

## **3.12 Construction**

### **3.12.1 Introduction**

Without adequate mitigation, construction of the proposed project could temporarily impact neighboring properties and local road networks, and result in temporary erosion and subsequent off-site sedimentation. This section of the Stateline Retail Center DEIS addresses the proposed construction process, the anticipated potential impacts expected to result from construction of the proposed project, and measures proposed to minimize and offset those impacts.

The proposed development would require the alteration of the site (clearing of vegetation and grading) in preparation for the construction of the retail center. Construction of infrastructure (utilities connections, roadways and SSTS) and buildings would follow. It is anticipated that the construction of the proposed development would last between 12 and 18 months with an anticipated completion date in 2009.

### **3.12.2 Construction Details and Erosion Control**

Four stores of 134,000 square feet, 25,000 square feet, 11,000 square feet, and 14,800 square feet along with 14,800 square feet of office space and 11,000 square feet of community management office and office/personal service use would be constructed as part of the proposed Stateline Retail Center project. The retail buildings would potentially house a general merchandise/department store, a home goods store, a smaller commercial use (11,000 sf) and a pharmacy. Parking areas, stormwater management facilities and associated infrastructure including a subsurface treatment system for wastewater generated at the development would be built on the remainder of the site. Approximately 27.1 acres of the site would be disturbed during construction while nearly 16.9 acres, over one third of the site, would remain as undisturbed open space.

Grading of the site increases the potential for soil erosion during construction, and without appropriate mitigation incorporated into the proposed action, would have the potential to increase the volume and velocity of stormwater. If not controlled, these activities may lead to accelerated erosion and sedimentation both during and after construction.

Sedimentation of the receiving water bodies on and off the project site could result in decreased light penetration and nutrient enrichment, increased turbidity, increased transport of pollutants that are adsorbed to the sediment particles, shielding of pathogens from disinfection, and clogging of gills and filters in aquatic organisms. In order to reduce stormwater induced impacts from construction of the project, it is essential that the Applicant design and construct adequate erosion and sediment control practices to mitigate these potential impacts. Accordingly, an Erosion and Sediment Control Plan, that includes construction sequencing, has been included in the Preliminary Stormwater Pollution Prevention Plan (SWPPP) and the drawing set prepared for the Stateline Retail Center proposal.

Sedimentation during construction could impact the surrounding areas off-site and downgradient from the project site. The Stateline Retail Center Erosion and Sediment Control Plan has been included in the site plans (sheet numbers SP-4.2 and SP-4.3 Sediment & Erosion Control Plan in the back of this document). As specified in the Stateline Retail Center Erosion and Sediment Control Plan all soil erosion and sedimentation measures, such as silt

fencing, would be installed following a pre-construction conference with appropriate agency staff prior to any construction activities and in accordance with New York State Erosion and Sediment Control Standards and Specifications and any applicable conditions of regulatory approvals.

In addition, the Applicant would engage a Qualified Professional (i.e. P.E., RLA, CPESC) to oversee implementation of the SWPPP for the project, including its site specific Erosion and Sediment Control Plan component. During construction the Project would be subject to three levels of agency field review/inspections by the Town, NYSDEC, and NYSDEP for compliance with the SPDES permit and the approved Erosion and Sediment Control Plans. Refer to the SWPPP in Appendix K of this DEIS for Erosion and Sediment Control practices to be implemented. Potential soil erosion would be mitigated through the implementation of the soil erosion and control plan developed for the Stateline Retail Center Project. The plan provides site specific erosion control measures and a construction sequencing plan, designed to minimize the potential for soil erosion during and following construction. The Erosion and Sediment Control Plan is further described in Section 3.12.3 below.

The Overall Phasing Plan (Sheet SP-4.1 of the drawing set) developed for the Project includes a detailed construction phasing/sequencing plan. The plan, which divides construction into seven phases, minimizes the intensity of construction activity and limits the area of site disturbance to a total of five acres at any one time. Although phasing construction in this manner is more costly and time consuming, it mitigates a variety of potential impacts associated with construction. The construction sequence that will be provided would guide the contractor in the installation of the erosion control measures as well as the site plan features. Refer to Table 3.12-1 Construction Sequence for a summary of the overall phasing plan.

<b>Table 3.12-1 Construction Sequence</b>		
<b>Phase</b>	<b>Construction Activity and Areas</b>	<b>Duration (months)</b>
1	Eastern access road; sediment basin 1.2p; cut adjacent to I-84; underground utilities; drainage facilities; retaining walls	3
2	Cut adjacent to I-84; underground utilities; drainage facilities	1
3	Sediment basin 1.1p; underground utilities; drainage facilities	1
4	Cut adjacent to I-84; underground utilities; drainage facilities; retaining walls; parking lot subgrades	2
5	Parking lot subgrades; building pads; underground utilities; drainage facilities	1
6	Parking areas; access road; sediment basins 2.3p and 2.4p; underground utilities; drainage facilities	3
7	Construct subsurface wastewater treatment system	1
8	Parking lot subgrades; building pads; underground utilities; drainage facilities	3
9	Construct western access road; Parking lot subgrade; building pad; underground utilities; drainage facilities	3

Source: Insite drawing SP-4.1, 2007

The Applicant anticipates that the number of construction workers present at the site at any time would range from 15 to 30, depending on the phase of construction.

Construction equipment on the site would range from large bulldozers, excavators and on-site haul trucks to mechanic trucks, backhoes, water truck, and dual and tri-axle dump trucks. Construction material storage, equipment staging and soil stockpiling would occur either along the access roads or in the corners of the proposed development. Eight soil stockpile areas and two staging areas are proposed on the site (see Drawing Nos. SP-4.1, 4.2 and 4.3).

Due to the nature of this Project, lighting is not expected to be required or used during construction. The construction entrance would be blocked to prevent unauthorized access after hours, on Sundays, and at any other time when construction activities have ceased. Throughout the construction process the site would be secured by the use of signs, fencing and locked gating at the construction entrance to prevent unauthorized access. Material deliveries shall be accepted only during the stated hours of operation and scheduled so that only the materials needed for the current construction operations are stockpiled on site. Delivery of construction materials and earth-moving and construction equipment to the site would be performed with conventional trucking equipment.

During construction a Site Log Book would be kept as required by NYSDEC State Pollution Discharge Elimination System General Permit GP-0-08-001. Erosion and sediment control inspections would be conducted as necessary under coverage of the permit (minimum once a week) and an updated logbook would be kept on site for the duration of the construction activities. The Construction Site Log Book is an appendix taken from the Standards and Specifications for Urban Erosion and Sediment Control which is currently in draft form.

The Erosion and Sediment Control Plan identifies the installation of temporary sediment basins at the onset of construction. These temporary basins will be converted to the permanent stormwater management ponds after the site has been completely stabilized. Refer to Chapters 3.6 and 3.8 for further discussions on Erosion and Sediment Control practices to be utilized during the construction of this Project, including the installation of temporary the sediment basins.

### **3.12.3 Potential Impacts**

#### Construction Traffic

During the 12 to 18 month construction period, construction, and worker vehicles, would be entering and existing the site during the hours between 7:00 am and 6:00 pm Monday through Friday and 9:00 am and 5:00 pm on Saturday (Southeast Zoning Code Section 138-12.D as amended), excluding legal holidays. Typically, construction activities would be expected to cease prior to 6:00 p.m. Construction and associated traffic will not take place on Sunday.

Truck traffic would be generated initially during the mobilization of activities to clear the site and install roads and infrastructure, and later as the retail buildings are built, to bring in supplies including concrete, steel, framing materials and related building materials. Construction truck traffic would access US Route 6/202 from Interstate 84 and travel to the project site entrance on the state road except for local contractors. As a result, it is expected that heavy construction truck traffic would not travel local roads to reach the site. This should minimize road damage and limit impacts on the Towns roads resulting from construction vehicles. The number of truck trips generated per day during construction would vary depending upon the phase and pace of construction.

The number of trucks anticipated during the construction phase to remove excess fill from the project site was determined on the project engineer's cut and fill numbers presented in Section 3.6, Soils, Topography, and Geology herein. Calculations for the earthwork needed to construct the Proposed Action yielded approximately 221,890 cubic yards (cy) of earth cut and approximately 180,399 cy of fill resulting in approximately 41,491 cy of excess material. To remove this volume of excess material, 2,158 25-ton tri-axle truck trips will be required. Trucks hauling material from the project site will only be needed during the grading activities as stated above.

Local contractors are expected to use the easily accessible regional and local highways. These contractors currently use these local routes to get to and from their place of business and job sites. As a result, their travel to and from the site is expected to have little impact on the roadways and traffic volumes in the area.

Construction traffic would use a stabilized construction entrance on the site at US Route 6/202. Once construction machinery reaches the site, it is likely to remain on site until the completion of grading and excavation, thereby minimizing construction related traffic.

Site construction activities would comply with Town ordinances that govern such construction. The heaviest volume of construction traffic is expected to occur at the beginning of each construction phase as site clearing and rough grading take place, and during the months that concrete and building materials are transported to the site. Concrete and materials deliveries are expected to be sporadic, however, and would be consistent with commercial traffic that typically uses US Route 6/202.

#### Noise

Included in this DEIS (Chapter 3.11) is a detailed analysis of potential impacts associated with noise. Local daytime ambient noise levels would increase both on- and off-site during clearing and grading activities, and the construction of the accesses to the site, utility lines, buildings, and parking lots. Construction activities and the operation of construction equipment are an expected and required short term consequence of any new residential, commercial or industrial project, and cannot be avoided. Accordingly, some noise impacts are expected. It is important to note that noise impacts as a result of construction activities are an, intermittent, short term, temporary impact, dependent on the construction activity and the proximity to the local receptors and would cease upon completion of the construction phase of the project. The following table, Table 3.12-2, Construction Noise Levels, shows representative maximum sound levels for diesel powered equipment and activities at a range of receptor distances. See Chapter 3.11 for a detailed analysis.

<b>Table 3.12-2 Construction Noise Levels (dBA)</b>				
<b>Equipment/Activity</b>	<b>Maximum Sound Level</b>			
	<b>50 feet</b>	<b>200 feet</b>	<b>500 feet</b>	<b>1000 feet</b>
Backhoe	82-84	70-72	62-64	56-58
Blasting	88-120	76-108	68-100	62-94
Concrete Pump	74-84	62-72	54-64	48-58
Generator	71-87	59-75	51-67	45-61
Hailer	83-86	71-74	63-66	57-60
Loader	86-90	74-78	66-70	60-64
Rock Drill	83-99	71-87	63-79	57-73
Trucks	81-87	69-75	61-67	55-61

Source: Compiled from various sources by Tim Miller Associates, Inc.

### Air Quality

Construction related impacts on air quality would vary based on the proximity of the construction activities to the adjacent properties and the type and amount of construction equipment used for each project phase. However, to address potential air quality impacts from construction related activities, measures have been proposed for specific construction activities to minimize their overall effect. If these measures are properly applied, adverse air quality impacts are expected to be minimized. Air quality impacts from projected vehicular traffic associated with the project have been analyzed for build year 2009 (See Chapter 3.11 of this DEIS).

Construction-related air emissions would result from the use of diesel fuel as a source of energy for construction vehicles and equipment. On-site mitigation measures are proposed as a part of the project during construction to limit dispersal of particulate matter. Well maintained diesel engines are more fuel efficient than gasoline engines, however, they are a source of some air pollutants. Pollution from these engines comes from the combustion process in the form of exhaust. The major pollutants resulting from diesel fuel include: hydrocarbons, carbon monoxide, nitrogen oxides and particulate matter.

Particulate matter and other pollutants from diesel exhaust emission would be controlled through proper tuning of the vehicle engines and maintenance of the air pollution controls thereby minimizing their contribution to site generated air pollution during construction.

### Grading

The proposed grading plan indicates that approximately 27.1 acres of the 44.0 acre site would be disturbed. Approximately 16.9 acres of the site would remain undisturbed. While grading would occur on approximately two thirds of the site, the site development and grading plan was developed to avoid the wetlands and waterways on the site.

Earthwork (cut and fill) is required to build the internal road network, install site utilities and prepare level areas for the building pads and related parking areas. In addition, grading is required to construct the proposed stormwater management facilities to be located in the northwest corner and in the eastern portion of the site along the access road. The project engineer has estimated that approximately 221,890 cubic yards of cut and approximately

180,399 cubic yards of fill will be required to prepare the site for development. Proposed grading is shown on the DEIS Site Plans - Sheets SP-3.1 and SP-3.2 Grading & Utilities Plan. The net earthwork quantities would require approximately 2,158 truck trips (assuming an average load of 25 tons) to haul away the surplus soils. Due to the proximity of Interstate 84, it is anticipated that the surplus soils would be trucked along US Route and onto the highway either east or west of the site.

In general, the hillsides in the northeastern portion of the site would be excavated or cut, while areas with lower elevations in the southwest portion of the site would be filled. While the project has been designed to balance cut and fill to the greatest extent possible, excavated material would need to be removed from the site.

### Dust

Construction activities on the project site would have a potential impact on the local air quality through generation of fugitive or airborne dust. Fugitive dust is generated during ground clearing and excavation activities. Throughout the construction period, passage of delivery trucks and other vehicles over temporary dirt roads and other exposed soil surfaces also generates fugitive dust.

With proper site maintenance and careful attention to construction activities, impacts from fugitive dust can be maintained below the state or Federal AAQS at off-site properties.

Fugitive dust may be generated by grading and excavation, and the truck traffic on temporary dirt roads. Standard construction dust control methods would be employed to ensure that construction generated dust does not impact off-site residents. These methods include:

- Minimizing the area of grading and the extent of exposed soil at any one time and stabilizing exposed areas with mulch and seed as soon as practicable;
- Incorporating the use of fast-germinating seed with mulch or other temporary soil cover;
- Minimizing vehicle movement over areas of exposed soil, and covering all trucks used to transport soil; and
- Spraying water on unpaved areas and areas of construction traffic when needed to reduce dust generation.

### Blasting

Due to the known presence of rock outcrops and bedrock and the required grading, the project engineer anticipates that blasting would be required for the proposed development. Based on preliminary estimates, the total amount of material to be moved by blasting is estimated at 60,000 cubic yards all of which would be used on site.

Although it is anticipated that some bedrock near the site's surface can be removed by mechanical means (i.e. ripping, chipping), blasting would be required in areas where the estimated material cut greater than four feet.

Blasting would be carried out in accordance with the Blasting Protocol developed for this project and a final blasting contract with the Blasting Contractor. This plan would meet all New York

State and Town of Southeast requirements for blasting. New York State regulations require insurance and licensing for the contractor. The Town of Southeast Code requires work to be completed under a New York State blaster's license and that a Blasting Permit be issued by the Town of Southeast Building Inspector. The Blasting Protocol attached as Appendix J includes applicable components of the Town of Southeast regulations.

Notifications regarding the blasting activities would be accomplished through mailings to the residents and property owners. The mailings documenting the blasting schedule would be sent through the US Postal Service certified mail, return receipt requested, to the appropriate Town, State, and County officials and to all residents and property owners within 300 feet of the site. The mailed notification would be in full compliance with the Town of Southeast regulations set forth in Chapter 71, Explosives and Blasting.

Pre- and post-blast surveys will be conducted by the blasting contractor to determine if flyrock, ground vibration or air blast related to project blasting resulted in damage to neighboring structures. All potential areas of concern associated with blasting activities are summarized below.

#### *Flyrock*

Flyrock is broken rock that is propelled through the air as a result of a blast. Flyrock is controlled by managing the size of blasts and the use of blasting mats; heavy woven metal mats that cover the blast site. The quantity of explosives would be limited to the amount necessary to fracture the rock without endangering persons or neighboring property. This approach would minimize the amount of flyrock generated by each blast and prevent the potential for off-site damage to occur.

#### *Ground Vibration*

Ground vibrations are caused by elastic waves emanating from a blast and are the most frequently cited cause (both real and imagined) of damage to structures. The most common type of damage associated with excessive ground vibration is lengthening of existing minor cracks in structure walls and foundations.

Although minor cosmetic damage is possible when blasting within legal limits, it is considered unusual. Blasting procedures do recognize that in rare cases, these limits would not protect all structures from threshold (cosmetic) damage due to the age, condition or construction of a structure.

#### *Airblast*

Airblast is an airborne shock wave resulting from the detonation of explosives and can be measured in pounds per square inch or decibels. The "loudness" of the airblast does not necessarily indicate the energy of the shock wave since the human ear can only hear frequencies in the range of about 16-20,000 Hz. Therefore, the blaster can create a blast that sounds loud, but has relatively low shock wave energy, or alternatively, a blast that is virtually inaudible but has a very high airblast.

Structural damage from airblast is very rare, and usually minor. A blast can sound very loud and rattle windows even if the blast is well below levels set in the protocol or regulations or levels that would cause structural damage. The blaster must not exceed airblast limits of 135 decibels at the property line. Typically, windows will not break under 140 decibels.

### *Noise*

Typically, blasting results in very short term, loud noise impacts. As indicated above in Table 3.12-1, blasting may result in short term (seconds) noise in the range 76 to 108 within 200 feet of the blasting site and 68 to 100 within 500 feet of the blasting site. As stated in the Town of Southeast code, Chapter 71, blasting would not occur after 5:00 PM or before 8:00 AM nor at any time on Sunday.

### Erosion and Sedimentation

Sedimentation resulting from erosion of disturbed soil during construction is a potential indirect impact to wetlands, watercourses, receiving waters and downstream properties. The Project has the potential to increase the volume and velocity of stormwater through land clearing and conversion of existing land forms into impervious surfaces and landscaped areas. If not controlled, these activities may lead to accelerated erosion and sedimentation during construction. Sedimentation of the receiving water bodies would result in decreased light penetration and nutrient enrichment, increased turbidity, increased transport of pollutants that are adsorbed to the sediment particles, shielding of pathogens from disinfection, and clogging of gills and filters in aquatic organisms. Accordingly, an Erosion and Sediment Control Plan, that includes detailed construction sequencing, has been included in the SWPPP prepared for the Stateline Retail Center Project.

The proposed Erosion and Sediment Control Plan (the Plan) component of the SWPPP would minimize the area of soil exposed at any one time to the greatest extent practicable in accordance with the conditions of the NYSDEC SPDES General Permit (GP-0-08-001) for Stormwater Discharges from Construction Activities and further mitigate potential impacts on water resources. Erosion and sediment control measures specified on the Plan are developed specifically for this project to provide both temporary controls during the construction period and permanent controls to be in place and functioning upon final stabilization of the site.

The purpose of the plan is to minimize the potential for soil erosion from areas exposed during construction and prevent sediment from entering downgradient wetlands, watercourses and water bodies. Prior to the commencement of any construction or disturbance of any soils, erosion and sediment control measures would be placed in accordance with the specifications in the SWPPP. These measures would be maintained until the site has been permanently stabilized in accordance with NYSDEC and NYCDEP standards and specifications.

The Plan component of the SWPPP has been developed in accordance with New York State Standards and Specifications for Erosion Control. The plan design also incorporates applicable elements of the New York State Stormwater Management Design Manual. All erosion and sediment controls would be installed in accordance with the SWPPP.

The construction contractor would be responsible for complying with all specifications and conditions of the project specific SWPPP. In addition, the Applicant would engage a Certified

Professional in Erosion and Sediment Control/Certified Professional in Stormwater Quality, or equally qualified professional, to oversee implementation of the SWPPP.

The Plan included in the project specific SWPPP includes the following elements:

- A Detailed Construction Sequence
- Limiting Disturbed Soils During Construction to Five Acres at any time
- Installation of protective fencing around features to be preserved.
- Installation of a stabilized construction entrance and temporary perimeter silt fencing around the construction area.
- Construct permanent water quality and detention basins and install temporary swales and berms as needed to direct runoff to the basins. The basins would be utilized as temporary sediment traps during construction.
- Diversion of clean runoff around disturbed soils during construction;
- Clear and grub vegetation, remove existing structural debris. Strip and stockpile topsoil as indicated on the erosion control plan.
- Provide temporary sediment protection at all stormwater inlets.
- Maintain silt fence barriers, sediment traps, and other erosion control measures in working order throughout the construction period.
- Plant, seed or pave all disturbed areas in a timely manner to prevent or minimize erosion.
- Monitor site to ensure establishment of all landscape plantings and other permanent erosion control measures at the site. Promptly stabilize and restore damage to plantings and seeded areas.

The objectives of the Erosion & Sediment Control Plan are as follows:

- control erosion at its source with temporary control structures;
- minimize the amount of sediment-laden runoff from areas of disturbance, and control runoff prior to discharge to off-site areas;
- de-concentrate and distribute stormwater runoff through natural vegetation or structural means before discharging to critical zones such as streams or wetlands.

Following construction, erosion would be prevented by re-establishing vegetation and by the permanent stormwater management devices that are shown on the site plan. The permanent stormwater management systems would be constructed in the first phase of the development in conjunction with the grading activities to install the internal driveway system so that "sediment traps" are functional as early as possible in the construction period.

As previously stated, the NYSDEC would review the development's specific stormwater management and erosion control plans for the Stateline Retail Center, and would issue coverage under the SPDES General Permit only when the requirements of the permit have been met by the applicant. The NYCDEP would act as an additional approving authority as the Project is tributary to the East Branch Reservoir Watershed. As part of the requirements of a permit, adequate construction monitoring and maintenance by the applicant would be required.

### Construction Waste Management

Green building practices such as those suggested under the US Green Building Council's Leadership in Energy and Environmental Design (LEED) program would be incorporated in the construction phase of the project. The proposed project would divert construction and land clearing debris from landfill disposal during the construction process by redirecting recyclable and recovered resources back to the manufacturing process or appropriate uses at other sites. Other factors that contribute to waste such as over-packaging, improper storage, ordering errors, poor planning, breakage, mishandling, and contamination of construction materials would also be minimized to the greatest extent possible. An area would be designated specifically for construction waste recycling on the project site.

The following considerations would minimize waste impacts on the Stateline Retail Center project and would be incorporated when and where appropriate.

#### *Design to Prevent Waste*

- The design would include standard sizes for building materials where possible.
- Specified materials on-site would include assemblies that can be easily disassembled at the end of their useful life.
- Materials would be reused (on-site).

#### *On-Site Waste Prevention Methods*

- A central cutting area for wood and other materials would be assigned.
- Concrete forms or other reusable metal or fiberglass forms would be reused.
- Areas that are key to waste prevention, such as material storage, central cutting, and recycling stations would be clearly marked.
- All materials would be stored in an assigned area and handling procedures monitored to prevent loss or damage.
- Salvaged, recycled, or recycled-content materials and equipment would be purchased to the extent feasible in the construction process.
- The amount of each material delivered to the site would be checked to ensure that the correct amount is delivered.
- An up-to-date material ordering and delivery schedule would be maintained to minimize the amount of time that materials are on-site and reduce the chance of damage.
- Suppliers would be asked to deliver supplies using sturdy, returnable pallets and containers, and pick up pallets and empty containers.
- Subcontractors would be asked to reuse or recycle their respective materials.

Potential Impacts

Through the incorporation of the above identified measures (SWPPP, Sediment and Erosion Control Plan, Blasting Protocol, etc.) developed to offset potential effects that would result from the construction of the Proposed Action, potential impacts will be mitigated to the greatest extent practicable.