STATE OF NEW YORK
PUBLIC SERVICE COMMISSION

Petition of Lost Lake Resort Company for a Waiver for Phase 1 Development of 400 Lots in Forestburgh, New York of 16 NYCRR 100.1(b) That Requires Under-Grounding of Electric Distribution Facilities In a Residential Subdivision.	Case 17-E-____

PETITION FOR A SPECIAL RULING PURSUANT TO 16 NYCRR PART 100 WAIVING THE REQUIREMENT TO UNDERGROUND ELECTRIC FACILITIES

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INTRODUCTION AND BACKGROUND

Lost Lake Resort subdivision ("Lost Lake") is a master planned, gated residential community located in Forestburgh, Sullivan County, New York. The site consists of 2,079.53 contiguous acres and, when fully developed, in ten years, or possibly longer, will potentially yield approximately 2,600 residences[1], along with new private roads, a new central water supply system served by on-site wells, a new sewage treatment system and a championship golf course that is being designed by Jack Nicklaus' firm Nicklaus Design[2]. Other amenities include a clubhouse, hotel, restaurant, conference center, spa, swimming facilities, tennis facilities and wilderness trails. The site

1 It is highly unlikely that Lost Lake will be developed anywhere near its full potential which will be discussed later in this Petition. However, for purposes of SEQRA, the FEIS was developed on the basis of full build out.

2 Nicklaus Design is internationally recognized with over 410 courses open for play in 45 countries with an additional 57 courses under development. http://www.nicklaus.com/design/ (October 13, 2017).

is rocky and forested and more than half will remain as undisturbed forest and open space.

There are three types of open space at Lost Lake as follows:

Total Site	**2,079.73 acres**	
Managed Open Space	220.79 acres	Golf course, stormwater basins, beach and landscaped entrance
Unmanaged Open Space	807.43 acres	Wetlands and regulated wetland buffers + all other undeveloped land
Open Water Open Space	53.88 acres	Lost Lake and Bush Kill
Total Open Space	**1,062.04 acres**	**52.03%**

The plans call for wildlife viewing and interaction facilities, so the more natural the site is left, the better for the environment, the wildlife and the viewing experience.

The site will be developed in seven phases as shown on Attachment A.

The first phase, which had to be expanded to provide water supply and sewer handling facilities for the community, is the development for which a waiver of the underground residential subdivision regulations is requested. It consists of 400 lots for single family homes, a sales office, community water and

sewer, roads and the golf course. The Planning Board of the Town of Forestburgh has granted final subdivision approval for the first phase, including approval for overhead electric, cable and phone services.

The Developer

This residential golf and outdoor resort is being developed by the Double Diamond Companies ("Double Diamond") of Dallas, Texas. Double Diamond has five other resorts in operation as follows:

Eagle Rock Resort is on over 5,000 acres in Hazleton, Pennsylvania. Eagle Rock's on-site amenities include an 18-hole championship golf course and 9-hole executive course, fine and casual dining, a golf shop, ski and snow sports, swimming pools, an activities center, walking trails, a spa and fitness center, and an equestrian center.

The Cliffs Resort is a gated residential community perched 200 feet above beautiful Possum Kingdom Lake in the Brazos River Basin in Palo Pinto County, Texas. The natural canyons, water-views and rolling hills provide an unparalleled environment. Owners enjoy a serene environment with 24/7 security and onsite amenities, including the 18-hole Championship golf course, hotel, The Chaparral Grille and Spurs Bar, three swimming pools, The Cliffs Marina, RV camping, parks, a conference center, a spa and fitness center.

Rock Creek is a private, master-planned resort community located on the Texas shores of Lake Texoma. Just 60 minutes north of Dallas, and with over 1,300 lush acres, Rock Creek combines the best of serene lakeside living with resort amenities. Rock Creek owners enjoy exclusive access to the Nicklaus Design golf course, clubhouse and pro shop, marina and ship store, swimming pool, villa suites and more. A spa and fitness center are being developed.

The Retreat is a private community located in Cleburne, just 30 minutes south of downtown Fort Worth, Texas. The 3,000-acre paradise includes an 18-hole Championship course, clubhouse with restaurant and pro shop, two pools, trails, fitness center and 24-hour security.

White Bluff Resort is a gated resort community located on over 3,000 acres on Lake Whitney, about 50 miles southwest of Fort Worth. Owners and guests enjoy deluxe overnight accommodations at the hotel, two Championship golf courses, upscale and casual dining options, fitness center, private marina, conference center, swimming pool and fishing lakes.

The foregoing resort descriptions were taken from https://ddresorts.com as of September 12, 2017. As can be seen, Double Diamond is an experienced and successful developer of residential golf and outdoor oriented resorts. Many owners in these resorts purchase lots to enable them to use the facilities

at any of the other resorts including the one in which they have an ownership interest. There is no deadline by which an owner must build or even a requirement to build a residence.

LOST LAKE MEETS THE REQUIREMENTS OF 16 NYCRR §100.1(e) and (f) SUPPORTING A SPECIAL RULING GRANTING THE INSTALLATION OF OVERHEAD ELECTRIC DISTRIBUTION FACILITIES

16 NYCRR §100.1(e) and (f) provides:

> (e) A utility may install overhead distribution lines in a residential subdivision or section thereof otherwise required to have underground distribution lines in accordance with subdivision (b) of this section when:
>
> (1) the developer of the residential subdivision is not primarily engaged in the construction of dwelling units within the residential subdivision;
>
> (2) no governmental authority having jurisdiction to do so has required underground service; and
>
> (3) either:
>
> (i) five years have elapsed from the sale of the first lot within the residential subdivision to the first application for installation and the utility has no indication that there will be other new applicants in the residential subdivision within six months; or
>
> (ii) five years have elapsed from the time of final approval of the residential subdivision or section thereof and less than 25 percent of the lots have been sold in the residential subdivision or any section thereof except where 10 percent or more of the lots in the residential subdivision or any section thereof have been sold within the last two years.
>
> Note: The term final approval refers to authorization of a residential subdivision by governmental authorities having jurisdiction. A residential subdivision is finally approved when all necessary governmental consents have been obtained to allow the developer of the residential subdivision to sell lots and/or build residences. If a residential subdivision

need only be approved by a County Health Department the final approval of that agency in accordance with its regulations when received is final. If the Town Planning Board must give its consent as well, final approval is not obtained until the Board and the Health Department have completed their processes of authorization. A section of a residential subdivision is the smallest unit of a subdivision given final governmental approval. If, for example, the developer of a subdivision submits a preliminary plan covering 100 lots but initially only 50 are finally approved, the 50 lot portion is a section of the subdivision. If the residential subdivision contains sections, the percentage of lot sales required by condition (3) must be met by every section of the subdivision and not just the section in which the distribution facilities are to be installed. In cases where overhead installation would be permissible in accordance with condition (3) (paragraph (3) of this subdivision), except that less than five years have elapsed and the utility has reason to believe that the residential subdivision will not be developed sufficiently soon to permit the orderly utilization of underground lines installed to serve the initial applicant(s), the utility may petition the Commission to allow overhead installation. Such petition shall set forth the relevant economic, engineering, or environmental factors. The petition shall be granted or denied based on those factors. If the residential subdivision is located within the Adirondack Park, the utility shall send a copy of the petition to the Adirondack Park Agency. (emphasis added)

(f) If a utility receives an application for service within a residential subdivision which is governed by the provisions of subdivision (b) of this section, and the per-foot cost of installing the necessary distribution lines, service lines and appurtenant facilities (other than those accounted for in Accounts 368 and 370) will be greater than two times the cost of installing such facilities as calculated using the applicable charges per foot filed pursuant to § 98.6(b) (1) of this Title and as set forth in the utility's tariff, the utility or applicant may petition the Secretary of the Commission to allow overhead installation. Such petition shall be filed in accordance with the requirements of § 3.5 of this Title and set forth the relevant economic, engineering, or environmental

factors. The petition shall be reviewed by staff. The Secretary shall notify the petitioner within 60 days of receipt of the petition either that the petition is granted or that staff objects to it. If staff objects, the petition shall be referred to the Commission for further review. The petition shall be granted or denied based on economic, engineering, or environmental factors. If the residential subdivision is located within the Adirondack Park, the utility shall send a copy of the petition to the Adirondack Park Agency.

O&R's tariff while restating the Commission's regulations also provides for the following specific exceptions:

(C) Exceptions to the General Rule

The installation of overhead distribution facilities may be allowed under the following circumstances if no government authority having jurisdiction to do so has required undergrounding.

(1) Cul-de-sac

Overhead facilities may be installed when no more than 600 feet of overhead extension is required in a cul-de-sac and a portion of the street is served overhead within or at the entrance of the cul-de-sac.

(2) Connection of Existing Overhead Lines

When existing overhead distribution lines can be connected by no more than 1,200 feet of extension, overhead facilities may be installed.

(3) Service Lines

Overhead service lines may be installed in new subdivisions from existing overhead distribution lines.

(4) One-Pole Extension

Where a one pole extension, including but not limited to road crossing pole extensions, would enable an existing overhead distribution line to be connected to a proposed distribution line in a residential subdivision, such extension may be installed overhead.

PSC No. 3 Electricity, Orange and Rockland Utilities, Inc., Leaf 51. The O&R Tariff also provides for relief from the underground requirement for environmental reasons:

> (D) Environmental Effects
>
> When the Company or applicant believes the installation of overhead lines would be environmentally more desirable than underground facilities, the Company or applicant may petition the Public Service Commission to allow overhead lines.

Id. at Leaf 52. Finally, the O&R Tariff provides that:

> (F) In unusual circumstances when the application of these rules appears impracticable or unjust to either party or discriminatory to other customers, the applicant or the Company may petition the Secretary of the Commission for a special ruling or for approval of special conditions which may be mutually agreed upon before construction is commenced, which petition shall set forth relevant economic, engineering, and environmental factors.

Id.

The following sections will show the Lost Lake complies with both 16 NYCRR §100.1(e) and (f) as well as O&R's tariff for a waiver of the otherwise applicable undergrounding requirement.

No Construction of Dwelling Units

Lost Lake is not involved in the construction of dwelling units in the subdivision. Lost Lake is in the business of creating a master planned, gated resort, and selling building lots to individual owners who, in turn, are responsible for building the residences within a time frame of their own choosing. The only construction Lost Lake will be involved with

in Phase 1 are the roads, water and sewer systems, the sales office and the golf course.

The Town of Forestburgh has Approved Overhead Electric, Cable and Phone Service

No governmental authority has ordered or required underground service. In fact, just the opposite is true. The Planning Board of the Town of Forestburgh's Final Subdivision approval includes provision for overhead electric service along the private roads in keeping with the surrounding rural nature of the Town and the Town's goal of preserving that rural character. This is demonstrated by the following paragraph from the Final Environmental Impact Statement ("FEIS")

> The Lost Lake Resort aims to incorporate the Town's goals of preserving the existing rural and natural character of the Town, as expressed in the Town of *Forestburg Master Plan* and the PDD regulation to conserve the quality and quantity of natural, scenic resources of the region. Vegetated buffers are proposed that will preserve visual quality of the Town as viewed from its highways. The project plans incorporate environmentally protective measures (such as wetland and wetland buffer preservation within open space lands, water quality protections including erosion and sedimentation measures during construction, and modern water and sewer facilities that will meet current State standards to protect water resources) within a mix of recreation and leisure facilities that is expected to complement the Towns rural character and its economy. (emphasis added).

FEIS at page 1-4.

Also, the Final Subdivision Plan, General Notes #15 states: "No curbs or sidewalks are proposed with this subdivision." This

is consistent with maintaining the current rural look of the property.

Finally, General Note # 25 of the Final Subdivision Plan which was approved in February, 2013 by the Forestburgh Planning Board states: "The developer intends to install overhead electric, cable and phone in the roadways and areas permitted by the fire code, while common facilities and house lots would be serviced underground." So, the Forestburgh Planning Board has not only not ordered underground electric service from the road to the residential and common structures, but has actually approved overhead electric service, along with overhead cable and phone services throughout the development's roadways.

Environmental Issues

1. Wilderness aesthetics

Underground electric service is appropriate for suburban developments and will actually undercut the rural, wilderness, character Lost Lake seeks to maintain. 84 transformers will have to be mounted above grade with the installation of the entire underground system for Phase I. This will completely degrade the wilderness look and feel of Lost Lake. Here are a few pictures of a typical pad mount transformer in a suburban subdivision.

The last picture shows a transformer that has been installed but the development has not arrived and is not being utilized. Now imagine what that will look like cut into the existing forested lots. This will significantly degrade the marketing appeal of this outdoor resort. This is not preserving the "visual quality of the Town as viewed from its highways."

2. Disturbance

Furthermore, undergrounding will create more environmental disturbance since the length of the underground distribution system within Phase 1 is 30,680 feet compared to the overhead distribution of 21,611 feet or 41.96% greater. Likewise, the length to serve the water and sewer treatment plants, the wells and the water storage tanks is 31,510 feet for underground and 23,010 feet for overhead or 36.94% greater. Taken together undergrounding will disturb a swath of excavation a total of 10.8 miles, while the construction of overhead distribution service will only impact the installation of 245 poles within approximately 8.5 linear miles of overhead wire.

Aside from costing more than 2X overhead (see next section), underground will immediately waste electricity (losses) when the pad mounted transformers are energized (most without services) at system installation, which will be subsidized by all O&R customers through that Company's Market

Supply Charge (see Engineering Consideration). Pole mounted transformers only will be installed at the request of a customer applying for a service energization and need not be installed at the time of the overhead line construction.

Economic Considerations

However, the cost of underground service is more than 2X the cost of overhead thereby triggering 16 NYCRR §100.1(f).

> In deciding this request for waiver of underground service, we are guided by the three criteria listed in 16 NYCRR § 100.5(c) [*7] , namely, economic, engineering, or environmental factors.
>
> The regulations provide for a waiver to allow overhead installation when a petitioner can demonstrate that the cost for underground distribution will be greater than two times (200%) the cost of installing overhead distribution.[5]
>
> [5] 16 NYCRR § 100.1(f)

Case 15-E-0310, Order Denying Petition (Issued and Effective April 22, 2016).[3]

3 The denial of Lost Lake's initial request to waive the mandatory underground regulations was primarily based on a failure to show comprehensive compliance with 16 NYCRR Part 100 waiver provisions supporting overhead installation of distribution facilities. For example, the original O&R cost estimate showed only an 18% cost increase for underground and was most likely one of the major factors in the denial. That was based on a very small estimate for a single phase distribution system serving approximately 23 contiguous lots and did not accurately represent the scope of the three phase electric system required for the entire Phase 1. The more comprehensive and complete cost estimate shown in Attachment B tells a different story and, with rock removal, reveals that underground is more than 2X the cost of overhead. The Commission also left the door open for Lost Lake: "However, we believe overhead distribution may be acceptable in certain areas and the

Attachment B presents cost estimates from Orange & Rockland Utilities showing the cost of underground and overhead for Phase 1 and is summarized below. As a result of field visits to the site and observations during the water and sewer system installation, O&R places the responsibility on the developer to remove any rocks or stumps that may be in the UG ROW prior to trenching. The developer has been provided with an estimate to perform this removal and that is also shown below. Lastly, rocks and stumps do not present the same obstructions to an overhead installation as there is always field flexibility to locate poles to avoid rocks and stumps.

Overhead	$1,594,308.33
Underground (w/o rock removal)	$2,680,389.00
Rock Removal	$1,180,496.20[4]
Total Underground	$3,860,885.20
Underground to Overhead	2.42 X

Accordingly, Lost Lake requests the Secretary to issue a Special Ruling that authorizes the installation of overhead

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owner and developer may file another waiver request limited to select non-residential areas." Order Denying Petition at 4.

4 See Attachment C.

electric distribution facilities for Phase 1 along with the provision of overhead electric service to the non-residential, water and sewage treatment plants, the water storage tanks, wells and golf course.

Engineering Considerations[5]

1. Overhead versus Underground Transformer Efficiency and Flexibility

It is not unusual for utilities to install pad mount transformers in underground distribution systems at the time of cable installation in anticipation of dwelling service requirements. There are developments where pad mount transformers have been installed, with their bushings connecting the cable sections, and have remained energized for years without customer connections, as the development has either stalled or stopped. Not only are underground transformers significantly more expensive than their overhead equivalents, but once energized, they use energy in the form of no-load losses, even without customer connected loads.

The design estimate for Phase 1 includes 72-50 kVA and 12-25 kVA transformers. The no load losses for 50 kVA and 25 kVA transformers are estimated to be 60 watts and 40 watts,

5 The Engineering Considerations were provided by James W. Tarpey, PE.

respectively. Thus, if all of the transformers are installed at the time of cable installation, the annual no load losses are estimated to be:

72 50 kVA units x 60 watts/unit + 12 25 kVA units x 40 watts/unit = 4800 watts

4800 watts x 8760 hrs./yr. = 42,048 KWhrs/yr.

At an average rate of $0.184 per kwh, the annual cost to O&R's other customers is $7,737.[6] These no-load losses would be picked up through the Market Supply Charge and paid for by all of the other O&R electric customers.

The equivalent overhead system does not rely on transformers to connect cable sections and pole mounted transformers can thus be easily added only when customer connections are required anywhere in Phase 1.

Accordingly, an overhead system is much more flexible and energy efficient than the underground system, especially when development growth will be slow and geographically sporadic due to the uniqueness of Lost Lake.

2. Projected Development Schedule

Attachment D presents the anticipated load development schedule prepared by James W. Tarpey, PE, based on dwelling

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6 Con Edison's 2016 Annual Report at page 25 presents the average revenue per kWh sold to residential customers by O&R at 18.4 cents. Losses are usually costed at the cost of procured kwhrs, not the sold kwhrs so this estimate overstates somewhat the cost of the loses.

buildout experience from other Double Diamond resorts. As can be seen by 2030 only 101 residential dwellings and 12 supporting or amenity facilities are forecast to be built.[7] Accordingly, with this schedule

> the utility has reason to believe that the residential subdivision will not be developed sufficiently soon to permit the orderly utilization of underground lines installed to serve the initial applicant(s), the utility may petition the Commission to allow overhead installation.

It should be noted, however, that 80 of the 400 Phase 1 lots have already been sold and at least one owner plans to start construction in the next few months and will require electric service. These lots sold are not contiguous and are scattered throughout Phase 1, and as such, almost the entire underground electric system needs to be installed to service any lot's request for service when dwellings are built.

16 NYCRR §100.1(e). While this section limits the right to file a petition to the utility, O&R's tariff expands the right to include the applicant to petition for adverse environmental effects and unusual circumstances both of which are present here.

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7 The Eagle Rock Resort in Hazelton, Pennsylvania, according to the FEIS "…has experienced a development rate of eleven (11) percent (of the 6,924 residence lots sold over the past thirteen years under Double Diamond management, 764 lots are occupied by a house)." FEIS at page 3.2-3

3. Manhole and Duct System Requirement for Water Tank, Wells and Sewage Plant

The underground design for the 2-three phase extensions from St. Joseph Road to service the Water Tank (7,000 ft.) and the Sewage Plant (6,300 ft.) is a radial direct buried 4/0 AL cable with a capacity of 7.4 MW. The equivalent overhead system designed has a 4/0 ACSR cable with a capacity of 8.1 MW. Both of these designs are sufficient to service the water and sewage systems as well as some of the adjacent loads as they develop. However, at full build-out, these two radials would eventually be extended to serve the remainder of the units south of St. Joseph Road, which is estimated to total 12.2 MW and rely upon each other for a first contingency failure. To assure against a head-end failure of either of these two radials, these cables would have to be upgraded to a full circuit capacity. An overhead upgrade would be relatively simple with the 4/0 conductors being replaced with 477 kcmil Al; however, the underground replacement would be expensive as an entire new system would have to be installed parallel to the first installation. The new UG system would most likely be a manhole and duct system with 750 kcmil cu cables. Both of these systems have a capacity above 12.2 MW and can mitigate such a first contingency failure.

Thus, it can be argued that the initial underground design should be a manhole and duct system with either a full capacity cables initially or the original design cables with spare ducts installed for future upgrade capability. Such a design would increase the design estimate for these underground radials by a factor of at least 2. Thus, the underground design cost of these radials should be increased from $1,350,100 to at least $2,700.200. The equivalent overhead design estimate with larger cables would be only about 20% higher, inflating the overhead system costs from $822,150 to $986,580. These estimates show a difference of $1,713,629 or a factor of 2.74 just for this portion of the development.

Underground Distribution Facilities are Impracticable and Unjust to Both the Developer and O&R's Existing Customers

Both the Commission's regulations and O&R's tariff[8] provide that:

> In unusual circumstances when the application of these rules appears impracticable or unjust to either party or discriminatory to other customers

relief can be granted. The Lost Lake site is extremely rocky as shown on Attachment E from the FEIS. Over 80% of the site is "very rocky", "extremely stony", "very stony" or "stony". Here is a table extracted from Attachment E:

[8] O&R Tariff, Leaf 52.

Lost Lake Resort
Soil Data

Map Unit Symbol	Characterization		Percentage AOI
AIC	very rocky		8.6
AIE	very rocky		3.9
AoC	very rocky		0.3
		Subtotal	12.8
SeB	extremely stony		3.6
WIC	extremely stony		32.7
		Subtotal	36.3
LrC	very stony		4.1
Nf	very stony		6.9
SwE	very stony		1.0
		Subtotal	12
LoB	stony		1.4
ScA	stony		0.6
ScB	stony		0.8
SrB	stony		1.7
SrC	stony		1.6
SrD	stony		1.1
WuA	stony		1.3
WuB	stony		10.3
WuC	stony		0.3
		Subtotal	19.1
		Total	80.2

Ref: FEIS, Appendix A.1 Soils Data

The following pictures reveal the boulders that were uncovered during the construction of the roads. This is the terrain that Lost Lake faces if an underground electric distribution system is installed. O&R requires at least a 10 foot wide right of way to be cleared behind the drainage swales and an 18 inch trench to a depth of 3 feet. This would be required on both sides of the road as per the O&R design and infringe upon the natural environment to have been preserved on the frontage of each lot. In short, given the terrain, undergrounding the distribution system is impracticable and unjust to Lost Lake. And as stated, due to the pad mount transformer no load losses, undergrounding is inequitable to O&R's existing customers.

CONCLUSION

If ever there was a case that justifies a waiver from the requirement to underground, it is the case of Lost Lake Resort. As can be seen, Lost Lake satisfies both 16 NYCRR §100.1(e) and (f). Only one of these two regulatory provisions need to be satisfied. Lost Lake also satisfies the requirements of O&R's tariff.

Lost Lake requests that the Secretary issue a Special Ruling within 60 days as specified in 16 NYCRR §100.1(e) and (f).

Respectfully submitted,

Daniel P. Duthie

Daniel P. Duthie

Counsel to Lost Lake

October 19, 2017

ATTACHMENT A

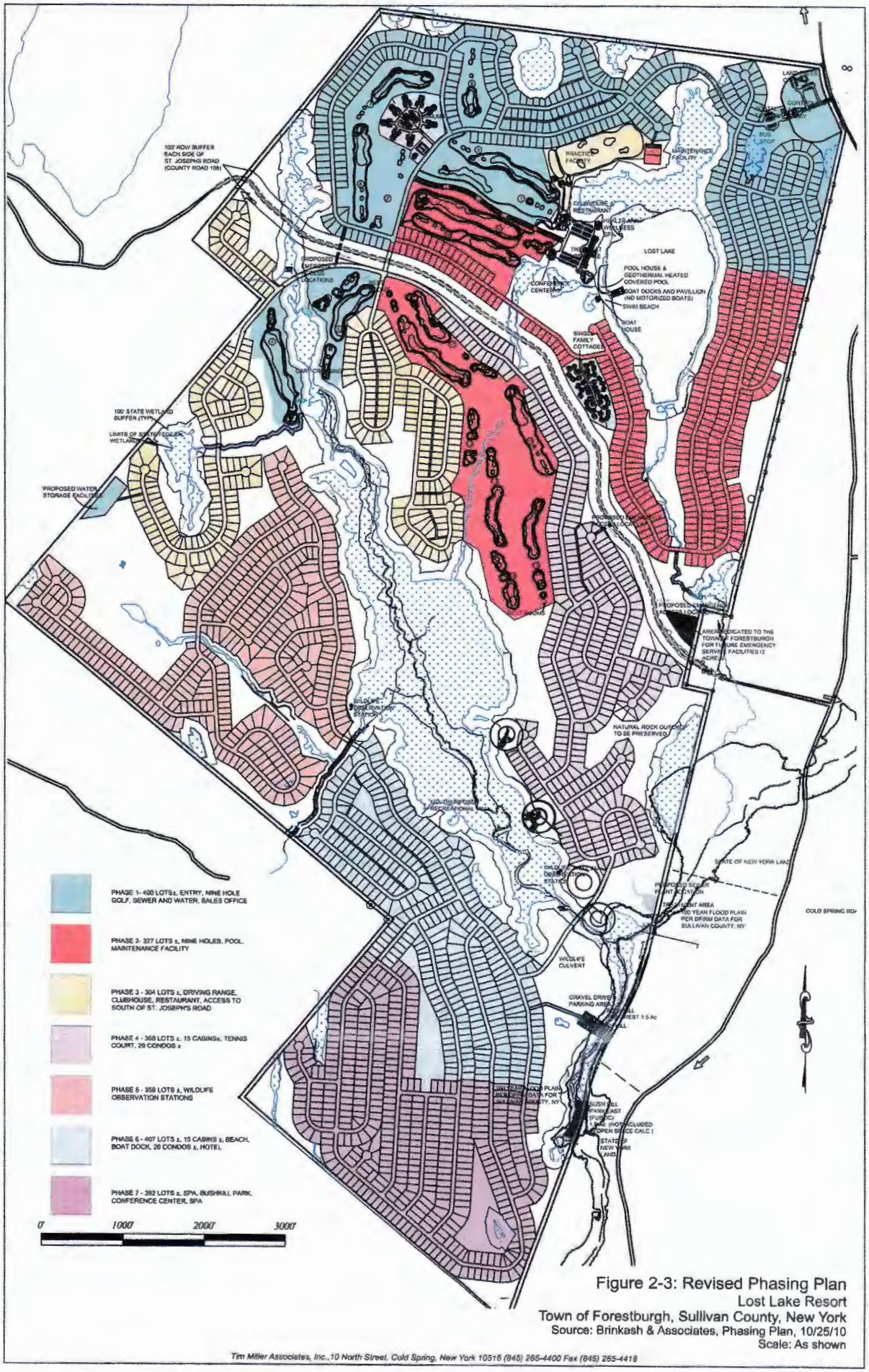


Figure 2-3: Revised Phasing Plan
Lost Lake Resort
Town of Forestburgh, Sullivan County, New York
Source: Brinkash & Associates, Phasing Plan, 10/25/10
Scale: As shown

ATTACHMENT B

Durange, Dan

From: SCRUDATOR@ORU.COM
Sent: Monday, May 08, 2017 8:39 AM
To: jtarpey.gha@gmail.com; Durange, Dan
Subject: Orange & Rockland Utilities – New Business

May 8, 2017

Lost Lake Resort
Mr Dan Durange
1Country Club Road
Hazle Township, PA 18202

RE: Revised Estimate

Dear Mr. Durange:

As per your request, we have estimated the costs to provide your distribution as overhead and a separate estimate to provide a underground distribution. Please be advised that these estimates show our entire costs for installation and do not reflect the tariff and entitlements. **These figures are for presentation to the PSC only.** Your contract, with required contributions and deposits, will be issued to you once it is determined if the distribution will be overhead or underground. At that time we will apply entitlements and tariff relief if, applicable. Please be further advised, that if you are granted overhead distribution you **need to have the PSC provided the maximum cost per foot that we can charge for overhead distribution a subdivision, as the Tariff only addresses underground distribution.**
As discussed, please add your costs to provide the site to us graded within 6" of final grade and all rock and other obstructions in the area of the underground distribution removed prior to our installation.
This estimate includes a cost to rock drill for 30% of the poles.
Estimate did not consider manhole and duct bank construction for underground, as we do not utilize that method in this territory.

Estimate for Overhead:

Our cost per foot:	$35.73	
Cost for Overhead distribution within subdivision:	21,611FT.	$772,161.03
Additional cost for overhead to wells and sewer:	23,010FT.	$822,147.30
Total cost for overhead distribution:		$1,594,308.33

Estimate for Underground:

Our cost per foot:	$43.10	
*Cost for underground distribution within subdivision:	30,680FT.	$1,322,308.00
Additional cost for wells and sewer:	31,510FT.	$1,358,081.00
Total cost for underground distribution:		**$2,680,389.00**

*underground footage is additional due to road crossings.

This estimate is based on Phase 1 drawings.

CC: LTS, Grey Hare Advisors, LLC.

Sincerely,

Robert Scrudato

Robert Scrudato
Project Manager
New Construction Services
845-342-8941

ATTACHMENT C

Lost Lake Under Ground Electric					
ITEM NO.	ITEM	QUANTITY	UNIT	UNIT PRICE	TOTAL COST
1	Clearing, Grubbing	62,190	lf *	$2.00	$124,380.00
2	Trenching - No Rock	54,230	lf	$12.98	$703,905.40
3	Trenching - Rock (requires blasting)	7,960	lf	$26.98	$214,760.80
4	Laterals - No Rock	175	ea	$600.00	$105,000.00
5	Laterals - Rock (requires blasting)	25	ea	$900.00	$22,500.00
6	Restoration	7,960	lf *	$1.25	$9,950.00
	* Clearing, Grubbing and Restoration Based on 15' width				
	Total				**$1,180,496.20**

Total trench footage including laterals 62,190 ft.

O&R cost for reimbursing developers for trenching 12.98

12.8% very rocky (7,960 ft), 36% very stony (22.390 ft.)

200 laterals is a good estimate for the subdivision (25 very rocky)

Laterals are estimated without trenching and cover compacting and road restoration

Developer would not do full restoration except where signficant rock is removed

This assumes that the developer would have to do a trench in the middle of the ROW for the entire footage of the underground layout prior to the utility performing the installation to identify rocks that need to be removed. As test trenching, the removed material, if rock free, can be returned to the trench, without surface restoration, except where laterals (road crossings) exist. For rock removal, the very rocky estimate of 12.8% was used to estimate the trench footage and laterals requiring rock blasting or hydraulic hammering.

ATTACHMENT D

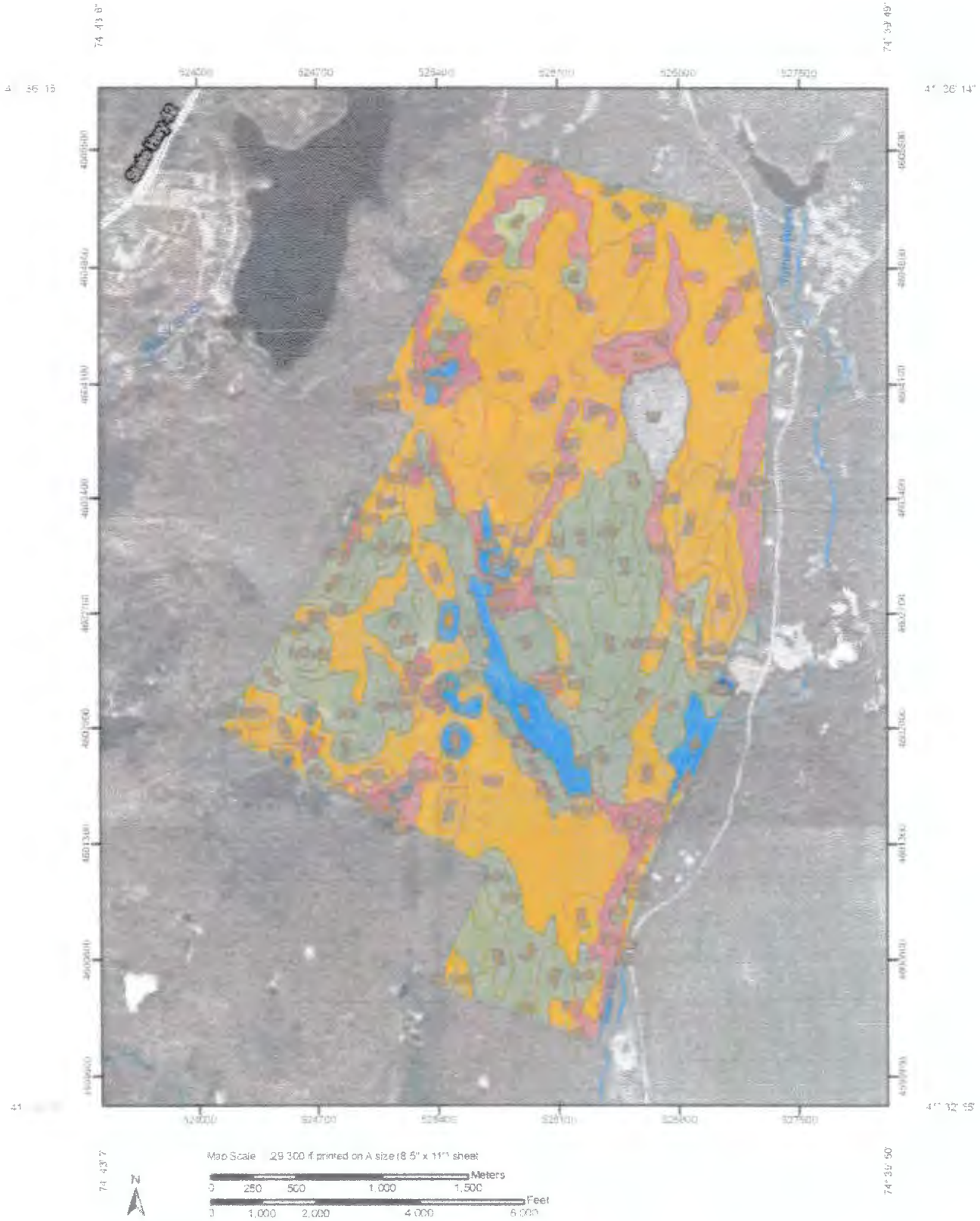
Lost Lake Power Requirements and Development Timetable

YEAR		2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037
Residential Units	Total Units																				
Phase 1 - 2018	400	4	8	12	16	20	24	28	32	36	40	44	48	52	56	60	64	68	72	76	80
Phase 2 - 2022	327					3	7	10	13	16	20	23	26	29	33	36	39	43	46	49	52
Phase 3 - 2026	304									3	6	9	12	15	18	21	24	27	30	33	36
Phase 4 - 2030	402													4	8	12	16	20	24	28	32
Phase 5 - 2034	358																	4	7	11	14
Phase 6 - 2038	442																				
Phase 7 - 2042	392																				
Total Residential	**2625**	**4**	**8**	**12**	**16**	**23**	**31**	**38**	**45**	**55**	**66**	**76**	**86**	**101**	**115**	**129**	**144**	**162**	**179**	**197**	**215**
Cumulative KW	**15,750**	**24**	**48**	**72**	**96**	**140**	**183**	**227**	**270**	**332**	**394**	**456**	**518**	**604**	**690**	**776**	**862**	**969**	**1,077**	**1,184**	**1,292**
Cumulative KWHR	**1,312,500**	**2,000**	**4,000**	**6,000**	**8,000**	**11,635**	**15,270**	**18,905**	**22,540**	**27,695**	**32,850**	**38,005**	**43,160**	**50,325**	**57,490**	**64,655**	**71,820**	**80,775**	**89,730**	**98,685**	**107,640**
Commercial																					
Wastewater Plant	80	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60	60
Water Storage	190	143	143	143	143	143	143	143	143	143	143	143	143	143	143	143	143	143	143	143	143
Well TW5	83	62	62	62	62	62	62	62	62	62	62	62	62	62	62	62	62	62	62	62	62
Well O	35	26	26	26	26	26	26	26	26	26	26	26	26	26	26	26	26	26	26	26	26
Well HH	53	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	40
Well FFF	90	68	68	68	68	68	68	68	68	68	68	68	68	68	68	68	68	68	68	68	68
Well JJJ	35	26	26	26	26	26	26	26	26	26	26	26	26	26	26	26	26	26	26	26	26
Sales Office	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20
Pool	10					10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
Maint Facility	20					20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20
Clubhouse	60									60	60	60	60	60	60	60	60	60	60	60	60
Restaurant	20									20	20	20	20	20	20	20	20	20	20	20	20
Hotel - 2038	200																				
Spa - 2042	60																				
Conf. Ctr. - 2042	100																				
Total Comm. KW	**1,056**	**445**	**445**	**445**	**445**	**475**	**475**	**475**	**475**	**555**	**555**	**555**	**555**	**555**	**555**	**555**	**555**	**555**	**555**	**555**	**555**
Cumm KWHR	**770880**	**324485**	**324850**	**324850**	**324850**	**346750**	**346750**	**346750**	**346750**	**405150**	**405150**	**405150**	**405150**	**405150**	**405150**	**405150**	**405150**	**405150**	**405150**	**405150**	**405150**
Total Dev. Load	**16,806**	**469**	**493**	**517**	**541**	**615**	**658**	**702**	**745**	**887**	**949**	**1,011**	**1,073**	**1,159**	**1,245**	**1,331**	**1,417**	**1,524**	**1,632**	**1,739**	**1,847**
Total Dev. KWHR	**2,083,380**	**326,485**	**328,850**	**330,850**	**332,850**	**358,385**	**362,020**	**365,655**	**369,290**	**432,845**	**438,000**	**443,155**	**448,310**	**455,475**	**462,640**	**469,805**	**476,970**	**485,925**	**494,880**	**503,835**	**512,790**

ATTACHMENT E

Appendix A.1 Soils Data

Saturated Hydraulic Conductivity (Ksat)—Sullivan County, New York



MAP LEGEND

Area of Interest (AOI)

- Area of Interest (AOI)

Soils

- Soil Map Units

Soil Ratings

- <= 3.7242
- > 3.7242 AND <= 5.9149
- > 5.9149 AND <= 12.8579
- > 12.8579 AND <= 21.7
- > 21.7 AND <= 56.1382
- Not rated or not available

Political Features

- Cities

Water Features

- Oceans
- Streams and Canals

Transportation

- Rails
- Interstate Highways
- US Routes
- Major Roads

MAP INFORMATION

Map Scale: 1:29,300 if printed on A size (8.5" × 11") sheet.

The soil surveys that comprise your AOI were mapped at 1:15,840.

Please rely on the bar scale on each map sheet for accurate map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL: http://websoilsurvey.nrcs.usda.gov
Coordinate System: UTM Zone 18N NAD83

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Sullivan County, New York
Survey Area Data: Version 7, Feb 27, 2009

Date(s) aerial images were photographed: 10/16/2006; 11/6/2006; 8/12/2006

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Saturated Hydraulic Conductivity (Ksat)

Saturated Hydraulic Conductivity (Ksat)— Summary by Map Unit — Sullivan County, New York				
Map unit symbol	Map unit name	Rating (micrometers per second)	Acres in AOI	Percent of AOI
Ad	Alden silt loam	3.7242	3.9	0.2%
AlC	Arnot-Lordstown complex, 0 to 15 percent slopes, very rocky	9.1735	215.4	8.6%
AlE	Arnot-Lordstown complex, 15 to 35 percent slopes, very rocky	9.1735	96.1	3.9%
AoC	Arnot-Oquaga complex, 0 to 15 percent slopes, very rocky	8.0387	6.8	0.3%
ArC	Arnot-Rock outcrop complex, 0 to 15 percent slopes	8.0387	55.4	2.2%
ArE	Arnot-Rock outcrop complex, 15 to 35 percent slopes	8.0387	19.3	0.8%
Ca	Carlisle muck	21.7000	80.4	3.2%
Ce	Carlisle, Palms, and Alden soils, ponded	21.7000	2.8	0.1%
ChA	Chenango gravelly loam, 0 to 3 percent slopes	56.1382	3.5	0.1%
ChB	Chenango gravelly loam, 3 to 8 percent slopes	56.1382	0.1	0.0%
Fu	Fluvaquents-Udifluvents complex, frequently flooded	9.0000	19.2	0.8%
LoB	Lordstown silt loam, 3 to 8 percent slopes, stony	9.1735	35.1	1.4%
LrC	Lordstown-Arnot complex, 8 to 15 percent slopes, very stony	9.1735	101.8	4.1%
Ne	Neversink loam	2.2957	44.3	1.8%
Nf	Neversink and Alden soils, very stony	2.2957	171.1	6.9%
OeB	Oquaga very channery silt loam, 3 to 8 percent slopes	8.7530	29.7	1.2%
OgC	Oquaga-Arnot complex, 8 to 15 percent slopes	8.7530	6.8	0.3%
OgD	Oquaga-Arnot complex, 15 to 25 percent slopes	8.7530	1.5	0.1%
Pa	Palms muck	12.8579	79.2	3.2%
Re	Red Hook sandy loam	8.5296	44.9	1.8%
ScA	Scriba loam, 0 to 3 percent slopes, stony	2.4021	14.3	0.6%
ScB	Scriba loam, 3 to 8 percent slopes, stony	2.4021	20.7	0.8%
SeB	Scriba and Morris loams, gently sloping, extremely stony	3.6244	89.3	3.6%

Saturated Hydraulic Conductivity (Ksat)— Summary by Map Unit — Sullivan County, New York				
Map unit symbol	Map unit name	Rating (micrometers per second)	Acres in AOI	Percent of AOI
SrB	Swartswood gravelly loam, 3 to 8 percent slopes, stony	5.1583	42.2	1.7%
SrC	Swartswood gravelly loam, 8 to 15 percent slopes, stony	5.1583	39.0	1.6%
SrD	Swartswood gravelly loam, 15 to 25 percent slopes, stony	5.1583	28.4	1.1%
SwE	Swartswood and Lackawanna soils, steep, very stony	5.9149	25.6	1.0%
VaB	Valois gravelly sandy loam, 3 to 8 percent slopes	17.1776	12.5	0.5%
VaC	Valois gravelly sandy loam, 8 to 15 percent slopes	17.1776	29.6	1.2%
VaE	Valois gravelly sandy loam, 25 to 35 percent slopes	17.1776	7.2	0.3%
W	Water		48.0	1.9%
Wd	Wayland silt loam	1.7141	6.9	0.3%
WlC	Wellsboro and Wurtsboro soils, strongly sloping, extremely stony	5.1165	816.8	32.7%
WuA	Wurtsboro loam, 0 to 3 percent slopes, stony	5.1165	32.1	1.3%
WuB	Wurtsboro loam, 3 to 8 pecent slopes, stony	5.1165	258.1	10.3%
WuC	Wurtsboro loam, 8 to 15 percent slopes, stony	5.1165	6.4	0.3%
Totals for Area of Interest			2,495.4	100.0%

Description

Saturated hydraulic conductivity (Ksat) refers to the ease with which pores in a saturated soil transmit water. The estimates are expressed in terms of micrometers per second. They are based on soil characteristics observed in the field, particularly structure, porosity, and texture. Saturated hydraulic conductivity is considered in the design of soil drainage systems and septic tank absorption fields.

For each soil layer, this attribute is actually recorded as three separate values in the database. A low value and a high value indicate the range of this attribute for the soil component. A "representative" value indicates the expected value of this attribute for the component. For this soil property, only the representative value is used.

The numeric Ksat values have been grouped according to standard Ksat class limits.

Rating Options

Units of Measure: micrometers per second

Aggregation Method: Dominant Component

Aggregation is the process by which a set of component attribute values is reduced to a single value that represents the map unit as a whole.

A map unit is typically composed of one or more "components". A component is either some type of soil or some nonsoil entity, e.g., rock outcrop. For the attribute being aggregated, the first step of the aggregation process is to derive one attribute value for each of a map unit's components. From this set of component attributes, the next step of the aggregation process derives a single value that represents the map unit as a whole. Once a single value for each map unit is derived, a thematic map for soil map units can be rendered. Aggregation must be done because, on any soil map, map units are delineated but components are not.

For each of a map unit's components, a corresponding percent composition is recorded. A percent composition of 60 indicates that the corresponding component typically makes up approximately 60% of the map unit. Percent composition is a critical factor in some, but not all, aggregation methods.

The aggregation method "Dominant Component" returns the attribute value associated with the component with the highest percent composition in the map unit. If more than one component shares the highest percent composition, the corresponding "tie-break" rule determines which value should be returned. The "tie-break' rule indicates whether the lower or higher attribute value should be returned in the case of a percent composition tie.

The result returned by this aggregation method may or may not represent the dominant condition throughout the map unit.

Component Percent Cutoff: None Specified

Components whose percent composition is below the cutoff value will not be considered. If no cutoff value is specified, all components in the database will be considered. The data for some contrasting soils of minor extent may not be in the database, and therefore are not considered.

Tie-break Rule. Fastest

The tie-break rule indicates which value should be selected from a set of multiple candidate values, or which value should be selected in the event of a percent composition tie.

Interpret Nulls as Zero No

This option indicates if a null value for a component should be converted to zero before aggregation occurs. This will be done only if a map unit has at least one component where this value is not null.

Layer Options. All Layers