3.11 Construction-Related Effects

3.11.1 Existing Conditions

The Minisceongo Park site in both Haverstraw and Ramapo was a staging area for the Millennium Pipeline Phase 1 Columbia Line A-5 and the Algonquin Ramapo Expansion from April of 2007 until the summer of 2008. When Spectra Energy launched the staging area at the site, they acquired all permits from each town and agencies as required by the Millennium Project Final Supplemental Environmental Impact Statement under the director of the Federal Energy Regulatory Commission. The site was leveled in the north end to set up 6 mobile offices, 2 classrooms, 6 storage containers, parking areas for 150 vehicles, pipe storage, and pipe preparation. This complex has since been disassembled, and all structures have been removed. Correspondence related to the use of the property as a staging area by Millennium Pipeline Company and its post construction cleanup/restoration activities are included in Appendix B.

This section of the SEIS addresses potential short-term construction-related effects associated with three construction phases:

- the surcharge and surface compaction phase;
- site work phase; and
- building construction phase.

Surcharge Phase

The surcharge and fill compaction phase is anticipated to take approximately six months. Numerous subsurface investigations have been conducted of the project site, most recently summarized in a Geotechnical Report prepared by Langan Engineering, included in Appendix C of the DEIS. As indicated in that report, a subgrade improvement program is necessary to improve soil conditions in the western portion of the site to allow the proposed Minisceongo Park development to be supported on shallow foundations.

A two phase improvement program will occur during the surcharge phase. The program will consist of a surcharge program in the area of the western portion of the site which has not been previously surcharged, combined with surface compaction where required on site. Areas to be surcharged are shown in Figure 3.11-1, Surcharge Plan.

Surcharge plates have been installed to monitor settlement of the fill; monitoring will occur over a period of approximately 4 months. If all permits and approvals have been secured, there is no overlap between the surcharge phase, and the site work and building construction phase. Acceptable compaction and settlement must be demonstrated in order to proceed to the site work phase.

Surcharge Program

The proposed surcharge program will consist of all areas shown in Figure 3.11-1. The surcharge program consists of the following subtasks:

Preload Area Program - Areas to be surcharged will be filled to the approximately proposed grades to bring surcharge areas to proposed grade.

Building Surcharge Program - A surcharge program for the proposed buildings would consist of approximately 7 feet of surcharge above the finished first floor elevations of the residential buildings that would be placed on site for a period of approximately 3-4 months.

This timeframe is an estimate, and the actual duration of surcharge will be determined by the Geotechnical Engineer based on settlement monitoring.

A plan which would allow surcharge to be rolled in three stages from section to section within the proposed surcharge area can be implemented if all required surcharge material is not available. This will extend the overall time of the total surcharge program, but will significantly reduce the volume of material required.

Settlement plates have been installed and will be monitored by the Geotechnical Engineer to ensure that the majority of the settlement has been completed prior to commencement of the site work phase.

Surface Compaction

Footing subgrades will be surface compacted to densify loose areas with controlled fill and improve the overall engineering properties of the material. Any soft or wet areas exhibiting excessive pumping, rutting, or other evidence of poor subgrade must be removed and replaced with granular fill.

Site Work

Following the surcharge program, site work will commence, which will proceed for approximately 8 to 9 months. The building construction phase will overlap with the site work phase, and the building construction phase will commence approximately 3 months into the site work phase.

During the site work phase, soil erosion control measures will be reinstalled, replaced, and expanded as per a soil erosion control plan. Additional filling activities will occur over a period of 4 months.

As grading is completed for various sections of the site, stormwater basins will be constructed, underground piping will be installed and building pads will be constructed. After the building pads have been constructed, curbing and roadbeds will be installed, underground utilities installed, and the road base course will be laid.

Building Construction

The construction schedule for building construction will take place over a projected 18 to 19 month period. Toward the end of the building construction phase, and after site work has been completed, project landscaping will be finally installed. The last task in this phase will be the installation of the final or top course of all roads in the development.

Overall, it is estimated that the project will take approximately 36 months to complete.

Buildings can be occupied on a building-by-building basis once all required inspections have successfully occurred and landscaping either installed or bonded.

3.11.2 Potential Impacts

Soil Erosion

The potential for soil erosion exists as a result of the fill activities taking place on the site during the surcharge phase, and the grading activities that will occur during the site work phase which would also require importation of fill.

The fill and grading activities have the potential to cause soil erosion and sedimentation issues downstream of the project, especially during storm events if not controlled. Erosion controls are proposed to address potential soil erosion impacts.

Construction-Related Traffic

The construction fill phase will require the importation of fill suitable for the surcharge and surface compaction program. Over the course of the surcharge and surface compaction phase, it is expected that there would be heavier volumes of truck trips to the site than at present. It is anticipated that deliveries would be made during non-peak hour traffic periods. Since deliveries would be made during off-peak hours, the potential effect to traffic levels of service would not be significant, although the number of trips would increase. Deliveries would be conducted in accordance with applicable town regulations limiting construction activities to certain hours of the day, and would also adhere to all road restrictions as to vehicle weight limitations. It is expected that trucks would travel on the major county roads and Route 202 in the project vicinity. Trucks are not permitted to use the Palisades Interstate Parkway.

The amount of fill required would be approximately 49,000 cubic yards trucked to yield a total volume of 35,000 cubic yards in place, compacted. Based on truck capacity of 15 to 20 cubic yards, this would represent between 2,450 and 3,267 truck trips entering and exiting the site. Over the course of an assumed six month period, or between 100 to 150 working days of operation, there would be approximately 20 to 35 trucks per day, or 3 to 5 trucks entering and 3 to 5 trucks exiting per hour on a given day.

After the fill and grading activities are completed, the greatest number of construction vehicle trips is expected to occur at the beginning of the building construction phase, when building materials are transported to the site.

It is anticipated that most construction trips would travel to and from the site via NYS Route 202. All construction vehicles will use the proposed main access to Route 202 for ingress and egress. Construction vehicles and employees will park on-site at all times. Materials and equipment will be stored on site to minimize vehicle trips.

Noise Levels

Noise impacts associated with construction of the proposed project are addressed in Section 3.9 of the DEIS and SEIS. Local daytime ambient noise levels will increase both on and off of

the project site during construction. Construction activities and the operation of construction equipment are an expected and required consequence of any new construction project and cannot be avoided. Noise resulting from construction activities is a temporary impact, and will cease upon completion of the project.

Elevated noise occurrences are typically sporadic during the construction period. Noise levels actually experienced on a nearby property would be expected to be lower, accounting for distance from the noise source and other attenuating factors.

Air Quality

Potential short-term adverse air quality impacts that may result from the proposed project include fugitive dust and particulate matter from the project site, and emissions from construction equipment and vehicles.

The construction of the proposed Minisceongo Park development will involve grading activities that may result in the release of fugitive dust and particulate matter from the project site. During this period, dust and particulate matter may be released into the air and carried off-site by wind. Construction-related air emissions will result from the use of diesel fuel as a source of energy for construction vehicles and equipment. Mitigation measures are proposed as a part of the project during construction to limit dispersal of particulate matter. Such increases in construction-related dust will be temporary.

Following project construction, unvegetated areas on the site currently exposed to wind would be either developed or landscaped, thereby reducing the potential for dust generation from the project area long-term.

Settlement

The Surcharge Program would address the compressible organic soils found in the western portion of the project site. Generally, a surcharge program places extreme weight on the existing soils for a determined amount out time, thus compressing the subsurface materials and causing the anticipated settlement that would occur under the proposed building loads before construction begins. The surcharge program for the proposed building sites would include placing approximately seven (7) feet of soil above the proposed finished floor elevation for a period of approximately three to four months. The specific duration of both programs would be determined based on actual settlement measurements obtained throughout the process by monitoring settlement plates.

The second part of the subgrade improvement plan incorporates mechanical compaction throughout the site. This will ensure the density of 95% maximum dry density required for the footing subgrades by passing a smooth-wheeled vibratory roller over the area approximately six passes. This density will be verified by on-site testing. In any areas where the required density can not be reached by mechanical compaction, the subbase material must be removed and replaced with appropriate fill material. Mechanical compaction of filled areas to reach the appropriate density will be required.

3.11.3 Mitigation Measures

The DEIS incorporates various mitigation measures, as described in other chapter of the document, to address construction-related impacts. The following provides an overview of these mitigation measures.

Soil Erosion Control

The development will require a NYSDEC SPDES General Permit for Stormwater Discharges from Construction Activities (Permit No. GP-0-08-001) as it proposes to disturb more than one (1) acre of land. In addition, the project must conform to the Soil Erosion and Sediment Control Law of the Town of Haverstraw (Chapter 140 of the Code of the Town of Haverstraw). The Town's law requires that the applicant obtain a land disturbance permit from the Town Engineering Department. The purpose of these approvals is to ensure that all potential soil erosion impacts are mitigated through the preparation of an erosion and sediment control plan.

Soil Erosion and Sediment Control Plan

Erosion and sedimentation will be controlled during the construction period by temporary devices in accordance with an Erosion Control Plan developed specifically for this project site and shown on the site plan drawings.

The erosion control plan addresses erosion control and slope stabilization during all construction phases of the project. These plans will be developed in accordance with the Erosion and Sediment Control Guidelines in the NYSDEC SPDES General Permit for Stormwater Discharges from Construction Activities. The plans include limitations on the area of disturbance and devices to be used to help control soil erosion such as silt fencing, storm inlet protection sediment ponds, and a stabilized construction entrance.

Best Management Practices (BMPs)

The following best management practices will be followed in the development of the Minisceongo Park site plan:

Divert clean runoff - Diversion of runoff from off-site or stabilized areas will be accomplished through surface swales and erosion control barriers in order to keep clean water clean.

Time grading and construction to minimize soil exposure - To the extent practical, the development will be phased to limit the area of disturbed soil at any particular time. One phase of construction, for example, will remain undisturbed or temporarily stabilized until the preceding phase is substantially complete.

Retain existing vegetation wherever feasible - Silt fencing will be used to physically define the limits of work. Wooded and wetland areas not to be developed (regraded), will be retained in the existing condition until the developed areas are completed and stabilized. Substantial buffers of existing vegetation also will be provided along the perimeter of the site and near existing wetland areas.

Stabilize disturbed areas as soon as possible - In areas where work will not occur for periods longer than 15 days unless construction will begin within 30 days, soil will be stabilization by seeding or mulching. Following completion of grading operations, level areas will be immediately seeded and mulched. Sloped areas, such as fill slopes may be seeded or stabilized depending upon weather conditions at the time of carrying out the work.

Minimize the length and steepness of slopes - The steepness and length of slopes will be designed to minimize runoff velocities and to control concentrated flow. Where concentrated (swale) flow from exposed surfaces is expected to be greater than 3 feet per second, haybale or stone check dams will be installed in the swale. Check dams will be placed so that unchecked flow lengths will not be greater than 100 feet.

Maintain low runoff velocities - To protect disturbed areas from storm water runoff, haybale diversion berms and/or soil diversion berms and channels will be installed wherever runoff is likely to traverse newly exposed soil. Immediately following the clearing and stripping of topsoil, rough grading for the temporary and permanent swales and ponds will take place. The swales will direct runoff so that it can be checked or impounded.

Trap sediment on-site and prior to reaching critical areas such as wetlands - Silt fences, hay bale check dams, filter strips, ponds, sediment traps (in areas where no ponds are proposed), and catch basin filters will be used to either impound sediment-carrying runoff and or to filter the runoff as it flows through an area. Silt fencing, augmented by haybale barriers installed on the upgradient side of the silt fencing, will be used wherever land disturbance occurs within 100 feet of the on-site NYSDEC wetlands. A stabilized construction entrance will be installed at the single construction entrance to prevent construction vehicles from tracking soil onto public roads. All temporary erosion control devices will be installed prior to the commencement of construction. The permanent storm water management systems will be installed.

Establish a thorough maintenance and repair program - Erosion control measures will be inspected frequently, particularly prior to and following storms, and repaired as needed to ensure that they function properly. In addition to inspections by Town of Ramapo and Haverstraw officials, the applicant will be responsible for monitoring and maintaining the soil erosion and sediment controls at all times.

Assign responsibility for the maintenance program - The responsibility for the monitoring and maintenance of the Erosion Control Plan will be detailed in the project specifications and construction drawings.

With these mitigation measures in place, no impacts from soil movement are anticipated.

Construction-Related Traffic

The increase in construction-related vehicular trips will be a temporary and unavoidable effect of building construction. To limit impacts to the roadway levels of service in the project vicinity, deliveries will be scheduled to avoid peak hour traffic periods.

Noise

Noise levels generated by construction activities are mitigated by limiting the hours of construction operation. Construction activities would be conducted in accordance with Town regulations as follows:

- In the Town of Haverstraw, construction activities will occur only between the hours of 7 AM to 7 PM on weekdays and from 8 AM to 5 PM on Saturdays. No work will be conducted on Sundays and legal holidays.
- In the Town of Ramapo, construction will not occur between the hours of 10:00 PM and 7:00 AM on weekdays, 8 AM to 5 PM on Saturdays, or at any time on Sundays or legal holidays. The applicant will request a waiver of the noise regulations to allow construction one hour earlier than presently permitted. This would then coincide with the timeframe when construction activities are permitted in the Town of Haverstraw.

The applicant may request waivers from these standards during particular phases of building construction. With these limitations in place, short-term noise impacts would not be significant.

Air

Construction activities on the project site may generate airborne or fugitive dust 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 could also generate fugitive dust. On-site mitigation measures are proposed as part of the project during construction to limit the dispersal of particulate matter. No significant impacts to nearby residences on Quaker Road or Theills Mount Ivy Road are expected to result from the construction-related dust emissions due to distance, over 1/3-mile, from the nearest residence. Methods to control dust will include:

- minimizing the area of grading at any one time and stabilizing exposed areas with mulch and seed as soon as practicable;
- minimizing vehicle movement over areas of exposed soil, and covering all trucks transporting soil;
- unpaved areas subject to traffic would be sprayed with water to reduce dust generation;
- truck vehicle washing pads would be constructed at all construction entrances to avoid the tracking of soil onto paved surfaces.

During dry weather conditions spraying water on unpaved areas subject to heavy construction vehicle traffic will help control dust. Paved areas will also be kept clear of loose dirt that can be re-entrained into the air during vehicle passage. The use of stone tracking pads at access points to the site or washing of vehicle tires will greatly lessen the tracking of soil onto adjacent roadways.

Although exhaust emissions from construction equipment is not as significant as fugitive dust generation, particulate matter from diesel exhaust emission will also be controlled through proper tuning of the engine and maintenance of the air pollution controls. This will minimize additional contribution to site generated particulate emissions during construction.

Settlement

Settlement plates have been installed and will be monitored by the Geotechnical Engineer to ensure that the majority of the settlement has occurred prior to commencement of the site work phase. Monitoring of this process will be coordinated with the Town of Ramapo and Town of Haverstraw code compliance officers and the town engineering consultants to ensure that the Towns are satisfied with the results of the surcharge program and settlement results.