SPL results from the fact that SPLs are measured on a logarithmic scale. An increase of 10 dB(A) deserves consideration of avoidance and mitigation measures in most cases. The above thresholds as indicators of impact potential should be viewed as guidelines subject to adjustment as appropriate for the specific circumstances one encounters.

Establishing a maximum SPL at the point of reception can be an appropriate approach to addressing potential adverse noise impacts. Noise thresholds are established for solid waste management facilities in the Department's Solid Waste regulations, 6 NYCRR Part 360. Most humans find a sound level of 60 - 70 dB(A) as beginning to create a condition of significant noise effect (EPA 550/9-79-100, November 1978). In general, the EPA's "Protective Noise Levels" guidance found that ambient noise levels $\#$ 55 dBA $L_{(dn)}$ was sufficient to protect public health and welfare and, in most cases, did not create an annoyance (EPA 550/9-79-100, November 1978). In non-industrial settings the SPL should probably not exceed ambient noise by more than 6 dB(A) at the receptor. An increase of 6 dB(A) may cause complaints. There may be occasions where an increase in SPLs of greater than 6 dB(A) might be acceptable. The addition of any noise source, in a non-industrial setting, should not raise the ambient noise level above a maximum of 65 dB(A). This would be considered the "upper end" limit since 65 dB(A) allows for undisturbed speech at a distance of approximately three feet. Some outdoor activities can be conducted at a SPL of 65 dB(A). Still lower ambient noise levels may be necessary if there are sensitive receptors nearby. These goals can be attained by using the mitigative techniques outlined in this guidance.

Ambient noise SPLs in industrial or commercial areas may exceed 65 dB(A) with a high end of approximately 79 dB(A) (EPA 550/9-79-100, November 1979). In these instances mitigative measures utilizing best management practices should be used in an effort to ensure that a facility's generated sound levels are at a minimum. The goal in an industrial/commercial area, where ambient SPLs are already at a high level, should be not to exceed the ambient SPL. Remember, if a new source

operates at the same noise level as the ambient, then 3 dB(A) must be added to the existing ambient noise level to obtain the future noise level. If the goal is not to raise the future noise levels the new facility would have to operate at 10 dB(A) or more lower than the ambient.(see Table A)

Table B
HUMAN REACTION TO INCREASES IN SOUND PRESSURE LEVEL

Increase in Sound Pressure (dB)	Human Reaction
Under 5	Unnoticed to tolerable
5 - 10	Intrusive
10 - 15	Very noticeable
15 - 20	Objectionable
Over 20	Very objectionable to intolerable

(Down and Stocks - 1978)

Impact assessment will vary for specific project reviews, but must consist of certain basic components for all assessments. Additional examination of sound generation and noise reception are necessary, where circumstances warrant. Sound impact evaluation is an incremental process, with four potential outcomes:

- Ⓒ exemption criteria are met and no noise evaluation is required;
- Ⓒ noise impacts are determined to be non-significant (after first-level evaluation);
- Ⓒ noise impacts are identified as a potential issue but can be readily mitigated (after second level evaluation); or
- Ⓒ noise impacts are identified as a significant issue requiring analysis of alternatives as well as mitigation (third level evaluation).

All levels of evaluation may require preparation of a noise analysis. The required scope of noise impact analysis can be rudimentary to rather sophisticated, depending on circumstances and the results obtained from initial levels of evaluation. Recommendations for each level of evaluation are presented below.

2. Situations in Which No Noise Evaluation is Necessary

When certain criteria are satisfied, the need for undertaking a noise impact analysis at any level is eliminated. These criteria are as follows:

- a. The site is contained within an area in which local zoning provides for the intended use as a “right of use”. It does not apply to activities that are permissible only after an applicant is granted a special use permit by the local government; and
- b. The applicant’s operational plan incorporates appropriate best management practices (BMPs [see Section V.C. Mitigation - Best Management Practices]) for noise control for all facets of the operation.

Where activities may be undertaken as a “right of use”, it is presumed that noise has been addressed in establishing the zoning. Any residual noise that is present following BMP implementation should be considered an inherent component of the activity that has been found acceptable in consideration of the zoning designation of the site.

3. First Level Noise Impact Evaluation

The initial evaluation for most facilities should determine the maximum amount of sound created at a single point in time by multiple activities for the proposed project. All facets of the construction and operation that produce noise should be included such as land clearing activities (chain saw and equipment operation), drilling, equipment operation for excavating, hauling or conveying materials, pile driving, steel work, material processing, product storage and removal. Land clearing and construction may be only temporary noise at the site whereas the ongoing operation of a facility would be considered permanent noise. An analysis may be required for

various phases of the construction and operation of the project to assure that adverse noise effects do not occur at any phase.

To calculate the sound generated by equipment operation, one can consult the manufacturers' specifications for sound generation, available for various types of equipment. Another option for calculating the sound to be generated by equipment is to make actual measurements of sound generated by existing similar equipment, elsewhere.

Tables C and D summarize noise measurements from some common equipment used in construction and mining. Table E summarizes the noise level, in decibels (dB[A]), from some common sources. This information can be used to assist Department staff in relating potential noise impacts to sound levels produced by commercial and industrial activities. Use of these tables in the first level of analysis will help determine whether or not noise will be an issue and whether actual measurements should be made to confirm noise levels.

Table C
PROJECTED NOISE LEVELS

Noise Source	Measurements	1,000 feet	2,000 feet	3,000 feet
Primary and secondary crusher	89 dB(A) at 100 ft	69.0 dB(A)	63.0 dB(A)	59.5 dB(A)
Hitachi 501 shovel loading	92 dB(A) at 50 ft	66.0 dB(A)	60.0 dB(A)	56.5 dB(A)
Euclid R-50 pit truck loaded	90 dB(A) at 50 ft	64.0 dB(A)	58.0 dB(A)	54.4 dB(A)
Caterpillar 988 loader	80 dB(A) at 300 ft	69.5 dB(A)	63.5 dB(A)	60.0 dB(A)

(The Aggregate Handbook, 1991)

Table D
Common Equipment Sound Levels

EQUIPMENT	DECIBEL LEVEL	DISTANCE in feet
Augered earth drill	80	50
Backhoe	83-86	50
Cement mixer	63-71	50
Chain saw cutting trees	75-81	50
Compressor	67	50
Garbage Truck	71-83	50
Jackhammer	82	50
Paving breaker	82	50
Wood Chipper	89	50
Bulldozer	80	50
Grader	85	50
Truck	91	50
Generator	78	50
Rock drill	98	50

(excerpt and derived from Cowan, 1994)

Table E

Sound Source	dB(A) ^o	Response Criteria
	150	
Carrier Deck Jet Operation	140	
	130	Painfully Loud Limit Amplified Speech
Jet Takeoff (200 feet) Discotheque Auto Horn (3 feet) Riveting Machine	120	
	110	Maximum Vocal Effort
Jet Takeoff (2000 feet) Shout (0.5 feet)	100	
N.Y. Subway Station Heavy Truck (50 feet)	90	Very Annoying Hearing Damage (8 hours, continuous exposure)
Pneumatic Drill (50 feet)	80	Annoying
Freight Train (50 feet) Freeway Traffic (50 feet)	70	Telephone Use Difficult Intrusive
Air Conditioning Unit (20 feet)	60	
Light Auto Traffic (50 feet)	50	Quiet
Living Room Bedroom	40	
Library Soft Whisper (15 feet)	30	Very Quiet
Broadcasting Studio	20	
	10	Just Audible
	0	Threshold of Hearing

(The Aggregate Handbook, 1991)

The sound level at receptor locations should be calculated using the inverse square rule whereby sound is attenuated over distance. Again, each doubling of the distance from the source of a noise decreases the SPL by 6 dB(A) at distances greater than 50 feet. This calculation should first consider the straight line distance between the point of noise generation and the point of noise reception with the presumption that no natural or manmade features exist along the transect between the two points that would further attenuate sound level. Calculations should be performed for each point of reception in all directions being careful to evaluate the worst case noise impact potential by considering activities at the point where they would be closest to a receptor. The sound level calculated for the point of reception should be related to ambient sound levels. Ambient sound levels can be either measured or assumed based on established references for the environmental setting and land use at the point of reception. For estimation purposes, ambient SPLs will vary from approximately 35 dB(A) in a wilderness area to approximately 87 dB(A) in a highly industrial setting. A quiet seemingly serene setting such as rural farm land will be at the lower end of the scale at about 45 dB(A), whereas an urban industrial area will be at the high end of this scale at around 79 dB(A) (EPA 550/9-79-100, November 1978). If there is any concern that levels based on reference values do not accurately reflect ambient SPL, field measurements should be undertaken to determine ambient SPLs.

Where this evaluation indicates that sound levels at the point of reception will not be perceptible, similar to or only slightly elevated as compared to ambient conditions, no further evaluation is required. When there is an indication from this initial analysis that marginal or significant noise impact may occur, further evaluation is required. In determining the potential for an adverse noise impact, consider not only ambient noise levels, but also the existing land use, and whether or not an increased noise level or the introduction of a discernable sound, that is out of character with existing sounds, will be considered annoying or obtrusive. (see B.1.a Evaluation of Sound Characteristics)

4. Second Level Noise Impact Evaluation

Further refine the evaluation of noise impact potential by factoring in any additional noise attenuation that will be provided by existing natural topography, fabricated structures such as buildings, walls or berms or vegetation located between the point of noise generation and noise reception. This analysis may require consideration of future conditions and the loss of natural noise buffers over time.

Dense vegetation that is at least 100 feet in depth will reduce the sound levels by 3 to 7 dB(A). Evergreens provide a better vegetative screen than deciduous trees. Keep in mind that if a vegetative screen does not currently exist, planting a vegetative screen may require 15 or more years of growth before it becomes effective.

The degree to which topography attenuates noise depends on how close the feature is located to the source or the receptor of the noise. Topography can act as a natural screen. The closer a hill or other barrier is to the noise source or the receptor, the larger the sound shadow will be on the side opposite the noise source. Certain operations such as mining and landfills may be able to use topography to maintain a screen between the operation and receptors as they progress. Mining operations may be able to create screens by opening a mine in the center of the site using and maintaining the pit walls as barriers against sound (Aggregate Handbook, 1991).

If after taking into account all the attenuating features the potential still exists for adverse noise impact, other types of noise analyses or modeling should be used to characterize the source. An Equivalent Sound Level (L_{eq}) analysis or a related type of noise analysis may better define activities or sources that require more mitigation or isolation so that noise emanating from these sources will not cause an adverse impact.

Where it is demonstrated that noise absorbing or deflecting features further attenuate sound reception to a level of no significant increase, no further analysis is necessary. Where it is determined that noise level or the character of the noise may

have a significant adverse effect on receptors, other noise mitigation measures should be evaluated in an expanded noise analysis.

5. Third Level - Mitigation Measures

When the above analyses indicate significant noise effects may or will occur, the applicant should evaluate options for implementation of mitigation measures that avoid, or diminish significant noise effects to acceptable levels (see Section V.C. Mitigation - Best Management Practices). Adequate details concerning mitigation measures and an evaluation of the effectiveness of the mitigative measures through additional sound level calculations should be provided in a noise analysis. These calculations are to factor in the noise reduction or avoidance capabilities of the mitigation measures. In circumstances where noise effects cannot readily be reduced to a level of no significance by project design or operational features in the application, the applicant must evaluate alternatives and mitigation measures in an environmental impact statement to avoid or reduce impacts to the maximum extent practicable per the requirements of the State Environmental Quality Review Act (SEQR).

The noise analysis should be part of the application or a supplement to it, and will be part of the SEQR environmental assessment by reference. Duplicative noise analysis information is not required for the permit application and the assessment of impacts under SEQR. A proper analysis can satisfy information needs for both purposes.

C. Mitigation - Best Management Practices (BMP) for Reducing Noise

Various noise abatement techniques are available for reducing frequency of sound, duration of sound or SPLs at receptor locations. The mitigation techniques given below are listed according to what sound characteristic they mitigate.

1. Reduce noise frequency and impulse noise at the source of generation by:
 - a. Replacing back-up beepers on machinery with strobe lights (subject to other requirements, e.g., OSHA and Mine Safety and Health Administration, as applicable). This eliminates the most annoying impulse beeping;
 - b. Using appropriate mufflers to reduce the frequency of sound on machinery that pulses, such as diesel engines and compressed air machinery;
 - c. Changing equipment: using electric motors instead of compressed air driven machinery; using low speed fans in place of high speed fans;
 - d. Modifying machinery to reduce noise by using plastic liners, flexible noise control covers, and dampening plates and pads on large sheet metal surfaces; and
2. Reduce noise duration by:
 - a. Limiting the number of days of operation, restricting the hours of operation and specifying the time of day and hours of access and egress can abate noise impacts.
 - b. Limiting noisier operations to normal work day hours may reduce or eliminate complaints.

Limiting hours of construction or operation can be an effective tool in reducing potential adverse impacts of noise. The impacts of noise on receptors can be

significantly reduced by effectively managing the hours at which the loudest of the operations can take place.

Implementation of hours of operation does not reduce the SPL emanating from a facility. Determining whether or not hours of operation will be effective, mitigation requires consideration of: public safety, for example road construction at night may reduce traffic concerns and facilitate work; duration of the activity, is it a one time event necessary to meet a short term goal or will the activity become an ongoing operation; and surrounding land use, consider what type(s) of land use is proximal to the activity and at what time(s) might a reduction of noise levels be necessary. There may be other factors to consider due to the uniqueness of a given activity or the type of land use adjacent to the activity. Hours of operation should also consider weekend activities and legal holidays that may change the types of land use adjacent to the permitted activity or increase traffic levels in an area.

The best results from using hours of operation as a mitigative measure will be obtained if the hours are negotiated with the owner or operator of the facility. The less noisy aspects of an operation may not have to be subject to the requirements of hours of operation such as preparing, greasing and maintaining machinery for the upcoming day's operation. The more noisy operations can be scheduled to begin when people in the receptor area are less likely to be adversely effected. Hours of operation should be included in the operation plans for a facility that becomes part of the permit, or in the event that there is no operation plan, can be included as a permit condition.

3. Reduce Noise sound pressure levels by:
 - a. Increasing the setback distance.
 - b. Moving processing equipment during operation further from receptors.
 - c. Substituting quieter equipment (example - replacing compressed air fan with an electric fan could result in a 20 dB reduction of noise level).

- d. Using mufflers selected to match the type of equipment and air or gas flow on mechanical equipment.
- e. Ensuring that equipment is regularly maintained.
- f. Enclosing processing equipment in buildings (example - enclosing noisy equipment could result in an 8-10 dB noise level reduction, a 9 inch brick wall can reduce SPL by 45-50 dB).
- g. Erecting sound barriers such as screens or berms around the noise generating equipment or near the point of reception. The angle of deflection also increases as the height of a screen or barrier increases. Screens or barriers should be located as close to the noise source or the receptor as possible. The closer the barrier is located to the source or the receptor, the greater the angle of deflection of the sound waves will be creating a larger “sound shadow” on the side opposite the barrier. Stockpiles of raw material or finished product can be an effective sound barrier if strategically placed.
- h. phasing operations to preserve natural barriers as long as possible.
- i. altering the direction, size, proximity of expanding operations.
- j. Designing enclosed facilities to prevent or minimize an SPL increases above ambient levels. This would require a noise analysis and building designed by a qualified engineer that includes adequate ventilation with noise abatement systems on the ventilation system.

Public notification of upcoming loud events can also be used as a form of mitigation although it doesn't fit easily into the categories above. People are less likely to get upset if they know of an upcoming event and know that it will be temporary.

The applicant should demonstrate that the specific mitigation measures proposed will be effective in preventing adverse noise effects on receptors.

D. Decision Making - Conditioning Permits to Limit Noise Impacts

Preferably, the mitigation measures as outlined in the construction and operational plans should be relied upon to mitigate the effects of noise on receptors. The permit should state that the activity will be conducted in accordance with the approved plan. Otherwise, mitigation measures and BMP's can be imposed within specific permit conditions.

It is not the intention of this guidance to require decibel limits to be established for operations where such limits are not required by regulation. There are, however, instances when a decibel limit may be established for an operation to ensure activities do not create unacceptable noise effects, as follows:

1. The review of a draft and final environmental impact statement demonstrates the need for imposition of a decibel limit;
2. A decibel limit is established by the Commissioner's findings after a public hearing has been held on an application;
3. The applicant asks to have a decibel limit to demonstrate the ability to comply; or
4. A program division seeks to establish a decibel limit as a permit condition, when necessary to demonstrate avoidance of unacceptable noise impact.

Ultimately, the final decision must incorporate appropriate measures to minimize or avoid significant noise impacts, as required under SEQRA. Any unavoidable adverse effects must be weighed along with other social and economic considerations in deciding whether to approve or deny a permit.

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APPENDIX D

NYSDEC Part 450

“Noise from Heavy Motor Vehicles”

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Part 450: Noise From Heavy Motor Vehicles

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§450.1 Scope of the Rules in Parts 450-454

(a) The rules in Parts 450-454 of this Title prescribe procedures for inspection, surveillance and measurement of motor vehicles and combinations of vehicles to determine whether those motor vehicles and combinations of vehicles conform to the sound level limits of the New York State Vehicle and Traffic Law.

(b) Except as provided in subdivision (c) of this section, the rules in Parts 450-454 of this Title apply at any time or under any condition of highway grade, load, acceleration or deceleration.

(c) The rules in Parts 450-454 of this Title do not apply to:

- (1) A motor vehicle that has a maximum gross weight of 10,000 pounds (4,536 kg) or less;
- (2) A combination of vehicles that has a maximum gross weight of 10,000 pounds (4,536 kg) or less;
- (3) The sound generated by a warning device, such as a horn or siren, installed in a motor vehicle, unless such device is intentionally sounded in order to preclude an otherwise valid noise emission measurement;
- (4) An authorized emergency vehicle, such as a fire engine, an ambulance, a police van or a rescue van;
- (5) Special purpose equipment used for the maintenance and construction of public highways, including but not limited to a snowplow in operation, a motor grader and a bucket loader.
- (6) The sound generated by auxiliary equipment which is normally operated only when the motor vehicle on which it is installed is stopped or is

operating at a speed of five miles per hour (eight kph) or less, unless such device is intentionally operated at speeds greater than five mph (eight kph) in order to preclude an otherwise valid noise measurement. Examples of that type of auxiliary equipment include, but are not limited to, cranes, asphalt spreaders, ditch diggers, liquid or slurry pumps, auxiliary air compressors, welders and trash compactors.

§450.2 Definitions

The following terms used in Parts 450-454 of this Title shall have the meanings indicated:

- (a) A-weighted sound level shall mean the sound pressure level measured by the use of an instrument with the metering characteristics and A-weighting frequency response prescribed for sound level meters.
- (b) Ambulance. Every motor vehicle designed, appropriately equipped and used for the purpose of carrying sick or injured persons.
- (c) Authorized emergency vehicle. Every ambulance, police vehicle, fire vehicle and civil defense emergency vehicle.
- (d) Civil defense emergency vehicle. Every communications vehicle and rescue vehicle owned by the State, a county, town, city or village, and operated for civil defense purposes and equipped and marked as a civil defense emergency communications or rescue vehicle in compliance with the rules and regulations of the State Civil Defense Commission.
- (e) Combination of vehicles shall mean any device consisting of a motor vehicle and one or more trailers drawn by such motor vehicle.
- (f) dB(A) means the standard abbreviation for A-weighted sound level in decibels.
- (g) Fast meter response means that the fast dynamic response of the sound level meter shall be used. The fast dynamic response shall comply with the meter dynamic characteristics in paragraph 5.3 of the American National Standards Specification for Sound Level Meters, ANSI S1.4-1971. This publication is available from the American National Standards Institute, Inc., 1430 Broadway, New York, 10018.
- (h) Fire vehicle. Every vehicle operated for fire service purposes owned and identified as being owned by the State, a public authority, a county, town, city, village or fire district, or a fire corporation subject to the provisions of subdivision (e) of section 1402 of the Not-for-Profit Corporation Law or a fire company as defined in section 100 of the General Municipal Law. Any of the following vehicles shall be fire vehicles:
 - (1) a vehicle operated by officials of the Division of Fire Safety in the Office for Local Government of the Executive Department,
 - (2) a vehicle ordinarily operated by a chief or assistant chief of a fire department, or a county or deputy county fire coordinator, or county or assistant county fire marshal, or such vehicle when operated in an official capacity by or under the direction of such person, and
 - (3) a vehicle specifically designed and equipped for fire fighting purposes which is regularly used for fire fighting purposes by a fire fighting unit on property used for industrial, institutional or commercial purposes and which vehicle is owned by the owner or lessee of such property.
- (i) Gross weight. The weight of a vehicle without load plus the weight of any load thereon.
- (j) Ground cover means any of various low, dense-growing plants, such as ivy, myrtle, low weeds or brush.
- (k) Hard test site means any test site having the ground surface covered with concrete, asphalt, packed dirt, gravel or similar reflective material for

more than one-half the distance between the microphone target point and the microphone location point.

(l) Maximum gross weight. The weight of the vehicle unladen plus the weight of the maximum load to be carried by such vehicle during the registration period, or the maximum gross weight for which the vehicle is registered, whichever is greater.

(m) Motor vehicle. Every vehicle operated or driven upon a public highway which is propelled by any power other than muscular power, except (a) electrically driven invalid chairs being operated or driven by an invalid, (b) vehicles which run only upon rails or tracks, and (c) snowmobiles as defined in article 47 of the Vehicle and Traffic Law.

(n) Open site means an area that is essentially free of large sound-reflecting objects, such as barriers, walls, board fences, signboards, parked vehicles, bridges or buildings.

(o) Relatively flat, when used to describe a noise measurement site, means a site which does not contain significant concave curvatures or slope reversals that may result in the focusing of sound waves toward the microphone location point.

(p) Soft test site means any test site having the ground surface covered with grass, other ground cover, or similar absorptive material for one-half or more of the distance between the microphone target point and the microphone location point.

(q) Sound level means the quantity in decibels measured by a sound level meter satisfying the requirements of American National Standards Specification for Sound Level Meters, S1.4-1971. This publication is available from the American National Standards Institute, Inc., 1430 Broadway, New York, N.Y. 10018. Sound level is the frequency-weighted sound pressure level obtained with the standardized dynamic characteristic "fast" or "slow" and weighting A, B or C; unless indicated otherwise, the A-weighting is understood

(r) Sound pressure level shall mean 20 times the logarithm to the base ten of the ratio of the root mean squared pressure of a sound to a reference pressure of 20 micropascals. The unit applied to this measure shall be the decibel (dB).

(s) Traffic railing means any longitudinal highway traffic barrier system installed along the side or median of a highway. For the purpose of this Part, a traffic railing must have at least 35 percent of its vertical height, from the ground surface to the top of the railing, open to free space in order to qualify as an acceptable object within a noise measurement test site. Further, for the purposes of this Part, posts or other discrete supports shall be ignored when ascertaining open free space.

(t) Trailer. Any vehicle not propelled by its own power, drawn on the public highways by a motor vehicle operated thereon, except motorcycle sidecars, vehicles being towed by a nonrigid support and vehicles designed and primarily used for other purposes and only occasionally drawn by such a motor vehicle.

(u) Vehicle. Every device in, upon or by which any person or property is or may be transported or drawn upon a highway, except devices moved by human power or used exclusively upon stationary rails or tracks.

§450.3 Allowable Noise Levels

Motor vehicle noise emissions, when measured according to the rules of Parts 450-454, shall not exceed the values specified in Table 1 below:

Table 1 Maximum Permissible Sound Level Readings [Decibel (A)]^{1, 2}

If the distance between the microphone location and the microphone target point is	Highway operations test				Stationary tests	
	Soft site		Hard site		Soft site	Hard site
	35 mi/h or less	Above 35 mi/h	35 mi/h or less	Above 35 mi/h		
35 ft. (10.7 m) or more but less than 39 ft. (11.9 m)	89	93	91	95	89	91
39 ft. (11.9 m) or more but less than 43 ft. (13.1 m)	88	92	90	94	88	90
43 ft. (13.1 m) or more but less than 48 ft. (11.6 m)	87	91	89	93	87	89
48 ft. (14.6 m) or more but less than 58 ft. (17.1 m)	86	90	88	92	86	88
58 ft. (17.1 m) or more but less than 70 ft. (21.3 m)	85	89	87	91	85	87
70 ft. (21.3 m) or more but less than 83 ft. (25.3 m)	84	88	86	90	84	86

¹The speeds shown refer to measurements taken at sites having speed limits as indicated. These speed limits do not necessarily have to be posted.

²Table 1 takes into account both the distance correction factors contained in § 454.2 of this Title and the ground surface correction factors contained in § 454.3 of this Title and may be used in lieu of applying these correction factors to the measured sound level.

§450.4 Measurement Tolerances

(a) Measurement tolerances will be allowed to take into account the effects of the following factors:

- (1) The consensus standard practice of reporting field sound level measurements to the nearest whole decibel.
- (2) Variations resulting from commercial instrument tolerances.
- (3) Variations resulting from the topography of the noise measurement site.
- (4) Variations resulting from atmospheric conditions such as wind, ambient temperature and atmospheric pressure.
- (5) Variations resulting from reflected sound from small objects allowed within the test site.
- (6) The interpretation of the effects of the above-cited factors by enforcement personnel.

(b) Measurement tolerances shall not exceed two decibels for a given measurement.

§450.5 Acoustical Equipment Operators

(a) Sound level measurements shall be taken only by personnel trained and experienced in the current techniques and principles of sound measurement and in the selection and operation of sound measuring equipment and instrumentation.

(b) Satisfactory completion within the last two years of a training course for acoustical equipment operators conducted by the Department of Environmental Conservation, or an equivalent training course approved by the department, shall be prima facie proof that enforcement personnel satisfy the requirements of this section.

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APPENDIX E

**NYSDEC “Heavy Duty Inspection and Maintenance
Program” Subpart 217-5**

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Subpart 217-5: Heavy Duty Inspection and Maintenance Program

(Statutory authority: Environmental Conservation Law, §§ 1-0101, 3-0301, 19-0103, 19-0105, 19-0107, 19-0301, 19-0303, 19-0305, 19-0320, 71-2103, 71-2105; Vehicle and Traffic Law, §§ 301[c], 375.28)

[Filed 9/30/02. Effective 30 days after filing.]

[This is page 1 of 1 of this Subpart. A complete list of Subparts in this regulation appears in the [Chapter 3](#) contents page. A list of sections in this subpart appears below.]

For administrative information about this posting, contact: [Division of Air Resources](#). The Bureau of Mobile Sources and Technology Development at (518) 402-8292 is the contact for technical questions pertaining to this rule.

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§217-5.1 Definitions

(a) *Agricultural trucks* means those vehicles as defined in subparagraph 401.7(E)(2) of the New York State Vehicle and Traffic Law (VTL).

(b) *Authorized emergency vehicle* means those vehicles defined in section 101 of the VTL.

(c) *Bus* means a vehicle as defined in section 104 of the VTL, as well as vehicles covered by 17 NYCRR Parts 720 or 721.

- (d) *CARB* means the California State Air Resources Board as defined in California's Health and Safety Code, section 39003.
- (e) *Certified configuration* means a heavy-duty diesel engine design or a light-duty diesel-powered motor vehicle-engine-chassis design certified as meeting the applicable CARB or EPA emission standards for heavy-duty diesel engines or light-duty diesel-powered motor vehicles manufactured in a given model year.
- (f) *Certified inspector* means any person authorized by the NYSDEC, NYSDMV or NYSDOT, after successfully completing the applicable training, to determine whether a HDDV complies with the requirements of Subpart 217-5. NYSDOT fleet certified mechanics authorized to conduct HDDV emission inspections shall be considered certified inspectors for the purpose of conducting the required emissions inspections on a HDDV in the fleet of their employer.
- (g) *Diesel engine* means a compression ignition type of internal combustion engine which operates on or is capable of operating on diesel fuel.
- (h) *Diesel-fueled vehicle* means a diesel powered vehicle using or capable of using diesel fuel.
- (i) *Element of design* means any part or system on a motor vehicle or a motor vehicle engine pertaining to the vehicle's or engine's certified configuration.
- (j) *Emission control apparatus* means any device utilized by the vehicle manufacturer and/or the engine manufacturer to control the release of any regulated emission, including any associated component which monitors the function and maintenance of such a device.
- (k) *Exhaust emissions* means the emissions (including any liquid or solid particles in the gaseous stream) released into the atmosphere from any opening downstream from the exhaust ports of a motor vehicle engine.
- (l) *Fleet Self Inspection Facility* means any corporation, business, or facility that employees certifies inspectors and is authorized by NYSDEC, NYSDMV, or NYSDOT to perform emission testing to determine whether any HDDV owned or operated by such entity complies with the requirements of Subpart 217-5.
- (m) *Governor* means a mechanism installed on a diesel engine by the original equipment manufacturer for the purpose of limiting the maximum engine RPM.
- (n) *Gross vehicle weight rating* or *GVWR* means the value specified by the vehicle manufacturer as the maximum loaded weight of a single or combination vehicle.
- (o) *Heavy Duty Diesel Vehicle (HDDV)* means a heavy duty vehicle powered by a diesel engine.
- (p) *Heavy Duty Vehicle* means a vehicle that has a GVWR exceeding 8,500 pounds and is designed primarily for transporting persons or properties.
- (q) *High idle* means the highest engine speed obtainable when the engine is disengaged from the transmission.
- (r) *Hybrid electric vehicle (HEV)* means those vehicles as defined in [40 CFR section 86.1702-99](#).
- (s) *Low idle* means the minimum operating speed of an engine with the accelerator pedal released and the transmission disengaged, as specified by

the engine manufacturer.

(t) *Marine Vessel* means as defined in 1 U.S.C. Section 3.

(u) *Maximum governed RPM* means for an:

(1) engine which has a functioning governor, the manufacturer's recommended maximum engine speed as restricted by the governor; and

(2) ungoverned engine this term means a value of 80 percent of the manufacturer's recommended maximum engine speed.

(v) *Model year* means the engine manufacturer's annual production period, as defined in [40 CFR part 85](#), subpart X.

(w) *Municipally Owned Vehicles* means those vehicles owned and/or operated by a county, town, city, or village of the State of New York.

(x) *New York City Metropolitan Area (NYCMA)* means the area as defined in section 200.1(at) of this Title.

(y) *NYSDEC* or *department* means the New York State Department of Environmental Conservation.

(z) *NYS DMV* means the New York State Department of Motor Vehicles.

(aa) *NYS DMV Official Diesel Emission Inspection Station* or *ODEIS* means any person or association authorized by NYS DMV to conduct official diesel safety and emission testing and inspection.

(ab) *NYS DOT* means the New York State Department of Transportation

(ac) *Nominal stack size* means the exhaust pipe diameter to be used in conducting smoke opacity measurements to determine compliance with diesel smoke opacity standards, based on engine horsepower, as set forth in Table 2.

(ad) *Oil temperature probe* means a device integral or auxiliary to certain smokemeters which measures the engine crankcase oil temperature.

(ae) *Opacity* means the property of a substance whereby it partially or wholly obstructs the transmission of visible light expressed as the percentage to which light is attenuated.

(ag) *Regulated emission* means any solid, liquid or gaseous substance which is emitted from a motor vehicle or motor vehicle engine and which is regulated by the EPA pursuant to [40 CFR part 86](#).

(ah) *Revolutions Per Minute (RPM) sensor* means a mechanism integral or auxiliary to the smokemeter which senses the engine speed in revolutions per minute.

(ai) *SAE J1667* means the Surface Vehicle Recommended Practice incorporated in document number J1667 published by the Society of Automotive Engineers in February 1996, entitled "Snap-Acceleration Smoke Test Procedure for Heavy Duty Diesel Powered Vehicles," as herein incorporated by reference (see Table 1, section 200.9 of this Title).

(aj) *School bus* means a vehicle as defined in section 142 of the VTL.

(ak) *Smokemeter* means smoke measurement equipment designed and manufactured in accordance with specifications set forth in section [217-5.6](#) of this Subpart. Only a model of a smokemeter certified by NYSDEC and operated in accordance with the manufacturer's operating procedures shall be considered a smokemeter for purposes of this Subpart.

(al) *Tailpipe* means the final downstream section of pipe in the exhaust system of a motor vehicle.

(am) *Ungoverned engine* means a diesel engine designed to be devoid of any mechanical or electronic contrivances designed or intended to limit maximum engine speed.

§217-5.2 Applicability

(a) General: This Subpart applies to all HDDV motor vehicles except for:

(1) authorized emergency vehicles;

(2) vehicles as defined in subparagraphs 401.7(E)(2), (F)(a) and 401.13 of the VTL;

(3) agricultural trucks;

(4) farm type tractors and all terrain type vehicles used exclusively for agriculture or mowing purposes, or for snow plowing, other than for hire, farm equipment, including self-propelled machines used exclusively in growing, harvesting or handling farm produce, and self-propelled caterpillar or crawler-type equipment while being operated on the contract site, and timber harvesting equipment such as harvesters, wood chippers, forwarders, log skidders, and other processing equipment used exclusively off highway for timber harvesting and logging purposes;

(5) marine vessels;

(6) hybrid electric vehicles using diesel engines as a power source; and

(7) military designated vehicles, meaning any motor vehicle owned by the U.S. Department of Defense and/or the U.S. military services and used in combat, combat support, combat service support, tactical or relief operations, or for training for such purposes.

(b) Annual NYCMA HDDV Emissions Inspection Program. Beginning June 1, 1999, all HDDVs registered or required to be registered in the NYCMA, except for buses, municipally owned vehicles, and those vehicles exempted in subdivision (a) of this section shall undergo and annually pass a diesel emissions inspection test performed by a certified inspector in accordance with this Subpart. Beginning June 1, 2000 all HDDVs registered or required to be registered in the NYCMA, except those vehicles exempted in subdivision (a) of this section, shall undergo and annually pass a diesel emissions inspection test performed by a certified inspector in accordance with this Subpart.

(1) Annual NYCMA NYSDOT HDDV Bus Inspection Program.

(i) All HDDVs registered or required to be registered in the NYCMA that are subject to the requirements of 17 NYCRR Part 720 or 721 shall annually undergo and pass a diesel emissions inspection test performed by a NYSDOT certified inspector in accordance with this Subpart at the time of a periodic NYSDOT bus safety inspection.

(ii) All buses that are HDDV's registered or required to be registered in the NYCMA that are not included in subparagraph (i) of this paragraph, or are

owned by the state or a municipality that is a fleet self inspection facility shall annually undergo and pass a diesel emissions inspection test performed by a certified inspector and such test shall follow the procedures set forth in this Subpart.

(2) Annual NYCMA NYSDMV HDDV Inspections Program. All HDDVs registered or required to be registered in the NYCMA that are subject to the requirements of section 301 of the VTL shall annually undergo and pass a diesel emissions inspection test performed by a NYSDMV certified inspector in accordance with this Subpart at the time of a periodic NYSDMV safety inspection on a HDDV.

(c) *Roadside HDDV Emissions Inspection.* (1) Beginning June 1, 1999, all HDDVs operating in New York State except for buses, municipally owned vehicles, and those vehicles exempted in subdivision (a) of this section along public highways and quasi-public locations are subject to roadside or random inspection.

(2) Beginning June 1, 2000 all HDDVs operating in New York State, except those vehicles exempted in subdivision (a) of this section, along public highways and quasi-public locations are subject to roadside or random inspection.

§217-5.3 Heavy duty diesel emission standards

All HDDVs subject to the requirements of this Subpart and that operate in New York State, except for those exempted in section (a) of this Subpart, shall be subject to the smoke opacity standards set forth in Table 1 as follows:

Table 1 Smoke Opacity Standards for Heavy Duty Diesel-Fueled Vehicles

<i>Engine Model Year</i>	<i>Maximum Opacity (percent)</i>
1973 and Older	70
1974 - 1990	55
1991 and Newer	40

§217-5.4 Vehicle owner/operator requirements

(a) No person who owns, operates, registers, leases, or rents a HDDV subject to the requirements of this Subpart shall operate said vehicle, or allow or permit it to be operated in the State, if the vehicle:

(1) emits smoke in the exhaust emissions with an opacity which exceeds the smoke opacity standards specified in Table 1 of this Subpart pursuant to the effective dates established in section 217-5.2 of this Subpart, when tested in accordance with procedures set forth in section 217-5.5 of this Subpart;

(2) does not have functioning emission control apparatus as required by specifications of the manufacturer;

(3) has any component, element of design, or emission control apparatus, installed or required to be installed on the vehicle or diesel engine which:

(i) is not functioning and will result in the emission test set forth in section 217-5.5 of this Subpart to be discontinued; or

(ii) has been disconnected, detached, deactivated, tampered with or in any other way rendered inoperable or less effective than designed by the original equipment or vehicle or engine manufacturer, including any action which will result in the emission test set forth in section 217-5.5 of this Subpart to be discontinued.

(b) Except as provided in subdivision 217-5.2(a) of this Subpart, within 12 months of the effective dates listed in section 217-5.2 of this Subpart, and annually thereafter, no person who owns, operates, leases or rents a HDDV registered or required to be registered in the NYCMA shall permit the operation of that HDDV unless the HDDV has had its exhaust emissions tested by a certified inspector within the previous 12 months in accordance with the procedures set forth in section 217-5.5 of this Subpart and the exhaust emission opacity of the vehicle does not exceed the standards specified in Table 1 of this Subpart during the required emission test.

§217-5.5 Emissions inspection procedures and test methods

(a) *General instructions for HDDV Emissions tests:* (1) Equipment to be used in conducting a smoke opacity test on an HDDV in accordance with this subdivision shall satisfy all specifications and standards for a smokemeter as set forth in this Subpart, and be a model certified by NYSDEC pursuant to section 217-5.6 of this Subpart.

(2) Inspectors performing diesel emissions tests of exhaust emissions and inspections of diesel exhaust emission equipment shall be certified by NYSDMV, NYSDOT or NYSDEC to perform HDDV emission inspections and testing, after successfully completing a training program approved by such agencies. Such certified inspectors shall follow SAE J1667 test procedures and, when specified, other procedures included in this Subpart. No ODEIS or Certified Inspector may issue an emission certificate of inspection for a HDDV, unless that HDDV meets the requirements of this Subpart.

(3) The general procedures for a valid HDDV emissions test conducted by a certified inspector pursuant to the provisions of this Subpart in accordance with SAE J1667 are as follows:

(i) Prior to testing, verify that the certified smokemeter and associated and/or required auxiliary test equipment is calibrated in accordance with the requirements of the manufacturer.

(ii) Determine that the engine is at operating temperature as specified in SAE J1667.

(iii) Examine the vehicle exhaust system for integrity. If a detectable leak exists determine that the HDDV is in violation of section 217-5.4(a)(3) of this Subpart.

(iv) Perform the smoke testing on at least one exhaust tailpipe in accordance with SAE J1667.

(v) Ensure that the ambient temperature at the test location is within the conditions range specified in SAE J1667.

(vi) Before initiating the test, determine that all accessories and any engine braking devices are turned off.

(vii) Determine that the engine speed governor is in proper operating condition by:

(a) inquiring of the HDDV operator whether the governor is in proper operating condition; or

(b) if the determination cannot be made, instruct the operator that, with the transmission in either neutral (with the clutch disengaged if so equipped)

or in park, gradually increase the engine speed. If the engine speed increases uncontrollably, instruct the operator to immediately release the accelerator pedal and the fuel supply to the engine. Discontinue emission testing of any vehicle with dysfunctional or out-of-specification engine speed governors. Do not resume testing unless and until speed governor repairs are made. Determine that the HDDV is in violation of section 217-5.4(a)(3) of this Subpart if the necessary corrective action to repair the engine speed governor is not taken;

(viii) If inspecting a vehicle which was either equipped by the manufacturer or was retrofitted in accordance with State or Federal law or regulation with a catalytic converter, particulate trap or trap oxidizer, or any other exhaust after-treatment device, inspect the exhaust system for the presence of the device and for its physical integrity. Discontinue testing of any motor vehicle which exhibits any missing exhaust after-treatment device or perforating rust, crack, hole, tear, or other such physical defect in the device. Do not resume testing unless and until the defect(s) are repaired. Determine that the HDDV is in violation of section 217-5.4 of this Subpart if corrective action to repair the HDDV is not taken.

(ix) If, at any time before or during the inspection of a HDDV, continuous blue smoke is observed in the exhaust emissions for more than three seconds, discontinue the testing and determine that the vehicle is in violation of section 217-5.4 of this Subpart.

(x) At the conclusion of the emissions inspection of a HDDV by a certified inspector, print a copy of the test report produced by the smokemeter certified in accordance with section 217-5.6(a) of this Subpart and provide the report to the vehicle owner or operator.

(4) Vehicles found in violation of this Subpart are not subject to impoundment or otherwise prevented from engaging in commerce as a result of this Subpart.

(b) *Annual NYCMA HDDV Emissions Inspections.*

(1) Certified Inspectors performing annual HDDV emissions inspections shall:

(i) only affix a valid emission certificate of inspection to a HDDV that has met the emission and inspection requirements set forth in this Subpart;

(ii) issue test result to the HDDV owner/operator for each test performed; and

(iii) only issue test result to the owner/operator for the specific vehicle that has been tested.

(2) Certified NYSDMV ODEIS and/or fleet self inspection facilities shall:

(i) be licenced/registered by the appropriate New York State agency to perform HDDV emissions testing and inspection;

(ii) conspicuously display licences required under section 217-5.5(b)(2)(i) of this Subpart;

(iii) maintain test equipment in accordance with this section, manufacturer's specification, and SAE J1667;

(iv) maintain a current copy of SAE J1667 at facility;

(v) not pass any HDDV which does not meet the requirements set forth in section 217-5.4 of this Subpart;

(vi) not test or allow to test the exhaust emission on any HDDV which has been disqualified from testing for any reason until the reason for disqualification has been corrected;

- (vii) issue test results to the HDDV owner/operator for each test performed;
- (viii) not affix or allow anyone to affix a valid certificate of inspection to a HDDV unless it has met the emission and inspection requirements set forth in this section;
- (ix) not issue or allow the issuance of test results to an owner/operator unless those results are measured from the vehicle tested; and
- (x) maintain logs in accordance with a prescribed format.

(3) For the purpose of this subdivision the NYSDEC and NYSDMV, or an authorized representative, has the right of entry to any premises owned, operated, used, leased, or rented by ODEIS and a fleet self inspection facility to test and inspect HDDVs for the purpose of inspecting and auditing facilities, records, and test equipment.

(c) *Roadside or Random HDDV Emissions Inspections.* Certified Inspectors performing roadside diesel emissions inspections shall:

- (1) be specifically authorized to perform such inspections at a public or quasi-public location designated by the New York State Commissioner of Transportation with the concurrence of NYSDEC and, where appropriate, the New York State Thruway Authority in accordance with the requirements set forth in this section;
- (2) direct the operator of the vehicles to be inspected to move the vehicle to a safe location, if appropriate;
- (3) issue the test result to the HDDV operator for each test performed; and
- (4) only issue the test result to the HDDV operator for the specific vehicle that has been tested.

§217-5.6 Test equipment specifications and test procedures

All test equipment and procedures shall, at minimum, comply with SAE J1667 test procedures unless otherwise noted herein.

(a) A smokemeter used to measure smoke opacity in the exhaust emissions of a HDDV pursuant to this Subpart shall:

- (1) be a manufacturer's model certified by NYSDEC as having satisfactorily demonstrated an acceptable ability to comply with the recommended test standard contained in SAE J1667;
- (2) at a minimum, have the ability to measure, where appropriate, and print out the following:
 - (i) the smoke opacity value for each snap idle test in sequence;
 - (ii) the final test result, in percent opacity;
 - (iii) the engine oil temperature;
 - (iv) the engine RPM at high idle for each snap;
 - (v) the inspection date, time and location;

- (vi) the name and certification number of the certified inspector;
 - (vii) the exhaust pipe diameter or engine horsepower;
 - (viii) the smoke opacity standard;
 - (ix) pass or fail of test results compared to appropriate smoke opacity standard;
 - (x) the HDDV registrant or operator name and license plate number and state of issuance;
 - (xi) the vehicle identification number (VIN); and
 - (xii) the engine model year.
- (3) The smokemeter shall be capable of:
- (i) retaining data pertaining to the previous forty (40) tests and outputting data via an RS-232 connector; and
 - (ii) multiple printouts of parameters specified in paragraph (2) of this subdivision.
- (b) The testing procedures for the snap acceleration smoke opacity test, required in accordance to this subdivision, shall be performed on HDDVs as follows:
- (1) Determine the engine horsepower from the engine identification plate or engine serial number. Refer to Table 2 of this Subpart and input the nominal stack size into the smokemeter. If the engine identification plate is missing, inaccessible or illegible, measure the outside diameter of the exhaust pipe extending from the exhaust manifold with a precision caliper or equivalent gauge, rounding to the nearest inch.
 - (2) During an annual emissions inspection only, performed at an ODEIS:
 - (i) affix the RPM sensor to the engine of the vehicle according to the instructions of the smokemeter manufacturer;
 - (ii) insert the engine oil temperature sensor into the oil dipstick tube and into the crankcase oil according to the instructions of the smokemeter manufacturer; and
 - (iii) connect the engine RPM and oil temperature sensors to the smokemeter according to the instructions of the smokemeter manufacturer.
 - (3) Affix the smokemeter according to the instructions of the manufacturer to the end of the exhaust pipe of the vehicle. For full-flow smokemeters, ensure that the final two feet and the exit of exhaust pipe is straight, with an internal diameter not to exceed five inches. Appropriate exhaust pipe adapters shall be used as necessary to comply with these specifications. Do not use full-flow smokemeters on vehicles with underbody exhaust pipes which direct the exhaust flow to the ground unless the exhaust gases are redirected away from the ground by the appropriate exhaust pipe adaptor mentioned above.
 - (4) Ensure that the vehicle is restrained to prevent the vehicle from moving during the test.
 - (5) Ensure that the smokemeter is warmed up and calibrated according to the instructions of the manufacturer. Initiate the test sequence on the

smokemeter.

- (6) Select the appropriate smoke opacity pass/fail standards, set forth at Table 1 of this Subpart, based upon the engine model year. If using a full-flow smokemeter, enter the engine horsepower and stack diameter as measured from the vehicle exhaust stack;
- (7) If using a smokemeter without horsepower input, select the appropriate stack size from Table 2 of this Subpart, based upon the engine horsepower of the vehicle.
- (8) With each prompt from the smokemeter to "accelerate engine," ensure the accelerator pedal is rapidly depressed to the floor and held there until prompted by the smokemeter to release the pedal. For those vehicles with electronic engine controls, engine diagnostic equipment should be used to allow acceleration to governed speed.
- (9) Repeat procedures described in paragraph (8) of this subdivision at least four more times. This shall include, at a minimum, two preliminary snap accelerations to remove loose soot from the exhaust system for a stabilized reading, and a minimum of three snap accelerations for the official test, the average of which shall constitute the final test result.
- (10) The pass/fail determination shall be based upon three valid smoke opacity test results averaged arithmetically and compared to the pass/fail standards appropriate for the engine model year.
- (11) Issue a printout including the items listed in paragraph (a)(2) of this section.

Table 2 Engine Horsepower Rating vs. Nominal Stack Size

<i>Manufacturer's rated horsepower</i>	<i>Nominal stack size in inches</i>
Less than 101	2
101-200	3
201-300	4
301 and over	5

(c) A smokemeter used to measure smoke opacity in the exhaust emissions of a HDDV during a roadside emissions or NYSDOT bus inspection does not need to include the following specifications:

- (1) an engine oil temperature sensor; and
- (2) an engine RPM sensor.

§217-5.7 Enforcement and penalties

(a) Enforcement of this Subpart may only be performed by authorized state or municipal law enforcement officials, and certified inspectors authorized by NYSDOT, NYSDMV, or NYSDEC to inspect and test HDDVs in accordance with this Subpart. Additionally, roadside or random HDDV emissions inspections will be performed at a public or quasi-public location designated by the New York State Commissioner of Transportation with the concurrence of NYSDEC and, where appropriate, the New York State Thruway Authority in accordance with the requirements

set forth in this section.

(b) The following penalties will apply to the owner/operator of any HDDV found in violation of any provision of section 217-5.4(a) of the Subpart:

(1) first violation: \$700.00;

(2) second and subsequent violations: \$1300.00; and

(3) the penalties will be reduced to \$150.00 for the first violation and \$500.00 for the second and subsequent violations of section 217-5.4(a) of the Subpart provided:

(i) the violation is corrected and the vehicle is retested and reinspected at a NYSDMV ODEIS no later than 30 days after the issuance of the summons or appearance ticket; and

(ii) acceptable proof of repair or adjustment is submitted to the court or administrative tribunal on or before the return date of the summons or appearance ticket in the following form:

(a) a NYSDEC / NYSDMV form entitled "Proof of HDDV Repair" certified by both the repair facility and reinspection station; and

(b) an itemized bill of repairs from the repair facility.

(c) The following penalties will apply to the owner/operator of any HDDV found in violation of any provision of section 217-5.4(b) of the Subpart:

(1) first violation: \$700.00;

(2) second and subsequent violations: \$1,300.00; and

(3) the penalties will be reduced to \$350.00 for the first violation and \$750.00 for the second and subsequent violations of section 217-5.4(b) of this Subpart provided:

(i) the vehicle deemed to be in violation bears an annual diesel emissions inspection certificate which was issued by a certified inspector within 30 days after the issuance of the summons or appearance ticket; and

(ii) proof of inspection is provided to the court or administrative tribunal on or before the return date of the summons or appearance ticket.

(d) The penalties for a first violation described in subdivisions (b) and (c) of this section shall not apply to school buses and municipally owned vehicles, provided:

(1) the violation is corrected and the vehicle is retested and reinspected at a NYSDMV ODEIS no later than 30 days after the issuance of the summons or appearance ticket; and

(2) acceptable proof of repair or adjustment is submitted to the court or administrative tribunal on or before the return date of the summons or appearance ticket in the following form:

(i) a form (NYSDEC/NYSDMV form) entitled "Proof of HDDV Repair" certified by both the repair facility and reinspection station; and

(ii) itemized bill of repairs from the repair facility.

(e) For the purpose of enforcing or administering this section the department, or an authorized representative, has the right of entry to any premises owned, operated, used, leased or rented by the ODEIS and a fleet self inspection facility to test and inspect HDDV for the purpose of inspecting and auditing facilities records, test equipment and testing procedures pursuant to Environmental Conservation Law article 71; the following penalties shall apply to any certified inspector and/or licensed/registered HDDV emissions inspection facility found in violation of the testing procedures and requirements mandated in Subpart 217-5;

(1) first violation: \$500.00; and

(2) second and subsequent violations: not less than \$1,000.00 nor more than \$3,000.00, and shall be grounds to revoke the HDDV emission inspection and testing certification and/or license/registration issued by an authorized agency of New York State.

§217-5.8 Hardship waiver

(a) If a HDDV has been repaired after failing to meet the standards set forth in Table 1 of this Subpart as required in section 217-5.3 of this Subpart and the HDDV fails to meet the standards set forth in Table 1 after retesting, a hardship waiver may be granted by NYSDEC if all of the following conditions are met:

(1) all components or elements of design including, but not limited to, all emission control apparatus and speed governing devices required to be installed on the vehicle or diesel engine in order for that engine to meet its engine emission certificate of conformance are properly installed. The cost for replacement of missing emission control apparatus or governing devices or warranty repairs does not count towards the hardship waiver cost; and

(2) repairs and adjustments have been properly made and documented and the cost equals or exceeds the value contained in Table 3 for the proper GVWR category. The waiver amounts contained in Table 3 may be adjusted by the NYSDEC to account for increases in the Consumer Price Index (CPI).

Table 3 Minimum Hardship Waiver Repair Costs By GVWR of HDDV

<i>Gross vehicle weight rating (GVWR in Lbs)</i>	<i>Minimum repair cost for hardship waiver</i>
8,501 to 18,000	\$1,000
18,001 to 26,000	\$2,000
Over 26,000	\$4,000

(b) The commissioner or a commissioner's representative reserves the right to inspect a vehicle and proof of repair before or after the waiver is issued to verify that the repairs have been made and associated repair costs have been documented.

APPENDIX F

USDOT/FHWA Section IV

**“Gravel Roads Maintenance and Design Manual,
SDTAP November 2010 “Dust Control and
Stabilization”**

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Section IV: Dust Control and Stabilization

All gravel roads will give off dust under traffic. After all, they are unpaved roads that typically serve a low volume of traffic, and dust is usually an inherent problem. The amount of dust that a gravel road produces varies greatly. In areas of the country that receive a high amount of moisture, the problem is greatly reduced. Arid or semi-arid regions such as the desert southwest and much of the great plains region in the USA are prone to long periods of dry weather. Similar regions around the globe can have similar weather patterns. Dust can really bring complaints in these areas if there are

residences located near the road and traffic is high.

The quality and type of gravel also has some effect on the amount of dust. Some limestone gravels can dust severely while some glacial deposits of gravel with a portion of highly plastic clay can take on a strong binding characteristic that will resist dusting remarkably well. Still, in prolonged dry weather, there will be dust! Whether to provide some type of dust control or not can be a hard decision to make. Virtually all methods of dust control require annual treatment.

The cost can be prohibitive if traffic volume is low. On the other hand, if traffic is high, the cost of dust control can more than pay for itself with the benefits of reduced material loss and reduced need for blade maintenance. (28) At this point, many agencies will face pressure to pave the road. It may actually be a good economic decision in the long run, especially if there is good indication that traffic will continue to increase in the future. However, never pave a road before it is ready! There is good information on making this decision in Appendix D.

Types of Stabilizers

Chlorides

These are the most commonly used products across the country. They fall into three categories: Calcium Chloride in flake or liquid form, Magnesium Chloride generally in liquid form, and Sodium Chloride (road salt). Sodium is seldom used and is the least effective. Calcium and Magnesium Chloride can be very effective if used properly. They

are hygroscopic products which, in simplest terms, means they draw moisture from the air and keep the road surface constantly damp. They are reasonably simple to use.

Resins

These are products available under various commercial names. The basic composition is lignin sulfonate which is a

by-product of the pulp milling industry. The product is sometimes called "tree sap" in the field. These products work best when incorporated into the surface gravel. They then provide cohesion to bind the soil particles together.

Natural Clays

Some regions of the country have excellent deposits of natural clay that

are highly plastic and provide strong cohesion when added in the right quantity to gravel. However, in prolonged dry weather, these roads will seldom be completely dust free. It can be difficult as well to haul the clay onto the road and mix it into the gravel. Because it is highly plastic, it tends to stick to the truck boxes and requires quite an effort to mix with the gravel.

Asphalts

The use of cut-back liquid asphalts to surface-treat gravel roads was once popular for dust control. However, because of the great amount of fuel oil

or kerosene in these products, they have been banned in many places. Some emulsified asphalts may work for this purpose, but their use is very limited. The product must be applied with special asphalt application equipment.

Soybean Oil

This product is known technically as Acidulated Soybean Oil Soapstock. It is a by-product of the caustic refining process of soybean oil. It is a biodegradable material that has many of the characteristics of a light petroleum-based oil. It will penetrate a gravel surface and provide a light bonding

of the gravel that effectively reduces dust when it is used properly.

Other Commercial Binders

There are too many of these to mention individually. They are marketed under various trade names across the country. It is always wise to try a test section of no more than 1000 feet in length to see how any of these products work with your gravel. One caution: do not use waste products such as crankcase drain oil from engines. This is harmful to the environment and is in violation of EPA rules.

Benefits of Stabilization

Once a road is stabilized there are several benefits. On high volume roads, these benefits can make stabilization very cost effective.

Reduced Dusting

It may be hard to justify the use of any of these products for dust control alone. However, when the products are working well, the added benefit of a stabilized surface that controls the loss of fines through dusting is a great economic benefit. When the fines are lost from a gravel surface, the stone and sand-sized particles that remain will tend to remain loose on the surface, leading to some distresses like washboarding and reduced skid resistance. It will become very hard to maintain. Fresh gravel with a higher percentage of fines needs to be hauled in. This becomes very expensive.

Reduced "Whip Off" of Aggregate

This is another economic bonus to dust control when it is working well. As mentioned earlier, when dust control

products are working well, the fine material in the gravel cannot loosen and dust away. This also means that the stone portion of the gravel will tend to remain embedded in the surface and will not be lost to the edge of the road or even whipped off onto the inslope from heavy traffic. Studies have shown that as much as one ton of aggregate per mile is lost each year for each vehicle that passes over a road daily. This means that a road carrying 200 vehicles per day will experience the loss of 200 tons of aggregate per mile each year. (7) Obviously this will vary with the amount of rainfall received, the quality of the gravel and other factors. Retaining aggregate is a good added benefit to dust control.

Reduced Blade Maintenance

A road surface that remains tightly bound and stable will require much less blade maintenance. The manufacturers of some dust control products highly recommend that the surface should not be bladed at all after their products

are applied. While extra blading, shaping and mixing is needed to prepare a road for dust control, the overall need for blade maintenance should be greatly reduced. This can be a great savings in equipment expense and labor. A county highway official once commented: "I don't react to dust complaints. All gravel roads have dust. But I do react to high maintenance costs. When we have to regrade a road frequently and do blade maintenance frequently, then it's time to look at stabilizing the surface with Magnesium Chloride. Reduced maintenance is what we're after. Dust control is just a bonus!"

Application Tips

There is not enough space to cover application tips for all products. Since the Chlorides are the most commonly used products, we will address the use of those. However, some or all of these tips would apply to the use of most other products as well.

Need for Good Surface Gravel

Keep in mind the Chlorides are not binders. They simply draw moisture from the air. The gravel itself must have a good gradation — particularly a good percentage of fine material with some plasticity. This will give the gravel a natural binding characteristic. The Chlorides then will take over and keep the surface damp and it will remain tightly bound. It will not give up its fines in the form of dust. This point cannot be emphasized enough. If good gravel is not present on the road, it will be wise to haul in good fresh gravel prior to treatment. The cost of the Chloride treatment has been virtually wasted on some roads when the gravel was poor and very short-lived dust control resulted.

Road Preparation

This is another critical point in preparing for dust control treatment. Make sure the road has a good crown in the driving surface. Also, make sure there is good shoulder drainage. Standing water anywhere in the roadway will cause the surface to soften and fail. It will leave a pothole in an otherwise good, stabilized roadway. These can be hard to correct afterwards without disturbing the stabilized surface around it. Another key to preparation is to loosen a minimum of one to two inches of the existing surface and leave it loose at a uniform depth across



The carbide-tipped bits on a cutting edge can be a valuable tool in preparing a road for Chloride treatment. They penetrate the road and give a shallow scarifying effect to loosen and mix the existing gravel. This leaves a nice uniform loose layer of material on the surface.



the roadway. This allows the Chloride to penetrate evenly and quickly into the gravel.

Do not compact the surface at all prior to applying chlorides.

This road has been prepared well for a liquid Magnesium Chloride treatment. Notice the uniform, loose and nicely crowned surface looking over the hilltop. There is also good shoulder drainage as well. This is an excellent example of road preparation.

Applying the Product

The most important need here is for equipment that can be calibrated accurately and that will apply either the liquid or flakes evenly across the surface. Then a good application rate needs to be selected. This will vary with the type of gravel being treated and the length of time dust control is needed. Check with vendors and experts in your area to see what recommended rates are. Next, watch the weather! If rain is forecast or appears to be likely, don't take a chance. Rain on a freshly treated surface will leach out and dilute the Chloride and cause it to run off the road. It can temporarily harm grass on adjacent areas. But the bigger problem will be very poor performance afterwards. Also, it is ideal to keep traffic off of the road for up to two hours after application. This is not always possible, but it is very helpful. It is recommended that one side of the road be treated at a time. Rolling can be helpful, but is not essential. If rollers are used, pneumatic ones are best, and watch to see that the gravel does not start picking up from the surface. If that happens, wait until the surface cures a bit before finishing rolling.



Example of a good piece of application equipment. This truck has a pressurized spray bar with a computerized application system that meters the liquid Chloride with extreme accuracy.



This photo shows part of the spray bar with spraying nozzles.



A very effective, yet simple method of applying flake Chloride accurately with an old farm fertilizer spreader. These machines can be calibrated with great accuracy. Quick cleanup afterward is important since Chloride is corrosive to equipment. Once it is bound in the gravel, corrosive effect on vehicles is very low.

Optimum Moisture

It is important to have the gravel close to optimum moisture just before applying Chlorides. This will cause the product to be absorbed much more quickly and evenly into the gravel. Never apply the Chloride to dry gravel. It will not be evenly absorbed and may show failure in spots.

Test Sections

It is always wise to try a test section of dust control/stabilization treatment if this type of work has not been done before. If there is uncertainty about the suitability of the gravel being used or if there is doubt about the equipment, and/or other products being applied, the process can be tried on a 500-1000 foot road test section. If the process fails at the test section level, then only a small investment and time are lost. Also you have less public complaint.

The outcome from the failed test section will present an opportunity to analyze what may have gone wrong. Another test section can then be tried with a modified process and/or materials. If field performance proves satisfactory, the process can then be applied to larger jobs.



A water truck being used to prewet some very dry gravel just prior to treatment. This dramatically improves the success of the treatment.



APPENDIX G

Sample Material Safety Data Sheets

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1. Chemical Product and Company Identification

Product name	CASTROL® BRAYCO MICRONIC SV/200
MSDS#	0000001127
Historic MSDS#:	None.
Manufacturer	Castrol Offshore Wakefield House Pipers Way Swindon SN3 1RE United Kingdom
Supplier	Castrol Offshore Wakefield House Pipers Way Swindon SN3 1RE United Kingdom
EMERGENCY HEALTH INFORMATION:	1 (800) 447-8735
EMERGENCY SPILL INFORMATION:	1 (800) 424-9300 CHEMTREC (USA)
OTHER PRODUCT INFORMATION	1 (866) 427-6737 (Toll Free - North America)

2. Composition / information on ingredients

Ingredient Name	CAS #	% by Weight	Exposure Limits
Poly-alpha-olefin	68649-11-6	60-100	ACGIH (United States). TWA: 5 mg/m ³ Form: OIL MIST, MINERAL STEL: 10 mg/m ³ Form: OIL MIST, MINERAL OSHA (United States). PEL: 5 mg/m ³ Period: 8 hour(s). Form: OIL MIST, MINERAL
BENZENAMINE, N-PHENYL-, REACTION PRODUCTS WITH 2,4,4-TRIMETHYLPENTENE	68411-46-1	0.1-1	None assigned.

3. Hazards identification

Physical state Liquid.

Color Yellow.

Emergency Overview

This product has been evaluated and does not require any hazard warning on the label under established regulatory criteria.

Prolonged or repeated contact can defat the skin and lead to irritation and/or dermatitis.

Routes of Entry

Skin contact. Eye contact. Inhalation. Ingestion.

POTENTIAL HEALTH EFFECTS

Eyes No significant health hazards identified.

Skin Prolonged or repeated contact can defat the skin and lead to irritation and/or dermatitis. High pressure skin injections are serious medical emergencies. Injury will not appear serious at first; within a few hours, tissue will become swollen, discolored and extremely painful.

Inhalation No significant health hazards identified.

Ingestion No significant health hazards identified.

Product Name CASTROL® BRAYCO MICRONIC SV/200	MSDS# 0000001127	Page: 1/5
Version 1	Date of issue 08/30/2002.	Format US-FULL
		Language (ENGLISH)

Medical Conditions Aggravated by Overexposure: None identified.

See Toxicological Information (section 11)

4. First-aid measures

Eye Contact	In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Get medical attention if irritation occurs.
Skin Contact	Immediately wash exposed skin with soap and water. Remove contaminated clothing and shoes. Wash clothing before reuse. Thoroughly clean shoes before reuse. Get medical attention immediately. Accidental high pressure injection through the skin requires immediate medical attention.
Inhalation	If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical attention if symptoms appear.
Ingestion	Do NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. If large quantities of this material are swallowed, call a physician immediately.

5. Fire-fighting measures

Flammability of the Product	May be combustible at high temperature.
Autoignition temperature	>250 °C
Flash point	>140 °C (CLOSED CUP)
Products of Combustion	carbon oxides (CO, CO ₂)
Unusual fire/explosion hazards	None identified. This material is not explosive as defined by established regulatory criteria.
Fire Fighting Media and Instructions	SMALL FIRE: Use DRY chemical powder. LARGE FIRE: Use water spray, fog or foam. Do not use water jet.
Protective Clothing (Fire)	Firefighters should wear full bunker gear, including a positive pressure self-contained breathing apparatus.

6. Accidental release measures

Personal Precautions	Immediately contact emergency personnel. Keep unnecessary personnel away. Use suitable protective equipment (Section 8). Follow all fire fighting procedures (Section 5).
Environmental Precautions and Clean-up Methods	If emergency personnel are unavailable, contain spilled material. For small spills add absorbent (soil may be used in the absence of other suitable materials) scoop up material and place in a sealed, liquid-proof container for disposal. For large spills dike spilled material or otherwise contain material to ensure runoff does not reach a waterway. Place spilled material in an appropriate container for disposal. Minimize contact of spilled material with soils to prevent runoff to surface waterways. See Section 13 for Waste Disposal Information.
Personal Protection in Case of a Large Spill	Splash goggles. Full suit. Boots. Gloves. Suggested protective clothing might not be sufficient; consult a specialist BEFORE handling this product.

7. Handling and storage

Handling	Avoid breathing vapors or spray mists.
Storage	Keep container tightly closed. Keep container in a cool, well-ventilated area.

8. Exposure controls/personal protection

Occupational Exposure Limits

Poly-alpha-olefin

ACGIH (United States).

TWA: 5 mg/m³ Form: OIL MIST, MINERAL

STEL: 10 mg/m³ Form: OIL MIST, MINERAL

OSHA (United States).

PEL: 5 mg/m³ Period: 8 hour(s). Form: OIL MIST, MINERAL

Control Measures

Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapors below their respective occupational exposure limits. Ensure that eyewash stations and safety showers are proximal to the work-station location.

Hygiene measures	Wash hands after handling compounds and before eating, smoking, using lavatory, and at the end of day.
Personal Protection	
Eyes	Safety glasses with side shields.
Skin and Body	None required; however, use of protective clothing is good industrial practice.
Respiratory	None required; however, use of adequate ventilation is good industrial practice.
Hands	None required; however, use of gloves is good industrial practice.

Consult local authorities for acceptable exposure limits.

9. Physical and chemical properties

Physical state	Liquid.
Odor	Mild
Color	Yellow.
Boiling Point / range	>200 °C
Density	0.82 g/cm ³ at 20 °C
Vapor Pressure	The highest known value is <0.1 kPa (<1 mmHg) (at 40°C) (Poly-alpha-olefin)
Solubility	Insoluble in cold water.
Viscosity	kinematic at 40°C: 11 cSt

10. Stability and reactivity

Stability and Reactivity	The product is stable.
Conditions to avoid	Not available.
Incompatibility with Various Substances	Reactive with oxidizing agents.
Hazardous Decomposition Products	Not available.
Hazardous Polymerization	Will not occur.

11. Toxicological information

Acute toxicity	<p>Unlikely to cause more than transient stinging or redness if accidental eye contact occurs.</p> <p>At normal ambient temperatures this product will be unlikely to present an inhalation hazard because of its low volatility. May be harmful by inhalation if exposure to vapor, mists or fumes resulting from thermal decomposition products occurs.</p> <p>Unlikely to cause harm if accidentally swallowed in small doses, though larger quantities may cause nausea and diarrhea.</p>
Chronic toxicity	
Carcinogenic Effects	No component of this product at levels greater than 0.1% is identified as a carcinogen by ACGIH or the International Agency for Research on Cancer (IARC). No component of this product present at levels greater than 0.1% is identified as a carcinogen by the U.S. National Toxicology Program (NTP) or the U.S. Occupational Safety and Health Act (OSHA).

12. Ecological information

Ecotoxicity	Unlikely to be harmful to aquatic organisms.
Persistence/degradability	This product is inherently biodegradable.
Mobility	Spillages may penetrate the soil causing ground water contamination.
Bioaccumulative potential	This product is not expected to bioaccumulate through food chains in the environment.
Other Ecological Information	Spills may form a film on water surfaces causing physical damage to organisms. Oxygen transfer could also be impaired.

13. Disposal considerations

Waste Information	Waste must be disposed of in accordance with federal, state and local environmental control regulations.
Consult your local or regional authorities.	

14. Transport information

International transport regulations

Regulatory Information	UN number	Proper shipping name	Class	Packing Group	Label	Additional information
DOT Classification	Not regulated.	Not regulated.				-
TDG Classification	Not regulated.	Not regulated.				-
IMDG Classification	Not regulated.	Not regulated.				-
IATA Classification	Not regulated.	Not regulated.				-

15. Regulatory information

U.S. Federal Regulations

US INVENTORY (TSCA):
In compliance.

SARA Title III Section 302 Extremely Hazardous Substances (40 CFR Part 355): This product is not regulated under Section 302 of SARA and 40 CFR Part 355.

SARA Title III Sections 311/312 Hazardous Categorization (40 CFR Part 370): Defined as non-hazardous by OSHA under 29 CFR 1910.1200(d).

SARA 313 toxic chemical notification and release reporting: No products were found.

CERCLA Sections 102a/103 Hazardous Substances (40 CFR Part 302.4): This material is not regulated under CERCLA Sections 103 and 107.

State Regulations

No products were found.

California prop. 65: No products were found.

Inventories

AUSTRALIAN INVENTORY (AICS): Not listed.

CANADA INVENTORY (DSL): Not listed.

CHINA INVENTORY (IECS): Not listed.

EC INVENTORY (EINECS): In compliance.

JAPAN INVENTORY (ENCS): Not determined.

KOREA INVENTORY (ECL): In compliance.

PHILIPPINE INVENTORY (PICCS): Not listed.

Product Name CASTROL® BRAYCO MICRONIC SV/200	MSDS# 0000001127	Page: 4/5
Version 1	Date of issue 08/30/2002.	Format US-FULL
		Language (ENGLISH)

16. Other information

Label Requirements

This product has been evaluated and does not require any hazard warning on the label under established regulatory criteria.

Hazardous Material Information System (U.S.A.)

Health	1
Fire Hazard	1
Physical Hazard	0
Personal Protection	A

National Fire Protection Association (U.S.A.)



HISTORY

Date of issue	08/30/2002.
Date of Previous Issue	No Previous Validation.
Prepared by	Product Stewardship

Notice to Reader

NOTICE : This Material Safety Data Sheet is based upon data considered to be accurate at the time of its preparation. Despite our efforts, it may not be up to date or applicable to the circumstances of any particular case. We are not responsible for any damage or injury resulting from abnormal use, from any failure to follow appropriate practices or from hazards inherent in the nature of the product.

MSDS SUMMARY SHEET

Manufacturer:

Name: PHILLIPS PETROLEUM COMPANY

Address 1:

Address 2:

Address 3:

CSZ: BARTLESVILLE **State:** OK **Zipcode:** 74004

Emergency phone: (800) 424-9300

Business phone: 800-762-0942

Product:

Ferndale MSDS#: 1354 **Version # :** 6

Manufacturer MSDS#: 0041

Current? : 2002

Name:

NO. 2 DIESEL FUEL

Synonyms:

CARB Diesel TF3

CARB Diesel

CARB Diesel 10%

Diesel Fuel Oil

EPA Low Sulfur Diesel Fuel

EPA Low Sulfur Diesel Fuel – Dyed

EPA Off Road High Sulfur Diesel – Dyed

Fuel Oil No. 2 – CAS # 68476-30-2

No. 2 Diesel Fuel Oil

No. 2 Fuel Oil – Non Hiway – Dyed

No. 2 High Sulfur Diesel – Dyed

No. 2 Low Sulfur Diesel - Dyed

No. 2 Low Sulfur Diesel - Undyed

Crude column 3rd IR

Crude column 3rd side cut

Atmospheric tower 3rd side cut

Ultra Low Sulfur Diesel No. 2

Finished Diesel

DHT Reactor Feed

Straight Run Diesel

Diesel

Middle Distillate

Product/Catalog Numbers:

MSDS Date: 01/01/2002 (**received:** 01/14/2002)

NFPA codes:

Health: 0 **Flammability:** 2 **Reactivity:** 0

**MATERIAL SAFETY DATA SHEET
No. 2 Diesel Fuel**

1. PRODUCT AND COMPANY IDENTIFICATION

Product Name: No. 2 Diesel Fuel
Product Code: Multiple
SAP Code:
Synonyms: 1354
CARB Diesel TF3
CARB Diesel
CARB Diesel 10%
Diesel Fuel Oil
EPA Low Sulfur Diesel Fuel
EPA Low Sulfur Diesel Fuel – Dyed
EPA Off Road High Sulfur Diesel – Dyed
Fuel Oil No. 2 – CAS # 68476-30-2
No. 2 Diesel Fuel Oil
No. 2 Fuel Oil – Non Hiway – Dyed
No. 2 High Sulfur Diesel – Dyed
No. 2 Low Sulfur Diesel - Dyed
No. 2 Low Sulfur Diesel – Undyed
No. 2 Ultra Low Sulfur Diesel – Dyed
No. 2 Ultra Low Sulfur Diesel - Undyed
Intended Use:
Chemical Family:
Responsible Party: Phillip’s Petroleum Company
Bartlesville, Oklahoma 74004

For Additional MSDSs: 800-762-0942

Technical Information:

The intended use of this product is indicated above. If any additional use is known, please contact us at the Technical Information number listed.

EMERGENCY OVERVIEW

24 Hour Emergency Telephone Numbers:

Spill, Leak, Fire or Accident California Poison Control System: 800-356-3120
Call CHEMTREC
North America: (800) 424-9300
Others: (703) 527-3887 (collect)

Health Hazards/Precautionary Measures: Causes severe skin irritation. Aspiration hazard if swallowed. Can enter lungs and cause damage. Use with adequate ventilation. Avoid contact with eyes, skin and clothing. Do not taste or swallow. Wash thoroughly after handling.

Physical Hazards/Precautionary Measures: Flammable liquid and vapor. Keep away from heat, sparks, flames, static electricity or other sources of ignition.

Appearance: Straw-colored to dyed red
Physical Form: Liquid
Odor: Characteristic petroleum

HFPA Hazard Class:

Health: 0 (Least)
 Flammability: 2 (Moderate)
 Reactivity: 0 (Least)

HMIS Hazard Class

Not Evaluated

2. COMPOSITION/INFORMATION ON INGREDIENTS

<u>HAZARDOUS COMPONENTS</u>	<u>% VOLUME</u>	<u>Limits</u>	<u>EXPOSURE GUIDELINE</u>	
			<u>Agency</u>	<u>Type</u>
Diesel Fuel No. 2 CAS# 68476-34-6	100	100* mg/m3	ACGIH	TWA-SKIN
Naphthalene CAS# 91-20-3	<1	10ppm	ACGIH	TWA
		15ppm	ACGIH	STEL
		10ppm	OSHA	TWA
		250ppm	NIOSH	IDLH

All components are listed on the TSCA inventory

Tosco Low Sulfur No. 2 Diesel meets the specifications of 40 CFR 60.41 for low sulfur diesel fuel.

Note: State, local or other agencies or advisory groups may have established more stringent limits. Consult an industrial hygienist or similar professional, or your local agencies, for further information.

*Proposed ACGIH (1999)

3. HAZARDS IDENTIFICATION

Potential Health Effects:

Eye: Contact may cause mild eye irritation including stinging, watering, and redness.

Skin: Severe skin irritant. Contact may cause redness, itching, burning, and severe skin damage. Prolonged or repeated contact can worsen irritation by causing drying and cracking of the skin, leading to dermatitis (inflammation). Not actually toxic by skin absorption, but prolonged or repeated skin contact may be harmful (see Section 11).

Inhalation (Breathing): No information available. Studies by other exposure routes suggest a low degree of toxicity by inhalation.

Ingestion (Swallowing): Low degree of toxicity by ingestion. ASPIRATION HAZARD – This material can enter lungs during swallowing or vomiting and cause lung inflammation and damage.

Signs and Symptoms: Effects of overexposure may include irritation of the nose and throat, irritation of the digestive tract, nausea, diarrhea and transient excitation followed by signs of nervous system depression (e.g., headache, drowsiness, dizziness, loss of coordination, disorientation and fatigue).

Cancer: Possible skin cancer hazard (see Sections 11 and 14).

Target Organs: There is limited evidence from animal studies that overexposure may cause injury to the kidney (see Section 11).

Developmental: Inadequate data available for this material.

Pre-Existing Medical Conditions: Conditions aggravated by exposure may include skin disorders and kidney disorders.

4. FIRST AID MEASURES

Eye: If irritation or redness develops, move victim away from exposure and into fresh air. Flush eyes with clean water. If symptoms persist, seek medical attention.

Skin: Immediately remove contaminated shoes, clothing, and constrictive jewelry and flush affected area(s) with large amounts of water. If skin surface is damaged, apply a clean dressing and seek immediate medical attention. If skin surface is not damaged, cleanse affected area(s) thoroughly by washing with mild soap and water. If irritation or redness develops, seek immediate medical attention.

Inhalation (Breathing): If respiratory symptoms develop, move victim away from source of exposure and into fresh air. If symptoms persist, seek medical attention. If victim is not breathing, clear airway and immediately begin artificial respiration. If breathing difficulties develop, oxygen should be administered by qualified personnel. Seek immediate medical attention.

Ingestion (Swallowing): Aspiration hazard; Do not induce vomiting or give anything by mouth because this material can enter the lungs and cause severe lung damage. If victim is drowsy or unconscious and vomiting, place on the left side with the head down. If possible, do not leave victim unattended and observe closely for adequacy of breathing. Seek medical attention.

5. FIRE FIGHTING MEASURES

Flammable Properties:

Flash Point: >125°F/>52°

OSHA Flammability Class: Combustible liquid

LEL %: 0.3 / UEL %; 10.0

Autoignition Temperature: 500°F/260°C

Unusual Fire & Explosion Hazards: This material is flammable and can be ignited by heat, sparks, flames, or other sources of ignition (e.g., static electricity, pilot lights, or mechanical/electrical equipment, and electronic devices such as cell phones, computers, calculators, and pagers which have not been certified as intrinsically safe). Vapors may travel considerable distances to a source of ignition where they can ignite, flash back, or explode. May create vapor/air explosion hazard indoors, in confined spaces, outdoors, or in sewers. Vapors are heavier than air and can accumulate in low areas. If container is not properly cooled, it can rupture in the heat of a fire.

Extinguishing Media: Dry chemical, carbon dioxide, or foam is recommended. Water spray is recommended to cool or protect exposed materials or structures. Carbon dioxide can displace oxygen. Use caution when applying carbon dioxide in confined spaces. Water may be ineffective for extinguishment, unless used under favorable conditions by experienced fire fighters.

Fire Fighting Instructions: For fires beyond the incipient stage, emergency responders in the immediate hazard area should wear bunker gear. When the potential chemical hazard is unknown, in enclosed or confined spaces, or when explicitly required by DOT, a self contained breathing apparatus should be worn. In addition, wear other appropriate protective equipment as conditions warrant (see Section 8).

Isolate immediate hazard area, keep unauthorized personnel out. Stop spill/release if it can be done with minimal risk. Move undamaged containers from immediate hazard area if it can be done with minimal risk.

Water spray may be useful in minimizing or dispersing vapors and to protect personnel. Cool equipment exposed to fire with water, if it can be done with minimal risk. Avoid spreading burning liquid with water used for cooling purposes.

6. ACCIDENTAL RELEASE MEASURES

Flammable. Keep all sources of ignition and hot metal surfaces away from spill/release. The use of explosion-proof equipment is recommended.

Stay upwind and away from spill/release. Notify persons down wind of the spill/release, isolate immediate hazard area and keep unauthorized personnel out. Stop spill/release if it can be done with minimal risk. Wear appropriate protective equipment including respiratory protection as conditions warrant (see Section 8).

Prevent spilled material from entering sewers, storm drains, other unauthorized drainage systems, and natural waterways. Dike far ahead of spill for later recovery or disposal. Use foam on spills to minimize vapors (see Section 5). Spilled material may be absorbed into an appropriate material.

Notify fire authorities and appropriate federal, state, and local agencies. Immediate cleanup of any spill is recommended. If spill of any amount is made into or upon navigable waters, the contiguous zone, or adjoining shorelines, notify the National Response Center (phone number 800-424-8802).

7. HANDLING AND STORAGE

Handling: Open container slowly to relieve any pressure. Bond and ground all equipment when transferring from one vessel to another. Can accumulate static charge by flow or agitation. Can be ignited by static discharged. The use of explosion-proof equipment is recommended and may be required (see appropriate fire codes). Refer to NFPA-704 and/or API RP 2003 for specific bonding/grounding requirements.

Do not enter confined spaces such as tanks or pits without following proper entry procedures such as ASTM D-4276 and 29CFR 1910.146. The use of appropriate respiratory protection is advised when concentrations exceed any established exposure limits (see Sections 2 and 8).

Do not wear contaminated clothing or shoes. Keep contaminated clothing away from sources of ignition such as sparks or open flames. Use good personal hygiene practices.

High pressure injection of hydrocarbon fuels, hydraulic oils or greases under the skin may have serious consequences even though no symptoms or injury may be apparent. This can happen accidentally when using high pressure equipment such as high pressure grease guns, fuel injection apparatus or from pinhole leaks in tubing or high pressure hydraulic oil equipment.

“Empty” containers retain residue and may be dangerous. Do not pressurize, cut, weld, braze, solder, drill, grind, or expose such containers to heat, flame, sparks, or other sources of ignition. They may explode and cause injury or death. “Empty” drums should be completely drained, properly bunged, and promptly shipped to the supplier or a drum reconditioner. All containers should be disposed of in an environmentally safe manner and in accordance with governmental regulations.

Before working on or in tanks which contain or have contained this material, refer to OSHA regulations, ANSIZ49.1 and other references pertaining to cleaning, repairing, welding, or other contemplated operations.

Storage: Keep container(s) tightly closed. Use and store this material in cool, dry, well-ventilated areas away from heat, direct sunlight, hot metal surfaces, and all sources of ignition. Post area “No Smoking or Open Flame.” Store only in approved containers. Keep away from incompatible material (see Section 10). Protect container(s) against physical damage. Outdoor or detached storage is preferred. Indoor storage should meet OSHA standards and appropriate fire codes.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Engineering controls: If current ventilation practices are not adequate to maintain airborne concentration below the established exposure limits (see Section 2), additional ventilation or exhaust systems may be required. Where explosive mixtures may be present, electrical systems safe for such locations must be used (see appropriate electrical codes).

Personal Protective Equipment (PPE):

Respiratory: A NIOSH certified air purifying respirator with an organic vapor cartridge may be used under conditions where airborne concentrations are expected to exceed exposure limits (see Section 2).

Protection provided by air purifying respirators is limited (see manufacturer's respirator selection guide). Use a positive pressure air supplied respirator if there is a potential for an uncontrolled release, exposure levels are not known, or any other circumstances where air purifying respirators may not provide adequate protection.

A respiratory protection program that meets OSHA's 29 CFR 1910.134 and ANSI Z88.2 requirements must be followed whenever workplace conditions warrants a respirator's use.

Skin: The use of gloves impervious to the specific material handled is advised to prevent skin contact, possible irritation and skin damage (see glove manufacturer literature for information on permeability). Depending on conditions of use, apron and/or arm covers may be necessary.

Eyes/Face: Approved eye protection to safeguard against potential eye contact, irritation, or injury is recommended. Depending on conditions of use, a face shield may be necessary.

Other Protective Equipment: Eye wash and quick-drench shower facilities should be available in the work area. Thoroughly clean shoes and wash contaminated clothing before reuse. It is recommended that impervious clothing be worn when skin contact is possible.

9. PHYSICAL AND CHEMICAL PROPERTIES

Note: Unless otherwise stated, values are determined at 20°C (68°F) and 760 mm Hg (1atm).

Appearance: Straw-colored to dyed red

Physical State: Liquid

Odor: Characteristic petroleum

pH: unavailable

Vapor Pressure (mm Hg): 0.40

Vapor Density (air=1): >3

Boiling Point/Range: 320-700°F /160-371°C

Freezing/Melting Point: No Data

Solubility in Water: Negligible

Specific Gravity: 0.81-0.88 @ 60°F

Percent Volatile: Negligible

Evaporation Rate (nBuAc=1): <1

Viscosity: 32.6-40.0 SUS @ 100°F

Bulk Density: 7.08 lbs/gal

Flash Point: >125°F / >52°C

Flammable/Explosive Limits (%): LEL: 0.3 / UEL: 10.0

10. STABILITY AND REACTIVITY

Stability: Stable under normal ambient and anticipated storage and handling conditions of temperature and pressure. Flammable liquid and vapor. Vapor can cause flash fire.

Conditions To Avoid: Avoid all possible sources of ignition (see Sections 5 and 7).

Materials to Avoid (Incompatible Materials): Avoid contact with strong oxidants such as liquid chlorine, concentrated oxygen, sodium hypochlorite, calcium hypochlorite, etc.

Hazardous Decomposition Products: The use of hydrocarbon fuels in an area without adequate ventilation may result in hazardous levels of combustion products (e.g., oxides of carbon, sulfur and nitrogen, benzene and other hydrocarbons) and/or dangerously low oxygen levels. ACGIH has included a TLV of 0.05 mg/m³ TWA for diesel exhaust particulate on its 1999 Notice of Intended Changes. See Section 11 for additional information on hazards of engine exhaust.

Hazardous Polymerization: Will not occur.

11. TOXICOLOGICAL INFORMATION

Diesel Fuel No. 2 (CAS# 68476-34-6)

Carcinogenicity: Chronic dermal application of certain middle distillate streams contained in diesel fuel No. 2 resulted in an increased incidence of skin tumors in mice. This material has not been identified as carcinogen by NTP, IARC, or OSHA. Diesel exhaust is a probable cancer hazard based on tests with laboratory animals.

Target Organ(s): Limited evidence of renal impairment has been noted from a few case reports involving excessive exposure to diesel fuel No. 2.

Naphthalene (CAS# 91-20-3)

Carcinogenicity: Naphthalene has been evaluated in two year inhalation studies in both rats and mice. The National Toxicology Program (NTP) concluded that there is clear evidence of carcinogenicity in male and female rats based on increased incidences of respiratory epithelial adenomas and olfactory epithelial neuroblastomas of the nose. NTP found some evidence of carcinogenicity in female mice (alveolar adenomas) and no evidence of carcinogenicity in male mice. Naphthalene has not been identified as a carcinogen by IARC or OSHA.

12. ECOLOGICAL INFORMATION

Not evaluated at this time

13. DISPOSAL CONSIDERATIONS

This material, if discarded as produced, would be a RCRA “characteristic” hazardous waste due to the characteristic(s) of ignitability (D001) and benzene (D018). If the material is spilled to soil or water, characteristic testing of the contaminated materials is recommended. Further, this material, once it becomes a waste, is subject to the land disposal restrictions in 40 CFR 268.40 and may require treatment prior to disposal to meet specific standards. Consult state and local regulations to determine whether they are more stringent than the federal requirements.

Container contents should be completely used and containers should be emptied prior to discard. Container ?insate? could be considered a RCRA hazardous waste and must be disposed of with care and in compliance with federal, state and local regulations. Large empty containers, such as drums, should be returned to the distributor or to a drum reconditioner. To assure proper disposal of smaller containers, consult with state and local regulations and disposal authorities.

14. TRANSPORT INFORMATION

DOT Shipping Description: Diesel Fuel, NA1983
Non-Bulk Package Marking: Diesel Fuel, 3, NA 1993, III

15. REGULATORY INFORMATION

EPA SARA 311/312 (Title III Hazard Categories):

Acute Health: Yes
 Chronic Health: Yes
 Fire Hazard: Yes
 Pressure Hazard: No
 Reactive Hazard: No

SARA 313 and 40 CFR 372:

This material contains the following chemicals subject to the reporting requirements of SARA 313 and 40 CFR 372:

Component	CAS Number	Weight %
-- None known --		

California Proposition 65:

Warning: This material contains the following chemicals which are known to the state of California to cause cancer, birth defects or other reproductive harm, and are subject to the requirements of California Proposition 65 (CA Health & Safety Code Section 25249.5):

Component	Effect
Benzene	Cancer, Developmental and Reproductive Toxicant
Toluene	Developmental Toxicant

Diesel engine exhaust, while not a component of this material, is on the Proposition 65 list of chemicals known to the State of California to cause cancer.

Carcinogen Identification:

This material has not been identified as a carcinogen by NTP, IARC, or OSHA. See Section 11 for carcinogenicity information of individual components, if any. Diesel exhaust is a probable cancer hazard based on tests in laboratory animals. It has been identified as carcinogen by IARC.

EPA (CERCLA Reportable Quantity): None

16. OTHER INFORMATION

Issue Date: 01/01/02
Previous Issue Date: 05/15/01
Product Code: Multiple
Revised Sections: None
Previous Product Code: Multiple
MSDS Number: 0041

Disclaimer of Expressed and Implied Warranties:

The information presented in this Material Data Safety Sheet is based on data believed to be accurate as of the date this Material Data Sheet was prepared. HOWEVER, NO WARRANTY OF MERCHANTABILITY, FITNESS FOR ANY PARTICULAR PURPOSE, OR ANY OTHER WARRANTY IS EXPRESSED OR IS TO BE IMPLIED REGARDING THE ACCURACY OR COMPLETENESS OF THE INFORMATION PROVIDED ABOVE, THE RESULTS TO BE OBTAINED FROM THE USE OF THIS INFORMATION OR THE PRODUCT, THE SAFETY OF THE PRODUCT, OR THE HAZARDS RELATED TO ITS USE. No responsibility is assumed for any damage or injury resulting from abnormal use or from any failure to adhere to recommended practices. The information provided above, and the product, are furnished on the condition that the person receiving them shall make their own determination as to the suitability of the product for their particular purpose and on the condition that they assume the risk of their use. In addition, no authorization is given nor implied to practice any patented invention without a license.

Tosco Refining Company

Ferndale Refinery

UltraLow Sulfur Diesel Product Specification

Ferndale Product Code:34380xx (5) Product Code: ULSD2

(COMETS)

Specification	Unit	Limit	Test Procedure	Typical
Appearance Water & Sediment Color Haze Rating	Vol % Number Rating	0.05 Max 3.0 Max 2 Max	D 2709 D 1500 D 4176	
Composition Carbon Residue (Ramsbottom)	Wt %	0.35 Max	D 524, D 189	
Volatility 90% Recovered Flash Point Gravity	Deg; F Deg; F Deg; F API	540 Min 640 Min 125 Min (1) 30 Min	D 86 D 86 D 93 D 287, D4052	130 F
Fluidity Pour Point Cloud Point Viscosity @ 104F Lubricity, SLBOCLE Lubricity, HFRR	Deg; F Deg; F cSt cSt grams mm	See Season Table (6) See Season Table (6) 1.9 Min 4.1 Max 3100 Min .45	D 97 D 2500 D 445 D 445 D 6078 D 6079	10 F 3300gm
Combustion Cetane Index or Cetane Number (3,4)	Number	40.0 Min	D 976, D613	47.0
Corrosion Copper Strip, 3hr @ 50 deg C	Number	3 Max (2)	D 130	
Aromatics (4)	Vol %	35 Max	D 1319	25 %
Contaminants Total Sulfur Water & Sediment Ash	PPM Vol % Wt %	30 Max 0.05 Max 0.01 Max	D 2622, D4294 D 1796 D 482	15-20ppm
Additives Cetane Improver Dye	Lb/MBbl	675 Max Undyed		

1. Minimum release specification is 125 deg. F. The refinery should target 135 deg. F.
2. Test result reported as a number and letter (e.g. 1a). Any letter is allowable as long as the number meets the spec shown.
3. Either specification must be met.
4. Either cetane index minimum or aromatics maximum must be met.
5. Winter cloud and pour specifications may be relaxed to the summer specifications by agreement with the customer.
6. Season Table

Month	Product Code	Pour Point	Cloud Point
Jan, Feb, Nov, Dec	WI	0 max (5)	14 max (5)
Mar - Oct	SU	15 max	24 max

Material Safety Data Sheet



MISSISSIPPI SAND, LLC.
MANUFACTURE AND DISTRIBUTION OF FRAC SAND

I – PRODUCT IDENTIFICATION	
MANUFACTURER: Mississippi Sand, LLC	PRODUCT NAME: Frac Sand (Quartz) (Silicon Dioxide) (St. Peters Sandstone)
ADDRESS: 2320 Creve Coeur Mill Rd. Maryland Heights, MO 63043	DATE OF REVISION: June 18, 2008
INFORMATIONAL TELEPHONE:	314-344-0070

II – PRODUCT AND COMPONENT DATA			
COMPONENT NAME	CAS REGISTRY NO.	% (APPROX.)	EXPOSURE LIMITS
Sandstone (composition variable)		100%	See Section VI
Largely composed of Silica (SiO ₂)	14808-60-7	>95%	
Remainder is made up of various other oxides and trace elements, of which CaO, MgO, and Fe ₂ O ₃ are the largest percentages.		<5%	

III – PHYSICAL DATA			
BOILING POINT:	N/A	SPECIFIC GRAVITY:	2.7
VAPOR PRESSURE:	N/A	VAPOR DENSITY:	N/A
SOLUBILITY IN WATER:	Negligible	% VOLATILE BY VOLUME AT 68°F:	0%
APPEARANCE AND ODOR: Fine, angular, sugar-like particles, white, tan or pale gray. No odor.			

IV – FIRE AND EXPLOSION HAZARD DATA			
FLASH POINT:	Not Flammable	METHOD USED:	N/A
LOWER FLAMMABLE LIMIT:	Not Flammable	UPPER FLAMMABLE LIMIT:	Not Flammable
EXTINGUISHING MEDIA:	None required		
SPECIAL FIRE FIGHTING PROCEDURES:	None required		
UNUSUAL FIRE AND EXPLOSION HAZARDS:	Contact with strong oxidizing agents may cause fire and/or explosion.		

V – REACTIVITY DATA			
STABILITY:	Stable	CONDITIONS TO AVOID:	Avoid incompatible materials (below)
INCOMPATIBILITY:	Contact with powerful oxidizing agents such as fluorine, boron trifluoride, manganese trifluoride, and oxygen difluoride may cause fire and/or explosion. Silica dissolves in hydrofluoric acid, producing a corrosive gas: silicon tetrafluoride.		
HAZARDOUS DECOMPOSITION PRODUCTS:	Handling may produce silica-containing respirable dust particles.		

VI – HEALTH HAZARD / FIRST AID INFORMATION

PRIMARY ROUTES OF ENTRY: INHALATION X SKIN INGESTION EYES

EXPOSURE LIMITS:
(expressed in 8-hour time-weighted averages-TWA)

Other Particulates: TLV_{INHALABLE} = 10 mg/m³; TLV_{RESPIRABLE} = 3 mg/m³; OSHA PEL_{TOTAL} = 15 mg/m³; OSHA PEL_{RESPIRABLE} = 5 mg/m³
Respirable Silica: TLV = 0.025 mg/m³; MSHA/OSHA PEL = 10 mg/m³ / (%SiO₂ + 2)

MEDICAL CONDITIONS GENERALLY AGGRAVATED BY EXPOSURE:

Inhaling respirable dust or crystalline silica may aggravate existing respiratory system diseases/dysfunctions. Exposure to dust may aggravate existing skin and/or eye conditions.

SHORT-TERM (ACUTE) HEALTH EFFECTS:

INGESTION:

Practically non-toxic. However, ingestion of large amounts may cause gastrointestinal irritation and blockage.

TREATMENT:

If conscious, give large quantity of water. Do not induce vomiting. NEVER MAKE AN UNCONSCIOUS PERSON DRINK OR VOMIT. Get immediate medical attention.

EYES:

Direct contact with dust may cause irritation by mechanical abrasion.

TREATMENT:

Flush eyes with plenty of clean water for at least 15 minutes, while holding lid open. Occasionally lift lids to ensure thorough rinsing. Contact physician if irritation persists or later develops.

SKIN:

Direct contact may cause irritation by mechanical abrasion. Not expected to absorb through dermal contact.

TREATMENT:

Wash with soap and water. Contact a physician if irritation persists or later develops.

INHALATION:

Dust may irritate nose, throat, and respiratory tract by mechanical abrasion. Coughing, sneezing, and shortness of breath may occur following exposures in excess of exposure limits.

TREATMENT:

Remove to fresh air. Dust in throat and nasal passages should clear spontaneously. Contact a physician if irritation persists or later develops.

LONG-TERM (CHRONIC) HEALTH EFFECTS:

Prolonged and repeated exposure to respirable crystalline silica-containing dust can cause silicosis, a lung disease, which can increase risks of pulmonary tuberculosis infection. Silicosis can be progressive, and symptoms can appear at any time, even years after exposure has ceased. Symptoms may include, but not limited to, shortness of breath, difficulty breathing, coughing, diminished work capacity, diminished chest expansion, reduction of lung volume, and right heart enlargement or failure. Smoking may increase risk of developing lung disorders.

Research also shows there may be associations between excessive crystalline silica exposure and adverse health effects involving the kidney, scleroderma (thickening of the skin caused by swelling and thickening of fibrous tissue) and other autoimmune disorders. Respirable crystalline silica has also been listed by the IARC and NTP as a "known human carcinogen" and by the ACGIH as a suspected human carcinogen. Crystalline silica is also considered a carcinogen by the state of California.

VII – PERSONAL PROTECTION AND CONTROL MEASURES

RESPIRATORY PROTECTION:	For respirable silica levels that are likely to exceed 8-hr TWA of 0.025 mg/m ³ , a NIOSH/MSHA approved half-mask N95 or better respirator must be worn. For levels exceeding 0.25 mg/m ³ , a full face N95 respirator must be worn, which must comply with MSHA/OSHA standards, including training program, fit testing, etc. For levels exceeding 1.25 mg/m ³ , consult an industrial hygienist or safety professional.
VENTILATION:	Local exhaust or general ventilation should be adequate to maintain exposure levels below limits.
SKIN PROTECTION:	Wear impervious gloves, shoes, and protective clothing to prevent skin contact. (See also Hygiene Section)
EYE PROTECTION:	Wear safety glasses with side shields, at a minimum. Dust goggles are recommended when work conditions are excessively dusty. Wearing contact lenses when using this product is not recommended.
HYGIENE:	Wash dust-exposed skin with soap and water before eating, drinking, smoking, or using toilet facilities. Wash work clothes after each use.
OTHER CONTROL MEASURES:	Respirable dust and silica levels should be monitored regularly. Dust and silica levels in excess of appropriate exposure limits should be reduced by all feasible engineering controls, including (but not limited to) wet suppression, ventilation, process enclosure, and enclosed employee workstations.

VIII – STORAGE AND HANDLING PRECAUTIONS

Respirable crystalline silica-containing dust may be generated during processing, handling, and storage. The personal protection and controls identified in Section VII of this MSDS should be applied as appropriate.

Do not store near food and beverages or smoking materials.

Avoid accidental releases.

IX – SPILL, LEAK, AND DISPOSAL PRACTICES

Personal protection and controls identified in Section VII of this MSDS should be applied as appropriate.

Spilled materials, where dust can be generated, may overexpose cleanup personnel to respirable crystalline silica-containing dust. Wetting of spilled material and use of respiratory protection may be necessary. Do not dry sweep spilled material.

None of the components in this product are subject to reporting requirements of Title III of SARA, 1986, and 40 CFR 372. However, the component crystalline silica is considered a hazardous chemical and a delayed health hazard.

MATERIAL DISPOSAL METHOD:

Pick up and re-use clean material. Dispose of contaminated material in accordance with all applicable federal, state, and local laws and regulations.

X – TRANSPORTATION

DOT HAZARD CLASSIFICATION: None

PLACARD REQUIRED: None

LABEL REQUIRED:

Label as required by OSHA Hazard Communication standard [29 CFR 1910.1200 (f)] and applicable state and local laws and regulations.

Some constituents of this product are considered by OSHA to be hazardous and should be included in an employer's hazard communication program.

XI – OTHER INFORMATION

Abbreviations:

CAS No.	Chemical Abstract Service number
OSHA	Occupational Safety and Health Administration
MSHA	Mine Safety and Health Administration
PEL	Permissible Exposure Limit
ACGIH	American Conference of Governmental Industrial Hygienists
TLV	Threshold Limit Value
TWA	Time Weighted Average (8-hour)
CL	Ceiling Limit
mg/m ³	Milligrams per cubic meter
IARC	International Agency for Research on Cancer
NTP	National Toxicology Program
NIOSH	National Institute for Occupational Safety and Health
>	Greater than
<	Less than
DOT	U.S. Department of Transportation
TDG	Transportation of Dangerous Goods
CFR	Code of Federal Regulations
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
SARA	Superfund Amendments and Reauthorization Act

Information in this MSDS was obtained from sources believed to be reliable. It is believed to be current and accurate at the time provided. It is the user's obligation to determine the conditions of safe use of this product.

HALLIBURTON

MATERIAL SAFETY DATA SHEET

Product Trade Name: **CBM FRAC FLUID** (140CBM15)

Revision Date: 16-Feb-2004

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Trade Name: CBM FRAC FLUID

Synonyms: None

Chemical Family: Blend

Application: Fluid

Manufacturer/Supplier: Halliburton Energy Services
P.O. Box 1431
Duncan, Oklahoma 73536-0431
Emergency Telephone: (800) 666-9260 or (713) 676-3000

Prepared By: Chemical Compliance
Telephone: 1-580-251-4335

2. COMPOSITION/INFORMATION ON INGREDIENTS

SUBSTANCE	CAS Number	PERCENT	ACGIH TLV-TWA	OSHA PEL-TWA
Contains no hazardous substances	Mixture	60 - 100%	Not applicable	Not applicable

3. HAZARDS IDENTIFICATION

Hazard Overview: May cause eye, skin, and respiratory irritation.

4. FIRST AID MEASURES

Inhalation: If inhaled, remove from area to fresh air. Get medical attention if respiratory irritation develops or if breathing becomes difficult.

Skin: Wash with soap and water. Get medical attention if irritation persists.

Eyes: In case of contact, immediately flush eyes with plenty of water for at least 15 minutes and get medical attention if irritation persists.

Ingestion: Do not induce vomiting. Slowly dilute with 1-2 glasses of water or milk and seek medical attention. Never give anything by mouth to an unconscious person.

Notes to Physician: Not Applicable

5. FIRE FIGHTING MEASURES

Flash Point/Range (F):	Not Determined
Flash Point/Range (C):	Not Determined
Flash Point Method:	Not Determined
Autoignition Temperature (F):	Not Determined
Autoignition Temperature (C):	Not Determined
Flammability Limits in Air - Lower (%):	Not Determined
Flammability Limits in Air - Upper (%):	Not Determined

Fire Extinguishing Media All standard firefighting media.

Special Exposure Hazards Not applicable.

Special Protective Equipment for Fire-Fighters Not applicable.

NFPA Ratings: Health 0, Flammability 0, Reactivity 0

HMIS Ratings: Flammability 0, Reactivity 0, Health 0

6. ACCIDENTAL RELEASE MEASURES

Personal Precautionary Measures Use appropriate protective equipment.

Environmental Precautionary Measures None known.

Procedure for Cleaning / Absorption Isolate spill and stop leak where safe. Contain spill with sand or other inert materials. Scoop up and remove.

7. HANDLING AND STORAGE

Handling Precautions Avoid contact with eyes, skin, or clothing. Avoid breathing vapors.

Storage Information Store in a cool well ventilated area. Keep container closed when not in use.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Engineering Controls Use in a well ventilated area.

Respiratory Protection Not normally necessary.

Hand Protection Impervious rubber gloves.

Skin Protection Normal work coveralls.

Eye Protection Chemical goggles; also wear a face shield if splashing hazard exists.

Other Precautions None known.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State:	Liquid
Color:	Opaque
Odor:	Surfactant
pH:	4.4
Specific Gravity @ 20 C (Water=1):	1
Density @ 20 C (lbs./gallon):	8.33
Bulk Density @ 20 C (lbs/ft3):	Not Determined
Boiling Point/Range (F):	250

Boiling Point/Range (C):	121
Freezing Point/Range (F):	Not Determined
Freezing Point/Range (C):	Not Determined
Vapor Pressure @ 20 C (mmHg):	Not Determined
Vapor Density (Air=1):	Not Determined
Percent Volatiles:	Not Determined
Evaporation Rate (Butyl Acetate=1):	Not Determined
Solubility in Water (g/100ml):	Soluble
Solubility in Solvents (g/100ml):	Not Determined
VOCs (lbs./gallon):	Not Determined
Viscosity, Dynamic @ 20 C (centipoise):	Not Determined
Viscosity, Kinematic @ 20 C (centistrokes):	Not Determined
Partition Coefficient/n-Octanol/Water:	Not Determined
Molecular Weight (g/mole):	Not Determined

10. STABILITY AND REACTIVITY

Stability Data:	Stable
Hazardous Polymerization:	Will Not Occur
Conditions to Avoid	None anticipated
Incompatibility (Materials to Avoid)	Strong oxidizers.
Hazardous Decomposition Products	None known.
Additional Guidelines	Not Applicable

11. TOXICOLOGICAL INFORMATION

Principle Route of Exposure	Eye or skin contact, inhalation.
Inhalation	May cause mild respiratory irritation.
Skin Contact	Prolonged or repeated contact may cause skin irritation.
Eye Contact	May cause eye irritation.
Ingestion	None known
Aggravated Medical Conditions	Skin disorders.
Chronic Effects/Carcinogenicity	No data available to indicate product or components present at greater than 1% are chronic health hazards.
Other Information	None known.
Toxicity Tests	
Oral Toxicity:	Not determined
Dermal Toxicity:	Not determined
Inhalation Toxicity:	Not determined
Primary Irritation Effect:	Not determined
Carcinogenicity	Not determined
Genotoxicity:	Not determined

Reproductive / Developmental Toxicity: Not determined

12. ECOLOGICAL INFORMATION

Mobility (Water/Soil/Air) Not determined

Persistence/Degradability BOD (21 Day): 1740 mg/l BOD (5 Day): 7125 mg/l BOD (7 Day): 5850 mg/l COD: 11700 mg/l Not determined

Bio-accumulation Not Determined

Ecotoxicological Information

Acute Fish Toxicity: Not determined
Acute Crustaceans Toxicity: TLM48: 2.5 ppm (Mysidopsis Bahia) TLM48: 5.7 ppm (Eriodaphnia Dubia)
Acute Algae Toxicity: Not determined

Chemical Fate Information Not determined

Other Information Not applicable

13. DISPOSAL CONSIDERATIONS

Disposal Method Disposal should be made in accordance with federal, state, and local regulations.

Contaminated Packaging If empty container retains product residues, all label precautions must be observed. Transport with all closures in place. Return for reuse or disposal according to national or local regulations.

14. TRANSPORT INFORMATION

Land Transportation

DOT
Not restricted

Canadian TDG
Not restricted

ADR Not restricted

Air Transportation

ICAO/IATA
Not restricted

Sea Transportation

IMDG
Not restricted

Other Shipping Information

Labels: None

15. REGULATORY INFORMATION

US Regulations

US TSCA Inventory	All components listed on inventory.
EPA SARA Title III Extremely Hazardous Substances	Not applicable
EPA SARA (311,312) Hazard Class	None
EPA SARA (313) Chemicals	This product does not contain a toxic chemical for routine annual "Toxic Chemical Release Reporting" under Section 313 (40 CFR 372).
EPA CERCLA/Superfund Reportable Spill Quantity For This Product	Not applicable.
EPA RCRA Hazardous Waste Classification	If product becomes a waste, it does NOT meet the criteria of a hazardous waste as defined by the US EPA.
California Proposition 65	All components listed do not apply to the California Proposition 65 Regulation.
MA Right-to-Know Law	One or more components listed.
NJ Right-to-Know Law	One or more components listed.
PA Right-to-Know Law	One or more components listed.

Canadian Regulations

Canadian DSL Inventory	All components listed on inventory.
WHMIS Hazard Class	Un-Controlled

16. OTHER INFORMATION

The following sections have been revised since the last issue of this MSDS

Not applicable

Additional Information	For additional information on the use of this product, contact your local Halliburton representative. For questions about the Material Safety Data Sheet for this or other Halliburton products, contact Chemical Compliance at 1-580-251-4335.
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Disclaimer Statement

This information is furnished without warranty, expressed or implied, as to accuracy or completeness. The information is obtained from various sources including the manufacturer and other third party sources. The information may not be valid under all conditions nor if this material is used in combination with other materials or in any process. Final determination of suitability of any material is the sole responsibility of the user.

END OF MSDS

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APPENDIX H

NYSDEC Part 364

Waste Transporter Permits

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Part 364: Waste Transporter Permits

(Statutory authority: Environmental Conservation Law, Titles 3, 9 and 15 of Article 27)

[Effective March 10, 2003]

[Amended May 12, 2006]

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§364.1 General.

(a) Purpose.

It is the purpose of this part to protect the environment from mishandling and mismanagement of all

regulated waste transported from the site of generation to the site of ultimate treatment, storage or disposal.

(b) Applicability.

This part governs the collection, transport, and delivery of regulated waste, originating or terminating at a location within this state. Regulated medical waste is covered in detail in section 364.9 of this Part and may contain restrictions over and above those in other sections. Exemptions are specified in subdivision (e) of this section.

(c) General definitions. When used in this Part:

- (1) **Commissioner** means the Commissioner of Environmental Conservation or a duly authorized representative.
- (2) **Department** means the New York State Department of Environmental Conservation.
- (3) **Disposal** means the abandonment, discharge, deposit, injection, dumping, spilling, leaking or placing of any waste or hazardous waste on or into any lands or waters of the state so that such waste or hazardous waste or any related constituent thereof may enter the environment or be emitted into the air or be discharged into any waters, including groundwaters thereof. Disposal also means the thermal destruction of waste or hazardous waste and the burning of such wastes as fuel for the purpose of recovering useable energy.
- (4) **ECL** and **Environmental Conservation Law** means chapter 43-B of the Consolidated Laws of New York State, entitled the Environmental Conservation Law.
- (5) **Empty** means that wastes have been removed using the practices commonly employed to remove materials from that type of container so that no more than one inch (2.5 centimeters (cm)) of residue remains on the bottom of the container; or in the case of a compressed gas, when the pressure in the container approaches atmospheric. In the case of an acute-hazardous waste, empty shall be defined as set forth in section 371.1(f)(2)(iii)(a), (b) or (c) of this title.
- (6) **EPA** means United States Environmental Protection Agency.
- (7) **Generator** means any person, by site, whose act or process produces solid waste or whose act first

causes a solid waste to become subject to regulation.

(8) **Landspreading facility** means a site where sludge or septage is applied to the soil surface or injected into the upper layer of the soil to improve soil quality or to provide plant nutrients. Sludges suitable for these purposes include food processing waste, winery waste, brewery waste, cannery waste and sewage treatment plant sludge.

(9) **Person** means any individual, public or private corporation, political subdivision, government agency, department or bureau of the State or federal Government, municipality, industry, co-partnership, association, firm, trust, estate or any other legal entity.

(10) **Re-refined** means any waste oil from which physical and/or chemical contaminants have been removed so that it is substantially equivalent to virgin distillate or virgin residual oil.

(11) **Storage** means the holding of solid waste for a temporary period, at the end of which the solid waste is processed, recovered, disposed of or stored elsewhere.

(12) **Storage Incidental to Transport** means any on-vehicle storage which occurs en route from the point of initial waste pickup to the point of final delivery for purposes such as, but not limited to, overnight on-the-road stops, stops for meals, fuel, and driver comfort, stops at the transporter's facility for weekends immediately prior to shipment, or on-vehicle storage not to exceed 10 days at the transporter's facility for the express purpose of consolidating loads (where such loads are not removed from their original packages or containers) for delivery to an authorized treatment, storage or disposal facility.

(13) **Surface impoundment** or **impoundment** means a facility or part of a facility which is a natural topographical depression, man-made excavation, or diked area formed primarily of earthen materials (although it may be lined with man-made materials), which is designed to hold an accumulation of solid waste in semi-solid or liquid form, and which is not an injection well. Examples of surface impoundments are holding, storage, settling, and aeration pits, ponds and lagoons.

(14) **Transfer Incidental to Transport** means any transfer of waste material associated with storage incidental to transport where such material is not unpackaged, mixed or pumped from one container or truck into another.

(15) **Treatment, storage or disposal facility (TSD)** or **facility** means all contiguous land and structures, other appurtenances, and improvements on the land used for treating, storing or disposing of solid waste. A facility may consist of several treatment storage or disposal operations units (e.g., one or more landfills, surface impoundments or combinations of them).

(16) **Vehicle** means any device or contrivance which is required by law to be registered with a state, province or the federal government for conveyance over public roads and which actually contains or carries a regulated waste, for example, in the case of a tractor trailer combination, the trailer is considered to be the vehicle; and in the case of a roll-off container or other removable containment device, it is the mobile flatbed or the undercarriage that is considered to be the vehicle.

(d) Definition of Solid Waste and related terms.

(1) A **Solid Waste** is any garbage, refuse, sludge or any solid, liquid, semi-solid or contained gaseous material, resulting from industrial commercial, mining, agricultural, community or other activities, not excluded below, which is discarded, disposed of, burned or incinerated, including being burned as a fuel for the purpose of recovering usable energy, or is being accumulated, stored, or physically, chemically, or biologically treated in lieu of or prior to being disposed of, burned or incinerated, or which has served its original intended use and is sometimes discarded, or is a manufacturing or mining by-product and sometimes is discarded.

The following materials are not solid wastes for the purposes of this Part:

- (i) Domestic sewage and any mixture of domestic sewage and other wastes that passes through a sewer system to a publicly-owned treatment works for treatment (domestic sewage means untreated sanitary wastes that pass through a sewer system);
- (ii) Industrial wastewater discharges that are point source discharges for which a permit has been issued pursuant to Article 17 of the Environmental Conservation Law (Note: This exclusion applies only to the actual point source discharge. The exclusion does not apply to industrial waste waters while they are being collected, stored or treated before discharge, nor does it apply to sludges that are generated by industrial wastewater treatment);
- (iii) Irrigation return flows;

(iv) Radioactive materials which are source, special nuclear, or by-product material. For the purposes of this Part: Source material means uranium and/or thorium, or ores containing by weight 0.05 percent or more of uranium and/or thorium; special nuclear material means plutonium, uranium 233, uranium enriched in uranium 233 or uranium 235, or any material artificially enriched by any of these; and by-product material means radioactive material yielded in or made radioactive by exposure to radiation incident to the process by producing or utilizing special nuclear materials, tailings or waste produced by the extraction or concentration of uranium or thorium from any ore processed primarily for its source material content; and

(v) Materials subject to in-situ mining techniques which are not removed from the ground as part of the extraction process.

(2) A **Regulated Waste** is a solid waste which is raw sewage, septage, sludge from a sewage or water supply treatment plant, [waste tires]*, waste oil or industrial-commercial waste including hazardous waste.

**added to ECL 27-0303 by Chapter 226 of the Laws of 1990 effective January 1, 1991.*

(3) An **Industrial-Commercial Waste** is any solid waste which originates at, is generated by, or occurs as a result of any industrial or commercial activity. Industrial-Commercial Wastes are exemplified by but not limited to:

(i) Liquids such as:

(a) Acids, alkalis, caustics, leachate, petroleum (and its derivatives), and process or treatment wastewaters;

(b) Sludges which are semi-solid substance resulting from process or treatment operations or residues from storage or use of liquids;

(ii) Solids such as:

(a) Solidified chemicals, paints, or pigments;

(b) Dredge spoil, foundry sand, and the end or by-products of incineration or other forms of combustion including bottom ash and fly ash;

- (iii) Contained gaseous materials;
 - (iv) Hazardous waste as defined in section 371.1(d) of this Title; and
 - (v) Any liquid, sludge, septage, solid, semi-solid substance or contained gaseous material in which any of the foregoing is intermixed or absorbed, or onto which any of the foregoing is adhered.
- (4) **Septage** is the contents of a septic tank, cesspool, or other individual sewage treatment facility which receives domestic sewage waste.
- (5) **Sludge** is any solid, semi-solid or liquid waste generated from a municipal, commercial, or industrial wastewater treatment plant, water supply treatment plant, or air pollution control facility. "Sludge" does not include the treated effluent from a wastewater treatment plant.
- (6) **Raw Sewage** is any untreated sanitary waste.
- (7) **Waste Oil** is used engine lubricating oil and any other oil, including but not limited to, fuel oil, motor oil, gear oil, cutting oil, transmission fluid, hydraulic fluid, dielectric fluid, oil storage tank residue, animal oil, and vegetable oil, which has been contaminated by physical or chemical impurities, through use or accident, and has not subsequently been re-refined.
- (8) A **Hazardous Waste** is any solid waste identified in section 371.1(d) of this title.
- (9) An **Acute Hazardous Waste** is any hazardous waste identified in section 371.4(d)(5) of this title.
- (10) **Low-Level Radioactive Waste (LLRW)** means radioactive material that is not high-level radioactive waste, transuranic waste, spent nuclear fuel, or the tailings or wastes produced by the extraction or concentration of uranium or thorium from any ore processed primarily for its source material content.
- [**Waste Tires** shall mean waste tires transported for a fee for the purpose of reuse, recycling or disposal, except those tires collected and transported incidental to the collection and transportation of solid waste.]*

**added to ECL 27-0303 by Chapter 226 of the Laws of 1990 effective January 1, 1991.*

(e) Exemptions.

- (1) Rail, water and air carriers are exempt from the requirements of this Part.
- (2) Vehicles transporting the following regulated wastes are exempted from this Part, provided that no other regulated waste is intermixed, contained in, or otherwise included with such waste:
 - (i) Vegetable oils and greases from restaurants and fast food operations;
 - (ii) Tallow (animal fat);
 - (iii) Food processing waste destined for use in other food or animal feed processes (except blood);
 - (iv) Garbage and trash collected from cafeterias;
 - (v) Food processing residues which are recognizable as part of the plant or vegetable including, but not limited to, cabbage leaves, bean snips, onion skins, apple pomace and grape pomace (except brewery wastes);
 - (vi) Scraps including, but not limited to, plastic, rubber, paper, cardboard, wood chips, glass and metal;
 - (vii) Grubbing, construction and renovation debris, such as roots, stumps, bricks, cement, asphalt, blacktop, stone and like materials, except asbestos;
 - (viii) Agricultural waste including, but not limited to, crop residues and animal manure productively employed in agriculture;
 - (ix) Non-hazardous dredge or fill material;
 - (x) Non-hazardous bottom and fly ash from incinerators and resource recovery facilities;
 - (xi) Foundry sand containing no phenols (less than one part per billion);
 - (xii) Empty drums or containers destined for reconditioning or being returned to the original manufacturer;
 - (xiii) Empty food containers being collected, transported or stored for recycling or reuse;
 - (xiv) Samples shipped to laboratories solely for analysis;

- (xv) Scrap lead-acid automotive batteries destined for recovery;
- (xvi) Waste transported by a public utility vehicle where the transportation of such waste is incidental to the primary function of the vehicle whenever the waste is brought to a utility-owned collection facility for storage prior to treatment or disposal; and
- (xvii) Waste collected, transported or transferred wholly on-site by the person responsible for the origination, generation, or occurrence of such waste, provided that storage, treatment and disposal of waste upon those premises are authorized pursuant to this Title, (As used in this subparagraph, "on-site" means the same or geographically contiguous property. It maybe divided by public or private right-of-way, provided the entrance and exit between the properties is at a crossroads intersection, and access is by crossing, as opposed to going along, the right-of-way. Noncontiguous properties owned by the same person, but connected by a right-of-way which that person controls and to which the public does not have access, are also considered on-site property.)
- (xviii) Pesticides, transported by the farmer who generated them, to a pesticide clean-up day collection site authorized pursuant to 6 NYCRR Part 373-1.1(d)(1)(xviii).
- (xix) Bottom ash from the burning of fossil fuel, provided that:
 - (a) The ash has been tested for toxicity by the owner or operator of the generating facility pursuant to a testing protocol approved by the Commissioner, and certified to be non-toxic; and
 - (b) The ash is destined for use by a municipality or other government entity as a traction agent on roadways.
- (xx) Wastes transported during an explosives or munitions emergency response as defined in section 370.2(b) conducted in accordance with section 373-1.1(d)(1)(xiii)(a)(4) of this Title.
- (xxi) Elemental mercury and dental amalgam waste generated at dental facilities, destined for mercury recovery.

(3) Small Quantity Waste Transporter Exemption.

- (i) Any generator who is exempt from the requirements of Part 372 through Subpart 374-3 and Part

376 of this Title, pursuant to subdivision 371.1(f) of this Title, and who transports less than a total of 220 pounds (100 kilograms) of hazardous waste or less than 2.2 pounds (1 kilogram) of acute hazardous waste, during any calendar month is exempt from the requirements of this Part, provided that the wastes are generated and transported exclusively by the generator.

(ii) Any person who transports less than 500 lbs. of non-hazardous industrial/commercial waste or Universal Waste as defined in Part 370 and regulated in Subpart 374-3 of this Title in any single shipment is exempt from the requirements of this Part.

(4) The department may, upon written application from a transporter who is subject to this Part, grant approval for exemption of vehicles owned and operated by the transporter from specified permit requirements of this Part. Any such transporter is still subject to the requirements of subparagraph (ii) of this paragraph and other conditions which the department may impose on the granting of such approval, which are reasonably necessary to effectuate the purposes of this Part.

(i) Any application for such an exemption must demonstrate:

(a) That compliance with the specified permit requirement provisions would create a hardship on the applicant's business activities;

(b) The transporter owns and operates a minimum of 500 vehicles which operate in interstate commerce;

(c) The applicant does not have any vehicles specifically designated for the transport of regulated waste and that such designation would create a hardship;

(d) The transport of regulated waste accounts for no greater than one percent of the applicant's total annual cargo; and

(e) The transport of regulated waste is over irregular routes on a non-regularly scheduled call-on-demand basis.

(ii) An exemption pursuant to this paragraph is subject to the following terms and conditions:

(a) The transporter shall comply with all applicable manifest requirements under Part 372 of this title;

- (b) A copy of the department's approval for exemption shall be carried in all vehicles transporting regulated waste in this state;
- (c) A waste transporter annual report shall be submitted to the department on forms issued or approved by the department;
- (d) Vehicles used for transporting regulated waste shall not be used for transporting any food for human consumption or animal feed or any articles destined for sale to the general public whose use normally involves physical contact with humans (e.g., clothing). This prohibition shall not apply if the vehicle has been properly cleaned in accordance with all applicable federal and state regulations governing decontamination or other methods approved by the department; and
- (e) Other requirements specified by the Commissioner.

(iii) The exemption shall be valid for the specific time period as indicated in the exemption letter and under no circumstances for longer than one year. Any exemption granted hereunder may be revoked for any violation of the terms of such exemption or for a violation of any other applicable rules and regulations of the department related to the transportation of regulated waste, or upon a showing that the transporter no longer meets the requirements for exemption. Such revocation will be subject to the procedures specified in the Uniform Procedures Act and Part 621 of this Title.

(f) Severability.

If any provision of this Part or the application thereof to any person or circumstances is held invalid, the remainder of this Part and the application of such provisions to persons or circumstances, other than those to which it is held invalid, shall not be affected thereby.

(g) Variances.

- (1) The department may, upon written application from any person who is subject to this Part, grant a variance from one or more specific provisions of this Part, consistent with this subdivision.
- (2) Any application for a variance hereunder must:
 - (i) identify the specific provisions of this Part from which a variance is sought;

(ii) demonstrate that compliance with the identified provisions would, on the basis of conditions unique and peculiar to the applicant's particular situation, impose a substantial financial, technological, or safety burden on the applicant or the public; and

(iii) demonstrate that the proposed activity will have no significant adverse impact on public health, safety, or welfare, the environment, or natural resources and will be consistent with the provisions of the ECL, the purpose of this Part and the performance expected from applications of this Part.

(3) In granting any variance hereunder, the department may impose specific conditions reasonably necessary to assure that the subject activity will have no significant adverse impact on public health, safety, or welfare, the environment, or natural resources.

(h) Safeguarding Information.

The department shall hold confidential any information concerning the chemical composition, quantity, method of treatment or disposal of hazardous waste or any information related thereto when shown by any person that such information, if made public, would divulge competitive business information, methods or processes entitled to protection as trade secrets of such person. However, such information may be disclosed to any officers, employees, or authorized representatives of the United States or the State concerned with the Federal Resource Conservation and Recovery Act or the State hazardous waste program, or when relevant in any proceeding.

All requests for confidential treatment of information submitted to the department will be handled in accordance with the procedures set forth in Part 616 of this Title.

(i) Uniform procedures.

The procedures applicable to the submittal and processing of applications for permits, permit renewals, and permit modifications, and the procedures applicable to the modification, suspension, and revocation of permits, pursuant to this Part, are set forth in Part 621 of this Title.

(j) Enforcement.

Any person who violates any of the provisions of ECL Article 27, Title 3, this Part, or any permit issued hereto, or any order issued by the department shall be liable for the relevant civil and criminal sanctions set

forth in ECL Article 71.

§364.2 Permit Requirements.

(a) No person shall, except pursuant to and in accordance with a valid permit issued pursuant to this Part:

- (1) Collect or remove any regulated waste from its point of origin, generation or occurrence;
- (2) Transport any regulated waste;
- (3) Deliver any regulated waste to a treatment, storage, or disposal facility, or otherwise dispose of or relinquish possession of any regulated waste other than as specified in such permit;

(b) No person who owns or operates a facility at, or premises on, which any regulated waste originates, is generated, or occurs, shall deliver or otherwise relinquish possession of such waste except to a person who has a valid permit issued pursuant to this Part.

(c) The transporter of regulated waste shall not be required to obtain a permit pursuant to this Part if the transporter has contracted with a generator of such waste who has been issued a valid permit pursuant to this Part, provided that:

- (1) The transporter is designated on the generator's waste transporter permit as a waste transporter contracted to transport the generator's regulated waste;
- (2) The transporter does not transport any regulated waste other than those specified on the generator's permit while operating under the provisions of such permit; and
- (3) The transporter does not dispose of, deliver or otherwise relinquish possession of any generator's regulated waste to any place other than that designated in the generator's permit.

§364.3 Permit Application Procedures.

(a) General.

- (1) Any person who requires a permit, pursuant to this Part; for the collection, removal, transport, transfer or disposal of solid waste, or for transfer incidental to transport or storage incidental to transport, shall apply for such a permit in accordance with this Part.

- (2) Applications shall be completed and submitted on forms prescribed by the department and shall indicate the type of the waste involved, vehicles that the applicant will use, any transfer or storage facilities the applicant will use, (except where such transfer or storage is, incidental to transport), and the place or places where and the manner in which the applicant will finally treat, store or dispose of the collected waste. The application shall also contain such analyses, plans, reports, fees, insurance certificates, and other data as the department may require.
- (3) The applicant must demonstrate that the proposed disposal site is one authorized as specified in section 364.4 of this Part.
- (4) When regulated wastes are to be disposed of at a site which is not owned by the applicant, the application shall be accompanied by written permission from the site owner for such activity.
- (5) The department may require inspection of vehicles as a condition of application approval or review during the permit year.

(b) Renewals.

Applications for permit renewals, in order to be timely submitted for purposes of the State Administrative Procedures Act, must be received by the department at least 30 days in advance of the expiration date of the existing permit.

(c) Expedited Permits.

- (1) The department may, upon determining that a situation that poses an immediate threat to the environment exists, issue an expedited waste transporter permit for the transport of regulated wastes caused by or resulting from the emergency situation, to a specific treatment, storage or disposal facility. All terms of such permit shall be specific to the emergency situation and thereby limited in scope and duration.
- (2) Any transporter requiring an expedited permit shall submit to an authorized department representative:
 - (i) Transporter's name;
 - (ii) Vehicle license number;

- (iii) State of vehicle registration;
- (iv) Waste type and quantity;
- (v) Location of emergency; and
- (vi) Facility name and address.

§364.4 Permitting Standards

(a) The department's decision to issue or deny a permit for the transport of regulated waste shall be based on the following considerations:

- (1) The status of any receiving facilities identified in the permit application. No permit shall be issued unless each of the receiving facilities is in one of the following categories:
 - (i) A facility authorized to accept such waste pursuant to requirements of the Environmental Conservation Law, including this Part, or regulations promulgated pursuant thereto;
 - (ii) A facility operating under an active department issued order on consent;
 - (iii) A facility outside the jurisdiction of this state; in such case proof of authorization to operate may be required by the department as a condition of application review; or
 - (iv) A facility not requiring any state or federal license, permit or certificate to operate.
- (2) The compliance status of any receiving facility. A waste transporter permit may be denied, revoked, suspended or modified if the receiving facility has been determined to have violated any law, rule or regulation or permit condition related to the operation of its treatment, storage or disposal facility.
- (3) The compliance history and reliability of the applicant. A waste transporter permit may be denied, revoked, suspended or modified based upon the unsuitability of the applicant under the provisions of ECL section 27-0913.

§364.5 Surety.

(a) The department may require a form of surety or financial responsibility from a permittee acceptable in

form and amount to the department, to ensure compliance with the terms of the permit issued to such permittee pursuant to this Part.

(b) Any transporter carrying hazardous wastes in New York State shall supply evidence of security to the department from a reliable insurer or surety authorized to do business in New York State. Policies of insurance or surety bonds shall be in a form and amount specified below and shall provide liability coverage for bodily injury or property damage including liability for environmental restoration resulting from negligence in the operation maintenance or use of any motor vehicle involved in the transportation of hazardous waste. The limits of the aforementioned insurance policy or surety bond shall be:

- (1) \$1,000,000 for the transport of hazardous wastes not requiring a Hazardous Waste Manifest pursuant to Part 372 of this Title;
- (2) \$5,000,000 for the transport of hazardous wastes requiring a Hazardous Waste Manifest Pursuant to Part 372 of this Title in any vehicle which exceeds 10,000 pounds (4545 kilograms) maximum gross weight.
- (3) \$1,000,000 for the transport of hazardous wastes in any vehicle which does not exceed 10,000 pounds (4545 kilograms) maximum gross weight.

(c) Policies of insurance surety bonds and endorsements required under this section shall remain in effect continuously throughout the term of the permittee's waste transporter permit. Only policies which provide for notification of intent to cancel at least 35 days in advance of cancellation by the insurer to the department will fulfill the requirements of this section. The 35-days notice begins on the date the notice is postmarked.

(d) Policies of insurance and surety bonds required under this section may be replaced by other policies of insurance or surety bonds. Policies shall state that the liability of the retiring insurer or surety, shall terminate on the effective date of the replacement policy of insurance or surety bond or at the end of the 35-day cancellation period above, whichever is sooner.

§364.6 Operation Requirements.

(a) The operator of any vehicle used for activities covered by this Part shall carry the original permit or a legible photocopy of such permit in the vehicle. The operator shall present the permit, together with shipping

or transporting documents relative to the waste being transported, to authorized representatives of the department or to any law enforcement officers when requested to do so.

(b) A permittee shall display the full name of the transporter on both sides of each vehicle and the transporter's permit number in figures at least three inches high and of a color which contrasts with the background, in a prominent position on each side and the rear of each vehicle used for activities covered by this Part.

(c) The operator of any vehicle used for activities covered by this Part shall remain with such vehicle while it is being filled or discharged.

(d) All wastes must be properly contained during transport so as to prevent leaking, blowing, or any other type of discharge into the environment.

(e) A permittee shall submit a report to the department annually, or more frequently if the department deems necessary, on forms prescribed by the department. A permittee shall retain for three years the records on which such reports are based, and shall make such records available, upon request, to the department during normal business hours.

(f) A permittee and the operator of any vehicle used for activities covered by this Part shall comply with all applicable State and federal laws and all rules and regulations promulgated thereunder. The permittee is responsible for all requirements for all vehicles including leased vehicles operated under his permit.

(g) A permittee shall conspicuously mark or placard every vehicle, in a manner consistent with section 14-f of the New York State Transportation Law and any rules and regulations promulgated thereunder and any related federal requirements, related to the transportation of the regulated waste and its principal hazard.

(h) Permitted vehicles shall be restricted to the transportation of materials not intended for human or animal consumption or for other use by the general public except when properly cleaned in accordance with all applicable federal and state regulations governing decontamination.

(i) Permits are not transferable. Changes of ownership invalidate the provisions of such permits. Any change of address, name or location of garaged vehicles must be submitted immediately to the department.

§364.7 Hazardous Waste Manifest System.

Any transporter of hazardous waste shall comply with all applicable requirements of Part 372 of this title.

§Section 364.9 Standards For The Tracking And Management of Medical Waste.

(a) Purpose, scope, and applicability.

- (1) The purpose of this section is to establish a program for tracking and managing medical waste shipments pursuant to the Environmental Conservation Law.
- (2) The regulations in this section apply to regulated medical waste, as defined in Subdivision (c) of this section, that is generated or managed in New York State.

(b) Definitions.

- (1) For the purposes of this section, all of the terms defined in 6 NYCRR Parts 360 and 370 are hereby incorporated, except for the following terms, which have been redefined as appropriate to address the management of medical waste specifically:
 - (i) **Facility** means all contiguous land and structures, other appurtenances, and improvements on the land, used for treating, destroying, storing, or disposing of regulated medical waste. A facility may consist of several treatment, destruction, storage, or disposal operation units.
 - (ii) **Generator** means any person, by site, whose act or process produces regulated medical waste as defined in subdivision (c) of this section, or whose act first causes a regulated medical waste to become subject to regulation. In the case where more than one person (e.g., doctors with separate medical practices) are located in the same building, each individual business entity is a separate generator for the purposes of this Part.
 - (iii) **Landfill** means a disposal facility or part of a facility where regulated medical waste is placed in or on the land and which is not a land treatment facility, a surface impoundment, or an injection well.
 - (iv) **Person** means an individual, trust, firm, joint stock company, corporation (including a government corporation), partnership, association, State, municipality, commission, political subdivision of a State,

any interstate body, or any department, agency or instrumentality of the United States. (v) **Solid waste** means a solid waste defined in 6 NYCRR Part 360.

(vi) **Storage** means the containment of regulated medical wastes in such a manner as not to constitute disposal of such waste.

(vii) **Transfer facility** means any transportation-related facility including loading docks, parking areas, storage areas and other similar areas where shipments of regulated medical waste are held (come to rest or are managed) during the course of transportation. A location at which regulated medical waste is transferred directly between two vehicles is considered a transfer facility.

(viii) **Transporter** means a person engaged in the off-site transportation of regulated medical waste by highway.

(ix) **Transportation** means the shipment or conveyance of regulated medical waste by highway.

(x) **Treatment** means any method, technique, or process designed to change the character or composition of any regulated medical waste so as to either neutralize such waste or to render such waste not infectious, safer for transport, amenable for recovery, amenable for storage, or reduced in volume.

(2) In addition, when used in this section, the following terms have the meanings given below:

(i) **Biologicals** means preparations made from living organisms and their products, including vaccines, cultures, etc., intended for use in diagnosing, immunizing or treating humans or animals or in research pertaining thereto.

(ii) **Blood products** means any product derived from human blood, including but not limited to blood plasma, platelets, red or white blood corpuscles, and other derived licensed products, such as interferon.

(iii) **Body fluids** means liquid emanating or derived from humans and limited to blood cerebrospinal, synovial, pleural, peritoneal and pericardial fluids, and semen and vaginal secretions.

(iv) **Central collection point** means a location where a generator consolidates regulated medical

waste brought together from original generation points prior to its transport off-site or its treatment on-site (e.g., incineration).

(v) **Decontamination** means the process of reducing or eliminating the presence of harmful substances, such as infectious agents, so as to reduce the likelihood of disease transmission from those substances.

(vi) **Destination facility** means the disposal facility, the incineration facility, or the facility that both treats and destroys regulated medical waste, to which a consignment of such is intended to be shipped.

(vii) **Destroyed regulated medical waste** means regulated medical waste that has been ruined, torn apart, or mutilated through processes such as thermal treatment, melting, shredding, grinding, tearing or breaking, so that it is no longer generally recognizable as medical waste. It does not mean compaction.

(viii) **Destruction facility** means a facility that destroys regulated medical waste by ruining or mutilating it, or tearing it apart.

(ix) **Intermediate handler** is a facility that either treats regulated medical waste or destroys regulated medical waste but does not do both. The term, as used in this Part, does not include transporters.

(x) **Infectious agent** means any organism (such as a virus or a bacteria) that is capable of being communicated by invasion and multiplication in body tissues and capable of causing disease or adverse health impacts in humans.

(xi) **Laboratory** means any research, analytical, or clinical facility that performs health care related analysis or service. This includes medical, pathological, pharmaceutical, and other research, commercial, or industrial laboratories.

(xii) **Medical waste** means any solid waste which is generated in the diagnosis, treatment (e.g., provision of medical services), or immunization of human beings or animals, in research pertaining thereto, or in the production or testing of biologicals. The term does not include any hazardous waste identified or listed under section 27-0903 Article 27 of the Environmental Conservation Law or any household waste as defined in regulations promulgated under such section. (NOTE: Mixtures of

hazardous waste and medical waste are subject to this section except as provided in subdivision (c)(2) of this section.)

(xiii) **Original generation point** means the point at which the regulated medical waste leaves the generator's facility site. Waste may be taken from original generation points to a central collection point prior to off-site transport or on-site treatment.

(xiv) **Oversized regulated medical waste** means medical waste that is too large to be placed in a plastic bag or standard container.

(xv) **Regulated medical waste** means those medical wastes that have been listed in paragraph (c)(1) of this section and that must be managed in accordance with the requirements of this Part.

(xvi) **Tracking form** means New York State's, or other states' Medical Waste Tracking Form that must accompany all applicable shipments of regulated medical wastes generated within New York State.

(xvii) **Treated regulated medical waste** means regulated medical waste that has been treated to substantially reduce or eliminate its potential for causing disease, but has not yet been destroyed.

(xviii) **Untreated regulated medical waste** means regulated medical waste that has not been treated to substantially reduce or eliminate its potential for causing disease.

(c) Regulated Medical Waste.

(1) Definition of regulated medical waste.

(i) A **regulated medical waste** is any medical waste that is a solid waste, defined in 6 NYCRR Part 360, generated in the diagnosis, treatment, (e.g., provision of medical services), or immunization of human beings or animals, in research pertaining thereto, or in the production or testing of biologicals, that is not excluded or exempted under subparagraph (ii) of this paragraph, and that is listed below: (NOTE: The term "solid waste" includes solid, semi-solid, or liquid materials, but does not include domestic sewage materials identified in section 364. 1 (d) of this Part.)

(a) Cultures and stocks of infectious agents and associated biologicals, including: cultures from medical and pathological laboratories; cultures and stocks of infectious agents from research and

industrial laboratories; wastes from the production of biologicals; discarded live and attenuated vaccines; and culture dishes and devices used to transfer, inoculate, and mix cultures.

(b) Human pathological wastes, including tissues, organs, body parts and body fluids that are removed during surgery or autopsy, or other medical procedures, and specimens of body fluids and their containers.

(c) Liquid waste, human blood, products of human blood, items saturated and/or dripping with human blood, or items that were saturated and/or dripping with human blood that are now caked with dried human blood, including serum, plasma, and other blood components, and their containers, which were used or intended for use in either patient care, testing and laboratory analysis or the development of pharmaceuticals. Intravenous bags are also included in this category.

(d) Sharps that have been used in animal or human patient care or treatment or in medical, research, or industrial laboratories, including hypodermic needles, syringes (with or without the attached needle), pasteur pipettes, scalpel blades, blood vials, needles with attached tubing, and culture dishes (regardless of presence of infectious agents). Also included are other types of broken or unbroken glassware that were in contact with infectious agents, such as used slides and cover slips.

(e) Contaminated animal carcasses, body parts, and bedding of animals that were known to have been exposed to infectious agents during research (including research in veterinary hospitals), production of biologicals, or testing of pharmaceuticals.

(f) Wastes from surgery or autopsy that were in contact with infectious agents, including soiled dressings, sponges, drapes, lavage tubes, drainage sets, underpads, and surgical gloves.

(g) Laboratory wastes from medical, pathological, pharmaceutical, or other research, commercial, or industrial laboratories that were in contact with infectious agents, including slides and cover slips, disposable gloves, laboratory coats and aprons.

(h) Dialysis wastes that were in contact with the blood of patients undergoing hemodialysis or renal dialysis, including contaminated disposable equipment and supplies such as tubing, filters, disposable sheets, towels, gloves, aprons, and laboratory coats.

(i) Biological waste and discarded materials contaminated with blood, excretion, exudates, or secretion from humans who are isolated to protect others from certain highly communicable diseases, or isolated animals known to be infected with highly communicable diseases.

(j) The following unused, discarded sharps: hypodermic needles, suture needles, syringes, and scalpel blades.

(ii) Exclusions and exemptions.

(a) Exclusions.

(1) Hazardous waste identified or listed under the regulations in 6 NYCRR Part 371 is not regulated medical waste.

(2) Household waste, as defined in 6 NYCRR Part 360 is not regulated medical waste.

(3) Ash from incineration of regulated medical waste is not regulated medical waste once the incineration process has been completed.

(4) Residues from treatment and destruction processes are no longer regulated medical waste once the waste has been both treated and destroyed.

(5) Human corpses, remains, and anatomical parts that are intended for interment or cremation are not regulated medical waste.

(b) Exemptions. Samples of regulated medical waste transported off-site by EPA or State designated enforcement personnel for enforcement purposes are exempt from the requirements of this Part during the enforcement proceeding.

(2) Mixtures.

(i) Except as provided in subparagraph (ii) of this paragraph, mixtures of solid waste and regulated medical waste are a regulated medical waste.

(ii) Mixtures of hazardous waste and regulated medical waste are subject to the requirements in this Part, unless the mixture is subject to the hazardous waste manifest requirements in 6 NYCRR Part

372. (NOTE: Mixtures of regulated medical waste with hazardous waste that is exempt from the hazardous waste manifest requirements remain subject to this Part.)

(d) Pre-Transport Requirements.

Generators must comply with the requirements of this subdivision prior to shipping waste off-site, and generators must comply with paragraph (3) of this Part for on-site storage. Transporters, intermediate handlers (e.g., treatment or destruction facilities), and destination facilities must comply with applicable requirements of this subdivision, when specified in subdivisions f or g of this section.

(1) Segregation requirements.

(i) Unmixed regulated medical waste.

(a) Generators must segregate regulated medical waste intended for transport off-site to the extent practicable prior to placement in containers according to clause (b) of this subparagraph.

(b) Generators must segregate regulated medical waste into sharps, fluids (quantities greater than 20 cubic centimeters), and other regulated medical waste.

(ii) If other waste is placed in the same container(s) as regulated medical waste, then the generator must package, label, and mark the container(s) and its entire contents according to the requirements in paragraph (2), (5), and (6) of this subdivision.

(2) Packaging requirements.

Generators must package regulated medical wastes according to the following requirements before transporting or offering for transport such waste off-site.

(i) Regulated medical waste, except for all discarded sharps, shall be contained in bags which are impervious to moisture and have a strength sufficient to resist ripping, tearing or bursting under normal conditions of usage and of handling. The bags shall be secured so as to prevent leakage during storage, handling or transport. All bags used for containment and disposal of regulated medical wastes shall be red in color.

(ii) All discarded sharps shall be contained for disposal in leakproof, rigid, puncture-resistant containers

which are secured to preclude loss of the contents. Such containers shall be red in color or shall be conspicuously labeled with the word "infectious" or the words "regulated medical waste."

(iii) Before regulated medical waste is transported from the generator's facility, regulated medical waste contained in disposable containers shall be placed for storage or handling in disposable or reusable pails, cartons, drums, or portable bins. The containment system shall be leakproof, have tight-fitting covers, and be kept clean and in good repair. The containers may be of any color and shall be conspicuously labeled with the word "infectious" or the words "regulated medical waste."

(3) Storage of regulated medical waste prior to transport, treatment, destruction, or disposal. Any person who stores regulated medical waste prior to treatment or disposal on-site (e.g., landfill, interment, treatment and destruction, or incineration), or transport off-site, must comply with the following storage requirements:

- (i) Containment of regulated medical waste shall be in a manner and location which affords protection from the environment and limits exposure to the public;
- (ii) Maintain the regulated medical waste in a nonputrescent state, using refrigeration when necessary;
- (iii) Lock the outdoor storage areas containing regulated medical waste (e.g., dumpsters, sheds, tractor trailers, or other storage areas) to prevent unauthorized access;
- (iv) Limit access to on-site storage areas to authorized employees; and
- (v) Store the regulated medical waste in a manner that affords protection from animals and does not provide a breeding place or a food source for insects and rodents.

(4) Decontamination standards for reusable containers. Generators, transporters, intermediate handlers, and destination facility owners and operators must comply with the following requirements with respect to reusing containers:

- (i) All non-rigid packaging and inner liners must be managed as regulated medical waste under this Part and must not be reused.
- (ii) Any container used for the storage and/or transport of regulated medical waste and designated for

reuse once emptied, must be decontaminated if the container shows signs of visible contamination.

(iii) If any container used for the storage and/or transport of regulated medical waste is for any reason not capable of being rendered free of any visible signs of contamination in accordance with subparagraph (ii) of this paragraph, the container must be managed (labeled, marked and treated and/or disposed of) as regulated medical waste under this Part.

(5) Labeling requirements. Generators must label each package of regulated medical waste in accordance with paragraph (2) of this subdivision before transporting or offering for transport off-site.

(6) Marking (identification) requirements. Generators (including intermediate handlers) must mark each package of regulated medical waste according to the following marking requirements before the waste is transported or offered for transport off-site:

(i) The outermost surface of the containment system described in subparagraph (2)(iii) of this subdivision must be marked with a water-resistant identification tag containing, and of sufficient dimension to contain, the following information:

- (a) Generator's or intermediate handler's name;
- (b) Generator's or intermediate handler's address;
- (c) Transporter's name;
- (d) Transporter's State permit or identification number, or if not applicable, then the transporter's address;
- (e) Date of shipment; and
- (f) Identification of contents as medical waste.

(ii) Inner containers, including red bags, sharps and fluid containers, must be marked with indelible ink or imprinted with water-resistant tags. The marking must contain the following information:

- (a) Generator's or intermediate handler's name
- (b) Generator's or intermediate handler's address

(e) Generator Standards.**(1) Applicability and general requirements.**

(i) This subdivision establishes standards for generators of regulated medical waste.

(ii) A person who generates a medical waste, as defined in subparagraph (b)(2)(xii) of this section must determine if that waste is a regulated medical waste.

(iii) A generator who either treats and destroys or disposes of regulated medical waste on-site (e.g., incineration, burial or sewer disposal) is not subject to tracking requirements for that waste.

(NOTE: Generators of regulated medical waste with on-site incinerators are subject to the on-site incinerator requirements in subdivision (f) of this section. In addition, generators who treat and destroy regulated medical waste are subject to the record keeping requirements of subparagraph (5)(ii) of this subdivision. Generators who treat or dispose of medical waste on-site may be subject to additional federal, State or local laws and regulations.)

(iv) Vessels at port are subject to the requirements of this Part for those regulated medical wastes that are transported ashore. The owner or operator of the vessel and the person(s) removing or accepting waste from the vessel are considered co-generators of the waste.

(v) A generator of regulated medical waste must determine the quantity of regulated medical waste that he generates in a calendar month, and that is transported or offered for transport off-site, for treatment, destruction, or disposal.

(a) Generators of 50 pounds or more per month. Generators who generate and transport or offer for transport off-site 50 pounds or more of regulated medical waste in a calendar month are subject to the requirements of subdivision (d) of this section and all of the requirements of this subdivision for each shipment of regulated medical waste.

(b) Generators of less than 50 pounds per month.

(1) Generators who generate and transport or offer for transport off-site less than 50 pounds of regulated medical waste in a calendar month are subject to the requirements of subdivision (d) of

this section and paragraphs (1), (2), (3), (5) and (7) of this subdivision.

(2) Generators of regulated medical waste who generate less than 50 pounds in a calendar month but who transport or offer for transport off-site more than 50 pounds in any one shipment, are also subject to subdivision (d) of this section and all of the requirements of this subdivision for each shipment of 50 pounds or more.

(vi) Generators of regulated medical waste must use transporters who are permitted by the Department of Environmental Conservation except as provided in paragraph (2) of this subdivision.

(2) Exemptions. Generators of less than 50 pounds per month. Generators who meet the conditions of section 27-1510 of the "ECL" are exempt from the requirement to use a transporter who is permitted by the Department of Environmental Conservation provided that:

(i) The regulated medical waste is transported from the point of generation for treatment or disposal to a facility approved by the department. The generator shall have registered with the department in a form prescribed by the Commissioner, which registration shall designate the treatment or disposal facility and the employees acting on behalf of and under the supervision of the generator and such that person would not otherwise be subject to an adverse determination under section 27-1517 of the "ECL".

(ii) The generator must complete two pages of the New York State Medical Waste Tracking Form.

(3) Use of the tracking form.

(i) A generator who transports or offers for transport regulated medical waste for off-site treatment or disposal, must prepare a tracking form according to this section.

(ii) Generators must obtain the tracking form from the following sources:

(a) For generators who transport or offer for transport off-site regulated medical waste to an intermediate handler or a destination facility in a state which prints the tracking form and requires its use, the form from that state; and

(b) For all other generators, the tracking form from New York State.

(iii) The generator must prepare at least the number of tracking form copies that will provide the generator, each transporter(s), and each intermediate handler with one copy, and the owner or operator of the destination facility with two copies with the exception of the generator, exempted from using a permitted transporter by subparagraph (2)(i) of this subdivision, who when self-transporting requires only two copies of the medical waste tracking form, one for himself and one for the destination facility.

(iv) The generator must also:

(a) Sign the certification statement on the tracking form by hand;

(b) Obtain the handwritten signature of the initial transporter and date of acceptance on the tracking form; and

(c) Retain one copy, in accordance with paragraph (5) of this subdivision.

(4) Generators exporting regulated medical waste. Generators (including transporters and intermediate handlers that initiate tracking forms) who export regulated medical waste to a foreign country for treatment and destruction, or disposal, must request that the destination facility provide written confirmation that the waste was received. If the generator has not received that confirmation from the destination facility within 45 days from the date of acceptance of the waste by the first transporter, the generator must submit an exception report as required under paragraph (6) of this subdivision)

(5) Record keeping.

(i) Each generator must:

(a) Keep a copy of each tracking form signed in accordance with paragraph (3) of this subdivision, for at least three years from the date the waste was accepted by the initial transporter; and

(b) Retain a copy of all exception reports required to be submitted under subparagraph (6)(iii) of this subdivision.

(ii) Each generator who treats and destroys regulated medical waste on-site by a method or process other than incineration, must maintain the following records:

- (a) The approximate quantity by weight, of regulated medical waste that is subject to the treatment and destruction processes;
- (b) Approximate percent, by weight, of total waste treated and destroyed that is regulated medical waste; and
- (c) Records must be maintained by the generator for a period of at least three years from the date the waste was treated and destroyed.

(6) Exception Reporting.

- (i) A generator must contact the owner or operator of the destination facility, transporter(s), and intermediate handler(s), as appropriate, to determine the status of any tracked waste if he does not receive a copy of the completed tracking form with the handwritten signature of the owner or operator of the destination facility within 35 days of the date the waste was accepted by the initial transporter.
- (ii) A generator must submit an Exception Report, as described below, to the regional office of the department having jurisdiction over the county in which the generator is located if he has not received a completed copy of the tracking form signed by the owner or operator of the destination facility within 45 days of the date the waste was accepted by the initial transporter. The Exception Report must be postmarked on or before the 46th day and must include:
 - (a) A legible copy of the original tracking form for which the generator does not have confirmation of delivery; and
 - (b) A cover letter signed by the generator or his authorized representative explaining the efforts taken to locate the regulated medical waste and the results of those efforts.
- (iii) A copy of the exception report must be kept by the generator for a period of at least three years from the due date of the report.

(7) Additional Reporting. A generator of regulated medical waste shall submit a report to the department annually, or more frequently if the department deems necessary, on forms prescribed by the department, bearing a notice to the effect that false statements made therein are punishable by law.

(f) On-Site Incinerators.**(1) Applicability**

- (i) The regulations in this subdivision apply to generators of regulated medical waste who incinerate regulated medical waste on-site.
- (ii) Generators of regulated medical waste who incinerate such waste on-site and who accept regulated medical waste accompanied by a tracking form are also subject to the requirements of subdivision (h) of this section.

(2) Record keeping.

- (i) Generators must keep an operating log at their incineration facility that includes the following information:
 - (a) The date each incineration cycle was begun;
 - (b) The length of the incineration cycle;
 - (c) The total quantity of medical waste incinerated, per incineration cycle; and
 - (d) An estimate of the quantity of regulated medical waste incinerated, per incineration cycle.
- (ii) Generators must compile the operating log required by subparagraph (i) of this paragraph by September 20, 1989.
- (iii) Generators must retain the operating log required by subparagraph (i) of this paragraph until at least 36 months from the date of shipment.
- (iv) Generators with on-site incinerators that accept regulated medical waste from generators subject to the tracking form requirements must keep copies of all tracking forms for a period of three years from the date they accepted the waste.
- (v) Generators must retain a copy of the on-site incinerator report form required under paragraph (3) of this subdivision for three years from the date of submission.

(3) Reporting.

(i) General. The owner or operator of an on-site incinerator must prepare and submit a copy of the on-site incinerator report on forms prescribed by the department, bearing a notice to the effect that false statements made therein are punishable by law, to the New York State Department of Environmental Conservation. The report must summarize information collected in the operating log and must contain the following information in the following format:

(a) Facility name, mailing address, and location;

(b) Facility type (e.g., hospital, laboratory);

(c) Contact person;

(d) Waste feed information; and

(e) The total number of incinerators at the facility that incinerate regulated medical waste and information concerning each incinerator.

(ii) Reserved

(iii) Dates

(a) The first report is due February 6, 1990, and must contain information from June 22, 1989 to December 22, 1989.

(b) The second report is due February 6, 1991, and must contain information from June 22, 1990 to December 22, 1990.

(c) Annual reports for subsequent calendar years are due by March 31 of the following year on forms prescribed by the department.

(g) Transporter Requirements.

(1) Applicability.

(i) These requirements apply to transporters, including generators who transport their own waste, and

owners and operators of transfer facilities engaged in transporting regulated medical waste generated or disposed of in New York State.

(ii) These requirements do not apply to on-site transportation of regulated medical waste, nor to shipments exempted under paragraph (e)(2) of this section. These requirements do not apply to air, rail, water or U.S. Postal Service Carriers.

(iii) A transporter-of-regulated medical waste must also comply with subdivision (e) of this section when he consolidates two or more shipments of regulated medical waste onto a single tracking form.

(iv) Transporters must also comply with subdivision (d) of this section if they:

- (a) Store regulated medical waste in the course of transport; or
- (b) Remove regulated medical waste from a reusable container; or
- (c) Modify packaging of regulated medical waste.

(2) Transporter acceptance of regulated medical waste.

(i) Transporters must not accept for transport any regulated medical waste generated in New York State unless the outer surface of the container is labeled and marked in accordance with subdivision (d) of this section.

(ii) Transporters must not accept a shipment of regulated medical waste from a generator unless accompanied by a properly completed tracking form.

(iii) Marking (identification). When regulated medical waste is handled by more than one transporter, each subsequent transporter must attach a water resistant identification tag below the generator's marking on the outer surface of the packaging, that does not obscure the generator's or previous transporter's markings. The transporter taking possession of the shipment must ensure that the tag contains the following information:

- (a) Name of transporter taking possession (receiving) of the regulated medical waste;
- (b) Transporter State permit or identification number; and

(c) Date of receipt.

(3) Permitting Requirements.

(i) No person shall engage in the transportation of regulated medical waste originating or terminating at a location within the state without a permit pursuant to the provisions of Title 15 of Article 27 of the Environmental Conservation Law, unless exempted in subparagraphs (ii) and (iii).

(ii) No permit shall be required for the transportation by the generator of less than fifty pounds per month of regulated medical waste or by authorized employees of such generator acting on behalf of and under the supervision of the generator provided that:

(a) Such waste is being transported from the point of generation for treatment or disposal to a facility approved by the department.

(b) Such person shall comply with the requirements of section 27-1510 of the Environmental Conservation Law.

(c) The generator shall have registered with the department in a form that shall designate the treatment or disposal facility and the employees acting on behalf of or under the supervision of the generator; and

(d) Such person would not otherwise be subject to an adverse determination under section 27-1517 of the Environmental Conservation Law.

(iii) Vehicles transporting regulated medical waste, such as an emergency rescue vehicle, a blood service collection vehicle or a vehicle operated by a public health nurse in the conduct of routine business, where the transportation of such waste is incidental to the primary function of the vehicle do not require a permit wherever the waste is transported to a central collection facility which shall be considered to be the point of generation.

(iv) A permitted transporter of regulated medical waste shall notify the department within thirty days of the following occurrences:

(a) Any change of substantial interest in ownership or indirect ownership or any change in name or

location; or

(b) Any permitted vehicle is involved in any spill or accident.

(v) Proof of liability insurance or other form of financial security in the amount of one hundred thousand dollars shall be provided to the.

(4) Vehicle requirements.

(i) Transporters must use vehicles to transport regulated medical waste that meet the following requirements:

(a) The vehicle must have a fully enclosed leak-resistant cargo-carrying body;

(b) The transporter must ensure that the waste is not subject to mechanical stress or compaction during loading and unloading or during transit;

(c) The transporter must maintain the cargo-carrying body in good sanitary condition;

(d) The cargo-carrying body must be secured if left unattended; and

(e) The vehicle must be owned by the transporter. ("Owned" shall include a lessee of a motor vehicle having the exclusive use and possession of the vehicle under a lease for a period greater than thirty days.)

(ii) The transporter must use vehicles to transport regulated medical waste that have the following identification on the two sides and back of the cargo-carrying body in letters a minimum of 3 inches in height:

(a) The name or trademark of the transporter;

(b) The transporter's State permit number; and

(c) A sign or the following words imprinted:

(1) INFECTIOUS; or

(2) REGULATED MEDICAL WASTE.

(iii) A transporter must not transport regulated medical waste in the same container with other solid waste unless the transporter manages both as regulated medical waste in compliance with this Part.

(5) Tracking form requirements.

(i) General. A transporter may not accept a shipment of regulated medical waste from a generator unless it is accompanied by a medical waste tracking form.

(ii) Acceptance. Before accepting for transport or transporting any regulated medical waste that is accompanied by a regulated medical waste tracking form, the transporter must:

(a) Certify that the tracking form accurately reflects the number and total weight of the packages being transported by signing and dating the tracking form acknowledging acceptance of the regulated medical waste from the generator; and

(b) Return a signed copy of the tracking form to the generator before leaving the generator's site.

(iii) In transit. The transporter must ensure that the tracking form accompanies the regulated medical waste while in transit.

(iv) Delivery. A transporter, upon delivery of the regulated medical waste to another transporter (including a transfer facility) or to an intermediate handler or destination facility must:

(a) Obtain the date of delivery and the handwritten signature of the transporter, or the owner or operator of the intermediate handling facility, or destination facility on the tracking form;

(b) Retain one copy of the tracking form in accordance with paragraph (8) of this subdivision; and

(c) Give the remaining copies of the tracking form to the accepting transporter, intermediate handler, or destination facility.

(6) Compliance with the tracking form.

(i) Except as provided in subparagraph (ii) of this paragraph, the transporter must deliver the entire quantity of regulated medical waste that he has accepted from a generator or another transporter to:

(a) The intermediate handler or destination facility listed on the tracking form; or

(b) The next transporter.

(ii) If the regulated medical waste cannot be delivered in accordance with subparagraph (i) of this paragraph, the transporter must contact the generator for further directions. revise the tracking form according to the generator's instructions, and deliver the entire quantity of regulated medical waste from that generator according to the generator's instructions.

(7) Consolidating or remanifesting waste to a new tracking form.

(i) A transporter may choose to consolidate or remanifest to a single tracking form all shipments of regulated medical waste less than 220 pounds.

(ii) When the transporter receives the signed tracking form that he initiated from the destination facility, and the regulated medical waste was accompanied by a tracking form originated by a generator, the transporter must:

(a) Attach a copy of the tracking form signed by the destination facility to the generator's original tracking form; and

(b) Retain a copy of each tracking form in accordance with paragraph (8) of this subdivision; and

(c) Return a copy of each tracking form to the generator within 15 days of receipt of the tracking form from the destination facility.

(d) For each tracking form initiated by consolidating tracking forms onto a new one, the transporter must maintain a consolidation log indicating all shipments consolidated or remanifested on that form. The log must accompany the tracking form and include the following information:

(1) Name of each generator;

(2) Generator's State permit or identification number. If the generator's State does not issue permit or identification numbers, then the generator's address;

(3) Date the regulated medical waste was originally shipped by the generator;

(4) Quantity of regulated medical waste (number of containers and/or weight in pounds) by waste

category (i.e., "untreated" or "treated") shipped by each generator; and

(5) The names, State permit or identification numbers of all previous transporters or, if not applicable the transporters' addresses.

(8) Record keeping.

(i) A transporter of regulated medical waste must keep a copy of the tracking form signed by the generator, himself, the previous transporter (if applicable), and the next party, which may be one of the following: another transporter; or the owner or operator of an intermediate handling facility; or destination facility. The transporter must retain a copy of this form for a period of three (3) years from the date the waste was accepted by the next party.

(ii) For regulated medical waste that is not accompanied by a generator-initiated tracking form, the transporter must retain a copy of all transporter-initiated tracking forms and consolidation logs for a period of three years from the date the waste was accepted by the transporter.

(iii) For any regulated medical waste that was received by the transporter accompanied by a tracking form and consolidated or remanifested by the transporter to another tracking form, the transporter must:

(a) Retain a copy of the generator-initiated tracking form signed by the transporter for three years from the date the waste was accepted by the transporter; and

(b) Retain a copy of the transporter-initiated tracking form signed by the intermediate handler or destination facility for three (3) years from the date the waste was accepted by the intermediate handler or destination facility.

(iv) Retain a copy of each transporter report (required by paragraph (9) of this subdivision) for three years after the date of submission.

(9) Reporting. A transporter who accepts regulated medical waste generated or to be disposed of in New York State must submit reports describing the source and disposition of the waste. The reports must be submitted using the form prescribed by the Commissioner.

(h) Treatment, Destruction, and Disposal Facilities.**(1) Applicability.**

(i) These regulations apply to owners and operators of facilities that receive regulated medical waste in New York State. Facilities that are subject to this part include:

- (a) Destination facilities (i.e., treatment and destruction facilities, a facility that causes the regulated medical waste to meet the conditions of subclause (c)(1)(ii)(a)(3) or (4) of this section including incineration facilities and disposal facilities); and
- (b) Intermediate handlers (i.e., facilities that either treat or destroy the regulated medical waste, but do not cause it to meet the conditions of subclause (c)(1)(ii)(a)(3) or (4) of this Part).

(ii) Exceptions.

- (a) Except as provided by clause (b) of this subparagraph, this subdivision does not apply to generators who incinerate regulated medical waste on-site.
- (b) This subdivision does apply to generators who receive regulated medical waste required to be accompanied by a tracking form.

(2) Use of the tracking form.

(i) Destination Facility. When a destination facility receives regulated medical waste accompanied by a tracking form, the owner or operator must:

- (a) Sign and date each copy of the tracking form to certify that the regulated medical waste listed on the tracking form was received;
- (b) Note any discrepancies as defined in subparagraph (3)(I) of this subdivision on the tracking form;
- (c) Immediately give the transporter at least one copy of the signed tracking form;
- (d) Send a copy of the tracking form to the generator (or to the transporter or intermediate handler that initiated the tracking form) within 15 days of the delivery; and

- (e) Retain a copy of each tracking form in accordance with paragraph (4) of this subdivision.
- (ii) Intermediate Handlers. When an intermediate handler receives regulated medical waste accompanied by a tracking form, the owner or operator must meet the following requirements:
 - (a) The owner or operator must meet all the requirements for generators under both subdivisions (d) and (e) of this section including signing the tracking form accepting the waste and entering the new tracking form number when initiating a new tracking form for each shipment of regulated medical waste that has either been treated or destroyed.
 - (b) The owner or operator must maintain a log matching the original generator's tracking forms to the tracking form that he initiates. This log must include:
 - (1) Name(s) of generator(s);
 - (2) Generator's address;
 - (3) The date the regulated medical waste was originally shipped by the generator or the generator's unique tracking form number; and (4) The new tracking form number to which the waste is assigned.
 - (c) Within 15 days of receipt of the tracking form that he initiated and that was signed by the destination facility, the intermediate handler must:
 - (1) Attach a copy of the tracking form signed by the destination facility to the original tracking form initiated by the generator identified in subclause (b)(1) of this subparagraph;
 - (2) Send a copy of each tracking form to the generator who initiated the tracking form; and
 - (3) Retain a copy of each tracking form in accordance with the requirements of paragraph (4) of this subdivision.
- (3) Tracking form discrepancies.
 - (i) Tracking form discrepancies are:
 - (a) For containers, any variation in piece count such as a discrepancy of one box, pail, or drum in a

truckload;

(b) For waste by categories (i.e., untreated or treated) discrepancies in number of containers for each category of regulated medical waste as described on the label imprinted or affixed to the outer surface of the package;

(c) Packaging that is broken, torn, or leaking; and

(d) Regulated medical waste that arrives at an intermediate handler or a destination facility unaccompanied by a tracking form, where the owner or operator knows such form is required, or for which the tracking form is incomplete or not signed.

(ii) Upon discovering a discrepancy, the owner or operator must attempt to resolve (e.g., with telephone conversations) the discrepancy with the waste generator, the transporter and/or the intermediate handler. If the discrepancy is not resolved, the owner or operator must submit a letter, within 15 days of receiving the waste, to the New York State Department of Environmental Conservation. The letter must describe the nature of the discrepancy and the attempts the owner or operator has undertaken to reconcile it. The owner or operator must include with the letter a legible copy of the tracking form or shipping papers in question. If the discrepancy is, the type specified in clause (i)(d) of this paragraph, the report must specify the quantity of waste received, the transporter and the generator(s).

(4) Record keeping. The owner or operator of a destination facility or an intermediate handler receiving regulated medical waste generated or disposed of in New York State must maintain records for a minimum of three (3) years from the date the waste was accepted. These records must contain the following information:

(i) Copies of all tracking forms required by paragraph (2) of this subdivision; and

(ii) Copies of all discrepancy reports required by subparagraph (3)(ii) of this subdivision.

APPENDIX I

IRC Technical Update No. 39

“Traffic Vibration in Buildings”

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Traffic Vibrations in Buildings

by Osama Hunaidi

This Update describes the nature and causes of traffic-induced vibrations in buildings, and discusses possible remedial and preventive measures. The focus is on houses.

Vibration is a frequent problem in buildings. Common internal sources are machinery, HVAC systems, elevators and the activities of occupants. External sources include earthquakes, wind, blasting and construction operations, and road and rail traffic. This Update addresses vibrations caused by road traffic.

Vibrations induced by road traffic are a common concern in cities in Canada and worldwide. House owners may complain about annoyance and building damage. There may be concern about the possibility of adverse long-term effects of vibrations on historic buildings, especially those in a weak condition. Vibrations may also interfere with sensitive processes, such as those in hospital operating theatres, scientific research laboratories and high-tech industries.

How Traffic Generates Vibration

Like most vibration problems, traffic vibrations can be characterized by a source-path-receiver scenario (Figure 1). Vehicle contact with irregularities in the road surface (e.g., potholes, cracks and uneven manhole covers) induces dynamic loads on the pavement (Figure 2). These loads generate stress

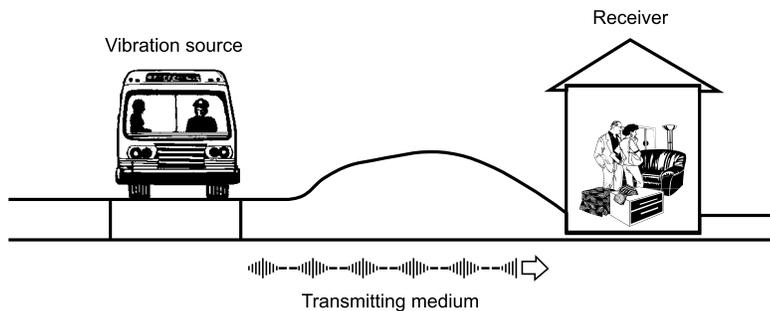


Figure 1. Traffic vibrations can be characterized by a source-path-receiver scenario.



Figure 2. Vibrations are generated when a bus or truck strikes an irregularity in the road surface.

Table 1. Comparison of vibration levels (mm/sec², rms) induced by a bus and a truck, to demonstrate the effect of different suspension systems at different speeds*

Location	25 km/h		50 km/h	
	Bus	Truck	Bus	Truck
Ground in front of house	20.5	19.9	64.5	33.2
External foundation wall	11.2	10.1	30.9	15.7
Mid-point of floor in 1 st storey	20.3	20.8	62.9	30.1
Mid-point of floor in 2 nd storey	35.0	37.3	96.2	46.7

* Bus had air-bag suspension system; truck had multi-leaf steel spring suspension system.

waves, which propagate in the soil, eventually reaching the foundations of adjacent buildings and causing them to vibrate. Traffic vibrations are mainly caused by heavy vehicles such as buses and trucks. Passenger cars and light trucks rarely induce vibrations that are perceptible in buildings.

When a bus or a truck strikes an irregularity in the road surface, it generates an impact load and an oscillating load due to the subsequent “axle hop” of the vehicle. The impact load generates ground vibrations that are predominant at the natural vibration frequencies of the soil whereas the axle hop generates vibrations at the hop frequency (a characteristic of the vehicle’s suspension system). If the natural frequencies of the soil coincide with any of the natural frequencies of the building structure or its components, resonance occurs and vibrations will be amplified.

In contrast to irregularities such as manhole covers or potholes, normal road surface roughness induces continuous dynamic loads on the road. If the road surface roughness includes a harmonic component that, at the posted speed, leads to a forcing frequency that coincides with any of the natural frequencies of the vehicle and/or those of the soil, substantial vibration may be induced. This effect is familiar to car drivers travelling over dirt or gravel roads with ripples (termed “the washboard effect”). At a certain speed, the vehicle shudders excessively but the vibration subsides at higher or lower speeds.

Factors Influencing Vibration Level and Frequency

Road traffic tends to produce vibrations with frequencies predominantly in the range from 5 to 25 Hz (oscillations per second). The amplitude of the vibrations ranges between 0.005 and 2 m/s² (0.0005 and 0.2 g) measured as acceleration, or 0.05 and 25 mm/s measured as velocity. The predominant frequencies and amplitude of the vibration depend on many factors including the condition of the road; vehicle weight, speed and suspension system; soil type and stratification; season of the year; distance from the road; and type of building. The effects of these factors are interdependent

and it is difficult to specify simple relationships between them.

The effect of vehicle speed, for instance, depends on the roughness of the road. Generally, the rougher the road, the more speed affects the vibration amplitude. The effect of the suspension system type also depends on vehicle speed and road roughness. For low speed and smooth road conditions, the effect of the type of suspension system is not significant. But for high speeds and rough roads, the type of suspension system becomes important (Figure 3). This interdependence can be seen in Table 1, which presents vibration levels recorded for a transit bus and a truck of the same weight category, travelling on a rough road. Vibration levels induced by the two vehicles were similar at 25 km/h. At 50 km/h, however, vibration levels induced by the bus were about twice those induced by the truck.¹

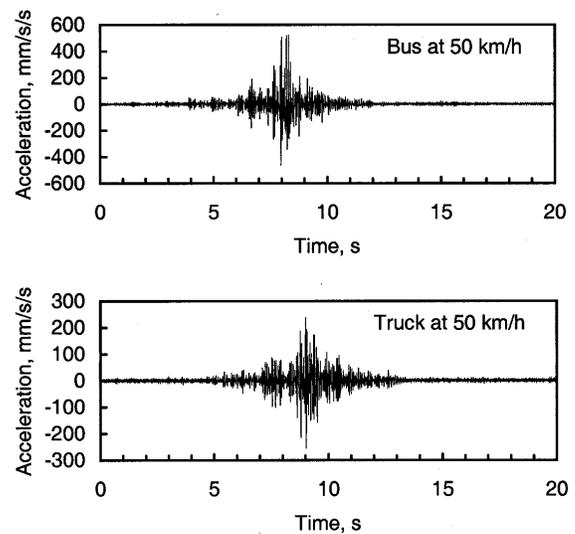


Figure 3. Comparison between vibration levels induced by a transit bus and a truck. Vibration levels are significantly different because of differences in suspension systems.

Vibration amplitudes and the predominant frequencies are influenced significantly by the soil type and stratification. The lower the stiffness and damping of the soil, the higher the vibration. For impact loads, ground vibrations are highest at the natural frequencies of the site. At these frequencies, the soil, like any structural system, offers the least resistance and hence the greatest response to loads. For soils, the natural frequencies depend on stiffness and stratification. Typically, traffic vibrations are worst in areas underlain by a soft clay soil layer that is between 7 and 15 m deep. In these areas, the natural frequencies of the soil can coincide with those of houses and their floors, leading to resonance or amplified vibration.

In Canada and other northern countries where the topsoil is normally frozen in winter, vibration levels in winter can be less than half the levels occurring in other seasons. Generally there are fewer complaints about vibrations in winter. The number of complaints is usually highest during the spring thaw period. It is commonly believed that the high ground water table at this time increases vibration levels; evidence based on experiments, however, shows that vibration levels in the spring are only slightly higher than those in the fall and summer. The higher number of complaints in the spring may be due to the lower vibration levels during winter. The 'quiet' winter period may cause a loss of familiarity with vibration and consequently a decrease in tolerance as vibration levels increase again in spring.

Vibration levels decrease with distance from the road as a result of "geometrical spreading" of the vibration energy and its dissipation by soil viscosity and/or friction. By way of example, geometrical spreading is the effect by which ripples induced by throwing a stone into a pond become flatter as they spread out. For homogeneous soil sites, vibration propagation patterns are simple, and general simple relationships can be found between vibration levels and distance. In general, however, soils are rarely homogeneous and are usually stratified. Propagation patterns are, therefore, very complex, and attenuation relationships are site-specific.

Airborne Vibration

The noise of passing buses and trucks can also induce vibrations, especially if buildings are close to the road. These airborne vibrations occur at higher frequencies than soil-borne vibrations and mostly cause rattling of windows and loose objects in front-facing rooms of affected buildings.

Measurement and Analysis of Vibrations

For proper evaluation of the effect of building vibrations induced by road traffic, measured vibrations must be undistorted and data processing and analysis must follow established procedures.² Instrumentation for the measurement of vibration signals, which usually includes vibration sensors, signal conditioners and recording equipment, should have sufficient resolution and sensitivity. Measurements should be made at locations where the vibration levels reflect the purpose of the evaluation. To evaluate the effect of vibrations with respect to human annoyance, measurements should be taken at locations where the vibration level is greatest, normally at the midpoints of floors. On wood floors, the measurement points should be located near joists to avoid local resonance of individual floor panels.

To evaluate the effect of vibrations on a building, measurements should normally be made on the foundation or on the ground close to the building on the side facing the road. Vibration sensors should be mounted using methods that can faithfully transmit to the transducer the actual motion of the ground or building components over the frequency range of interest. If the mounting method is suspected of distorting the motion, alternative methods should be tested.

The degree of detail required in the analysis of the vibration signals depends on the nature and purpose of the investigation. For a preliminary evaluation, it might be sufficient to find the peak of the vibration signal and to determine the predominant frequency of vibration by counting the number of negative and positive peaks in a given time interval. For an in-depth evaluation, advanced analysis methods are necessary, such as one-third-octave frequency band analysis, frequency-weighting according to established human response curves, and spectral analysis.

Effect of Vibrations on People

Building vibrations caused by road traffic are not a health and safety concern; they are more a problem of annoyance. Vibrations may be unacceptable to occupants because of annoying physical sensations produced in the human body, interference with activities such as sleep and conversation, rattling of window panes and loose objects, and fear of damage to the building and its contents. Experience has shown that people living in houses are likely to complain if vibration levels are only slightly above the perception threshold, the major concern being fear of damage to the building or its contents. The tolerance level varies widely from person to person and from area to area.

The International Organization for Standardization and several countries (not including Canada) have published standards that provide guidance for evaluating human response to building vibration. The standards deal mainly with continuous and intermittent vibration such as that induced by machinery and pile driving, and impulsive vibration such as that induced by blasting. The standards are not clear about how to evaluate bus and truck vibrations, which have relatively short duration and complex amplitude characteristics. Alternative evaluation methods have been developed recently by IRC researchers based on their extensive measurements of traffic vibrations at several complaint sites.³

Potential for Building Damage

House owners may complain about damage induced by traffic vibrations, such as cracks in walls and ceilings, separation of masonry blocks, and cracks in the foundation.

However, vibration levels are rarely high enough to be the direct cause of this damage, though they could contribute to the process of deterioration from other causes.

Building components usually have residual strains as a result of uneven soil movement, moisture and temperature cycles, poor maintenance or past renovations and repairs. Therefore small vibration levels induced by road traffic could trigger damage by “topping up” residual strains. Consequently it is difficult to establish a vibration level that may cause building damage and, therefore, controversy continues to surround the issue. In some cases, when a building is subjected to vibration for many years,

fatigue damage (i.e., that caused by repeated loading) may occur if the induced stresses in the building are high enough. In addition to damage caused directly by vibration, indirect damage may result from differential movements caused by soil settlement due to densification. Loose sandy soils are particularly susceptible to densification when subjected to vibration.

Several countries have adopted standards for evaluating the effect of vibration on buildings. No such national standards exist in Canada, but some provinces have adopted guide values for vibration induced by blasting. The most stringent vibration guide value specified in published standards for damage to houses is more than 30 times the human perception level. Occupants would therefore find potentially damaging vibrations to be extremely annoying because of their very high level. In a recent IRC study of vibrations induced by buses in houses at complaint sites in Montreal, vibration levels were found to be significantly lower than the most stringent guide value.¹

Standards for evaluating human response to vibration levels

- ISO 2631/2 (1989), International Organization for Standardization
- ISO 8041 (1990), International Organization for Standardization
- BS 6472 (1984), British Standards Institution
- ANSI S3.29 (1983), American National Standards Institute

Standards for evaluating the potential for building damage

- DIN 4150 (1984), Deutsches Institut fuer Normung
- SN 640 312 (1978), Association of Swiss Highway Engineers
- BD 7385 (1993), British Standards Institution
- Report No. 8507 (1980), U.S. Bureau of Mines (blasting-induced vibration)
- Publication No. NPC-119 (1978), Ontario Ministry of the Environment (blasting-induced vibration)
- ISO 4866 (1990), International Organization for Standardization

Suggested Solutions and Preventive Strategies

Solutions and preventive strategies that have been suggested to reduce vibration to an acceptable level include periodic maintenance of road surfaces, control of traffic flow and speed, improvement of the road structure, soil improvement, sufficient distance between roads and buildings, screening of vibration using in-ground barriers, and building isolation systems. Some of these measures have proven to be effective.

Maintenance of the road surface (for example, levelling manhole covers, patching potholes and applying a new pavement overlay) is the most economical and effective remedial method. However, it is usually a short-term measure; for example, cracks and defects in the original pavement reappear in the overlay. Therefore, roads may have to be maintained more frequently than normally required for good rider comfort, safety and appearance. This will not always be feasible because of the high cost. Reducing speed limits and restricting heavy vehicles, while effective remedial measures, are usually difficult to enforce.

Experimental and theoretical evidence indicates that improving the structure of the road by increasing its thickness and stiffness is not effective for reducing vibration levels in the predominant frequency range of traffic-induced vibration (Figure 4). On the other hand, improvement of the soil structure under roads using deep mixing techniques could reduce vibration levels.

Increasing the distance between roads and houses might be a practical strategy for planned developments. Where vibrations result from impacts with a pothole or crack in the road, and considering geometrical damping only, vibration levels could decrease by at least one-third for each doubling of the distance if the soil is homogeneous. Attenuation relationships are in most cases site-specific and therefore must be measured on-site to determine the necessary distance.

In-ground barriers are trenches that are either left open or filled with a material (such as bentonite or concrete) that has stiffness or density significantly different from that of the surrounding soil (Figure 5). These barriers could be effective since traffic vibrations are mainly transmitted by the soil in the form of Rayleigh waves, which propagate near the ground surface.

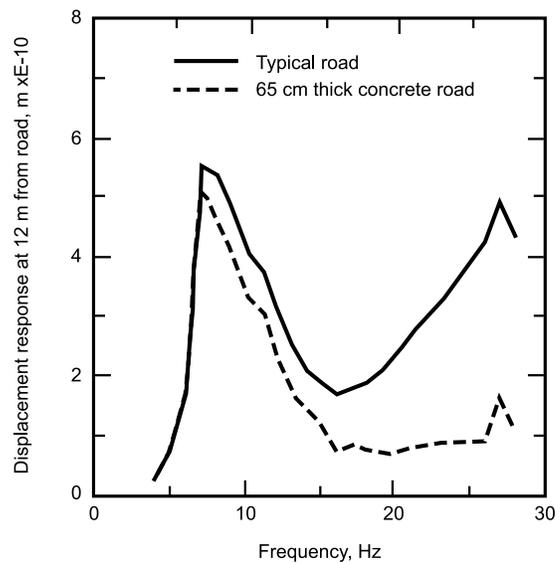


Figure 4. Effect of varying pavement stiffness on vibration levels. Stiffer road structures do not significantly decrease vibration levels at the frequencies that affect houses most (8 to 15 Hz).

In-Ground Vibration Barriers

Studies show that the depth of an in-ground vibration barrier has to be at least equal to one Rayleigh wavelength to achieve a significant reduction in vibration levels (a reduction factor of 0.25 is usually considered significant). In the case of traffic vibrations, very deep barriers would be needed (in excess of 10 m) because of the low-frequency nature of these vibrations.

Rayleigh waves

Rayleigh waves, which are the main carrier of traffic vibrations, are confined to a region near the surface of the ground that is roughly one wavelength deep. The ground motion induced by these waves has both horizontal and vertical components, which diminish with depth. Rayleigh waves that are induced by a point-like source on the ground surface, e.g., a vehicle striking a pothole, have cylindrical wave-fronts and are therefore attenuated much more slowly than shear and compression waves, which have hemispherical wave-fronts.

Attenuation mechanisms for ground vibrations

- Geometrical spreading:
 $A_2 = A_1 (r_1 / r_2)^n$
 $n = 1/2$ for surface waves
 $n = 1$ for body waves
- Material damping (soil friction)
 $A_2 = A_1 \exp [\alpha (r_2 - r_1)]$

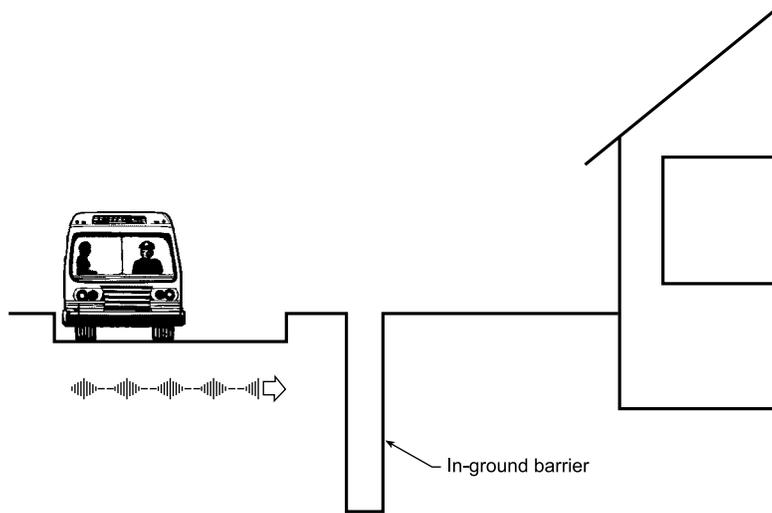


Figure 5. Schematic illustration of an in-ground vibration barrier

However, trenches may be too costly for situations involving houses. They could perhaps be justified for larger buildings with strict vibration limits, such as operating theatres of hospitals or high-tech factories with sensitive processes.

An economical alternative to trenches in a residential area could be a row of lime or cement piles in the right-of-way adjacent to the road. Such piles are constructed in situ by mechanical mixing of the soil with either quick lime or ordinary cement. The piles could have a diameter of 0.5 to 1 m and a depth of 15 m. However, the effectiveness of such pile-walls in reducing traffic vibrations has not yet been demonstrated.

The use of building isolation systems — for example, mounting the building on springs — is not effective for houses because of the predominantly low-frequency range of vibrations induced by road traffic. Unlike multi-storey buildings for which isolation systems have been successfully used to reduce subway-generated vibrations, typical houses do not have the necessary mass to induce the required deflections in isolation materials. The cost of installing isolation systems under existing buildings is prohibitive.

Summary

House owners are likely to complain about traffic vibrations if the levels are only slightly above the perception threshold, the main concern being fear of damage to their property. Building damage may occur but it is unlikely to be caused solely by the vibrations themselves. Reducing vibrations to an acceptable level could be difficult and expensive. For existing buildings, the most practical remedial measure is road maintenance. For new developments, increasing the distance between buildings and roads, improvement of soil structure, and in-ground pile barriers could prove effective.

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APPENDIX J

NYSDEC Program Policy

“Assessing and Evaluating Visual Impacts”

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generic listing of all aesthetic resources of statewide significance and serves as the template from which aesthetic issues of State concern can be distinguished from local issues. Generally, it is staff's responsibility to identify and mitigate impacts to Federal and State designated aesthetic resources. With respect to local resources, Department staff should defer to local decision makers, who are likely to be more familiar with and best suited to address them.

III. Policy

In the review of an application for a permit, Department staff must evaluate the potential for adverse visual and aesthetic impacts on receptors outside of the facility or property. When a facility is potentially within the viewshed of a designated aesthetic resource, the Department will require a visual assessment, and in the case where significant impacts are identified, require the applicant to employ reasonable and necessary measures to either eliminate, mitigate or compensate for adverse aesthetic effects.

IV. Responsibility

The environmental analyst, acting as project manager, for review of a new application must assure that visual and aesthetic impacts are properly evaluated by the applicant. For new permits or significantly modified permits, staff must determine the potential significance of the action pursuant to SEQR.

In the review of an application for a permit, staff must evaluate the potential for adverse aesthetic impacts to sensitive places. Sensitive places of statewide concern are listed in this guidance (see V. Procedure). From the State's perspective there may be a significant impact if one or more of the listed places lies within the viewshed of a proposed project. From a local perspective there may be a significant impact if a local resource lies within the project's viewshed. This simple concept may help staff and decision makers distinguish local concerns from State concerns, and public concerns from individual expressions of concern.

With respect to aesthetics, an individual citizen's expression of concern is usually based on the belief that a property or particular "neighborhood" lies within the viewshed of a proposed project. This is different from the concerns of the public at large which has a stake in aesthetic resources recognized as having designated value under the public domain.

Significant impacts are identified and confirmed by staff during the review of an application. SEQR obligates the Department to mitigate such impacts to the maximum extent practicable [6NYCRR Part 617.11(d)(5)]. Local involved agencies must do the same with respect to local resources and likewise comply with Article 8 of the ECL and 6NYCCR Part 617. Impacts to aesthetic resources of statewide concern may require more substantial mitigation strategies to achieve project approval. Mitigation costs and practicality of the mitigative measures must be weighed in the balancing required by the State Environmental Quality Review Act.

Local resources are frequently designated through local zoning and planning processes. Accordingly, local jurisdictions may require additional and somewhat different information than the Department. The legislature has recently recognized and addressed this jurisdictional difference. In 1999, the Legislature, revised Article X of the Public Service Law to eliminate a DEC requirement to testify on behalf of local

jurisdictions concerning the impacts of power plant siting. In doing so, they explicitly eliminated the requirement that DEC staff testify with regard to local jurisdictional needs.

V. Procedure

Staff must assure that the full scope of visual and aesthetic concerns are addressed. This includes impacts from all project components and their operation on all inventoried resources. In addition, an equitable level of expectations between the potential significance of the impact, the degree of sophistication of the analysis required of applicant and appropriate level of mitigation strategies must be established. The goal of visual assessment is to reveal impacts and effective mitigation strategies. Small scale, low budget projects should not be burdened with the costs of sophisticated visual analyses. In these instances, it is generally more effective to reserve applicant investments for mitigation rather than complex visual assessments. Simple line-of-sight profiles may suffice for revealing impacts and potential mitigation strategies (see appendix A for an illustration of their use).

Staff must take certain basic steps to assure that visual concerns have been fully addressed in each application. Those steps are:

- A. Verify the applicant's inventory of aesthetic resources.
- B. Verify the applicant's visual assessment, using either graphic viewshed and line-of-sight profile analysis as illustrated in Appendix A, or more sophisticated visual simulations and digital viewshed analysis, as needed.
- C. Determine or verify the applicant's assessment of the potential significance of the impact.
- D. Confirm that applicant's mitigation strategies are reasonable and are likely to be effective, or assure mitigation by requiring the applicant to submit a design that includes the required mitigation, or, impose permit conditions consistent with those mitigation requirements.

A discussion of each follows:

A. Inventory of Aesthetic Resources.

It is important to note that all significant scenic and aesthetic resources may not have yet been designated in New York State. However, for the purposes of this policy all aesthetic resources of statewide significance may be derived from one or more of the following categories:

- 1) A property on or eligible for inclusion in the National or State Register of Historic Places [16 U.S.C. § 470a et seq., Parks, Recreation and Historic Preservation Law Section 14.07]; e.g. Trinity Church in Manhattan, Schuyler Mansion in Albany;
- 2) State Parks [Parks, Recreation and Historic Preservation Law Section 3.09]; e.g. Grafton Lakes State Park, Rensselaer County;
- 3) Urban Cultural Parks [Parks, Recreation and Historic Preservation Law Section 35.15];

- 4) The State Forest Preserve [NYS Constitution Article XIV]; Adirondack and Catskill Parks;
- 5) National Wildlife Refuges [16 U.S.C. 668dd], State Game Refuges and State Wildlife Management Areas [ECL 11-2105]; e.g. Montezuma National Wildlife refuge; Perch River Wildlife Management Area, Jefferson County;
- 6) National Natural Landmarks [36 CFR Part 62]; e.g. Iona Island Marsh, Hudson River, Rockland County;
- 7) The National Park System, Recreation Areas, Seashores, Forests [16 U.S.C. 1c]; e.g. Gateway National Recreation Area, Staten Island; Finger Lakes National Forest, Schuyler County;
- 8) Rivers designated as National or State Wild, Scenic or Recreational [16 U.S.C. Chapter 28, ECL 15-2701 et seq.]; e.g. Cedar River (Wild), Ampersand Brook (Scenic); West Branch of the Ausable River (Recreational);
- 9) A site, area, lake, reservoir or highway designated or eligible for designation as scenic [ECL Article 49 or DOT equivalent and APA. Designated State Highway Roadside; e.g. Storm King Highway (Article 49 Scenic Road), Rockland county];
- 10) Scenic Areas of Statewide Significance [of Article 42 of Executive Law]¹; e.g. Catskill-Olana SASS;
- 11) A State or federally designated trail, or one proposed for designation [16 U.S.C. Chapter 27 or equivalent]; e.g. Appalachian Trail;
- 12) Adirondack Park Scenic Vistas; [Adirondack Park Land Use and Development Map]
- 13) State Nature and Historic Preserve Areas; [Section 4 of Article XIV of the State Constitution];
- 14) Palisades Park; [Palisades Interstate Park Commission]; e.g. Harriman State Park;
- 15) Bond Act Properties purchased under Exceptional Scenic Beauty or Open Space category; e.g. Star Hill, Oneida County.

Note: The Hudson River has recently been designated an “American Heritage River” by a Presidential Order under [PL 91-190]. The details and criteria of the program as they may relate to this policy are currently under review.

B. Visual Assessments.

¹ State Coastal Policies number 24 and 25 derived in part from Section 912 of Article 42 of the Executive Law define the criteria that, when properly employed, assure project consistency with coastal zone management objectives. Such policies are consistent with the review mechanisms contained in this DEC policy. Also for reference is the July 1993 DOS SASS publication for Columbia-Greene, Catskill-Olana, Estates District, Ulster North, Esopus-Lloyd, and the Hudson Highlands.

In all visual assessments, significant resources must be identified along with any potential adverse effects on those resources from the proposed project. If, in staff's judgement, a place designated in any of the above categories may lie in the viewshed of the proposed project then a visual assessment should be required to confirm or refute this potential. At a minimum a line-of-sight-profile, or, depending upon the scope and potential significance of the activity, a digital viewshed may be used to determine if a significant property is within the potential viewshed of the proposed project (see the Appendix A attached for guidance on how to construct and use a line-of-sight profile). Staff must then review the applicant's visual assessment for adequacy, accuracy and thoroughness. The control points (see glossary for definition) must be established by staff and should include a worst case scenario. Worst case here means establishing the control points that reveal any project visibility at an aesthetically significant place. Most of the time, though not always, high points reveal worst case. For example, the tallest facility component (e.g. combustion exhaust stack), may be the control point at the project end of the profile, while a high point of ground upon which the observer stands within a State Park may be the control point at the resource end of the profile.

With respect to determining the radius of the impact area to be analyzed, there has been a general guideline for large actions that it is usually "safe" to use 5 miles. The 5 mile distance probably owes its origins to the U.S. Forest Service "distance zones" set forth in their landscape management journal written in 1973² (5 miles is still largely considered "background," i.e. distances at which most activities are not a point of interest to the casual observer). However, for very large activities, such as power plants (particularly those that generate wet cooling tower plumes), and large landscape alterations, greater distances have been shown to be important in some landscape settings, and must be considered. In those instances, applicants must document to the satisfaction of staff that impacts beyond five miles to listed resources have been considered. They must also provide a clear demonstration that impact to any resource of statewide concern is insignificant. Such demonstrations may be convincing if resource inventories beyond 5 miles are coupled with line-of-sight profiles (see Appendix A for a complete discussion of these graphic tools) or other accepted visual criteria, such as computer simulations, analogous comparative studies or worst case presentations.

C. Significance.

Aesthetic impact occurs when there is a detrimental effect on the perceived beauty of a place or structure. Significant aesthetic impacts are those that may cause a diminishment of the public enjoyment and appreciation of an inventoried resource, or one that impairs the character or quality of such a place. Proposed large facilities by themselves should not be a trigger for a declaration of significance. Instead, a project by virtue of its siting in visual proximity to an inventoried resource may lead staff to conclude that there may be a significant impact. For example, a cooling tower plume may drift between viewers standing on an overlook at a State Park thereby blocking the view of the panorama. Staff must verify the potential significance of the impact using the qualities of the resource and the juxtaposition (using viewshed and or line-of-sight profiles) of the proposal as the guide for the determination.

D. Mitigation.

² U.S. Forest Service, Agricultural Handbook Number 434, Feb. 1973

Mitigation may reduce or eliminate the visibility of the project or alter the project's effect on the scenic or aesthetic resource in some way. It is usually easier to deal with the visibility of the project than its composition to achieve mitigation. Altering the composition of a project lies within the realm of professional designers. When given the opportunity, however, staff should encourage applicants to design aesthetically compatible projects that incorporate environmentally friendly design principles and components, as may be employed from the mitigation menu below.

Mitigation strategies can be categorized into three general groups as outlined below.

- 1) Professional Design and Siting.
 - a) Screening
 - b) Relocation
 - c) Camouflage/Disguise
 - d) Low Profile
 - e) Downsizing
 - f) Alternate Technologies
 - g) Non-specular materials
 - f) Lighting
- 2) Maintenance
 - a) Decommissioning
- 3) Offsets

A discussion of each follows:

1. Professional Design and Siting. A properly sited and designed project is the best way to mitigate potential impacts. Under optimum circumstances a project can be sited in a location which precludes the possibility of having an aesthetic resource within its viewshed. Also, through sensitive design treatment, elements of particular concern may be sited or dimensioned in a way that reduces or eliminates impacts on significant resources. Sometimes circumstances prevent the realization of optimal siting and sometimes engineering, economic or other constraints preclude optimum dimensioning or other appropriate design treatments. Under those circumstances, other mitigation strategies should be considered.

Staff should assure effective mitigation is thoroughly explored by requiring project sponsors to consider the following tools to mitigate impacts:

a. Screening. Screens are objects that conceal other objects from view. They may be constructed of soil, rocks, bricks, or almost anything opaque. Vegetation can, despite its visual porosity, function as a screen when a sufficient mass is employed. Screens may be natural, e.g. vegetation, or artificial, e.g. fences and walls. Screens may appear natural e.g. wood, stone, or may appear artificial, e.g. plastic, metal. In natural settings it is generally better to employ natural materials, while in urban places designers may employ a broader range of materials.

Screens constructed from soil are called berms. Berms may appear natural e.g. blend with nearby topography, or appear artificial e.g. geometrical or symmetrical shape. Each

may be employed depending upon the overall design intent. Berms may be vegetated or not vegetated depending upon their particular function, e.g. spill containment and/or screening.

Properly sized and placed screens may completely conceal an object, while improperly sized and placed screens may fail to conceal. Screens may block desirable views when improperly placed (see Appendix A to see how screen placement is important).

Screens are not necessarily buffers and buffers are not necessarily screens. A buffer may attenuate noise, soften a landscape or provide other functions that may or may not include screening.

Screens possess line, form, texture, planes and color, and therefore, have their own aesthetic qualities. At times, they may be more impacting than the object to be concealed. Screens may draw attention to the object to be concealed. Screens may physically connect two similar or dissimilar areas.

b. Relocation. A facility component may be relocated to another place within the site to take advantage of the mitigating effects of topography and vegetation.

c. Camouflage/Disguise. Colors and patterns of color may conceal an object or its identity. Disguise may take many forms, and is limited only by the imagination of the project designers. As an example, communication towers can be disguised as trees, flagpoles, barn silos, church steeples, or any other “in-character” structure depending upon circumstances.

d. Low Profile. Reducing the height of an object reduces its viewshed area.

e. Downsizing. Reducing the number, area or density of objects may reduce impacts.

f. Alternate Technologies. Substituting one technology for another may reduce impacts (e.g. dry cooling tower technology versus wet cooling tower technology).

g. Non-Specular Materials. Using building materials that do not shine may reduce visual impacts.

h. Lighting. With respect to regional issues, such as a tall combustion exhaust stack or radio tower, the Federal Aviation Administration (FAA) requires certain lighting for public transportation safety. These impacts may be considered unavoidable unless lower profiles can be achieved. Applicants should also document that they have consulted with and met all applicable lighting standards under local jurisdiction. Consideration should be given to off-site light migration, glare and “sky glow” light pollution. Lighting requirements, through best engineering practices, should not exceed the functional requirements of the project.

2. Maintenance. How a landscape and structures in the landscape are maintained has aesthetic implications. “Eyesores” result from neglect. This should be part of any mitigation strategy.

a. Decommissioning. Removing an object from the landscape after its useful life is over, reduces the duration of a visual impact (see page 9 for further discussion).

3. Offsets. Correction of an existing aesthetic problem identified within the viewshed of a proposed project may qualify as an offset or compensation for project impacts. A decline in the landscape quality associated with a proposed project can, at least partially, be "offset" by the correction. In some circumstances a net improvement may be realized (see page 9 for further discussion).

An applicant may assert that all economic and effective mitigation strategies have been incorporated into the proposed design and, when properly designed, such self-imposed mitigation should effectively mitigate any negative effects on a listed resource. However, if staff concludes that significant impacts remain then staff must still ensure that impacts are minimized. In this regard, staff should first investigate visibility mitigation strategies. Manipulating design elements to achieve adequate mitigation usually lies within the purview of professional designers.

Staff should not try to judge the quality of a design nor its effect on the aesthetics of the listed resource unless they are qualified to do so. Such qualifications normally include academic or other accepted credentials in architecture or landscape architecture. Nevertheless, it is the burden of the applicant to provide clear and convincing evidence that the proposed design does not diminish the public enjoyment and appreciation of the qualities of the listed aesthetic resource. Staff can and should review the strength or merit of such proof. An applicant's mere assertion that the design is in harmony with or does not diminish the values of the listed resource is insufficient for the purposes of reaching findings. Instead, an applicant must demonstrate through evidence provided by others e.g. recognized architectural review boards, comparative studies that are clearly analogous, or other similar techniques, that the public's enjoyment and appreciation of the qualities of the aesthetic resource are not compromised.

Staff must be assured that consistent with social, economic and other essential considerations, the action is one that avoids or minimizes adverse impacts to the maximum extent practicable. This can be accomplished by asking and responding affirmatively to the following questions.

- 1) Was the full mitigation menu considered?
- 2) Will those mitigation strategies selected be effective?
- 3) Were the costs of mitigation for impacts to other media considered and were those mitigation investments prioritized accordingly?
- 4) Are the estimated costs of all mitigation insignificant (for example, are the costs of visual mitigation taken together with all other mitigation less than 10% of the total project cost?)
- 5) Were the mitigation strategies employed consistent with previous similar applications? If not, was the reasoning for any changes reasonable and justified?
- 6) Was the mitigation cost effective? For example, if fully mature vegetation with an immediate screening effect costs 10 times the amount that less mature vegetation would cost, is it appropriate to require the less costly option if its full screening effect can be realized in just, say, 3 years? (See Appendix A for details concerning this subject).
- 7) Were offsets and decommissioning considered?

It is important to bring the project sponsor into the discussion of mitigation strategies. If more than one mitigation strategy meets all environmental protection needs, the applicant's needs and preferences should be considered.

It is preferred that all mitigation options selected be specified in the applicant's plans for Department review. The plans should sufficiently depict readily understandable and enforceable details. Adherence to such plans should then become a permit condition. During and after facility construction, staff should visit the site and ensure that all mitigation strategies detailed in the plans and specifications have been adequately incorporated into the facility design.

If all mitigation options available from the menu are considered, applied where appropriate, and those applied are cost effective, then one can assert that impacts have been minimized to the maximum extent practicable. However, the residual impact after all such strategies have been employed may still be significant. Offsets should then be considered to help achieve the balancing required of SEQR. Finally, decommissioning options may be considered that reduce the duration of impacts for projects with severe residual impacts. A discussion of each follows:

1. Offsets.

Offsets should be employed in sensitive locations where significant impacts from the proposal are unavoidable, or mitigation of other types would be uneconomic and mitigation to be used is only partially effective. Offsets should be employed when significant improvement can be expected at reasonable cost. An example of an offset might be the removal of an existing abandoned structure that is in disrepair (i.e. an "eyesore") to offset impacts from a proposal within visual proximity to the same sensitive resource.

2. Decommissioning.

Decommissioning may take many forms, and other disciplines in Department program areas may have an interest in decommissioning. However, from the perspective of aesthetics, three are of most significance: 1) the total removal from the site of all facility components and restoration to an acceptable condition, usually with attendant revegetation; 2) partial removal of facility components, such as elimination of visually impacting structures; and 3) conditions designed to maintain an abandoned facility and site in an acceptable condition that precludes "eyesores" or site and structural deterioration. Applicants should provide such plans when deemed necessary.

Glossary

Aesthetic impact: Aesthetic impact occurs when there is a detrimental effect on the perceived beauty of a place or structure. Mere visibility, even startling visibility of a project proposal, should not be a threshold for decision making. Instead a project, by virtue of its visibility, must clearly interfere with or reduce the public's enjoyment and/or appreciation of the appearance of an inventoried resource (e.g. cooling tower plume blocks a view from a State Park overlook).

Aesthetically significant place: A formally designated place visited by recreationists and others for the express purpose of enjoying its beauty. For example, millions of people visit Niagara Falls on an annual basis. They come from around the country and even from around the world. By these measurements,

one can make the case that Niagara Falls (a designated State Park) is an aesthetic resource of national significance. Similarly, a resource that is visited by large numbers who come from across the state probably has statewide significance. A place visited primarily by people whose place of origin is local generally is generally of local significance. Unvisited places either have no significance or are "no trespass" places.

Aesthetic Quality: There is a difference between the quality of a resource and its significance level. The quality of the resource has to do with its component parts and their arrangement. The arrangement of the component parts is referred to as composition. The quality of the resource and the significance level are generally, though not always, correlated.

Atmospheric perspective: Even on the clearest of days, the sky is not entirely transparent because of the presence of atmospheric particulate matter. The light scattering effect of these particles causes atmospheric or aerial perspective, the second important form of perspective. In this form of perspective there is a reduction in the intensity of colors and the contrast between light and dark as the distance of objects from the observer increases. Contrast depends upon the position of the sun and the reflectance of the object, among other items. The net effect is that objects appear "washed out" over great distances.

Control Points: The two end points of a line-of-sight. One end is always the elevation of an observer's eyes at a place of interest (e.g. a high point in a State Park) and the other end is always an elevation of a project component of interest (e.g. top of a stack of a combustion facility or the finished grade of a landfill).

Line-of-sight profile: A profile is a graphic depiction of the depressions and elevations one would encounter walking along a straight path between two selected locations. A straight line depicting the path of light received by the eye of an imaginary viewer standing on the path and looking towards a predetermined spot along that path constitutes a line-of-sight. The locations along the path where the viewer stands and looks are the control points of the line-of-sight profile.

Scientific Perspective: Scientific, linear, or size perspective is the reduction in the apparent size of objects as the distance from the observer increases. An object appears smaller and smaller as an observer moves further and further from it. At some distance, depending upon the size and degree of contrast between the object and its surroundings, the object may not be a point of interest for most people. At this hypothetical distance it can be argued that the object has little impact on the composition of the landscape of which it is a tiny part. Eventually, at even greater distances, the human eye is incapable of seeing the object at all.

Viewshed: A map that shows the geographic area from which a proposed action may be seen is a viewshed.

Visual Assessments: Analytical techniques that employ viewsheds, and/or line-of-sight profiles, and descriptions of aesthetic resources, to determine the impact of development upon aesthetic resources; and potential mitigation strategies to avoid, eliminate or reduce impacts on those resources.

Visual impact: Visual impact occurs when the mitigating effects of perspective do not reduce the visibility of an object to insignificant levels. Beauty plays no role in this concept. A visual impact may also be considered in the context of contrast. For instance, all other things being equal, a blue object

seen against an orange background has greater visual impact than a blue object seen against the same colored blue background. Again, beauty plays no role in this concept.

APPENDIX A

SCREENS

THE RELATIONSHIP BETWEEN SCIENTIFIC PERSPECTIVE AND A LINE OF SIGHT PROFILE.

Scientific or linear perspective is a geometric procedure that projects space onto a plane. This technique provides the analyst with a simplified way to verify the effectiveness of applicants mitigation proposal.

Q: At what height should a screen be constructed to completely conceal a 23 foot object from an observer standing 80 feet from the object?
 Constraint: Screen must be located 10 feet inside property line.

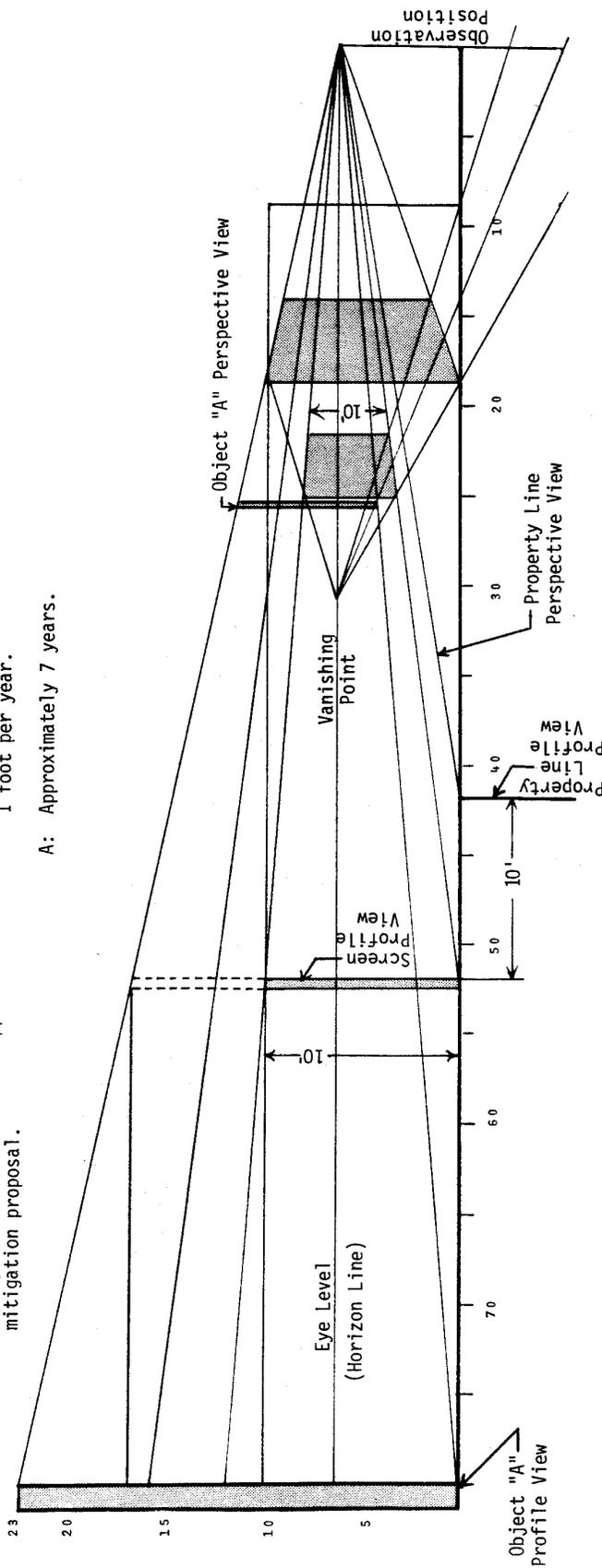
A: About 17 feet.

Q: What is the maximum height of an object to be concealed behind a 10 foot screen that is located 80 feet from an observer?
 Constraint: The observer is standing about 18½ feet behind the screen.

A: About 23 feet.

Q: In approximately how many years would a vegetative screen 6 feet in height planted on a berm 4 feet in height completely conceal a 23 foot object?
 Constraints: Berm must be located 10 feet inside property line; object is 80 feet from observer; expected vegetation growth rate of approximately 1 foot per year.

A: Approximately 7 years.

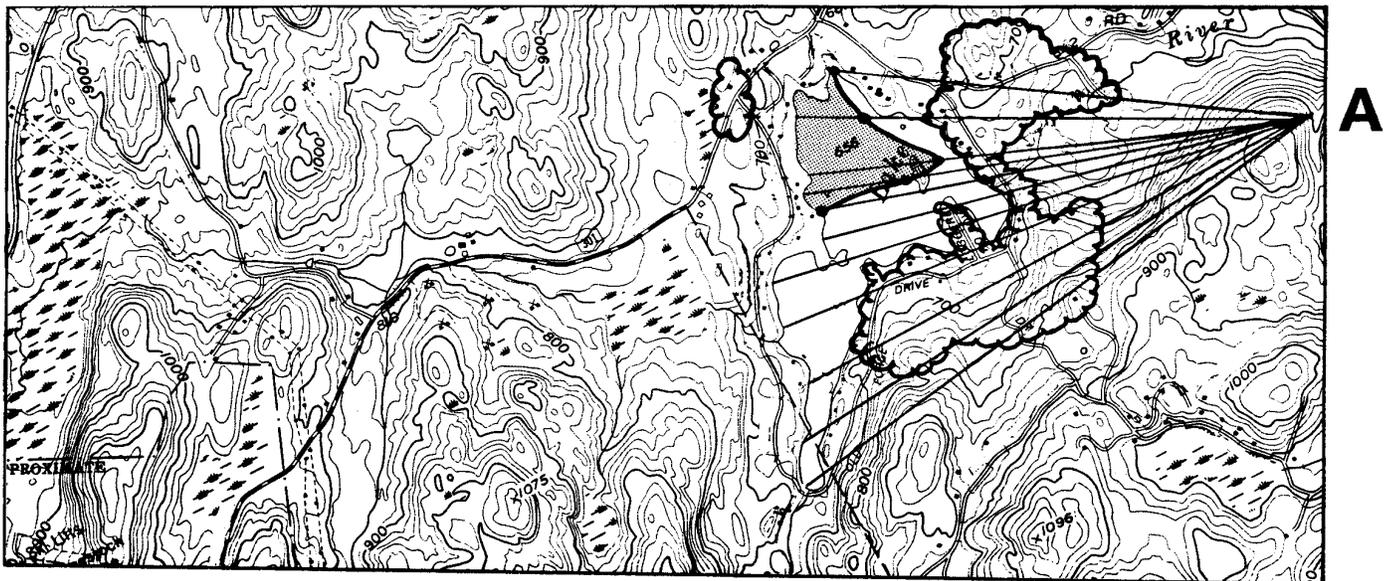


VIEWSHEDS

For illustrative purposes only, a "partial" viewshed has been constructed below. A partial viewshed is distinguished from a full viewshed in that it only shows a selected area from which an object may be seen. A full viewshed shows all such areas.

The shaded area in the northwest corner of the lake is the only area within the lake that a hypothetical object 100 feet in height and situated at A (where the profile radii converge) may be seen.

The defined viewing area has been constructed by connecting each point along each profile where a viewer just begins to see the hypothetical object. To add realism to the viewshed, 40' vegetation has been factored into the lines of sight. The vegetation alters the viewing angle and hence the initial viewpoint indicated by the large black dots at the intersection of the shaded area with each profile radii.



LEGEND



VIEWSHED
 (Area within lake from which a hypothetical
 100 foot object located at "A" may be seen)



SCALE 1" = 2,000'

PROFILES

To construct a profile, first position the graph paper parallel and contiguous to the horizontal alignment of the desired profile (indicated by line A-B). Proceed by extending vertical lines (indicated by dashed lines) to the correct height according to any selected convenient vertical scale (in this case 1" = 100'). This must be done from each spot where the horizontal alignment crosses a contour line. It is the elevation of the intersected contour that determines the height of each vertical line. Then, simply connect the top of each vertical line to form the profile (indicated by line C-D). The profile C-D depicts the depressions and elevations one would encounter walking a straight path from Point A to B on the plan map. To add realism add vegetation at the proper locations at the proper height (in this case 40').

Sample Questions and Answers

According to the profile:

Q. Can an observer at location "Z" see the east shore of the lake?

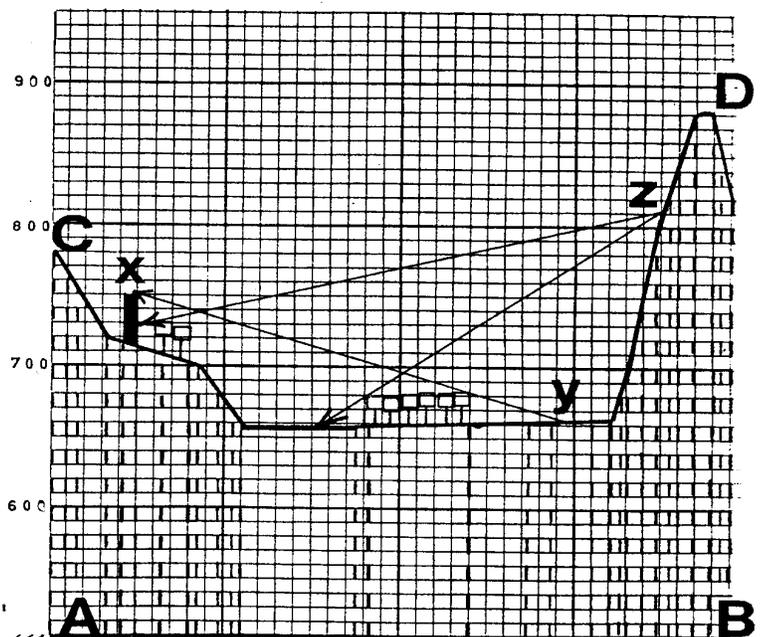
A. No

Q. At what point will the observer no longer be able to see object "X"?

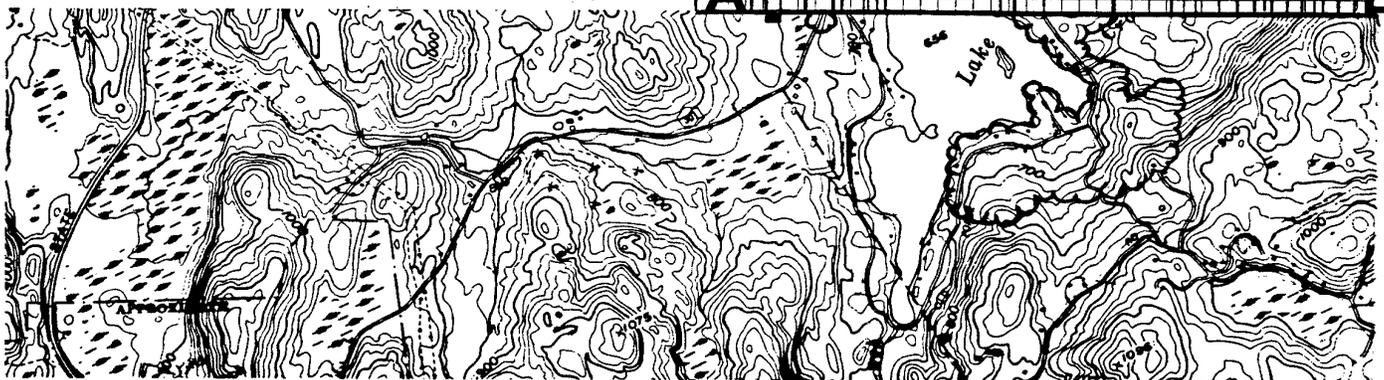
A. At point "Y".

Q. What is the visible portion of object "X" to an observer at location "Z"?

A. About 20 feet.



VERTICAL SCALE 1" = 100'
HORIZONTAL SCALE 1" = 2,000'



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APPENDIX K

NYSDOT Final Environmental Assessment

**“Reducing Large Truck Traffic in Local Communities
in New York State”, March 2010**

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NYS Department of Transportation Large-Truck Freight Movement

Final Environmental Assessment Report - March 2010

- Chapter 1 summarizes report findings. (Under Development)
- [Chapter 2](#)  discusses history, existing conditions and needs. (Updated 5/4/2010)
- [Chapter 3](#)  provides discussion of alternatives, proposed conditions, and engineering considerations. (Updated 5/4/2010)
- [Chapter 4](#)  discusses the social, economic and environmental considerations for this action. Detailed technical appendices are also included in this assessment. (Updated 6/2010)

The following Appendices may contain PDF images. For assistance in reading these files, please send an e-mail to: TruckRegComment@dot.state.ny.us.

APPENDICES

A. [Truck Survey Link Map, Table of Highway Link Attributes, Typical Sections and Documentation Summary](#)

 (Updated 5/4/2010)

B. [Environmental Information](#) (Updated 5/4/2010)

C. **Traffic Information**

- [CA - Accident Analysis](#)  (Updated 6/2010)
- [CB - Traffic Analysis](#)  ((Updated 6/2010)

D. [Pavement Performance Analysis](#) ((Updated 5/4/2010)

E. [Draft Regulations](#) (Updated 5/4/2010)

F. [Route Fuel and Toll Cost Analysis](#) (Updated 5/4/2010)

G. [Signs](#) (Updated 5/4/2010)

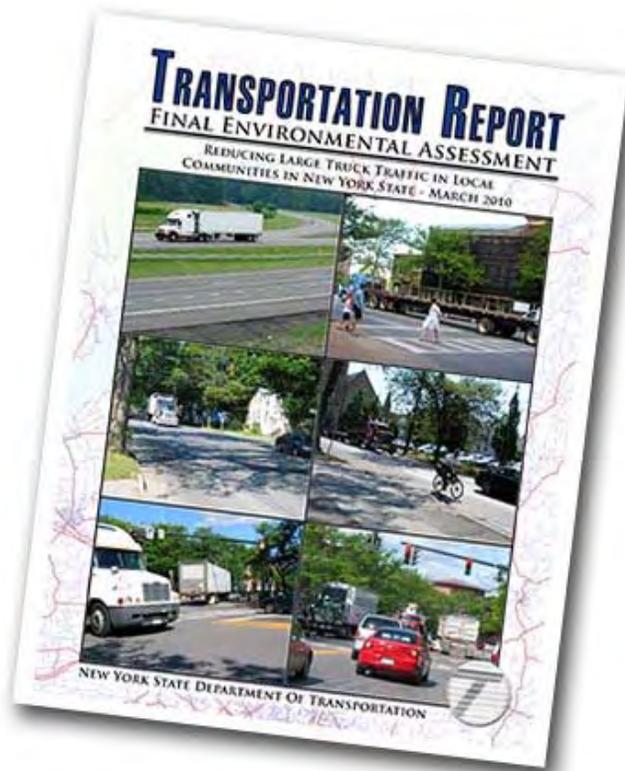
H. [Alternatives Considered and Eliminated from Further Study](#) (Updated 5/4/2010)

I. [Evaluation of Identified Short Cut Routes and Reasonable Access Highways](#) (Updated 5/4/2010)

J. [Highway Designations, Allowable Vehicle Dimensions](#)

K. **Stakeholders and Public Input**

- KA - [Comments](#) Received Prior to June 2008 DRAFT Regulation Release  (Updated 5/4/2010)
- KB - [Transcript](#) from Public Information Meeting - Pages 1-42  (Updated 5/4/2010)
- KB - [Transcript](#) from Public Information Meeting - Pages 43-87  (Updated 5/4/2010)



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APPENDIX L

NYSDEC Subpart 217-3

“Idling Prohibition for Heavy Duty Vehicles”

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Subpart 217-3: Idling Prohibition For Heavy Duty Vehicles

(Statutory authority: Environmental Conservation Law, §§ 1-0101, 3-0301, 19-0103, 19-0105, 19-0107, 19-0301, 19-0303, 19-0305, 19-0320, 71-2103, 71-2105; Vehicle and Traffic Law, §§ 301[c], 375.28)

[Filed 9/30/02. Effective 30 days after filing.]

[This is page 1 of 1 of this Subpart. A complete list of Subparts in this regulation appears in the [Chapter 3](#) contents page. A list of sections in this subpart appears below.]

For administrative information about this posting, contact: [Division of Air Resources](#). The Bureau of Mobile Sources and Technology Development at (518) 402-8292 is the contact for technical questions pertaining to this rule.

Contents:

Sec.

[217-3.1 Applicability](#)

[217-3.2 Prohibitions](#)

[217-3.3 Exceptions](#)

§217-3.1 Applicability

This Part shall apply to all on-road heavy duty vehicles propelled by diesel fueled and non-diesel fueled engines excluding marine vessels. *Heavy duty vehicle* means a vehicle that has a GVWR exceeding 8,500 pounds and is designed primarily for transporting persons or properties.

§217-3.2 Prohibitions

No person who owns, operates or leases a heavy duty vehicle including a bus or truck, the motive power for which is provided by a diesel or non-diesel fueled engine or who owns, leases or occupies land and has the actual or apparent dominion or control over the operation of a heavy duty vehicle including a bus or truck present on such land, the motive power for which said heavy duty vehicle is provided by a diesel or non-diesel fueled engine, shall allow or permit the engine of such heavy duty vehicle to idle for more than five consecutive minutes when the heavy duty vehicle is not in motion, except as otherwise permitted by section 217-3.3 of this Subpart.

§217-3.3 Exceptions

The prohibitions of section 217-3.2 of this Subpart shall not apply when:

- (a) A diesel or non-diesel fueled heavy duty vehicle including a bus or truck is forced to remain motionless because of the traffic conditions over which the operator thereof has no control.
- (b) Regulations adopted by Federal, State or local agencies having jurisdiction require the maintenance of a specific temperature for passenger comfort. The idling time specified in section 217-3.2 of this Subpart may be increased, but only to the extent necessary to comply with such regulations.
- (c) A diesel or non-diesel fueled engine is being used to provide power for an auxiliary purpose, such as

loading, discharging, mixing or processing cargo; controlling cargo temperature; construction; lumbering; oil or gas well servicing; farming; or when operation of the engine is required for the purpose of maintenance.

(d) Fire, police and public utility trucks or other vehicles are performing emergency services.

(e) Trucks owned or operated by persons engaged in mining and quarrying are used within the confines of such person's property.

(f) A diesel fueled truck is to remain motionless for a period exceeding two hours, and during which period the ambient temperature is continuously below 25°F.

(g) A heavy duty diesel vehicle, as defined in subdivision [217-5.1\(o\)](#) of this Part, that is queued for or is undergoing a state authorized periodic or roadside diesel emissions inspection pursuant to Subpart [217-5](#) of this Part.

(h) A hybrid electric vehicle, as defined in subdivision [217-5.1\(r\)](#) of this Part, idling for the purpose of providing energy for battery or other form of energy storage recharging.

(i) Heavy duty vehicles used for agricultural purposes on a farm.

(j) Electric powered vehicles.

APPENDIX M

EAF and Positive Declaration

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State Environmental Quality Review
POSITIVE DECLARATION
Notice of Intent to Prepare a Draft EIS
Determination of Significance

Project Number _____

Date _____

This notice is issued pursuant to Part 617 of the implementing regulations pertaining to Article 8 (State Environmental Quality Review Act) of the Environmental Conservation Law.
Towns of Tusten, Cohecton, Bethel, Callicoon, Delaware, Highland, Lumberland & Rockland, Sullivan Co., NY

The _____ as lead agency, has determined that the proposed action described below may have a significant impact on the environment and that a Draft Environmental Impact Statement will be prepared.

Name of Action:

SEQR Status: Type 1
Unlisted

Scoping: No Yes If yes, indicate how scoping will be conducted:

Description of Action:

Location: (Include street address and the name of the municipality/county. A location map of appropriate scale is also recommended.)

Reasons Supporting This Determination:

For Further Information:

Contact Person:

Address:

Telephone Number:

A copy of this notice must be sent to:

Department of Environmental Conservation, 625 Broadway, Albany, New York 12233-1750

Chief Executive Officer, Town/City/Village of _____

Any person requesting a copy

All Involved agencies

Applicant (If any)

Environmental Notice Bulletin, 625 Broadway, Albany, NY 12233-1750

PART 3

Impacts on Land

- Depth to Bedrock Less than Three Feet

To the extent Town roadways are improved or rebuilt as a result of use permitted under the Road Preservation Local Laws, it is possible that bedrock may be encountered. Road construction / reconstruction would be undertaken in a good and workmanlike manner, and this impact is not considered significant.

- Multiple-Phases Lasting More than One Year

The Road Preservation Local Law is likely to be applied to development activity which occurs in the member Towns for many years. Road use, improvement, construction and reconstruction will, as a result, occur over many phases and years. Such activity will be short in duration at multiple different locations throughout the member Towns over multiple years. Multiple different use, improvement, construction and reconstruction activities will not likely overlap in time or place since activity which is regulated under the Local Law will likely involve single phase construction / development projects.

Transportation

- Alteration of Present Patterns of Movement of People and/or Goods

Currently Town roads are available for use by any and all traffic unless restricted by weight class. The adoption of a Road Preservation Local Law has the potential to concentrate traffic by regulated parties along certain roadways either because (i) the member Towns preclude the use of certain roadways for qualitative / safety and “quality of life” reasons, or (ii) the Town roadways are unsuitable or undesirable for use by the regulated / potentially regulated community due to improvements necessary to render the roads useable. As a result, the present / likely future patterns of movement of people and/or goods may change, being directed along particular “haul routes” so as to minimize unchecked or unmitigatable impacts along certain other Town roads. The impact is significant in that the concentration of regulated traffic along a “haul route” has the potential to reduce levels of service along the “haul route” and at “haul route” intersections.

- Proposed Action will Result in Major Traffic Problems

As set forth above, the concentration of regulated traffic along “haul routes” has the potential to result in major traffic problems, including delays and backups attributable to use and improvement, construction and reconstruction of the Town roads along the “haul routes.”

Noise

- Proposed Action will Produce Operating Noise Exceeding the Local Ambient Conditions

As a result of the potential concentration of regulated traffic along particular “haul routes,” vehicle noise exceeding ambient conditions which existed before establishment and use of the route will likely exist. While the impact will likely be short in duration and avoid impacts at other Town locations, along the “haul routes” the impact will be significant and is only able to be mitigated through hours of use restrictions and various compliance requirements.

Community Character

- Creation of Demand on Community Services

The adoption of a Road Preservation Local Law will result in a significant administrative commitment by each member Town, ranging from permitting administration to compliance monitoring and enforcement regarding the use of a “haul route,” as well as the construction, reconstruction and project management of roadway work undertaken as a result of the use or intended use of such “haul routes.” The intent is to mitigate the impact through the imposition of fees and other appropriately measured financial obligations which shall be undertaken by the regulated community.

- Creation of Important Precedent

The adoption of a Road Preservation Local Law will have a pervasive effect on the way in which each Town reviews and considers any future land development activity within its jurisdictional boundary.

- Changes to Character of Rural Roadways

As a result of the traffic and noise which will be concentrated along particular “haul routes” through administration of a Road Preservation Local Law, the Towns will effectively be fostering a change in the character of certain rural, low-traffic Town roads so as to preserve and protect that character along certain other Town roads. While the impact would potentially occur regardless of the adoption of a Road Preservation Local Law, in the context of other Town roads which will be protected from such use as a result of the Law, the impact is significant.

617.20
Appendix A
State Environmental Quality Review
FULL ENVIRONMENTAL ASSESSMENT FORM

Purpose: The full EAF is designed to help applicants and agencies determine, in an orderly manner, whether a project or action may be significant. The question of whether an action may be significant is not always easy to answer. Frequently, there are aspects of a project that are subjective or unmeasurable. It is also understood that those who determine significance may have little or no formal knowledge of the environment or may not be technically expert in environmental analysis. In addition, many who have knowledge in one particular area may not be aware of the broader concerns affecting the question of significance.

The full EAF is intended to provide a method whereby applicants and agencies can be assured that the determination process has been orderly, comprehensive in nature, yet flexible enough to allow introduction of information to fit a project or action.

Full EAF Components: The full EAF is comprised of three parts:

- Part 1:** Provides objective data and information about a given project and its site. By identifying basic project data, it assists a reviewer in the analysis that takes place in Parts 2 and 3.
- Part 2:** Focuses on identifying the range of possible impacts that may occur from a project or action. It provides guidance as to whether an impact is likely to be considered small to moderate or whether it is a potentially-large impact. The form also identifies whether an impact can be mitigated or reduced.
- Part 3:** If any impact in Part 2 is identified as potentially-large, then Part 3 is used to evaluate whether or not the impact is actually important.

THIS AREA FOR LEAD AGENCY USE ONLY

DETERMINATION OF SIGNIFICANCE -- Type 1 and Unlisted Actions

Identify the Portions of EAF completed for this project:

Part 1

Part 2

Part 3

Upon review of the information recorded on this EAF (Parts 1 and 2 and 3 if appropriate), and any other supporting information, and considering both the magnitude and importance of each impact, it is reasonably determined by the lead agency that:

- A. The project will not result in any large and important impact(s) and, therefore, is one which **will not** have a significant impact on the environment, therefore **a negative declaration will be prepared.**
- B. Although the project could have a significant effect on the environment, there will not be a significant effect for this Unlisted Action because the mitigation measures described in PART 3 have been required, therefore **a CONDITIONED negative declaration will be prepared.***
- C. The project may result in one or more large and important impacts that may have a significant impact on the environment, therefore **a positive declaration will be prepared.**

*A Conditioned Negative Declaration is only valid for Unlisted Actions

Name of Action

Towns of Tusten, Cochection, Bethel, Callicoon, Delaware, Highland, Lumberland & Rockland, Sullivan Co., NY

Name of Lead Agency

Kris Scullion

Town of Callicoon Highway Superintendent

Print or Type Name of Responsible Officer in Lead Agency

Title of Responsible Officer

Signature of Responsible Officer in Lead Agency

Signature of Preparer (If different from responsible officer)

PART 1--PROJECT INFORMATION

Prepared by Project Sponsor

NOTICE: This document is designed to assist in determining whether the action proposed may have a significant effect on the environment. Please complete the entire form, Parts A through E. Answers to these questions will be considered as part of the application for approval and may be subject to further verification and public review. Provide any additional information you believe will be needed to complete Parts 2 and 3.

It is expected that completion of the full EAF will be dependent on information currently available and will not involve new studies, research or investigation. If information requiring such additional work is unavailable, so indicate and specify each instance.

Name of Action

Location of Action (include Street Address, Municipality and County)

Name of Applicant/Sponsor

Address

City / PO

State

Zip Code

Business Telephone

Name of Owner (if different)

Address

City / PO

State

Zip Code

Business Telephone

Description of Action:

Please Complete Each Question--Indicate N.A. if not applicable

A. SITE DESCRIPTION

Physical setting of overall project, both developed and undeveloped areas.

1. Present Land Use: Urban Industrial Commercial Residential (suburban) Rural (non-farm)
 Forest Agriculture Other

2. Total acreage of project area: acres.

APPROXIMATE ACREAGE	PRESENTLY	AFTER COMPLETION
Meadow or Brushland (Non-agricultural)	acres	acres
Forested	acres	acres
Agricultural (Includes orchards, cropland, pasture, etc.)	acres	acres
Wetland (Freshwater or tidal as per Articles 24,25 of ECL)	acres	acres
Water Surface Area	acres	acres
Unvegetated (Rock, earth or fill)	acres	acres
Roads, buildings and other paved surfaces	acres	acres
Other (Indicate type)	acres	acres

3. What is predominant soil type(s) on project site?

- a. Soil drainage: Well drained % of site Moderately well drained % of site.
 Poorly drained % of site

b. If any agricultural land is involved, how many acres of soil are classified within soil group 1 through 4 of the NYS Land Classification System? acres (see 1 NYCRR 370).

4. Are there bedrock outcroppings on project site? Yes No

a. What is depth to bedrock (in feet) N/A

5. Approximate percentage of proposed project site with slopes: N/A

0-10% % 10- 15% % 15% or greater %

6. Is project substantially contiguous to, or contain a building, site, or district, listed on the State or National Registers of Historic Places? Yes No

7. Is project substantially contiguous to a site listed on the Register of National Natural Landmarks? Yes No

8. What is the depth of the water table? (in feet)

9. Is site located over a primary, principal, or sole source aquifer? Yes No

10. Do hunting, fishing or shell fishing opportunities presently exist in the project area? Yes No

11. Does project site contain any species of plant or animal life that is identified as threatened or endangered? Yes No

According to:

Identify each species:

12. Are there any unique or unusual land forms on the project site? (i.e., cliffs, dunes, other geological formations?)

Yes No

Describe:

13. Is the project site presently used by the community or neighborhood as an open space or recreation area?

Yes No

If yes, explain:

14. Does the present site include scenic views known to be important to the community? Yes No

15. Streams within or contiguous to project area:

a. Name of Stream and name of River to which it is tributary

16. Lakes, ponds, wetland areas within or contiguous to project area:

b. Size (in acres):

17. Is the site served by existing public utilities? Yes No
- a. If **YES**, does sufficient capacity exist to allow connection? Yes No N/A
- b. If **YES**, will improvements be necessary to allow connection? Yes No
18. Is the site located in an agricultural district certified pursuant to Agriculture and Markets Law, Article 25-AA, Section 303 and 304? Yes No
19. Is the site located in or substantially contiguous to a Critical Environmental Area designated pursuant to Article 8 of the ECL, and 6 NYCRR 617? Yes No
20. Has the site ever been used for the disposal of solid or hazardous wastes? Yes No

B. Project Description

1. Physical dimensions and scale of project (fill in dimensions as appropriate). N/A
- a. Total contiguous acreage owned or controlled by project sponsor: acres.
- b. Project acreage to be developed: acres initially; acres ultimately.
- c. Project acreage to remain undeveloped: acres.
- d. Length of project, in miles: (if appropriate)
- e. If the project is an expansion, indicate percent of expansion proposed. %
- f. Number of off-street parking spaces existing ; proposed
- g. Maximum vehicular trips generated per hour: (upon completion of project)?
- h. If residential: Number and type of housing units:
- | | One Family | Two Family | Multiple Family | Condominium |
|------------|------------|------------|-----------------|-------------|
| Initially | | | | |
| Ultimately | | | | |
- i. Dimensions (in feet) of largest proposed structure: height; width; length.
- j. Linear feet of frontage along a public thoroughfare project will occupy is? ft.
2. How much natural material (i.e. rock, earth, etc.) will be removed from the site? tons/cubic yards.
3. Will disturbed areas be reclaimed Yes No N/A
- a. If yes, for what intended purpose is the site being reclaimed?
- b. Will topsoil be stockpiled for reclamation? Yes No
- c. Will upper subsoil be stockpiled for reclamation? Yes No
4. How many acres of vegetation (trees, shrubs, ground covers) will be removed from site? acres.

5. Will any mature forest (over 100 years old) or other locally-important vegetation be removed by this project?

Yes No

6. If single phase project: Anticipated period of construction: months, (including demolition)

7. If multi-phased: N/A

a. Total number of phases anticipated (number)

b. Anticipated date of commencement phase 1: month year, (including demolition)

c. Approximate completion date of final phase: month year.

d. Is phase 1 functionally dependent on subsequent phases? Yes No

8. Will blasting occur during construction? Yes No

9. Number of jobs generated: during construction ; after project is complete

10. Number of jobs eliminated by this project .

11. Will project require relocation of any projects or facilities? Yes No

If yes, explain:

12. Is surface liquid waste disposal involved? Yes No

a. If yes, indicate type of waste (sewage, industrial, etc) and amount

b. Name of water body into which effluent will be discharged

13. Is subsurface liquid waste disposal involved? Yes No Type

14. Will surface area of an existing water body increase or decrease by proposal? Yes No

If yes, explain:

15. Is project or any portion of project located in a 100 year flood plain? Yes No

16. Will the project generate solid waste? Yes No

a. If yes, what is the amount per month? tons

b. If yes, will an existing solid waste facility be used? Yes No

c. If yes, give name ; location

d. Will any wastes not go into a sewage disposal system or into a sanitary landfill? Yes No

e. If yes, explain:

17. Will the project involve the disposal of solid waste? Yes No

a. If yes, what is the anticipated rate of disposal? tons/month.

b. If yes, what is the anticipated site life? years.

18. Will project use herbicides or pesticides? Yes No

19. Will project routinely produce odors (more than one hour per day)? Yes No

20. Will project produce operating noise exceeding the local ambient noise levels? Yes No

21. Will project result in an increase in energy use? Yes No

If yes, indicate type(s)

22. If water supply is from wells, indicate pumping capacity gallons/minute.

23. Total anticipated water usage per day gallons/day.

24. Does project involve Local, State or Federal funding? Yes No

If yes, explain:

25. Approvals Required:

Type

Submittal Date

City, Town, Village Board Yes No

City, Town, Village Planning Board Yes No

City, Town Zoning Board Yes No

City, County Health Department Yes No

Other Local Agencies Yes No

Other Regional Agencies Yes No

State Agencies Yes No

Federal Agencies Yes No

C. Zoning and Planning Information

1. Does proposed action involve a planning or zoning decision? Yes No

If Yes, indicate decision required:

Zoning amendment

Zoning variance

New/revision of master plan

Subdivision

Site plan

Special use permit

Resource management plan

Other

10. Will proposed action require any authorization(s) for the formation of sewer or water districts? Yes No

11. Will the proposed action create a demand for any community provided services (recreation, education, police, fire protection?)

Yes No

a. If yes, is existing capacity sufficient to handle projected demand? Yes No

12. Will the proposed action result in the generation of traffic significantly above present levels? Yes No

a. If yes, is the existing road network adequate to handle the additional traffic. Yes No

D. Informational Details

Attach any additional information as may be needed to clarify your project. If there are or may be any adverse impacts associated with your proposal, please discuss such impacts and the measures which you propose to mitigate or avoid them.

E. Verification

I certify that the information provided above is true to the best of my knowledge.

Applicant/Sponsor Name

Date

Signature

Title

If the action is in the Coastal Area, and you are a state agency, complete the Coastal Assessment Form before proceeding with this assessment.

PART 2 - PROJECT IMPACTS AND THEIR MAGNITUDE

Responsibility of Lead Agency

General Information (Read Carefully)

- ! In completing the form the reviewer should be guided by the question: Have my responses and determinations been **reasonable**? The reviewer is not expected to be an expert environmental analyst.
- ! The **Examples** provided are to assist the reviewer by showing types of impacts and wherever possible the threshold of magnitude that would trigger a response in column 2. The examples are generally applicable throughout the State and for most situations. But, for any specific project or site other examples and/or lower thresholds may be appropriate for a Potential Large Impact response, thus requiring evaluation in Part 3.
- ! The impacts of each project, on each site, in each locality, will vary. Therefore, the examples are illustrative and have been offered as guidance. They do not constitute an exhaustive list of impacts and thresholds to answer each question.
- ! The number of examples per question does not indicate the importance of each question.
- ! In identifying impacts, consider long term, short term and cumulative effects.

Instructions (Read carefully)

- a. Answer each of the 20 questions in PART 2. Answer **Yes** if there will be **any** impact.
- b. **Maybe** answers should be considered as **Yes** answers.
- c. If answering **Yes** to a question then check the appropriate box(column 1 or 2)to indicate the potential size of the impact. If impact threshold equals or exceeds any example provided, check column 2. If impact will occur but threshold is lower than example, check column 1.
- d. Identifying that an Impact will be potentially large (column 2) does not mean that it is also necessarily **significant**. Any large impact must be evaluated in PART 3 to determine significance. Identifying an impact in column 2 simply asks that it be looked at further.
- e. If reviewer has doubt about size of the impact then consider the impact as potentially large and proceed to PART 3.
- f. If a potentially large impact checked in column 2 can be mitigated by change(s) in the project to a small to moderate impact, also check the **Yes** box in column 3. A **No** response indicates that such a reduction is not possible. This must be explained in Part 3.

1	2	3
Small to Moderate Impact	Potential Large Impact	Can Impact Be Mitigated by Project Change

Impact on Land

1. Will the Proposed Action result in a physical change to the project site?

NO YES

Examples that would apply to column 2

C	Any construction on slopes of 15% or greater, (15 foot rise per 100 foot of length), or where the general slopes in the project area exceed 10%.	Yes	No
C	Construction on land where the depth to the water table is less than 3 feet.	Yes	No
C	Construction of paved parking area for 1,000 or more vehicles.	Yes	No
C	Construction on land where bedrock is exposed or generally within 3 feet of existing ground surface.	Yes	No
C	Construction that will continue for more than 1 year or involve more than one phase or stage.	Yes	No
C	Excavation for mining purposes that would remove more than 1,000 tons of natural material (i.e., rock or soil) per year.	Yes	No

1	2	3
Small to Moderate Impact	Potential Large Impact	Can Impact Be Mitigated by Project Change

- | | | | |
|--|---|-----|----|
| | C Construction or expansion of a sanitary landfill. | Yes | No |
| | C Construction in a designated floodway. | Yes | No |
| | C Other impacts: | Yes | No |

2. Will there be an effect to any unique or unusual land forms found on the site? (i.e., cliffs, dunes, geological formations, etc.)

NO YES

- | | | | |
|--|------------------------|-----|----|
| | C Specific land forms: | Yes | No |
|--|------------------------|-----|----|

Impact on Water

3. Will Proposed Action affect any water body designated as protected? (Under Articles 15, 24, 25 of the Environmental Conservation Law, ECL)

NO YES

Examples that would apply to column 2

- | | | | |
|--|--|-----|----|
| | C Developable area of site contains a protected water body. | Yes | No |
| | C Dredging more than 100 cubic yards of material from channel of a protected stream. | Yes | No |
| | C Extension of utility distribution facilities through a protected water body. | Yes | No |
| | C Construction in a designated freshwater or tidal wetland. | Yes | No |
| | C Other impacts: | Yes | No |

4. Will Proposed Action affect any non-protected existing or new body of water?

NO YES

Examples that would apply to column 2

- | | | | |
|--|--|-----|----|
| | C A 10% increase or decrease in the surface area of any body of water or more than a 10 acre increase or decrease. | Yes | No |
| | C Construction of a body of water that exceeds 10 acres of surface area. | Yes | No |
| | C Other impacts: | Yes | No |

1	2	3
Small to Moderate Impact	Potential Large Impact	Can Impact Be Mitigated by Project Change

5. Will Proposed Action affect surface or groundwater quality or quantity?

NO YES

Examples that would apply to column 2

C	Proposed Action will require a discharge permit.	Yes	No
C	Proposed Action requires use of a source of water that does not have approval to serve proposed (project) action.	Yes	No
C	Proposed Action requires water supply from wells with greater than 45 gallons per minute pumping capacity.	Yes	No
C	Construction or operation causing any contamination of a water supply system.	Yes	No
C	Proposed Action will adversely affect groundwater.	Yes	No
C	Liquid effluent will be conveyed off the site to facilities which presently do not exist or have inadequate capacity.	Yes	No
C	Proposed Action would use water in excess of 20,000 gallons per day.	Yes	No
C	Proposed Action will likely cause siltation or other discharge into an existing body of water to the extent that there will be an obvious visual contrast to natural conditions.	Yes	No
C	Proposed Action will require the storage of petroleum or chemical products greater than 1,100 gallons.	Yes	No
C	Proposed Action will allow residential uses in areas without water and/or sewer services.	Yes	No
C	Proposed Action locates commercial and/or industrial uses which may require new or expansion of existing waste treatment and/or storage facilities.	Yes	No
C	Other impacts:	Yes	No

1	2	3
Small to Moderate Impact	Potential Large Impact	Can Impact Be Mitigated by Project Change

6. Will Proposed Action alter drainage flow or patterns, or surface water runoff?

NO YES

Examples that would apply to column 2

- | | | |
|--|-----|----|
| C Proposed Action would change flood water flows | Yes | No |
| C Proposed Action may cause substantial erosion. | Yes | No |
| C Proposed Action is incompatible with existing drainage patterns. | Yes | No |
| C Proposed Action will allow development in a designated floodway. | Yes | No |
| C Other impacts: | Yes | No |

IMPACT ON AIR

7. Will Proposed Action affect air quality?

NO YES

Examples that would apply to column 2

- | | | |
|---|-----|----|
| C Proposed Action will induce 1,000 or more vehicle trips in any given hour. | Yes | No |
| C Proposed Action will result in the incineration of more than 1 ton of refuse per hour. | Yes | No |
| C Emission rate of total contaminants will exceed 5 lbs. per hour or a heat source producing more than 10 million BTU's per hour. | Yes | No |
| C Proposed Action will allow an increase in the amount of land committed to industrial use. | Yes | No |
| C Proposed Action will allow an increase in the density of industrial development within existing industrial areas. | Yes | No |
| C Other impacts: | Yes | No |

IMPACT ON PLANTS AND ANIMALS

8. Will Proposed Action affect any threatened or endangered species?

NO YES

Examples that would apply to column 2

- | | | |
|---|-----|----|
| C Reduction of one or more species listed on the New York or Federal list, using the site, over or near the site, or found on the site. | Yes | No |
|---|-----|----|

1	2	3	
Small to Moderate Impact	Potential Large Impact	Can Impact Be Mitigated by Project Change	

- | | | | | |
|---|---|--|-----|----|
| C | Removal of any portion of a critical or significant wildlife habitat. | | Yes | No |
| C | Application of pesticide or herbicide more than twice a year, other than for agricultural purposes. | | Yes | No |
| C | Other impacts: | | Yes | No |

9. Will Proposed Action substantially affect non-threatened or non-endangered species?

NO YES

Examples that would apply to column 2

- | | | | | |
|---|--|--|-----|----|
| C | Proposed Action would substantially interfere with any resident or migratory fish, shellfish or wildlife species. | | Yes | No |
| C | Proposed Action requires the removal of more than 10 acres of mature forest (over 100 years of age) or other locally important vegetation. | | Yes | No |
| C | Other impacts: | | Yes | No |

IMPACT ON AGRICULTURAL LAND RESOURCES

10. Will Proposed Action affect agricultural land resources?

NO YES

Examples that would apply to column 2

- | | | | | |
|---|--|--|-----|----|
| C | The Proposed Action would sever, cross or limit access to agricultural land (includes cropland, hayfields, pasture, vineyard, orchard, etc.) | | Yes | No |
| C | Construction activity would excavate or compact the soil profile of agricultural land. | | Yes | No |
| C | The Proposed Action would irreversibly convert more than 10 acres of agricultural land or, if located in an Agricultural District, more than 2.5 acres of agricultural land. | | Yes | No |

	1 Small to Moderate Impact	2 Potential Large Impact	3 Can Impact Be Mitigated by Project Change	
			Yes	No
C The Proposed Action would disrupt or prevent installation of agricultural land management systems (e.g., subsurface drain lines, outlet ditches, strip cropping); or create a need for such measures (e.g. cause a farm field to drain poorly due to increased runoff).			Yes	No
C Other impacts:			Yes	No

IMPACT ON AESTHETIC RESOURCES

11. Will Proposed Action affect aesthetic resources? (If necessary, use the Visual EAF Addendum in Section 617.20, Appendix B.)
 NO YES

Examples that would apply to column 2

C Proposed land uses, or project components obviously different from or in sharp contrast to current surrounding land use patterns, whether man-made or natural.			Yes	No
C Proposed land uses, or project components visible to users of aesthetic resources which will eliminate or significantly reduce their enjoyment of the aesthetic qualities of that resource.			Yes	No
C Project components that will result in the elimination or significant screening of scenic views known to be important to the area.			Yes	No
C Other impacts:			Yes	No

IMPACT ON HISTORIC AND ARCHAEOLOGICAL RESOURCES

12. Will Proposed Action impact any site or structure of historic, prehistoric or paleontological importance?
 NO YES

Examples that would apply to column 2

C Proposed Action occurring wholly or partially within or substantially contiguous to any facility or site listed on the State or National Register of historic places.			Yes	No
C Any impact to an archaeological site or fossil bed located within the project site.			Yes	No
C Proposed Action will occur in an area designated as sensitive for archaeological sites on the NYS Site Inventory.			Yes	No

1	2	3
Small to Moderate Impact	Potential Large Impact	Can Impact Be Mitigated by Project Change

C Other impacts:	Yes	No
------------------	-----	----

IMPACT ON OPEN SPACE AND RECREATION

13. Will proposed Action affect the quantity or quality of existing or future open spaces or recreational opportunities?

NO YES

Examples that would apply to column 2

C The permanent foreclosure of a future recreational opportunity.	Yes	No
---	-----	----

C A major reduction of an open space important to the community.	Yes	No
--	-----	----

C Other impacts:	Yes	No
------------------	-----	----

IMPACT ON CRITICAL ENVIRONMENTAL AREAS

14. Will Proposed Action impact the exceptional or unique characteristics of a critical environmental area (CEA) established pursuant to subdivision 6NYCRR 617.14(g)?

NO YES

List the environmental characteristics that caused the designation of the CEA.

Examples that would apply to column 2

C Proposed Action to locate within the CEA?	Yes	No
---	-----	----

C Proposed Action will result in a reduction in the quantity of the resource?	Yes	No
---	-----	----

C Proposed Action will result in a reduction in the quality of the resource?	Yes	No
--	-----	----

C Proposed Action will impact the use, function or enjoyment of the resource?	Yes	No
---	-----	----

C Other impacts:	Yes	No
------------------	-----	----

1	2	3
Small to Moderate Impact	Potential Large Impact	Can Impact Be Mitigated by Project Change

IMPACT ON TRANSPORTATION

15. Will there be an effect to existing transportation systems?
 NO YES

Examples that would apply to column 2

- | | | | |
|---|--|-----|----|
| C | Alteration of present patterns of movement of people and/or goods. | Yes | No |
| C | Proposed Action will result in major traffic problems. | Yes | No |
| C | Other impacts: | Yes | No |

IMPACT ON ENERGY

16. Will Proposed Action affect the community's sources of fuel or energy supply?
 NO YES

Examples that would apply to column 2

- | | | | |
|---|---|-----|----|
| C | Proposed Action will cause a greater than 5% increase in the use of any form of energy in the municipality. | Yes | No |
| C | Proposed Action will require the creation or extension of an energy transmission or supply system to serve more than 50 single or two family residences or to serve a major commercial or industrial use. | Yes | No |
| C | Other impacts: | Yes | No |

NOISE AND ODOR IMPACT

17. Will there be objectionable odors, noise, or vibration as a result of the Proposed Action?
 NO YES

Examples that would apply to column 2

- | | | | |
|---|--|-----|----|
| C | Blasting within 1,500 feet of a hospital, school or other sensitive facility. | Yes | No |
| C | Odors will occur routinely (more than one hour per day). | Yes | No |
| C | Proposed Action will produce operating noise exceeding the local ambient noise levels for noise outside of structures. | Yes | No |
| C | Proposed Action will remove natural barriers that would act as a noise screen. | Yes | No |
| C | Other impacts: | Yes | No |

1	2	3
Small to Moderate Impact	Potential Large Impact	Can Impact Be Mitigated by Project Change

IMPACT ON PUBLIC HEALTH

18. Will Proposed Action affect public health and safety?
 NO YES

- | | | |
|---|-----|----|
| <p>C Proposed Action may cause a risk of explosion or release of hazardous substances (i.e. oil, pesticides, chemicals, radiation, etc.) in the event of accident or upset conditions, or there may be a chronic low level discharge or emission.</p> | Yes | No |
| <p>C Proposed Action may result in the burial of "hazardous wastes" in any form (i.e. toxic, poisonous, highly reactive, radioactive, irritating, infectious, etc.)</p> | Yes | No |
| <p>C Storage facilities for one million or more gallons of liquefied natural gas or other flammable liquids.</p> | Yes | No |
| <p>C Proposed Action may result in the excavation or other disturbance within 2,000 feet of a site used for the disposal of solid or hazardous waste.</p> | Yes | No |
| <p>C Other impacts:</p> | Yes | No |

**IMPACT ON GROWTH AND CHARACTER
OF COMMUNITY OR NEIGHBORHOOD**

19. Will Proposed Action affect the character of the existing community?
 NO YES

Examples that would apply to column 2

- | | | |
|--|-----|----|
| <p>C The permanent population of the city, town or village in which the project is located is likely to grow by more than 5%.</p> | Yes | No |
| <p>C The municipal budget for capital expenditures or operating services will increase by more than 5% per year as a result of this project.</p> | Yes | No |
| <p>C Proposed Action will conflict with officially adopted plans or goals.</p> | Yes | No |
| <p>C Proposed Action will cause a change in the density of land use.</p> | Yes | No |
| <p>C Proposed Action will replace or eliminate existing facilities, structures or areas of historic importance to the community.</p> | Yes | No |
| <p>C Development will create a demand for additional community services (e.g. schools, police and fire, etc.)</p> | Yes | No |

	1	2	3	
	Small to Moderate Impact	Potential Large Impact	Can Impact Be Mitigated by Project Change	

- | | | | | |
|---|--|--|-----|----|
| C | Proposed Action will set an important precedent for future projects. | | Yes | No |
| C | Proposed Action will create or eliminate employment. | | Yes | No |
| C | Other impacts: | | Yes | No |

20. Is there, or is there likely to be, public controversy related to potential adverse environment impacts?

NO YES

If Any Action in Part 2 Is Identified as a Potential Large Impact or If you Cannot Determine the Magnitude of Impact, Proceed to Part 3

Part 3 - EVALUATION OF THE IMPORTANCE OF IMPACTS

Responsibility of Lead Agency

Part 3 must be prepared if one or more impact(s) is considered to be potentially large, even if the impact(s) may be mitigated.

Instructions (If you need more space, attach additional sheets)

Discuss the following for each impact identified in Column 2 of Part 2:

1. Briefly describe the impact.
2. Describe (if applicable) how the impact could be mitigated or reduced to a small to moderate impact by project change(s).
3. Based on the information available, decide if it is reasonable to conclude that this impact is **important**.

To answer the question of importance, consider:

- ! The probability of the impact occurring
- ! The duration of the impact
- ! Its irreversibility, including permanently lost resources of value
- ! Whether the impact can or will be controlled
- ! The regional consequence of the impact
- ! Its potential divergence from local needs and goals
- ! Whether known objections to the project relate to this impact.

PART 3

Impacts on Land

- Depth to Bedrock Less than Three Feet

To the extent Town roadways are improved or rebuilt as a result of use permitted under the Road Preservation Local Laws, it is possible that bedrock may be encountered. Road construction / reconstruction would be undertaken in a good and workmanlike manner, and this impact is not considered significant.

- Multiple-Phases Lasting More than One Year

The Road Preservation Local Law is likely to be applied to development activity which occurs in the member Towns for many years. Road use, improvement, construction and reconstruction will, as a result, occur over many phases and years. Such activity will be short in duration at multiple different locations throughout the member Towns over multiple years. Multiple different use, improvement, construction and reconstruction activities will not likely overlap in time or place since activity which is regulated under the Local Law will likely involve single phase construction / development projects.

Transportation

- Alteration of Present Patterns of Movement of People and/or Goods

Currently Town roads are available for use by any and all traffic unless restricted by weight class. The adoption of a Road Preservation Local Law has the potential to concentrate traffic by regulated parties along certain roadways either because (i) the member Towns preclude the use of certain roadways for qualitative / safety and “quality of life” reasons, or (ii) the Town roadways are unsuitable or undesirable for use by the regulated / potentially regulated community due to improvements necessary to render the roads useable. As a result, the present / likely future patterns of movement of people and/or goods may change, being directed along particular “haul routes” so as to minimize unchecked or unmitigatable impacts along certain other Town roads. The impact is significant in that the concentration of regulated traffic along a “haul route” has the potential to reduce levels of service along the “haul route” and at “haul route” intersections.

- Proposed Action will Result in Major Traffic Problems

As set forth above, the concentration of regulated traffic along “haul routes” has the potential to result in major traffic problems, including delays and backups attributable to use and improvement, construction and reconstruction of the Town roads along the “haul routes.”

Noise

- Proposed Action will Produce Operating Noise Exceeding the Local Ambient Conditions

As a result of the potential concentration of regulated traffic along particular “haul routes,” vehicle noise exceeding ambient conditions which existed before establishment and use of the route will likely exist. While the impact will likely be short in duration and avoid impacts at other Town locations, along the “haul routes” the impact will be significant and is only able to be mitigated through hours of use restrictions and various compliance requirements.

Community Character

- Creation of Demand on Community Services

The adoption of a Road Preservation Local Law will result in a significant administrative commitment by each member Town, ranging from permitting administration to compliance monitoring and enforcement regarding the use of a “haul route,” as well as the construction, reconstruction and project management of roadway work undertaken as a result of the use or intended use of such “haul routes.” The intent is to mitigate the impact through the imposition of fees and other appropriately measured financial obligations which shall be undertaken by the regulated community.

- Creation of Important Precedent

The adoption of a Road Preservation Local Law will have a pervasive effect on the way in which each Town reviews and considers any future land development activity within its jurisdictional boundary.

- Changes to Character of Rural Roadways

As a result of the traffic and noise which will be concentrated along particular “haul routes” through administration of a Road Preservation Local Law, the Towns will effectively be fostering a change in the character of certain rural, low-traffic Town roads so as to preserve and protect that character along certain other Town roads. While the impact would potentially occur regardless of the adoption of a Road Preservation Local Law, in the context of other Town roads which will be protected from such use as a result of the Law, the impact is significant.

State Environmental Quality Review
POSITIVE DECLARATION
Notice of Intent to Prepare a Draft EIS
Determination of Significance

Project Number _____

Date _____

This notice is issued pursuant to Part 617 of the implementing regulations pertaining to Article 8 (State Environmental Quality Review Act) of the Environmental Conservation Law.
Towns of Tusten, Cohecton, Bethel, Callicoon, Delaware, Highland, Lumberland & Rockland, Sullivan Co., NY

The _____ as lead agency, has determined that the proposed action described below may have a significant impact on the environment and that a Draft Environmental Impact Statement will be prepared.

Name of Action:

SEQR Status: Type 1
Unlisted

Scoping: No Yes If yes, indicate how scoping will be conducted:

Description of Action:

Location: (Include street address and the name of the municipality/county. A location map of appropriate scale is also recommended.)

Reasons Supporting This Determination:

For Further Information:

Contact Person:

Address:

Telephone Number:

A copy of this notice must be sent to:

Department of Environmental Conservation, 625 Broadway, Albany, New York 12233-1750

Chief Executive Officer, Town/City/Village of _____

Any person requesting a copy

All Involved agencies

Applicant (If any)

Environmental Notice Bulletin, 625 Broadway, Albany, NY 12233-1750

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APPENDIX N

Sullivan County Multi-Municipal Task Force

“Highway Impacts Study and Report”,

August 18, 2009

(Provided Under Separate Cover)

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APPENDIX O

Draft Road Protection Public Law

LOCAL ROAD USE AND PRESERVATION LAW

LOCAL LAW NO. __ OF THE YEAR 2011

BE IT ENACTED by the Town Board of the Town of _____, County of _____, New York, as follows:

Section 1: Legislative Findings and Purpose.

The Town Board has determined that certain high-intensity traffic associated with large construction projects can damage and significantly reduce the life of Town highways, which must then be repaired at the expense of the Town's taxpayers. The Town Board has further determined that such damage can be reliably measured using recognized engineering standards. In addition, the Town Board has determined that the strength and capacity of Town highways may in some cases be inadequate to meet the demands of traffic for large construction projects and that upgrades to Town highways may be necessary to accommodate such traffic. The Town Board finds that it is in the best interest of the citizens and taxpayers of the Town to have the developers of such large construction projects bear responsibility for making any necessary upgrades to Town highways and repairing any damage caused to Town highways at the expense of such developers. The purpose of this local law is to establish a mechanism by which the developers of large construction projects that will generate traffic likely to require upgrades or cause damage to Town highways shall ensure that such upgrades are made and such damage is repaired at the developer's own expense.

Section 2: Authority.

This local law is enacted pursuant to New York Vehicle & Traffic Law § 1660, New York Municipal Home Rule Law § 10, New York Statute of Local Governments § 10, and New York Highway Law §§ 320 & 326.

Section 3: Definitions.

As used in this local law, the following terms shall have the meaning set forth herein:

Baseline Traffic means recurring ambient traffic presented on an annualized basis. It includes typical daily activities on Town Highways (hereinafter defined) such as passenger vehicles, school buses, delivery vehicles, garbage trucks, and normal commuter and business traffic. Baseline Traffic is the cause of normal wear and tear for which a Town Highway is constructed. Baseline Traffic does not include unusual heavy traffic occurring on a temporary basis for such things as Construction Activity (hereinafter defined).

Construction Activity means any activity occurring or to occur in the Town that results in land disturbance or the improvement of a parcel. Evidence of Construction Activity includes, without limitation, those activities which are also being undertaken subject to:

Federal permits and approvals including, without limitation, approvals subject to the National Environmental Policy Act and activities subject to the following Nationwide Permits as amended and issued by the U.S. Army Corps of Engineers: Permit 8 (Oil and Gas Structures), Permit 12 (Utility Line Activities), Permit 13 (Bank Stabilization), Permit 16 (Return Water

from Upland Contained Disposal Areas), Permit 17 (Hydropower Projects), Permit 21 (Surface Coal Mining Operations), Permit 29 (Residential Developments), Permit 33 (Temporary Construction, Access, and Dewatering), Permit 38 (Cleanup of Hazardous and Toxic Waste), Permit 39 (Commercial and Institutional Developments), and Permit 44 (Mining Activities); or

State permits and approvals, including, without limitation: Highway Work Permits, Waste Transporter Permits, SPDES General Permit for Stormwater Discharges from Construction Activity, Overweight/Oversize Vehicle Permit, Authority to Transport Property (Except Household Goods), Divisible Load Overweight Permit, Special Hauling Trip and Annual Oversize/Overweight Loads Permit, LCV/Tandem Trailer Permit, and Special Hauling Permit; or

Local permits and approvals, if applicable, including, without limitation: Aquifer Protection Permit, Sludge Disposal Permit, Mining Permit, Gravel Mining Permit, Permit for Well in Aquifer Area, Overweight/Oversize Vehicle Permit, Zoning Change, Special Use Permit, and site plan approval.

Construction Activity shall not include land clearing activity or the improvement of a parcel related solely to “farm woodland” or “land used in agricultural production,” as those terms are defined pursuant to New York Agriculture & Markets Law § 301.

Person means any person, persons, corporation, partnership, limited liability company, or other entity.

Concentrated Traffic means traffic intended to travel upon or traveling upon Town Highways to or from the site of Construction Activity which (i) is not Baseline Traffic, and (ii) which will exceed the predetermined normal wear and tear thresholds of one or more Town Highways or segments of Town Highways.

Program Manual means Road Use and Preservation Program Manual, Version 1.0 dated [ADD DATE], prepared by Delta Engineers, Architects, & Land Surveyors, P.C., a copy of which is attached to and made a part of this local law as Appendix 1.

Technical Manual means Road and Preservation Technical Manual, Version 1.0 dated [ADD DATE], prepared by Delta Engineers, Architects, & Land Surveyors, P.C., a copy of which is attached to and made a part of this local law as Appendix 2.

Town Highway means those roads and highways and related appurtenances of the Town which are owned or maintained by the Town or otherwise exist as Town Highways by dedication or use, including without limitation roadways, shoulders, guide rails, bridges, tunnels, culverts, sluices, ditches, swales, sidewalks, or any utilities or improvements therein, thereon, or thereunder. A map of all highways of the Town is and shall be maintained by the Town Highway Superintendent.

Town Highway Superintendent means the Superintendent of Highways or his or her designee.

Section 4: Applicability.

This local law shall apply to any Person who, individually or in concert with another Person, intends to undertake Construction Activity that will result in Concentrated Traffic on Town Highways.

Section 5: Determination of Whether Proposed Use Constitutes Concentrated Traffic.

A. Any Person identified under Section 4 of this local law shall, prior to undertaking such Construction Activity or allowing, directing, or inducing Concentrated Traffic to travel upon Town Highways, submit a haul route application form and project traffic worksheet to the Town Highway Superintendent in accordance with the forms and procedures set forth in the Program Manual.

B. The Town Highway Superintendent shall review such application and worksheet in accordance with the Program Manual and the Technical Manual. Within no more than thirty (30) days after receipt of a complete haul route application and project traffic worksheet, the Town Highway Superintendent shall notify the applicant whether the use of Town Highways will result in Concentrated Traffic.

- (i) If the proposed use of Town Highways will not result in Concentrated Traffic, the remaining provisions of this local law shall not be applicable to the applicant.
- (ii) If the proposed use of Town Highways will result in Concentrated Traffic, the applicant must either (a) modify the intended haul route and certify to the Town that no traffic generated by the applicant's Construction Activity will travel over or upon a Town Highway so that such traffic will not constitute Concentrated Traffic or (b) comply with the provisions of Section 6 of this local law.

Section 6: Requirements for Concentrated Traffic.

If the Town Highway Superintendent determines that traffic generated by an applicant's Construction Activity will result in Concentrated Traffic, the applicant shall be required to comply with the following provisions:

A. The applicant shall be required to set forth a haul route declaration as set forth in the Program Manual.

B. The Town's engineering consultant shall examine each segment of the proposed haul route in order to:

- (i) evaluate the Town Highways on the proposed haul route for design, geometric, or health and safety deficiencies, as those deficiencies are defined more fully by the Program Manual; and
- (ii) estimate the costs and procedures necessary to upgrade such Town Highways on the proposed haul route if the Town's engineering consultant

determines that the Town Highways on the proposed haul route must be upgraded to accommodate the applicant's Concentrated Traffic; and

- (iii) if available, propose an alternate haul route if required due to design deficiencies or if desired by the applicant to minimize estimated upgrade or repair costs to the haul route.

C. The Town's engineering consultant shall design or approve, in conjunction with the Town Highway Superintendent or the Town engineer, all structural, geometric, and roadbed upgrades to Town Highways necessary to accommodate the applicant's Concentrated Traffic, which upgrades shall be made at the applicant's expense in accordance with the provisions of paragraph H of this Section 6. An applicant that has completed upgrades to Town Highways in accordance with this paragraph C will not be responsible for repairing Town Highways on the applicant's haul route provided that the applicant's actual traffic does not exceed the scope, volume, weight, or trips reported on the applicant's haul route declaration.

D. The Town's engineering consultant shall conduct all pre-use testing and threshold evaluation of each segment of a haul route that is a Town Highway in accordance with the methods set forth in the Program Manual and the Technical Manual.

E. If no upgrades have been required and/or made to the Town Highways on the proposed haul route and the Town's engineering consultant determines that the applicant's Concentrated Traffic is expected to cause damage to Town Highways, the Town's engineering consultant shall provide the Town Highway Superintendent and the applicant with an estimate of the cost to repair such damage. Prior to the use of any haul route segment on Town Highways, the applicant shall agree to make all such repairs at the applicant's expense in accordance with the provisions of paragraph H of this Section 6 (including the posting of appropriate security). If any haul route segment is on unpaved Town Highways, the Town Highway Superintendent may require, upon the recommendation of the Town's engineering consultant, that such Town Highways be subject to weekly monitoring and that any damage be repaired within five (5) days at the applicant's expense in accordance with the provisions of paragraph H of this Section 6.

F. The Town's engineering consultant shall conduct all post-use testing and damage assessment of each segment of a haul route that is a Town Highway in accordance with the methods set forth in the Program Manual and the Technical Manual. The Town's engineering consultant shall provide an estimate of the cost of repairing any actual damage to Town highways caused by the applicant's Concentrated Traffic. Upon receiving the estimate, the applicant shall make all such repairs at the applicant's expense in accordance with the provisions of paragraph H of this Section 6. Upon the satisfactory completion of the repairs and the approval of such repairs by the Town Highway Superintendent, any unused security shall be returned to the applicant.

G. Any security for performance and/or payment required under this local law shall be in an amount set by the Town Board upon the recommendation of the Town's engineering consultant. Any such security shall be provided pursuant to a written security agreement with the Town, approved by the Town Board and also approved by the Town Attorney as to form, sufficiency, and manner of execution. At the Town Board's discretion, the security may be in the form of (i) a performance or payment bond, as applicable, (ii) the deposit of funds with the

Town, (iii) an irrevocable letter of credit from a bank authorized to do business in New York State, or (iv) other financial guarantee acceptable to the Town Board.

H. An applicant shall be permitted to undertake upgrade or repair work only if the Town Highway Superintendent determines that the applicant, or a contractor hired by the applicant, has the capability and experience to make the necessary repairs or upgrades. All work shall be performed pursuant to an agreement in writing between the applicant and the Town, which shall require, among other things, the applicant or its contractor to (i) complete the work in a timely fashion, (ii) post security in accordance with the requirements of paragraph G of this Section 6, (iii) indemnify the Town against all liability stemming from the applicant's work, and (iv) provide the Town with satisfactory evidence of insurance as determined by the Town, including liability insurance naming the Town as additional insured. All repairs or upgrades to Town Highways shall be made in accordance with the specifications established by the Town Highway Superintendent and must be approved by the Town Highway Superintendent. In addition, the applicant shall comply with all applicable laws and regulations, including without limitation the prevailing wage requirements of New York Labor Law. The applicant or its contractor shall obtain all governmental permits and approvals and obtain any private land rights that are necessary to make any required repairs or upgrades to Town Highways. If the applicant does not wish to make such repairs or upgrades to Town Highways, or is determined by the Town Highway Superintendent not to have the necessary capability to make such repairs or upgrades, then the applicant shall agree in writing to pay the Town for the cost of such repairs or upgrades to Town Highways and post security in accordance with the requirements of paragraph G of this Section 6.

I. The applicant shall pay the Town for all of the Town's reasonable costs and expenses in implementing the requirements of this Section 6, including without limitation the fees of the Town's engineering consultant in conducting all activities required hereunder and under the Program Manual and Technical Manual. The Town may in some cases provide the applicant with an estimate of such costs and expenses, and the Town Board may require the applicant to place funds in escrow to cover such costs and expenses before the Town incurs any such costs and expenses.

J. The applicant shall defend, indemnify, and hold the Town harmless from all losses resulting from injury or death of persons or damage to property arising from the applicant's upgrades and repairs to Town Highways.

K. If an applicant disagrees with any decision by the Town Board, the Town Highway Superintendent, or the Town's engineering consultant in the administration of this local law, including without limitation the extent or method of a proposed highway upgrade or repair, any cost imposed upon the applicant, or an estimate of the amount of security to be held by the Town, and the applicant and the Town are unable to resolve their dispute through negotiation, the applicant may make a written request to the Town Board appealing such decision and requesting a public hearing at which the applicant shall have the right to appear and be heard. The Town Board shall hold such public hearing not fewer than five (5) days nor more than thirty (30) days after such request. The Town Board may reverse, modify, or affirm, wholly or partly, the decision appealed from and shall make such decision as in its opinion ought to have been made in the matter and, to that end, shall have all the powers of the board, official, or consultant from whose decision the appeal is taken. The Town Board shall issue a determination on the

applicant's request within fifteen (15) days of the public hearing. In view of the Town's obligation to provide its residents with safe and properly maintained highways, the Town Board's determination shall be final.

In order to comply with the requirements of this Section 6, an applicant shall have the option of entering into a road use agreement with the Town. A sample form of road use agreement meeting all the requirements set forth herein is attached to and made a part of this local law as Appendix 3. The applicant may ask to modify such form or propose a different form of road use agreement, but any such agreement must be in a form approved by the Town Board and also approved by the Town Attorney as to form, sufficiency, and manner of execution.

Section 7: Updates to the Program Manual and the Technical Manual.

From time to time, updates to the Program Manual and the Technical Manual may be published. The Town Board may from time to time update or replace any manual set forth as an appendix to this local law by adopting a local law referencing and attaching such new or updated manual, and thereafter, the new or updated manual shall be binding on all Persons subject to this local law.

Section 8: Application Fees.

The Town Board may establish a schedule of fees relating to applications, approvals, inspections, and enforcement under this local law.

Section 9: Exceptions.

The Town Board may by resolution except an applicant from the requirements of this local law provided that the Town Board makes a finding that the Town Highways to be used by the applicant will be adequately protected and any damage to Town Highways will be adequately repaired by virtue of the requirements or conditions imposed upon the applicant in connection with any federal, State, or local permit or approval, including without limitation mitigation measures imposed under the National Environmental Policy Act or the State Environmental Quality Review Act.

Section 10: Enforcement and Penalties for Offenses.

A. In addition to the following penalties and punishment, the Town Attorney may, at the request of the Town Board, maintain an action or proceeding in the name of the Town in a court of competent jurisdiction to compel compliance with or restrain any violation of this local law.

B. The Town Highway Superintendent and Town police officers are hereby authorized to issue and serve appearance tickets with respect to any violation of this local law. The Town Attorney shall prosecute all such violations.

C. Any Person or Persons convicted of violating any provision of this local law shall be guilty of a violation. A conviction of a first violation is punishable by a fine of not more than \$500 or imprisonment not to exceed three months, or both. A conviction of a second violation occurring within a period of five years is punishable by a fine of not less than \$500 nor more than \$800 or imprisonment not to exceed six months, or both. A conviction of a third violation

occurring within a period of five years is punishable by a fine of not less than \$800 nor more than \$1,000 or imprisonment not to exceed nine months, or both. Each week that a violation continues uncorrected or is resumed shall constitute a separate additional violation.

D. In addition to the penalties prescribed herein, if any use of Town Highways is made or threatened in violation of the New York Highway Law, the New York Vehicle & Traffic Law, or other local law or ordinance of the Town, the Town Highway Superintendent may, in the name of and on behalf of the Town seek all remedies allowed pursuant to such laws or ordinances.

Section 11: Time to Act.

The time periods prescribed herein in which the Town Board, the Town Highway Superintendent, other Town official, or the Town's engineering consultant shall act are not of the essence and shall not be construed as imposing a limitation on the time to act.

Section 12: Inconsistent Provisions and Repealer.

In the event of any inconsistency between the provisions of this local law and the provisions of the Program Manual and the Technical Manual, the provisions of this local law shall control. All ordinances, local laws, and parts thereof inconsistent with this local law are hereby repealed.

[**Note:** *It is advisable to specifically list any local laws that the Town Board intends to be superseded by this local law.*]

Section 13: Severability.

If any part or provision of this local law or the application thereto to any Person or circumstance shall be adjudged invalid by any court of competent jurisdiction, such judgment shall be confined in its operation to the part or provision or application directly involved in the controversy in which such judgment shall have been rendered and shall not affect or impair the validity of the remainder of this local law or the application thereof to other Persons or circumstances.

Section 14: Effective Date.

This local law shall take effect upon filing with the New York Secretary of State.

APPENDIX ONE

Road Use and Preservation Program Manual, Version 1.0, dated [DATE]

Available for inspection at Town Hall

[ADDRESS]

DRAFT

APPENDIX TWO

Road Use and Preservation Technical Manual, Version 1.0, dated [DATE]

Available for inspection at Town Hall

[ADDRESS]

APPENDIX THREE

Road Use Agreement

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APPENDIX P

Draft Road Protection Road Use Agreement

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AGREEMENT FOR ROAD USE, REPAIR, AND IMPROVEMENTS

This AGREEMENT FOR ROAD USE, REPAIR, AND IMPROVEMENTS (this “Agreement”) is made and entered into this [DATE] by the TOWN OF [NAME] (the “Town”), a municipal corporation with offices at [ADDRESS] and [DEVELOPER], a [TYPE OF ENTITY] with a mailing address at [ADDRESS] (“Developer”). The Town and Developer are sometimes referred to herein individually as a “Party” and collectively as the “Parties”.

RECITALS

1. The Town has adopted Local Law No. __ of the Year 2011 (the “Road Use and Preservation Law”).
2. Developer intends to undertake construction activity which is subject to the requirements of the Road Use and Preservation Law (the “Project”).
3. The Town is responsible for the maintenance and repair of certain roads and highways within the Town.
4. In connection with the Project, it may be necessary for Developer and its contractors, subcontractors or designees to: (a) frequently travel upon or transport heavy equipment and materials over certain roads and highways in the Town which may in certain cases be in excess of the design limits of such roads; (b) transport certain materials, such as concrete and gravel, on roads within the Town; and (c) widen certain roads and make certain modifications and upgrades (both temporary and permanent) to such roads to permit equipment and materials to pass.

5. The Parties wish to enter into this Agreement to set forth the terms and conditions for the use, improvement, and repair of Town roads by Developer in connection with the Project.

NOW THEREFORE, in consideration of mutual promises and covenants contained herein and other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the Parties agree as follows:

ARTICLE I

USE OF HAUL ROUTES BY DEVELOPER

Section 1.1 Use of Designated Roads by Developer. In connection with the Project, the Town hereby acknowledges and agrees that Developer, its contractors and subcontractors and each of their respective agents, officers, employees, representatives, and assigns (collectively, the “Developer Parties”) may use the portions of the roads and highways located in and maintained by the Town identified as haul routes by Developer on Appendix A attached hereto (the “Haul Routes”) subject to the terms and conditions of this Agreement and in accordance with the most recent versions of the Delta Road Use and Preservation Program Manual (the “Program Manual”) and the Delta Road Use and Preservation Technical Manual (the “Technical Manual”) which are attached hereto as Appendix B. Developer and the Developer Parties may not use any other Town roads or highways (roads not included as Haul Routes) in connection with the Project.

Section 1.2 Responsibilities of Engineer and Developer’s Duty to Pay for Town’s Reasonable Expenses. The Town shall retain an engineer (the “Engineer”) to undertake surveys of the Haul Routes, to conduct pre-use testing and post-use testing of the Haul Routes, to prepare

estimates of the cost of upgrades or improvements to Haul Routes necessary to accommodate Project traffic and repairs for any damage to Haul Routes caused by Project traffic, and to perform such other tasks that the Town may designate to implement the Road Use and Preservation Law. Developer shall pay for all of the Town's reasonable costs and expenses in implementing this Agreement including the fees of the Engineer in connection with the work to be performed pursuant to this Agreement. The Town shall provide Developer with an estimate of such costs and expenses, and Developer shall place funds in escrow with the Town in an amount sufficient to cover such costs and expenses before the Town incurs any such costs and expenses.

Section 1.3 Evaluation and Pre-Use Testing of Haul Routes. Developer shall submit to the Town Highway Superintendent a Haul Route Declaration on a form supplied by the Town. The Haul Route Declaration shall identify the Project location and the routes that all material and equipment required for the Project shall be carried over to reach the Project. The Engineer shall undertake a public safety evaluation, structural evaluation, and a geometric evaluation of each segment of the proposed Haul Route as provided in Chapter 3, Section 4 of the Program Manual. The Engineer shall also pre-test each segment of the proposed Haul Routes as provided in Chapter 3, Section 6 of the Program Manual. The Engineer shall also conduct a threshold analysis as provided in Chapter 3, Section 7 of the Program Manual. If Developer decides to revise any Haul Routes, whether on the basis of the Engineer's evaluation of the Haul Routes or otherwise, Developer shall submit a revised Haul Route Declaration, and the Engineer shall evaluate the revised Haul Routes as provided herein.

Section 1.4 Upgrades to Haul Routes. If the Engineer determines that any structural, geometric, or roadbed upgrades are necessary to accommodate Project traffic, as documented on

a Technical Haul Route Evaluation Form, Developer shall have the option of either revising the Haul Route or ensuring that such necessary upgrades are completed at Developer's expense. The design, review, approval, and construction of any upgrades agreed to by Developer shall be completed as provided in Chapter 3, Sections 5 and 8 of the Program Manual and made in accordance with the provisions of Section 2.4 hereof.

Section 1.5 Use of Haul Routes. Upon the completion of the threshold evaluation and any necessary upgrades to the Haul Routes, Developer and Developer Parties shall be permitted to use the Haul Routes for Project traffic as provided in Chapter 3, Section 9 of the Program Manual. If the Engineer determines that Project traffic is likely to damage any segment of the Haul Routes, Developer shall be required to post security to cover the estimated cost of repairing such damage in an amount to be determined by the Engineer and approved by the Town Board. If Project traffic will travel over unpaved Town highways, the Town Highway Superintendent may require, upon the Engineer's recommendation, that such Town highways be subject to weekly monitoring and that any damage be repaired within five (5) days at the Developer's expense. Developer shall be responsible for keeping, at its sole cost and expense, the Haul Routes clean and free from rubbish and debris resulting from Project traffic or Developer's use of the Haul Routes. Materials and equipment of Developer or the Developer Parties, if any, shall be timely removed from the Haul Routes when they are no longer reasonably necessary to the Project. Developer will also take reasonable steps to minimize fugitive dust and to mitigate or minimize the transport of such materials as mud or dirt to public streets.

Section 1.6 Post-Use Testing and Damage Assessment. At the completion of the Project, the Engineer shall conduct post-use testing of all segments of the Haul Route as provided in Chapter 3, Section 10 of the Program Manual. Using the pre-use testing and post-

use testing data, the Engineer will make a determination of damages to Haul Route segments (and any related appurtenances and improvements), if any, as a result of Project traffic as provided in Chapter 3, Section 11 of the Project Manual. The Engineer will make recommendations for repair alternatives and estimated costs of repairs. If any segments of Haul Routes are shared with other developers subject to a separate road use agreement with the Town, the Engineer shall also provide an allocation analysis of the damage caused by the Developer and such other developers. The Town Highway Superintendent shall review the Engineer's recommendations and select an appropriate repair alternative.

Section 1.7 Haul Route Repair. If Developer is found to be responsible for any damage to any segment of a Haul Route, Developer shall be responsible for repairing such damage at its own expense or paying the Town for the cost of such repairs. Such repairs shall be made in accordance with the provisions of Section 2.4 hereof.

ARTICLE II

GENERAL TERMS AND CONDITIONS

Section 2.1 Designees. Either Party may at any time provide written notice to the other Party with the name and contact information of a person who shall serve as that Party's primary point of contact between the Parties. A Party may change its designee at any time by providing the other Party with written notice of the change and the effective date of such change.

Section 2.2 Cooperation in Good Faith; Resolution of Disputes. The Parties shall communicate expeditiously and cooperate and negotiate in good faith with respect to all matters that must be agreed upon after the execution of this Agreement. If Developer disagrees with any decision by the Town Board, the Town Highway Superintendent, or the Engineer, including

without limitation the extent or method of a proposed highway upgrade or repair, any cost imposed upon Developer, or an estimate of the amount of security to be held by the Town, and the Parties are unable to resolve their dispute through negotiation, Developer may make a written request to the Town Board requesting a public hearing at which Developer shall have the right to appear and be heard. The Town Board shall hold such public hearing not fewer than five (5) days nor more than thirty (30) days after such request and shall issue a determination on Developer's request within fifteen (15) days of such public hearing. In view of the Town's obligation to provide its residents with safely and properly maintained highways, the Town Board's determination shall be final.

Section 2.3 Emergency Action by the Town. If the Town determines that in the interest of public health, safety, or welfare that an emergency condition exists that has been caused by Developer or Developer Parties and that a repair to a Town highway must be made sooner than Developer is willing to agree to, the Town may make such repairs and invoice Developer for the costs incurred by the Town in connection with the repair, provided the Town has given Developer twenty-four (24) hours advance written notice of the Town's intent to make such repairs, or such advance written or oral notice as may be appropriate based upon the nature of the emergency. Developer shall pay such invoiced amounts for repairs undertaken by the Town within thirty (30) days following receipt of the invoice; provided, however, that if Developer disputes the invoice for such repairs, such dispute shall be resolved in accordance with the provisions of Section 2.2 hereof.

Section 2.4 Terms and Conditions of Repairs and Upgrades of Haul Routes. If the Engineer determines that any repairs or upgrades to segment of Haul Routes are necessary because of Project traffic, Developer shall have the option of making such repair or upgrade on

its own subject to the terms set forth herein. Developer shall be permitted to undertake such work only if the Town Highway Superintendent determines that Developer, or a contractor hired by Developer, has the capability and experience to make the necessary repairs or upgrades. All work shall be performed pursuant to an addendum to this Agreement that shall specify the scope of work to be performed and which shall require Developer or its contractor to (i) complete the work in a timely fashion (ii) provide security for performance and/or payment in a form reasonably satisfactory to the Town and in amounts deemed sufficient by the Town, (iii) indemnify the Town against all liability stemming from the work, and (iv) provide the Town with satisfactory evidence of insurance as provided in Article V hereof. All repairs or upgrades shall be made in accordance with the specifications established by the Town Highway Superintendent and must be approved by the Town Highway Superintendent. In addition, Developer shall comply with all applicable laws and regulations, and all work performed on Town highways or Town property shall be subject to the prevailing wage requirements of New York Labor Law. Developer or its contractor shall obtain all governmental permits and approvals and obtain any private land rights that are necessary to make any required repairs or upgrades. If Developer does not wish to make such repairs or upgrades, or is determined by the Town Highway Superintendent not to have the necessary capability to make such repairs or upgrades, then Developer shall agree in an addendum to this Agreement to pay the Town for the cost of such repairs or upgrades and shall post security in a form reasonably satisfactory to the Town and in amounts deemed sufficient by the Town. If Developer fails to timely complete or pay for any repairs required hereunder, such failure shall be deemed an Event of Default as set forth in Article VI hereof and the Town shall have such remedies as are set forth therein.

Section 2.5 Expiration of this Agreement. After the completion of the Project, and upon the Town Highway Superintendent's determination that all repairs or upgrades have been satisfactorily completed, this Agreement shall expire and Developer shall be released from all obligations herein except for those that expressly survive the expiration or termination of this Agreement.

ARTICLE III

COVENANTS OF PARTIES

The Parties' engineering responsibilities shall be carried out in accordance with generally accepted engineering practices, and construction responsibility shall be carried out in accordance with sound construction practices. The Parties shall require from their respective construction contractors and subcontractors no less a standard of engineering and construction practice. The Parties shall perform and complete all repairs, upgrades, modifications, and improvements hereunder in a good and workmanlike manner.

ARTICLE IV

INDEMNIFICATION; LIMITATION OF LIABILITY

Section 4.1 Indemnification.

(a) Except to the extent caused by the (i) gross negligence or (ii) illegal or willful misconduct of or by the Town or its officers, agents, employees or subcontractors, Developer agrees that it will defend, indemnify, and hold harmless the Town and its officers and employees (the "Indemnified Parties") from and against any and all liability, actions, administrative proceedings, damages, claims, demands, judgments, losses, cost, expenses and fees, including reasonable attorney's fees (collectively, "Losses"), resulting from (A) injury or

death of persons or damage to property arising directly or indirectly from any acts, errors or omissions of Developer or its officers, agents, employees or subcontractors in connection with the Project or the performance of any upgrades or repairs to Town highways or Town property; or (B) breach or default of this Agreement by Developer. In the event a claim, action, demand, suit or proceeding to which the Indemnified Parties are entitled to be indemnified hereunder is instituted by any third party, the Town shall promptly notify Developer in writing and provide Developer with a copy of the written documents presented by such third party.

(b) Developer will have the right to control the defense of any such actions or claims and will have the right to settle such actions or claims on such terms as Developer may deem reasonable so long as such defense and/or settlement (i) provides for the release or indemnification of the Indemnified Parties and (ii) does not create any financial or other obligation on the part of the Indemnified Parties that is not paid or reimbursed in full by Developer. The Indemnified Parties shall have the right to retain, at Developer's expense, separate legal counsel from Developer's legal counsel, subject to Developer's approval of such legal counsel, the scope of services contemplated to be provided by the Indemnified Parties' legal counsel, and the billing rates of and charged for services by the Indemnified Parties' legal counsel. If Developer is not named as a party in any action or proceeding instituted against an Indemnified Party, and Developer requests the right to intervene as a party, the Town hereby consents thereto.

(c) Without limiting the foregoing, Developer agrees to defend, indemnify, and hold harmless the Indemnified Parties for Losses in connection with any litigation commenced against the Indemnified Parties by reason of the Town's entering into this Agreement, including but not limited to any litigation commenced against the Town by any

entity relating to the payments to be made by Developer to the Town hereunder. In the event a claim, action, demand, suit or proceeding is instituted against an Indemnified Party by any third party challenging the exercise of the Town's municipal powers or obligations in connection with the Project, pursuant to which such Indemnified Party is entitled to be indemnified hereunder, the Town shall promptly notify Developer in writing and provide Developer with a copy of such written documents presented by such third party, and the provisions of Section 4.1(b) hereof shall apply.

Section 4.2 Limitation of Liability. The Developer waives all claims against the Town for any consequential, incidental, indirect, special, exemplary, or punitive damages (including, without limitation, loss of actual or anticipated profits, revenues, or product loss by reason of shutdown or non-operation; increased expense of operation, borrowing, or financing; loss of use or productivity; or increased cost of capital); and, regardless of whether any such claim arises out of breach of contract or warranty, tort, product liability, indemnity (including the indemnity set forth in this Section 5.1), contribution, strict liability, or other legal theory.

Section 4.3 Survival. The provisions of this Article IV shall survive the expiration or earlier termination of this Agreement and continue until the later of (i) the date that is six (6) months after the expiration of the applicable statute of limitations of any claim, action, demand, suit, or proceeding to which the Indemnified Parties are entitled to be indemnified hereunder or (ii) in the event that a claim, action, demand, suit, or proceeding is brought against an Indemnified Party, the date that a final judicial or administrative determination or settlement of such claim, action, demand, suit, or proceeding becomes binding on the parties thereto and is not subject to appeal.

ARTICLE V
INSURANCE

Section 5.1 Required Insurance. If Developer or Developer Parties perform any upgrades or repairs to Town highways or Town property, the party performing such work shall at all times while performing such work maintain in full force and effect such insurance as will protect Developer or Developer Parties from claims set forth below that arise out of or as a result of Developer's or Developer Parties' operations or completed operations and for which Developer or Developer Parties may be legally liable, whether such operations be by the Developer or Developer Parties or by a subcontractor or by anyone directly or indirectly employed by any of them, or by anyone for whose acts any of them may be liable:

- (a) claims under worker's compensation, disability benefit, and other similar employee benefit acts that are applicable to the work to be performed;
- (b) claims for damages because of bodily injury or death of any person;
- (c) claims for damages insured by usual personal injury liability coverage;
- (d) claims for damages because of injury to or destruction of tangible personal property, including loss of use therefrom;
- (e) claims for bodily injury, death of a person, or property damage arising out of ownership, maintenance, or use of a motor vehicle;
- (f) claims for bodily injury or property damage arising out of completed operations;
- (g) claims involving contractual liability insurance applicable to Developer's indemnification obligations in this Agreement; and

(h) claims for remedial costs, bodily injury, and property damage arising out of the presence or discharge of pollutants, which in turn arises out of Developer's or Developer Parties' operations and completed operations hereunder.

Section 5.2 Specific Insurance Requirements. The insurance required in Section 5.1 hereof shall in all cases be purchased from an insurer authorized to do business in New York State and bearing A.M. Best financial strength ratings of "A-" ("Excellent") or better. The commercial liability coverage (including without limitation all commercial general liability, pollution legal liability, and automobile liability) (i) shall have limits of not less than \$2 million per occurrence and in the aggregate; (ii) shall name the Town as additional insured, on a primary and non-contributing basis for claims arising in whole or in part from the Developer's or Developer Parties' operations and completed operations, whether or not the Town is itself actually or allegedly negligent and whether or not any such claim involves bodily injury to the employee of any other insured or additional insured under said policy; (iii) shall provide for the severability of interest; and (iv) shall state that the Town is entitled to recover for acts and omissions of Developer or Developer Parties even though the Town is named as an additional insured. Certificates of insurance acceptable to the Town, with all applicable additional insured endorsements attached, shall be filed with the Town prior to commencement of any work and thereafter upon renewal or replacement of each required policy of insurance. These certificates and the insurance policies required by this Article V shall contain a provision that coverages afforded under the policies will not be materially changed, canceled, or allowed to expire until at least 30 days' prior written notice has been given to the Town. Upon reasonable notice, the Town shall have the right to examine any policy of insurance required to be maintained hereunder. If Developer or Developer Parties should fail to purchase or maintain any of the

insurance required under this Article V, the Town shall be entitled to recover all damages arising from such failure, in addition to all other rights and remedies, even if the Town has itself obtained insurance to cover the same risks.

ARTICLE VI

DEFAULT AND REMEDIES

Section 6.1 Events of Default. The occurrence and continuance beyond any applicable cure or grace period of any one or more of the following shall constitute an “Event of Default” hereunder:

(a) Developer shall fail to make any payment due under the terms of this Agreement and such failure shall continue for a period of fifteen (15) days beyond the due date; provided, however, that if Developer timely disputes any amounts due, such payment shall be deemed due as of thirty (30) days after the date that such dispute is finally resolved by (i) agreement of the Parties, (ii) a final determination by the Town Board in accordance with Section 2.2 hereof, or (iii) a final and binding determination by a court having jurisdiction; or

(b) Developer shall fail to increase the amount of, or replace, any security for the benefit of the Town, whether provided under the terms of any security agreement or otherwise, and such failure shall continue for a period of ten (10) days following written notice by the Town of such failure; or

(c) Developer fails to properly perform or complete any upgrade or repair it or Developer Parties have agreed to complete and such failure shall continue for fifteen (15) days following written notice by the Town of such failure.

Anything to the contrary notwithstanding, the time for cure of (i) any Event of Default may be extended by written agreement of the Parties, and (ii) any non-monetary Event of Default shall be extended for a reasonable period so long as Developer has commenced efforts to cure within such the applicable cure period and pursued such efforts with due diligence.

Section 6.2 Town Remedies. If an Event of Default has occurred, upon notice and the expiration of any applicable cure or grace period provided in Section 6.1 hereof:

(a) with respect to any monetary Event of Default, the Town may draw upon any security provided therefor and any late payments shall accrue interest at the greater of 1.5% per month or the highest rate permitted by law; or

(b) with respect to any Event of Default involving the failure of Developer or Developer Parties to carry out any work, the Town may at its discretion either (i) draw or call upon any security for the completion of such work, or (ii) correct or complete such work on its own or through contractors hired by the Town and charge Developer for all costs and expenses in connection therewith; or

(c) the Town may commence an action at law or in equity seeking such remedy or relief as it deems appropriate or expedient; or

(d) the Town may issue a stop-work order or impose any penalties or fines available under applicable law.

No remedy conferred upon or reserved to the Town under this Agreement is intended to be exclusive of any other remedy under this Agreement or by law provided, but each shall be cumulative and shall be in addition to every other remedy given under this Agreement now or hereafter existing at law or in equity or by statute. No delay or omission of the Town to exercise

any right or power accruing upon any Event of Default shall impair any right or power or shall be construed to be a waiver of any Event of Default or any acquiescence therein, and every power and remedy given to the Town under this Agreement may be exercised from time to time as often as may be deemed expedient by the Town.

Section 6.3 Attorney's Fees. In the event that the Town employs attorneys or incurs other expenses to enforce the terms of this Agreement or correct an Event of Default hereunder, to the extent permitted by law, Developer shall pay all costs of the Town in obtaining any payments due from Developer or in performing any work required by Developer, including reasonable attorneys' fees and expenses.

ARTICLE VII

FORCE MAJEURE EVENT

Section 7.1 Force Majeure Event Defined. A "Force Majeure Event" shall mean acts of God; strikes, lockouts, or other industrial disturbances; acts of a public enemy; order of any governmental, civil, or military authority or of any court of competent jurisdiction; war; terrorism; insurrections; riots; civil disturbances; epidemics; fires; natural disasters of all kinds; floods; washouts; droughts or other weather-related events; arrest; restraining of government and people; explosions; partial or entire failure of utilities; shortages of labor, material, supplies or transportation; or any other similar or different cause not reasonably within the control of the Developer or Developer Parties.

Section 7.2 Applicability of Force Majeure Event. Developer will not be in breach or liable for any delay or failure in its performance under this Agreement to the extent such performance is prevented or delayed due to a Force Majeure Event, provided that:

(a) Developer gives the Town written notice within forty-eight (48) hours of the commencement of the Force Majeure Event, with details to be supplied within seven (7) calendar days after the commencement of the Force Majeure Event further describing the particulars of the occurrence of the Force Majeure Event;

(b) the delay in performance will be of no greater scope and of no longer duration than is directly caused by the Force Majeure Event;

(c) Developer proceeds with commercially reasonable efforts to overcome the events or circumstances preventing or delaying performance and will provide a written report to the Town during the period that performance is delayed or prevented describing actions taken and to be taken to remedy the consequences of the Force Majeure Event, the schedule for such actions and the expected date by which performance will no longer be affected by the Force Majeure Event; and

(d) when the performance of Developer is no longer being delayed or prevented, Developer gives to the Town written notice to that effect.

ARTICLE VIII

REPRESENTATIONS AND WARRANTIES

Section 8.1 Town Representations and Warranties.

(a) Existence and Good Standing. The Town validly exists as a political subdivision in good standing under the laws of the State of New York.

(b) Approval and Authorization. The Town has full power and authority to enter into this Agreement and to fully perform all of its duties and obligations

hereunder. The Town has duly authorized the execution and delivery of this Agreement and the Town's performance of all of its duties and obligations contained herein, and, to the extent permitted by applicable law, this Agreement constitutes a valid and legally binding obligation of the Town, enforceable in accordance with its terms.

(c) All Statements True. No statement, information, representation, or warranty of the Town contained in this Agreement or furnished by or on behalf of the Town in connection with the transactions contemplated herein contains any untrue statements of a material fact or omits to state a material fact necessary in order to make a statement contained herein not misleading.

Section 8.2 Developer Representations and Warranties.

(a) Existence and Good Standing. Developer is a _____ established and in good standing under the laws of the State of _____.

(b) Approval and Authorization. Developer has full power and authority to enter into this Agreement and to fully perform all of its duties and obligations hereunder. Developer is duly authorized to execute and deliver this Agreement and perform all of its duties and obligations contained herein, and, to the extent permitted by applicable law, this Agreement constitutes a valid and legally binding obligation of Developer, enforceable in accordance with its terms.

(c) All Statements True. No statement, information, representation, or warranty of Developer contained in this Agreement or furnished by or on behalf of Developer in connection with the transactions contemplated herein contains any untrue statements of a material fact or omits to state a material fact necessary in order to make a statement contained herein not misleading.

ARTICLE IX

MISCELLANEOUS PROVISIONS

Section 9.1 Governing Law. This Agreement shall be governed by, and construed and enforced in accordance with, the laws of the State of New York, without regard to the conflict of laws provisions in such state.

Section 9.2 Entire Agreement and Amendments. All Appendices attached to this Agreement are incorporated into and form a part of this Agreement. This Agreement (including all Appendices) shall constitute the complete and entire agreement between the Parties and supersedes all prior and contemporaneous agreements and understandings, oral or written, with respect to the subject matter hereof. This Agreement may be amended only by a written agreement signed by all of the Parties.

Section 9.3 Binding Effect. This Agreement shall inure to the benefit of and be binding upon the Parties and their respective successors and assigns.

Section 9.4 Notices. All notices, requests, demands, and other communication hereunder shall be in writing and shall be deemed to have been duly given as of (a) the date delivered by hand or fax (with appropriate acknowledgement of receipt); (b) three (3) business days after having been mailed by certified mail, postage prepaid, return receipt requested; or (c) the next business day after having been sent for delivery on the next business day, shipping prepaid, by a nationally recognized overnight courier, in each case to the receiving Party at the address set forth below or at such other address as any Party may specify by written notice to the other party sent in the manner set forth herein.

(a) If to Developer:

Tel.:

Fax:

With a copy to:

Tel.:

Fax:

(b) If to the Town:

Attn: Supervisor

Tel.:

Fax:

With a copy to:
[Town Attorney]

Tel.:

Fax:

and

Whiteman Osterman & Hanna LLP

One Commerce Plaza

Albany, New York 12260

Attn: David R. Everett, Esq.

Tel.: (518) 487-7600

Fax: (518) 487-7777

Section 9.5 Exercise of Rights and Waiver. The failure of any Party to exercise any right under this Agreement, or to insist upon the strict performance of any term or condition thereof, shall not be construed to be a waiver or relinquishment thereof either at the time of such

Party's failure to insist upon strict performance or any time in the future, and such terms and conditions shall remain in full force and effect.

Section 9.6 Independent Contractor; Relation of the Parties. The status of Developer under this Agreement shall be that of an independent contractor and not that of an agent. In accordance with such status, Developer and its officers, agents, employees, representatives, and servants shall at all times during the term of this Agreement conduct themselves in a manner consistent with such status and by reason of this Agreement shall neither hold themselves out as, nor claim to be acting in the capacity of, officers, employees, agents, representatives, or servants of the Town. As an independent contractor, Developer shall accept full responsibility for providing to its employees all statutory coverage for worker's compensation, unemployment, disability or other coverage required by law.

Section 9.7 Severability. In the event that any clause, provision or remedy in this Agreement shall, for any reason, be deemed invalid or unenforceable, the remaining clauses and provisions shall not be affected, impaired, or invalidated and shall remain in full force and effect.

Section 9.8 Headings and Construction. The Article and Section headings in this Agreement are inserted for convenience of reference only and shall in no way effect, modify, define, limit, or be used in construing the text of the Agreement. Where the context requires, all singular words in the Agreement shall be construed to include their plural and all words of neuter gender shall be construed to include the masculine and feminine forms of such words.

Notwithstanding the fact that this Agreement has been prepared by one of the Parties, all of the Parties confirm that they and their respective counsel have reviewed, negotiated and adopted this Agreement as the joint agreement and understanding of the Parties. This Agreement is to be

construed as a whole and any presumption that ambiguities are to be resolved against the primary drafting party shall not apply.

Section 9.9 Counterparts. This Agreement may be executed in multiple counterparts, each of which shall be deemed an original, but all of which together shall constitute one and the same Agreement.

Section 9.10 No Third Party Beneficiary. No provisions of this Agreement shall in any way inure to the benefit of any person or third party so as to constitute any such person or third party as a third-party beneficiary under this Agreement, or of any one or more of the terms of this Agreement or otherwise give rise to any cause of action in any person not a Party hereto.

Section 9.11 Ownership of Subject Matter of Agreement. Notwithstanding anything to the contrary contained herein, this Agreement does not create nor vest in Developer any easement or any ownership rights of any nature whatsoever in the Town's real property or public right-of-ways.

Section 9.12 Consents to be Reasonable. Any consent, permission, certification, judgment, satisfaction, determination, or approvals required from any Party or any Party's consultant or inspector under this Agreement shall not be unreasonably withheld, conditioned, or delayed, except as may be specifically provided otherwise in this Agreement.

Section 9.13 Safety. Developer and the Developer Parties shall perform the work hereunder in a safe manner and shall obey all safety requirements that may be established from time to time, and shall comply with all State and federal safety regulations applicable to the work being done. While work is being done on any of the public roads in the Town by or on behalf of Developer, Developer shall establish work zones with appropriate signage, warning the traveling

public of the existence of the construction zone and providing adequate traffic control as to assure safe passage through said construction zone. Developer also agrees to provide traffic control on the Haul Routes when such highways are blocked during their use by Developer or the Developer Parties under this Agreement. All traffic control plans to be used on Town highways shall be approved by the Town Highway Superintendent.

Section 9.14 Excess Material. Developer and the Developer Parties agree that in connection with any upgrades or repairs to be made hereunder, there may be certain materials removed that are no longer necessary (the “Excess Materials”). Developer agrees to remove such materials and stockpile them for use by the Town if requested by the Town Highway Superintendent. The Town Highway Superintendent shall designate the place on Town property on which the Excess Materials will be stored.

Section 9.15 Rights of Termination. Developer may terminate this agreement upon thirty (30) days notice to the Town if and only if: (a) Developer has fully completed the Project and (b) all obligations of Developer under this Agreement as of the date of such termination have been satisfactorily met.

Section 9.16 Transfer of Project.

(a) Except as provided in subsections 9.16(b), 9.16(c) and 9.16(d) below, no Party may assign, transfer, or encumber this Agreement or any or all of its rights, interests or obligations under this Agreement without the prior written approval of the other Party.

(b) In the event that Developer proposes to sell, lease, assign, or otherwise transfer ownership to a third party (collectively, “Transferee”) of the Project and this Agreement, no approval by the Town is required, provided:

(i) Developer shall be in compliance with all material terms of this Agreement, and no Event of Default shall have occurred and be continuing;

(ii) Developer shall notify the Town in writing, at least thirty (30) days prior to any sale, lease, assignment, or transfer, confirm to the Town in writing that the Transferee has notice of, and acknowledges, this Agreement and the duties and obligations of Developer hereunder; and

(iii) The Transferee shall agree in writing, to abide by the terms of this Agreement and any other agreement between the Parties.

(c) In the event of any such sale, lease, transfer or assignment (collectively, “Assignment”) of all of Developer’s rights interest and obligations under this Agreement to a Transferee, Developer shall be released of all of its obligations hereunder from and after the effective date of any such Assignment.

(d) Developer may, without approval of the Town, pledge, mortgage, grant a security interest in, or otherwise collaterally assign this Agreement or any or all of its rights, interests and obligations under this Agreement to any party providing financing for the Project as security for Developer under the financing agreements (including a trustee or agent for the benefit of any financing parties) (a “Permitted Collateral Assignee”), provided that such pledge, mortgage, grant of a security interest, or other collateral assignment does not materially diminish or impair the Town’s rights pursuant to this Agreement. In connection with any such collateral assignment to a Permitted Collateral Assignee, the Town shall cooperate with Developer and the Permitted Collateral Assignee to execute and deliver a consent agreement or estoppel certificate as reasonably requested by Developer or the Permitted Collateral Assignee.

(e) Developer shall reimburse the Town for its reasonable costs incurred, including reasonable attorney's fees, in connection with the Town's review of any Assignment.

Section 9.17 Jurisdiction and Venue. Each Party hereby irrevocably consents that any legal action or proceeding against it, under, arising out of, or in any manner relating to this Agreement or any other agreement, document, or instrument arising out of or executed in connection with this Agreement shall be brought only in a state or federal court of competent jurisdiction in the State of New York and County of _____. Each Party, by the execution and delivery of this Agreement, expressly and irrevocably consents and submits to the personal jurisdiction of any such courts in any such action or proceeding. Each party expressly and irrevocably waives any claim or defense in any action or proceeding based on any alleged lack of personal jurisdiction, improper venue, forum non conveniens, or any similar basis.

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IN WITNESS WHEREOF, the Parties have caused their authorized representatives to execute this Agreement as of the date above written.

TOWN

By: _____
Name:
Title: Town Supervisor

DEVELOPER

By: _____
Name:
Title:

APPENDIX A

Haul Routes

APPENDIX B

Delta Road Use and Preservation Program Manual

Delta Road Use and Preservation Technical Manual

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APPENDIX Q

Delta Road Protection Program Manual

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Road Use & Preservation Program Manual

Delta Engineers, Architects, and Land Surveyors, P.C.

May, 2011

A hard Copy of this document is available at the Town Hall for viewing only. The technical information contained in these documents is considered to be confidential and proprietary information and not for disclosure under FOIL

APPENDIX R

Delta Road Protection Technical Manual

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Road Use & Preservation

Technical Manual

Delta Engineers, Architects, and Land Surveyors, P.C.

May 2011

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