

Amended Site Plan Application Summary
Hopper Condominium Association
Village of Ridgewood

The 36 Hopper Ridge Townhomes located on at Lot 3, Block 4104 on 10.3 acres at the end of Durar Avenue date to the late 1980's. The original Ridgewood Planning Board Preliminary Site Plan Approval is dated 2/15/83. Final Site Plan Approval is dated 5/4/90. The site is located in the R-1A Zone wherein single-family attached residences are a permitted use. The project density at 3.5 units per acre is quite low by 2020 standards for a multi-family project.

A major feature of the site is the three on-stream detention basins to which the site and the Village storm sewer system drain to. The outflow of the 3 detention basins drain to a headwater tributary of the Ho-Ho-Kus Brook. The center townhomes are clustered around and above the detention ponds atop dated landscape tie crib walls. The three large crib landscape tie walls have reached the end of their useful life. The landscape ties are decomposing, separating and buckling and need to be repaired and supplemented.

The primary focus of this application are the Necessary Proactive Measures to repair and supplement the walls so they continue to serve their essential purpose in supporting the townhomes, patios and decks, site grading and the private asbestos concrete sanitary sewer line between the walls and the townhouse units before it is an emergency! A split faced textured geogrid reinforced Keystone compact segmental modular "Pecan" concrete block wall located in front of the three existing walls is proposed as the recommended, cost-effective and aesthetic solution.

A second and **optional** goal of the application is the Dredging and Environmental Enhancement of the three (3) detention basins. Additional detail is provided later in this summary and on the plans. It may be prudent to treat the application as a Bifurcated Application, the wall work as the essential element and the pond dredging and pond restoration as an optional secondary component.

Repair and Supplementing the Three Walls is a Need not a Want
"The Walls are between a Rock and a Hard Place"

Specifically the On-Stream Detention Ponds and a Private Asbestos Concrete Sewer Pipe

The project challenges include:

- A) Difficult access.
- B) Difficult construction.
- C) Significant expense.
- D) Adjacent to three manmade detention ponds and which are tributary to the Ho-Ho-Kus Brook.
- E) NJDEP standards including Riparian Zone Vegetation Disturbance.
- F) Protection of the Private Asbestos Concrete Sanitary Sewer to the rear of the existing landscape tie wall! Failure of the walls would have significant adverse impacts on the sanitary sewer line with the attendant significant practical and significant monetary impacts.
- G) Existing patios and decks overlap the existing crib wall.
- H) Expansion of the Upper Detention Pond is a central element of the project in order to compensate for the relocation of the walls into the detention basins.

- I) Dredging, restoration and environmental enhancement of the Upper, Middle & Lower Ponds is an optional component of the project. Assistance from the Village and Bergen County Mosquito Commission is requested as the detention ponds receive runoff from 60 upslope acres via the Village storm sewer system.
- J) Replacement Landscaping with a focus on Native Riparian Zone Vegetation.

This is a Major Preliminary and Final Site Plan Application for Amended Site Plan Approval and a Major Soil Movement Application to repair and supplement the dated landscape tie crib walls with a modern improved aesthetic engineered alternative in a slightly modified location. The tie crib walls shall be supplemented with Geogrid Reinforced Split Textured Face Blended Color “Pecan” (or equal) Keystone Compact Segmental Concrete Block Retaining Walls in front of the existing walls.

Specific Village of Ridgewood Planning Board Approvals being requested includes the following:

- 1) A Variance of Section 190-124 F (3) c (3) of the Village Code which limits retaining walls to 12'. The existing walls have a maximum height of 12.6'. For construction and efficiency purposes, the existing two-tier walls are proposed to be replaced with single walls. The proposed wall above the middle pond has a maximum height of 12.33' for a length of 42' due to topographic conditions. This is approximately 6.7% of the 634 LF of proposed wall. A 1' variance is requested to allow for variable pond bottom conditions. It is emphasized that the retaining walls are in the center of a 10.3-acre site hidden by the ravine-style topography, berms and the townhouses units themselves. The one exception being the north end of the wall behind 49 Kira Lane where a Norway Spruce is proposed to be planted to buffer the wall.
- 2) A Variance of Section 190-120H of the Village Code which regulates development in the Riparian Zone. This variance request is a necessity as the walls are within the Riparian Zone. The original Site Plan Approval dates to 1983, some 21 years prior to the 2004 NJDEP Riparian Zone rules and regulations. The Riparian Zone disturbance shall be the subject of an application to the NJDEP Division of Land Resource Protection (DLRP) and the applicant requests that the NJDEP DLRP review supersede the Village Code. The applicant stipulates that the Village Approval would be subject to NJDEP Approval.
- 3) Any other Approvals, Waivers and Variances the Board deems prudent or necessary.
- 4) Waiver of cost generative Site Plan Checklist items not directly related to the retaining wall, particularly as this is an Amended Site Plan Application.
- 5) The soil movement import associated with the wall construction is on the order of 1993 CY. The Soil Movement for the optional dredging of the 3 ponds depending on the HOA budget ranges from 973 CY to 1,946 CY. The excavation for the expansion of the Upper Detention Pond is an additional 323 CY. The total soil movement export if all 3 ponds are dredged would be 2269 CY. A Major Soil Movement is requested. A summary is provided below.

Wall Summary

<u>Wall</u>	<u>Length</u>	<u>Max Height</u>	<u>Face Footage</u>	<u>Trucks</u>
<u>Lower</u>	174'	8'	1700 SF = 53 Pallets	3.0
<u>Middle</u>	276'	12.33'*	2775 SF = 87 Pallets	5.0
<u>Upper</u>	174'	8.33'	1403 SF = 44 Pallets	2.5
	624'		5878 + 416 Cap Block = 184 Pallets	

* Existing walls have max height of 12.6'

Crushed Stone

In Cubic Yards

<u>Wall</u>	<u>Leveling</u> <u>Pad</u> 2.7 ft ³ /ft	<u>Drainage</u> 1 ft ³ /ft ²	<u>Core Fill</u> CY	<u>Hydrostatic</u> CY	<u>Cribwall</u> <u>Drainage</u> CY	<u>Total</u> CY	<u>Trucks</u>
<u>Lower</u>	18	63	22.3	85.1	6.4	195	11
<u>Middle</u>	28	103	39.5	120.6	10.3	301	17
<u>Upper</u>	18	52	22.8	90.6	6.4	190	11
	64	218	85	297	23	686	39

Total Crushed Stone = 640-690 CY = Import of 38-39 Truckloads

<u>Wall</u>	<u>Geogrid Reinforced</u> <u>Fill</u> CY	<u>Topsoil – Graded</u> <u>3H:1V Slopes</u> CY	<u>Total</u> CY	<u>Trucks</u>
<u>Lower</u>	500 CY	48.3	548	31
<u>Middle</u>	1,035 CY	77.2	1112.2	62
<u>Upper</u>	458 CY	48.3	506.3	28
<u>Total</u>	1993 CY = Import of 110 Truckloads	173.8		121

Truck Traffic

<u>Wall</u>	<u>Block</u>	<u>Crushed Stone</u>	<u>Select Fill & Topsoil</u>	<u>Total</u>
<u>Lower</u>	3	11	31	45
<u>Middle</u>	5	17	62	84
<u>Upper</u>	3	11	28	42

3 Months = 63 Working Days

171/63 = 5 – 8 Trucks/Day

Area of Disturbance

	<u>Pond</u>	<u>Wall</u>
<u>Lower</u>	14,560 SF	8,861 SF
<u>Middle</u>	7,309 SF	5,667 SF
<u>Upper</u>	4,400 SF	7,148 SF
	26,269 SF	21,676 SF

Soil Movement

Pond Reclamation and Environmental Enhancement

<u>Pond</u>	<u>Area (SF)</u>	<u>Silt @ 1', CY</u>	<u>Silt @ 2', CY</u>
<u>Lower</u>	14,560	539	1,078 = 60 Truckloads
<u>Middle</u>	7,309	271	542 = 30 Truckloads
<u>Upper</u>	4,400	163	326 = 18 Truckloads
	26,269	973	1,946 = 108 Truckloads

Upper Pond 2900 SF Expansion @ 3' of excavation = 322.2 CY = 18 Truckloads export.

Tree Removal and Replacement

16 trees are necessary to be removed. 26 Native Riparian Trees proposed to be planted. There is no tree removal proposed in the area between the top of the existing walls and the rear of the townhouse units. Expansion of the North Upper Detention Pond will result in disturbance of the Bamboo Grove. Access routes may also disturb the bamboo grove. Chapter 260 of the Ridgewood Village Code prohibits the planting of Bamboo as it is a non-native invasive species, the removal and eradication of Bamboo is encouraged by Chapter 260. See attachment. The NJDEP Riparian Zone regulations encourage the use of native riparian zone vegetation which is what is specified on the Tree Replacement Chart on Plan Sheet 26. See attachment.

Sequence of Construction

A detailed sequence of construction is provided on Plan Sheet 2 of 3. With coordination, good weather, and presuming Saturday 1/2 workdays, the wall project is a 3-month project.

Site Access

Site access is proposed via Durar Avenue to Kira Lane and Daniel Lane for the core of the site and the access easement which leads to Cedar Avenue. See attachment.

Drainage & Stormwater Management

- 1) The three (3) detention basins on-stream detention basins were constructed as part of the original 1982 project and provide for project wide stormwater management in accordance with 1982 standards as well as a regional benefit due to the onsite stream location. The combination of the size of the ponds and on-stream topographic location in the ravine topography provides for effective stormwater management. There is no "Bypass" of developed impervious surface portions of the site
- 2) The original 1982 Drainage Area Map for the for the three Detention Basins identifies the upstream offsite tributary area to be 61 Acres and the total drainage area to the Lower Detention Basin to be 70.7 Acres. The Hopper Ridge site is 10.8 Acres so the watershed wide benefits are self evident.
- 3) The entire uphill offsite 61 Acre drainage area drains via the Ridgewood storm sewer system and discharges to the Upper Detention Pond via a 32" x 54" CMP pipe after passing through a silt chamber.
- 4) The Lower Detention Basin Outlet Control Structure discharges to the original onsite open watercourse which is a headwater tributary of the Ho-Ho-Kus Brook.
- 5) A "Simple-Stupid" but effective approach is proposed to maintain the stormwater management benefits. As the stormwater storage is above the normal pond water surface of 67.1' established by the 2'-6" x 4.0' weir of the Lower Pond Outlet Control Structure, maintaining the Pond Surface Area maintains the stormwater storage. There is no change to the surface area. The wall reconstruction proposes 3196 SF of fill within the ponds. The Upper Detention Basin Pond is to be expanded by 3223 SF. No change.

- 6) In addition, as it is very clear that the Upper Detention Pond is an effective silt trap, the expansion of the Upper Detention Pond will make it a more effective silt trap for the upstream 61 acres to the benefit of the two downstream ponds and watercourses, consistent with the Village Stormwater Management Plan.
- 7) The roof leaders of the individual townhomes to be piped through the retaining walls.
- 8) A Stage-Storage of the three ponds follows as additional information.

On-Stream Detention Basin, Ho-Ho-Kus Brook Tributary
Hopper Ridge Townhomes
Stage-Storage

Upper Pond

Elevation	Area, Ft²	Incremental Value Ft³	Total volume Ft³
66	4,823	0	0
68	6,927	6,927	6,927
70	9,115	9,115	16,042
72	11,480	11,480	27,522
74	12,648.9	12,648.9	40,170.9

Middle Pond

Elevation	Area, Ft²	Incremental Value Ft³	Total volume Ft³
66	7,689	0	0
68	10,259	10,259	10,259
70	12,696	12,696	22,955
72	14,564	14,564	37,519
74	16,619	16,619	54,138

Lower Pond

Elevation	Area, Ft²	Incremental Value Ft³	Total volume Ft³
64	8,763	0	0
66	11,874	11,874	11,874
68	15,203	15,203	27,077
70	17,294	17,294	44,371
72	19,909	19,909	64,280
74	22,581	22,581	86,861

Pond Lowering Analysis

Upper North Pond

<u>Elevation</u>	<u>Surface Area, SF</u>	<u>Gallons</u>	<u>Σ Gallons</u>	<u>Total Gallons</u>
66	4,832	36,143		
			66,063	
64	4,000 +/-	29,920		
			52,360	
62	3,000 +/-	22,440		118,423

36,143 gal/80 gpm = 451 min/Ft = 7.5 hours/Ft

118,423 gal/80 gpm = 1,480 min/Ft = 24.7 hours/4 Ft

Middle Pond

<u>Elevation</u>	<u>Surface Area, SF</u>	<u>Gallons</u>	<u>Σ Gallons</u>	<u>Total Gallons</u>
66	7,689	51,513		
			102,393	
64	6,000 +/-	44,880		
			82,280	
62	5,000 +/-	37,400		184,673

57,513 gal/80 gpm = 718 min/Ft = 12.0 hours/Ft

184,673 gal/80 gpm = 2,308 min/Ft = 38.5 hours/4 Ft

South Lower Pond

<u>Elevation</u>	<u>Surface Area, SF</u>	<u>Gallons</u>	<u>Σ Gallons</u>	<u>Total Gallons</u>
66	11,874	88,817		
			163,617	
64	10,000 +/-	74,800		
			142,120	
62	9,000 +/-	67,320		305,737

88,817 gal/80 gpm = 1,110 min/Ft = 18.5 hours/Ft

305,737 gal/80 gpm = 3,822 min/Ft = 63.7 hours/4 Ft

All Three Ponds

182,473 gal/80 gpm = 2,280 min/Ft = 38.0 hours/Ft

608,833 gal/80 gpm = 7,610 min/Ft = 126.0 hours/4 Ft

1" Runoff from 70 Acres = 1.9 Million Gallons

1.9 Million Gallons/608,833 gal = 3.12

Responses to Questions from December 1, 2020 Public Hearing

1. Truck traffic associated with the wall repairs:

<u>Material</u>	<u>Truckloads</u>
Concrete Block	11
Crushed Stone	39
Select Fill	<u>121</u>
Total	171

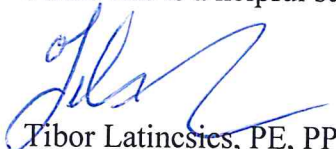
171 truckloads/63 days = Avg 3 trucks/day

2. North Upper Detention Pond Expansion = 18 Truckloads

3. Optional Pond Reclamation and Environmental Enhancement (dredging)
= 108 Truckloads
4. Working Hours, as per ordinance:
Monday – Friday: 7:30am – 6:00pm
Saturday: 9:00am – 1:00pm
5. A circular work pattern shall be provided so as to minimize backup beepers.

The Site Plan Application is being coordinated with other Government Agencies having jurisdiction. A copy of the Bergen County Planning Board letter of no further action dated 6/24/20 is attached. The Bergen County Soil Conservation District Certification # 20-2589 dated 9/23/20 is attached. The Hopper Condominium Association shall be making a Flood Hazard Area (FHA) Individual Permit Application with hardship to the NJDEP Division of Land Resource Protection for regulated activities within the three manmade on-stream detention basins and the Ho-Ho-Kus Brook Riparian Zone.

I trust this is a helpful summary.



Tibor Latincsics, PE, PP
12/18/20

TREES AND SHRUBS

260 Attachment 1

Village of Ridgewood Appendix A

The following trees and vegetation are to be considered invasive species in the Village of Ridgewood. Their planting is prohibited. Their removal and eradication is encouraged.

Common Name	Scientific Name
Bamboo	
Black locust	Robinia pseudoacacia L.
Calamus tree	Acorus calamus L.
Catalpa	Catalpa bignonioides Walter.
Chinese elm	Ulmus parvifolia
Crack willow	Salix fragilis L.
Empress tree	Paulownia tomentosa (Thunb.) Steudel
Japanese cork tree	Phellodendron japonicum Maxim
Japanese maple	Acer palmatum Thunb.
Japanese knotweed	Polygonum cuspidatum Sieb. & Zucc.
Mimosa	Albizia julibrissin Durazz.
Norway maple	Acer platanoides L.
Paper mulberry	Broussonetia papyrifera (L.) Vent.
Scotch pine	Pinus sylvestris L.
Siberian elm	Ulmus pumila L.
Sweet cherry	Prunus avium L.
Tree of Heaven	Ailanthus altissima (Miller) Swingle.
Umbrella tree	Magnolia tripetala (L.) L.
White mulberry	Morus alba L.
White poplar	Populus alba L.
White willow	Salix alba L.
Yellow buckeye	Aesculus flava Ait.

New Jersey Invasive Species Strike Team
2015 DO NOT PLANT LIST
PLEASE DO NOT PURCHASE ANY OF THESE SPECIES
(including any of their cultivars and varieties)

Scientific Name	Common Name	NJISST Category
Acer ginnala	Amur maple	NJISST Target
Acer palmatum	Japanese maple	NJISST Target
Acer platanoides	Norway maple	Widespread
Acer pseudoplatanus	Sycamore maple	NJISST Target
Achyranthes japonica	Japanese chaff flower	NJISST Watch
Acorus calamus	American sweetflag	Widespread
Actinidia argute	Hardy kiwi	NJISST Target
Ailanthus altissima	Tree-of-heaven	Widespread
Akebia quinata	Chocolate vine	NJISST Target
Albizia julibrissin	Mimosa	NJISST Target
Aldrovanda vesiculosa	Water wheel plant	NJISST Watch
Alliaria petiolata	Garlic mustard	Widespread

VILLAGE OF RIDGEWOOD

STORMWATER MANAGEMENT PLAN

Date: January 30, 2005



Prepared By:

Christopher J. Rutishauser, PE #36373, CPWM
Director of Public Works/Village Engineer

Revised: March 10, 2005
May 5, 2006
November 1, 2006

1.2 Goals

The goals of this MSWMP are to:

- reduce flood damage, including damage to life and property;
- minimize, to the extent practical, any increase in stormwater runoff from any new development or redevelopment;
- reduce soil erosion from any development or construction project;
- assure the adequacy of existing and proposed culverts and bridges, and other in-stream structures;
- maintain and encourage groundwater recharge;
- prevent, to the greatest extent feasible, any increase in nonpoint source pollution;
- maintain the integrity of stream channels for both their biological and wildlife functions, as well as for drainage;
- minimize pollutants in stormwater runoff from new and existing development with the intent to restore, enhance, and maintain the chemical, physical, and biological integrity of the waters of the state, to protect public health, to safeguard fish and aquatic life and scenic and ecological values, and to enhance the domestic, municipal, recreational, industrial and other uses of water; and
- provide for public safety through the proper design and operation of stormwater basins.

To achieve these goals, this MSWMP outlines specific stormwater design and performance standards for new development and redevelopment in the Village. Preventative and corrective maintenance strategies are also presented in the plan to ensure long-term effectiveness of stormwater management facilities. The plan also outlines safety standards for stormwater infrastructure to be implemented to provide for public safety.

Achievement of the above listed goals is through the efforts of the various divisions of the Village's Department of Public Works. The Engineering Division has several inspectors that monitor various construction sites throughout the Village for compliance with the requirements of the Village's Stormwater Management Plan. The inspectors also help enforce the Village's ordinances on the prevention of stormwater pollution, which have all been recently adopted.

One of the primary methods the Village uses to assist its compliance efforts is our requirement of a Site Grading and Stormwater Control Plan permit (issued by the Engineering Division, in conjunction with Building Department construction permits). The Site Grading and Stormwater Control Plan permit assists in the Village's efforts in educating builders and local contractors on the requirements (and goals) of the Stormwater Management Plan and soil erosion & sediment control. The permit also emphasizes the Village's requirements that runoff from

TECHNICAL MANUAL

FLOOD HAZARD AREA CONTROL ACT RULES

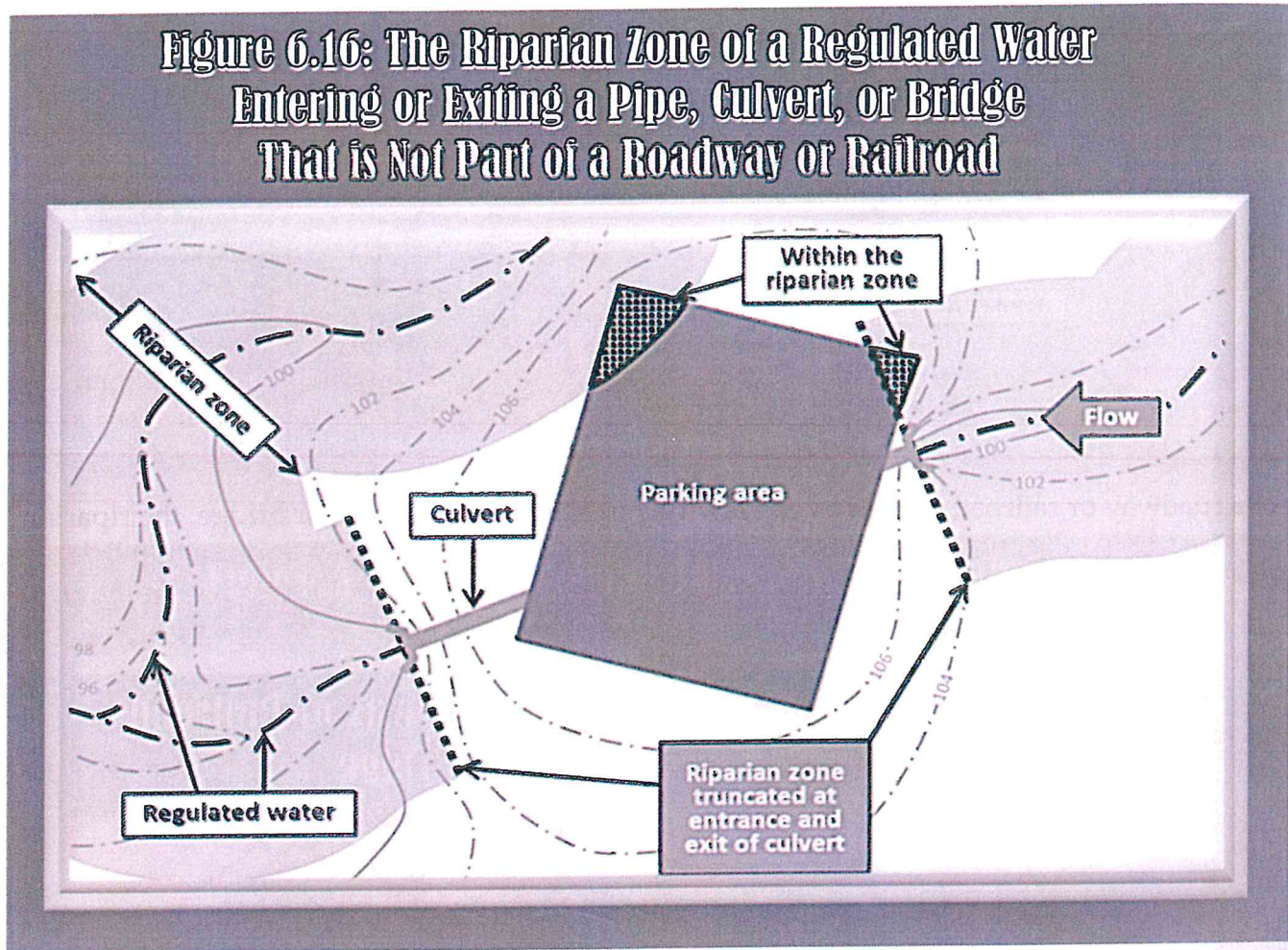
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NEW JERSEY
DEPARTMENT OF
ENVIRONMENTAL PROTECTION
LAND USE MANAGEMENT
2018

Regulated Waters Enclosed within Pipes, Culverts, or Bridges that are Not Part of a Roadway or Railroad

Where a regulated water enters or exits a lawfully existing pipe, culvert, or bridge that is not part of a roadway or railroad, the riparian zone is truncated at the entrance and exit of the structure at a straight line that runs perpendicular to the predominant direction of flow in the regulated water. (See [Figure 6.16](#), below.)



Excavated Areas or Impoundments Filled with Water

As shown in [Figure 6.17](#) on the following page, where a lawfully existing excavated area or impoundment filled with water (such as an irrigation pond) lies along a regulated water, the riparian zone is measured outward from the top of bank of the excavated or impounded feature, with the exception of stormwater management basins and wastewater treatment ponds since these features do not have a riparian zone. In the case of stormwater management basins and wastewater treatment ponds, the riparian zone lies along the original path of the regulated water, irrespective of the location of the basin or pond.

an enhancement project that does not satisfy the entire mitigation requirement, the applicant may conduct the enhancement project onsite and then purchase credits from a mitigation bank to satisfy the remainder of the requirement.

Certain types of projects will not be considered mitigation. Such projects include installing or improving an existing public facility intended for human use, such as a ball field, nature trail, or boardwalk, or installing or improving a stormwater management facility, such as a basin. Specifically, a basin that was designed to treat or manage stormwater runoff cannot also be used for mitigation.

Mitigation that is or has been performed to satisfy a requirement of a Federal, local, or other New Jersey State law, such as the Freshwater Wetlands Protection Act (FWPA) Rules, cannot also be used to satisfy the requirement for riparian zone mitigation under the FHACA Rules unless the project also meets all the requirements of these rules. While this manual does not address mitigation for wetlands under either the [CZM](#) or [FWPA](#) Rules, impacts to both a riparian zone and a wetland that occupy the same footprint can be mitigated for in the same footprint, provided the mitigation meets the standards of all applicable rules.



Regardless of the type of mitigation selected, the mitigation project must fully compensate for any ecological loss.

The Department will not approve any of the following:

- ⊗ Creation, restoration, or enhancement projects in areas of high ecological value, such as areas containing mature, dense, natural forest
- ⊗ Creation, restoration, or enhancement projects that destroy, jeopardize, or adversely modify a present or documented habitat for threatened or endangered species or jeopardize the continued existence of any local population of a threatened or endangered species
- ⊗ Creation or restoration projects that pose an ecological risk, meaning that the mitigation may result in the reintroduction of contamination to ecological communities, the exposure of humans to contamination, or the contamination of the mitigation site by subsequent exposure to new areas of contamination requiring remediation (see the [Technical Requirements for Site Remediation](#) at N.J.A.C. 7:26E-1.16 and 4.9)

Regardless of the type of mitigation selected, the mitigation project must fully compensate for any ecological loss. Therefore, the vegetation impacted by the regulated activity will usually need to be replaced by a type of vegetation that is ecologically equivalent or of greater ecological value. For

example, if trees must be cut down to accommodate the activity, trees must be planted as part of the mitigation project. **The Department requires the use of native, noninvasive species on all mitigation sites.** It is important to note that some standardized seed mixes contain non-native species, so customized seed mixes should be purchased.

A mitigation project should also include a variety of species in a variety of sizes for the project to have the best chance at success. The success criteria for a specific riparian zone will depend on the functions performed by the impacted area. The density of the planting will also be dependent on the plant stock that will be used at the mitigation site. If an applicant chooses to use bare root stock, which often has a high mortality rate, the required planting density will probably be higher than balled and burlapped plant stock.

To ensure that mitigation fully compensates for any ecological loss, the Department recommends that all impacts and those that require mitigation be identified within the permit application and/or the mitigation proposal. [Figure 7.3](#) below provides an example of how to report this information to the Department.

Figure 7.3: How to Report Riparian Zone Impacts Requiring Mitigation

Activity (Section 11.2)	RZ width	Total impact (square feet)	Impacts in excess of table 11.2		Forested (sq. feet)	Shrub/Scrub (sq. feet)	Herbaceous (sq. feet)	Grass/Ag (sq. feet)
(g)	150	10000	1000	Perm	4000	1000	1000	0
				Temp	3000	1000	0	0
(m)	300	8000	1000	Perm	4000	2000	1000	0
				Temp	0	0	0	

In addition, the applicant should provide a detailed description of all proposed impacts to clearly indicate the ecological functions and values of the existing riparian zone and a conclusion statement showing the amount of mitigation that is required for each regulated activity.

To determine which impacts to actively disturbed areas count towards the limits in Table 11.2, see N.J.A.C. 7:13-11.2(i) and [Section 6.4.3](#) of this manual.

Village of Ridgewood, NJ
Tuesday, February 28, 2017

Chapter 190. Land Use and Development

Article X. Zoning

§ 190-120. Environmental provisions.

All development within the Village of Ridgewood shall be designed to prevent any adverse impact to the man-made or natural environments, and if prevention is not reasonably possible, development shall be designed to mitigate such impacts. The development of lands having environmental constraints is permitted as regulated herein; however, development of environmentally constrained land is not to be encouraged but is permitted if each application for development complies with the following standards, notwithstanding any other requirement of this chapter.

A. Stormwater runoff.

[Amended 3-8-2006 by Ord. No. 2983; 1-17-2007 by Ord. No. 3035]

- (1) All development shall comply with the applicable requirements of § 190-83.
- (2) For those developments that do not require site plan or subdivision approval, a permit shall be required for any development or work involving a new building, an addition to an existing building, swimming pools or any other site improvements resulting in an increase of at least 200 square feet of impervious surface area per lot. The following shall apply:
 - (a) The applicant shall be required to submit a site grading and stormwater control plan to the Village of Ridgewood Department of Public Works, Engineering Division, with the application form available from the Engineering Division.
 - (b) The information required by § 190-67N shall be provided on the plan.
 - (c) The plan submitted for the permit shall be prepared by a licensed New Jersey professional engineer, with appropriate signature and seal; provided, however, that the Village Engineer may waive this requirement if in his/her judgment the services of a professional engineer are unnecessary to adequately address the drainage impacts from the development.

B. Soil erosion and sedimentation control. All developments in all zones shall protect streams, lakes and ponds from sedimentation damage and shall prepare a soil erosion and sediment control plan if required by N.J.S.A. 4:24-39 et seq.

C. Flood hazard areas. There is hereby created within the Village special flood hazard areas as identified by the Federal Emergency Management Agency in a scientific and engineering report entitled "Flood Insurance Study, Bergen County, New Jersey," revised and to be effective September 30, 2005, with accompanying Flood Insurance Rate Maps. Said maps are hereby adopted by reference and declared to be part of this chapter. Said maps are available in the Village offices. The Flood Insurance Study is on file with the Director of the Department of Public Works. The following provisions shall apply to such areas:

[Amended 11-10-1998 by Ord. No. 2649; 7-13-2005 by Ord. No. 2945]

- (1) The uses permitted within any flood hazard area are those uses permitted and regulated by this article of the zone district in which the area may be located, as such zone districts are set forth and delineated on the Zone **Map**.

- (2) No part of the floodway, as indicated by the Flood Insurance Rate Maps, shall be located within the usable area of the lot, as defined by this chapter.

[Amended 7-18-2001 by Ord. No. 2744]

- (3) The required minimum lot area shall be increased above that which would otherwise be required for the use in the respective zone district by 50% of the area of the special flood hazard area located within the usable area of the lot, as defined by this chapter.

[Amended 7-18-2001 by Ord. No. 2744]

- D. Wetlands. No more than 10% of the usable area of a lot, as defined by this chapter, shall be occupied by wetlands or wetland transition areas, as such wetlands or transition areas are indicated by a Letter of Interpretation or presence/absence letter from the New Jersey Department of Environmental Protection and as adjusted through the grant of various permits and approvals by said department.

[Amended 7-18-2001 by Ord. No. 2744]

- E. Steep slopes. The purpose of this subsection is to regulate the intensity of use in areas of steeply sloping terrain in order to limit soil loss, erosion, excessive stormwater runoff, the degradation of surface water and to maintain the natural topography and drainage patterns of land. Disturbance of steep slopes results in accelerated erosion processes from stormwater runoff and the subsequent sedimentation of water bodies with the associated degradation of water quality and loss of aquatic life support. Related effects include soil loss, changes in natural topography and drainage patterns, increased flooding potential, further fragmentation of forest and habitat areas, and compromised aesthetic values. The following requirements shall apply:

[Amended 7-18-2001 by Ord. No. 2744; 11-9-2009 by Ord. No. 3225]

- (1) Disturbance of steep slopes prohibited. In accordance with the State of New Jersey's Water Quality Management Planning Rules at N.J.A.C. 7:15, no disturbance of steep slopes shall be permitted, except as permitted herein. The following provisions shall apply:

- (a) Definitions. For the purposes of interpreting and administering the disturbance restrictions in this Subsection **E**, the following definitions shall apply:

DISTURBANCE

The placement of impervious surface, the exposure or movement of soil or bedrock, or the clearing, cutting, or removing of vegetation.

IMPERVIOUS SURFACE

Any structure, surface, or improvement that reduces or prevents absorption of stormwater into land, and includes porous paving, paver blocks, gravel, crushed stone, decks, patios, elevated structures, and other similar structures, surfaces, or improvements.

REDEVELOPMENT

The construction of structures or improvements on areas which previously contained structures or other improvements.

STEEP SLOPE

Any slope equal to or greater than 20% as measured over any minimum run of 10 feet. Steep slopes are determined based on contour intervals of two feet or less.

The percent of slope (rise in feet per horizontal distance in feet) shall be established by measurement of distance perpendicular to the contour of the slope. The percent of slope shall be calculated for each two-foot contour interval. For example, any location on the site where there is a one-foot rise over a ten-foot horizontal run constitutes a ten-percent slope; a 1.5-foot rise over a ten-foot horizontal run constitutes a fifteen-percent slope; a two-foot rise over a ten-foot horizontal run constitutes a twenty-percent slope.

- (b) Exceptions. The disturbance of steep slopes shall only be permitted for the following activities. Determination of the following exceptions shall be made by the reviewing agency, with the applicant having the burden of proof.
 - [1] Redevelopment within the limits of impervious surfaces existing on the effective date of Ordinance No. 3225 (amending this Subsection E);
 - [2] New disturbance necessary to protect the public health, safety or welfare, such as but not limited to necessary linear development for access or utilities when no feasible alternative exists to such disturbance;
 - [3] New disturbance necessary to provide an environmental benefit, such as but not limited to remediation of a contaminated site;
 - [4] New disturbance necessary to prevent extraordinary hardship on the property owner peculiar to the property; or
 - [5] New disturbance necessary to prevent extraordinary hardship, provided that the hardship was not created by the property owner. For purposes of interpreting and administering this provision, "extraordinary hardship" shall be construed to mean that the steep slope disturbance is necessary to provide a minimal, economically viable use of the property based upon reasonable investment.
 - (2) Usable area limitations. The amount of steep slopes located within the usable area of a lot, as defined by this chapter, shall be limited as follows:
 - (a) No more than 50% of the usable area of a lot, as defined by this chapter, shall have ten-percent slopes or greater.
 - (b) No more than 35% of the usable area of a lot, as defined by this chapter, shall have fifteen-percent slopes or greater.
 - (c) No more than 20% of the usable area of a lot, as defined by this chapter, shall have twenty-five-percent slopes or greater.
- F. Groundwater protection.
- (1) No building or structure shall be erected in any zone district of the Village within 50 feet of any well, infiltration gallery, spring or similar source of groundwater now or hereafter developed for a public water supply system, as such system is defined by this chapter.
 - (2) No sewer or line carrying sanitary or industrial wastes located within 100 feet of any well, infiltration gallery, spring or similar source of groundwater now or hereafter developed for a public water supply system may be installed in any zone district of the Village unless the same shall be of steel, reinforced concrete, cast iron or other suitable material, properly protected and of completely watertight construction and otherwise constructed in accordance with Rules and Regulations for the Preparation and Submission of Plans for Public Water Supply Systems and Water Treatment Plants, now or hereafter issued by the State Department of Health.

- (3) No manholes or connections on a sanitary sewer system shall be permitted within 100 feet of any well now or hereafter developed for a public water supply system in any zone district of the Village.

G. Performance standards. The following conditions and requirements shall be complied with:

- (1) All activities shall be carried on only in structures which conform to the minimum safety standards of the National Board of Fire Underwriters or the Village building code or fire ordinance governing the permitted use, whichever may be more restrictive. All operations shall be carried on and explosive materials, fuels, liquids and finished products shall be stored in accordance with the standards of the National Board of Fire Underwriters.
- (2) Any use permitted by this article shall only be permitted if it shall comply with all applicable federal and state safety laws, rules and regulations.
- (3) No uses permitted by this article shall result in the dissemination of smoke, fumes, gas, dust, odors or any other atmospheric pollutant beyond the boundary lines of the lot occupied by such use.
- (4) There shall be no vibration beyond the boundary lines of the lot on which is conducted any use permitted by this article.
- (5) Noise. All uses shall comply with the applicable provisions of the State of New Jersey's Noise Control Regulations at N.J.A.C. 7:29.
[Amended 11-9-2009 by Ord. No. 3225]
- (6) Anything in this article to the contrary notwithstanding, no use shall be permitted which shall discharge an industrial waste into any municipal sanitary sewer system without written approval of the Department of Public Works, and no such waste shall be treated on any premises.

H. Riparian zones. In accordance with the State of New Jersey's Water Quality Management Planning Rules at N.J.A.C. 7:15, this subsection designates riparian zones and regulates land use and development within such zones. The following provisions shall apply:
[Added 11-9-2009 by Ord. No. 3225]

- (1) Purposes. The specific purposes and intent of this subsection are to:
 - (a) Restore and maintain the chemical, physical, and biological integrity of the water resources of the Village of Ridgewood;
 - (b) Prevent excessive nutrients, sediment, and organic matter, as well as biocides and other pollutants, from reaching surface waters by optimizing opportunities for filtration, deposition, absorption, adsorption, plant uptake, biodegradation, and denitrification, which occur when stormwater runoff is conveyed through vegetated buffers as stable, distributed flow prior to reaching receiving waters;
 - (c) Provide for shading of the aquatic environment so as to moderate temperatures, retain more dissolved oxygen, and support a healthy assemblage of aquatic flora and fauna;
 - (d) Provide for the availability of natural organic matter (leaves and twigs) and large woody debris (trees and limbs) that provide food and habitat for aquatic organisms (insects, amphibians, crustaceans, and small fish), which are essential to maintain the food chain;
 - (e) Increase stream bank stability and maintain natural fluvial geomorphology of the stream system, thereby reducing stream bank erosion and sedimentation and protecting habitat for aquatic organisms;

- (f) Maintain base flows in streams and moisture in wetlands;
 - (g) Control downstream flooding; and
 - (h) Conserve the natural features important to land and water resources, e.g., headwater areas, groundwater recharge zones, floodways, floodplains, springs, streams, wetlands, woodlands, and prime wildlife habitats.
- (2) Definitions. For the purposes of interpreting and administering the riparian zone provisions in this Subsection **H**, the following definitions shall apply:

ACID-PRODUCING SOILS

Soils that contain geologic deposits of iron sulfide minerals (pyrite and marcasite) which, when exposed to oxygen from the air or from surface waters, oxidize to produce sulfuric acid. Acid-producing soils, upon excavation, generally have a pH of 4.0 or lower. After exposure to oxygen, these soils generally have a pH of 3.0 or lower. Information regarding the location of acid-producing soils in New Jersey can be obtained from local Soil Conservation District offices.

CATEGORY ONE WATER(S)

Waters designated as "C1 waters" in the Surface Water Quality Standards, N.J.A.C. 7:9B.

DISTURBANCE

The placement of impervious surface, the exposure or movement of soil or bedrock, or the clearing, cutting, or removing of vegetation.

HUC-14 WATERSHED

An area within which water drains to a particular receiving surface water body, also known as a "subwatershed," which is identified by a fourteen-digit hydrologic unit boundary designation, delineated within New Jersey by the United States Geological Survey.

IMPERVIOUS SURFACE

Any structure, surface, or improvement that reduces or prevents absorption of stormwater into land, and includes porous paving, paver blocks, gravel, crushed stone, decks, patios, elevated structures, and other similar structures, surfaces, or improvements.

REDEVELOPMENT

The construction of structures or improvements on areas which previously contained structures or other improvements.

RIPARIAN ZONE

The land and vegetation within and directly adjacent to all surface waters, including, but not limited to, lakes, ponds, reservoirs, perennial and intermittent streams, up to and including their point of origin, such as seeps and springs, as shown the New Jersey Department of Environmental Protection's GIS hydrography coverages.

STEEP SLOPES

Any slope equal to or greater than 20% as measured over any minimum run of 10 feet.

THREATENED OR ENDANGERED SPECIES

Species designated as "threatened" or "endangered" on the list defining the status of indigenous nongame wildlife species of New Jersey, promulgated pursuant to the Endangered and Nongame Species Conservation Act, N.J.S.A. 23:2A-1 et seq., at N.J.A.C. 7:25-4.17. "Endangered species" also includes any species or subspecies of wildlife

appearing on any federal endangered species list pursuant to the Endangered Species Act of 1973, 16 U.S.C. § 1531 et seq.

TROUT MAINTENANCE WATER

A section of water designated as trout maintenance in the New Jersey Department of Environmental Protection's Surface Water Quality Standards at N.J.A.C. 7:9B.

TROUT PRODUCTION WATER

A section of water identified as trout production in the New Jersey Department of Environmental Protection's Surface Water Quality Standards at N.J.A.C. 7:9B.

- (3) Delineation of riparian buffer zones. The riparian zones and their widths within the Village of Ridgewood shall be as follows:
- (a) The riparian zone is 300 feet wide along both sides of any Category One water, and all upstream tributaries situated within the same HUC-14 watershed;
 - (b) The riparian zone is 150 feet wide along both sides of the following waters not identified in Subsection **H(3)(a)** above:
 - [1] Any trout production water and all upstream waters (including tributaries);
 - [2] Any trout maintenance water and all upstream waters (including tributaries) within one linear mile as measured along the length of the regulated water;
 - [3] Any segment of a water flowing through an area that contains documented habitat for a threatened or endangered species of plant or animal, which is critically dependent on the regulated water for survival, and all upstream waters (including tributaries) within one linear mile as measured along the length of the regulated water; and
 - [4] Any segment of a water flowing through an area that contains acid-producing soils.
 - (c) The riparian zone is 50 feet wide along both sides of all waters not subject to Subsection **H(3)(a)** or **(b)** above.
 - (d) The portion of the riparian zone that lies outside of a surface water is measured landward from the top of bank. If a discernible bank is not present along a surface water, the portion of the riparian zone outside the surface water is measured landward as follows:
 - [1] Along a linear fluvial water, such as a stream or swale, the riparian zone is measured landward of the feature's center line;
 - [2] Along a nonlinear fluvial water, such as a lake or pond, the riparian zone is measured landward of the normal water surface limit;
 - [3] Along an amorphously shaped feature, such as a wetland complex, through which a water flows but which lacks a definable channel, the riparian zone is measured landward of the feature's center line.
 - (e) For areas adjacent to surface water bodies for which the floodway has been delineated per the Flood Hazard Area Control Act rules at N.J.A.C. 7:13-3 or the state's adopted floodway delineations, the riparian zone shall cover the entire floodway area or the area described in Subsection **H(3)(a)** or **(b)** above, whichever area has the greatest extent.
 - (f) The applicant shall be responsible for the initial determination of the presence and extent of a riparian zone on a site and for identifying the area on any plan submitted to

the Village of Ridgewood. The applicant's initial determination shall be subject to review and approval by the Village Engineer, Construction Official, Planning Board, Board of Adjustment or Village Council, as applicable, or their appointed representatives, and, where required, by the New Jersey Department of Environmental Protection.

- (4) Applicability. A riparian zone is an overlay to the existing zoning districts. The provisions of the underlying district shall remain in full force except where the provisions of the riparian zone differ from the provisions of the underlying district, in which case the provision that is more restrictive shall apply. These provisions apply to land disturbances resulting from or related to any activity or use requiring a construction permit, zoning permit, soil movement permit, retaining wall permit, site plan, subdivision or variance or to any disturbance within or adjacent to a riparian zone. Compliance with the requirements of this subsection shall not relieve any person from the requirement to obtain any and all other approvals that may be required from other governmental agencies, including but not limited to the Department of Environmental Protection.
- (5) Regulated activities. No new construction, development, use, activity, encroachment, or structure shall take place in a riparian zone, and riparian zones shall be protected from avoidable disturbance, except as otherwise permitted below or as may be excepted in Subsection **H(6)** below, except as specifically authorized in this section.
 - (a) Uses permitted in riparian zones. Riparian zone areas shall remain in a natural condition or, if in a disturbed condition, including agricultural activities, at the time of adoption of these riparian zone regulations, may be restored to a natural condition. There shall be no clearing or cutting of trees and brush, except for removal of dead vegetation and pruning for reasons of public safety or for the replacement of invasive species with indigenous species. There shall be no altering of watercourses, dumping of trash, soil, dirt, fill, vegetative or other debris, regrading or construction. The following uses are permitted either by right or after review and approval by the Village and/or other governmental entities in riparian zones, as set forth elsewhere in this chapter or as otherwise required by law:
 - [1] Open space uses that are primarily passive in character shall be permitted by right to extend into a riparian zone, provided that near stream vegetation is preserved. Such uses include wildlife sanctuaries, nature preserves, forest preserves and similar uses operated for the protection and propagation of wildlife, but excluding structures. Such uses also include passive recreation areas of public and private parklands, including unpaved hiking, bicycle and bridle trails, provided that said trail have been stabilized with pervious materials.
 - [2] Fences, for which a permit has been issued by the Construction Code Official, to the extent required by applicable law, rule or regulation.
 - [3] Crossings by recreational trails, roads, railroads, stormwater lines, sanitary sewer lines, water lines and public utility transmission lines, provided that the land disturbance is the minimum required to accomplish the permitted use, subject to approval by the Zoning Officer, Planning Board or Board of Adjustment, as applicable, Village Council and/or other governmental agency having jurisdiction, provided that any applicable state permits are acquired, and provided that the area of the crossing is stabilized against significant erosion due to its use as a crossing.
 - [4] Stream bank stabilization or riparian reforestation or wetlands mitigation projects that have been approved by the New Jersey Department of Environmental Protection.
 - (b) Performance standards for riparian zones. The following conditions shall apply:

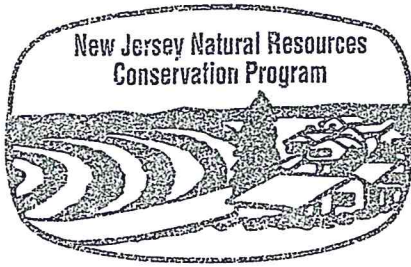
- [1] All development shall be designed to provide sufficient areas outside of the riparian zone to accommodate primary structures, any normal accessory uses appurtenant thereto, as well as all planned lawn areas.
 - [2] All stormwater shall be discharged outside of but may flow through a riparian zone and shall comply with the Standard for Off-Site Stability in the "Standards for Soil Erosion and Sediment Control in New Jersey," established under the Soil Erosion and Sediment Control Act, N.J.S.A. 4:24-39 et seq. (see N.J.A.C. 2:90-1.3). If stormwater discharged outside of and flowing through a riparian zone cannot comply with the Standard for Off-Site Stability, then the proposed stabilization measures must meet the requirements of the Flood Hazard Area Control Act rules at N.J.A.C. 7:13-10.2 et seq. and have an approved flood hazard area permit.
 - [3] When disturbance is permitted within a riparian zone, such disturbance shall be restored with the planting of vegetation. The restoration plantings shall be comprised of native and noninvasive tree and plant species to the maximum extent practicable.
- (c) Nonconforming structures and uses in riparian zones. Nonconforming structures and uses of land within the riparian zone are subject to the following requirements:
- [1] Legally existing nonconforming structures or uses may be continued, unless such uses or structures have been abandoned.
 - [2] Encroachment within the riparian zone shall only be allowed where previous development or disturbance has occurred and shall be in conformance with the Stormwater Management rules, N.J.A.C. 7:8, and the Flood Hazard Area Control Act rules, N.J.A.C. 7:13.
 - [3] Existing impervious cover shall not be increased within the riparian zone as a result of encroachments where previous development or disturbances have occurred.
- (d) Uses prohibited in riparian zones. Any use or activity not specifically authorized by this Subsection **H** shall be prohibited within the riparian zone. By way of example, the following activities and facilities are prohibited:
- [1] Removal or clear-cutting of trees and other vegetation or soil disturbance such as grading, except for selective vegetation removal for the purpose of stream or riparian area stabilization or restoration projects that require vegetation removal or grading prior to implementation.
 - [2] Storage of any hazardous or noxious materials.
 - [3] Use of fertilizers, pesticides, herbicides, and/or other chemicals not in compliance with Chapter **187** of the Village Code, in excess of prescribed industry standards or contrary to the recommendations of the Soil Conservation District.
 - [4] Roads or driveways, except where permitted in compliance with this Subsection **H**.
 - [5] Motor or wheeled vehicle traffic in any area, except as permitted by this Subsection **H**.
 - [6] Parking lots.
 - [7] Any type of permanent structure, except structures needed for a use permitted by this Subsection **H**.
 - [8]

New subsurface sewage disposal system areas. The expansion and replacement of existing subsurface sewage disposal system areas for existing uses is permitted.

[9] Residential grounds or lawns, except as otherwise permitted pursuant to this Subsection **H**.

(6) Exceptions. The disturbance of riparian buffer zones shall only be permitted for the following activities. Determination of the following exceptions shall be made by the reviewing agency, with the applicant having the burden of proof.

- (a) Redevelopment within the limits of impervious surfaces existing on the effective date of Ordinance No. 3225 (adopting this Subsection **H**);
- (b) New disturbance necessary to protect the public health, safety or welfare, such as but not limited to necessary linear development for access or utilities when no feasible alternative exists to such disturbance;
- (c) New disturbance necessary to provide an environmental benefit, such as but not limited to remediation of a contaminated site;
- (d) New disturbance necessary to prevent extraordinary hardship on the property owner peculiar to the property; or
- (e) New disturbance necessary to prevent extraordinary hardship, provided that the hardship was not created by the property owner. For purposes of interpreting and administering this provision, "extraordinary hardship" shall be construed to mean that the steep slope disturbance is necessary to provide a minimal economically viable use of the property based upon reasonable investment.



BERGEN COUNTY SOIL CONSERVATION DISTRICT

700 Kinderkamack Road, Suite 106
Oradell, New Jersey 07649
Telephone: 201-261-4407
Fax: 201-261-7573

September 23, 2020

RE: Retaining Wall Replacement
41 Kira Lane
Block 4104, Lot 3
Ridgewood, NJ
Our File #20-2589

Hopper Condominium Association Inc.
41 Kira Lane
Ridgewood, NJ 07450

Dear Owners:

Pursuant to N.J.S.A. 4:24-39 et seq., the N.J. Soil Erosion and Sediment Control Act, the Bergen County Soil Conservation District hereby certifies the Soil Erosion and Sediment Control Plan for the above referenced project, subject to the following:

1. That the applicant carries out all land disturbance activities in accordance with the Standards for Soil Erosion and Sediment Control in New Jersey as promulgated by the State Soil Conservation Committee.
2. The applicant must notify the District office, by mail, at least 48 hours prior to initial land disturbance.
3. The owner/applicant must obtain a District-issued Report of Compliance prior to issuance of any Certificate of Occupancy by the municipality. The District requires advance notice of at least one week for the issuance of a Report of Compliance.
4. Changes in the certified plan relating to, or that will effect land disturbance on the site, must be submitted to the District office for reevaluation and approval.
5. A copy of the certified plan and a copy of these provisions must be kept on the job site at all times.

Failure to comply with any of the above conditions may result in the issuance of a Stop Work Order.

This approval is limited to the soil erosion, sedimentation and related stormwater management controls specified in the plan. It is not authorization to engage in the proposed land use unless such has been previously approved by the municipality or other controlling agency.

Sincerely yours,

A handwritten signature in cursive script that reads "Geraldine Byrne".

Geraldine Byrne
District Supervisor



COUNTY OF BERGEN
DEPARTMENT OF PLANNING AND ENGINEERING
One Bergen County Plaza – 4th Floor • Hackensack, N.J. 07601
Tel. (201) 336-6446 • Fax (201) 336-6449

James J. Tedesco III
County Executive

Joseph A. Femia, P.E.
Director/ County Engineer

June 24, 2020

Conklin Associates
P.O. Box 282
29 Church Street
Ramsey, N.J. 07

Attn: T. Latincsics, P.E.

RE: Hopper Condominium Associates, Inc.
Retaining Wall Replacement
Sheets 2, 3 and 4 of 8 dated 11/28/16 and last revised 2/28/20
Block 4104, Lot 3
RIDGEWOOD

Dear Mr. Latincsics:

A review of the above-referenced plan indicates that no further action by us is required. If you have any questions regarding the above, please feel free to contact this office.

Sincerely,

Michael Varner
Principal Planner

c: Ridgewood Planning Board
Ridgewood Construction Official
David Rutherford, Esq.
Site Plan File



$$\begin{aligned}\text{Friction Loss} &= 1.08' / 100' \\ (1.08)(65) &= 7.02' \\ &\approx 7.0\end{aligned}$$

WE Series

Model 3885

SUBMERSIBLE EFFLUENT PUMPS



Wastewater

FEATURES

Impeller: Cast iron, semi-open, non-clog with pump-out vanes for mechanical seal protection. Balanced for smooth operation. Silicon bronze impeller available as an option.

Casing: Cast iron volute type for maximum efficiency. 2" NPT discharge.

Mechanical Seal: Silicon Carbide vs. Silicon Carbide sealing faces. Stainless steel metal parts, BUNA-N elastomers.

Shaft: Corrosion-resistant, stainless steel. Threaded design. Locknut on all models to guard against component damage on accidental reverse rotation.

Fasteners: 300 series stainless steel.

Capable of running dry without damage to components.

Designed for continuous operation when fully submerged.

EXTENDED WARRANTY AVAILABLE FOR RESIDENTIAL APPLICATIONS.

APPLICATIONS

Specifically designed for the following uses:

- Homes, Farms, Trailer Courts, Motels, Schools, Hospitals, Industry, Effluent Systems

SPECIFICATIONS

Pump

- Solids handling capabilities: ¾" maximum
- Discharge size: 2" NPT
- Capacities: up to 140 GPM
- Total heads: up to 128 feet TDH
- Temperature: 104°F (40°C) continuous, 140°F (60°C) intermittent.
- See order numbers on reverse side for specific HP, voltage, phase and RPM's available.

MOTORS

- Fully submerged in high-grade turbine oil for lubrication and efficient heat transfer.
- Class B insulation on ⅓ - 1½ HP models.
- Class F insulation on 2 HP models.

Single phase (60 Hz):

- Capacitor start motors for maximum starting torque.
- Built-in overload with automatic reset.

- SJTOW or STOW severe duty oil and water resistant power cords.
- ⅓ - 1 HP models have NEMA three prong grounding plugs.
- 1½ HP and larger units have bare lead cord ends.

Three phase (60 Hz):

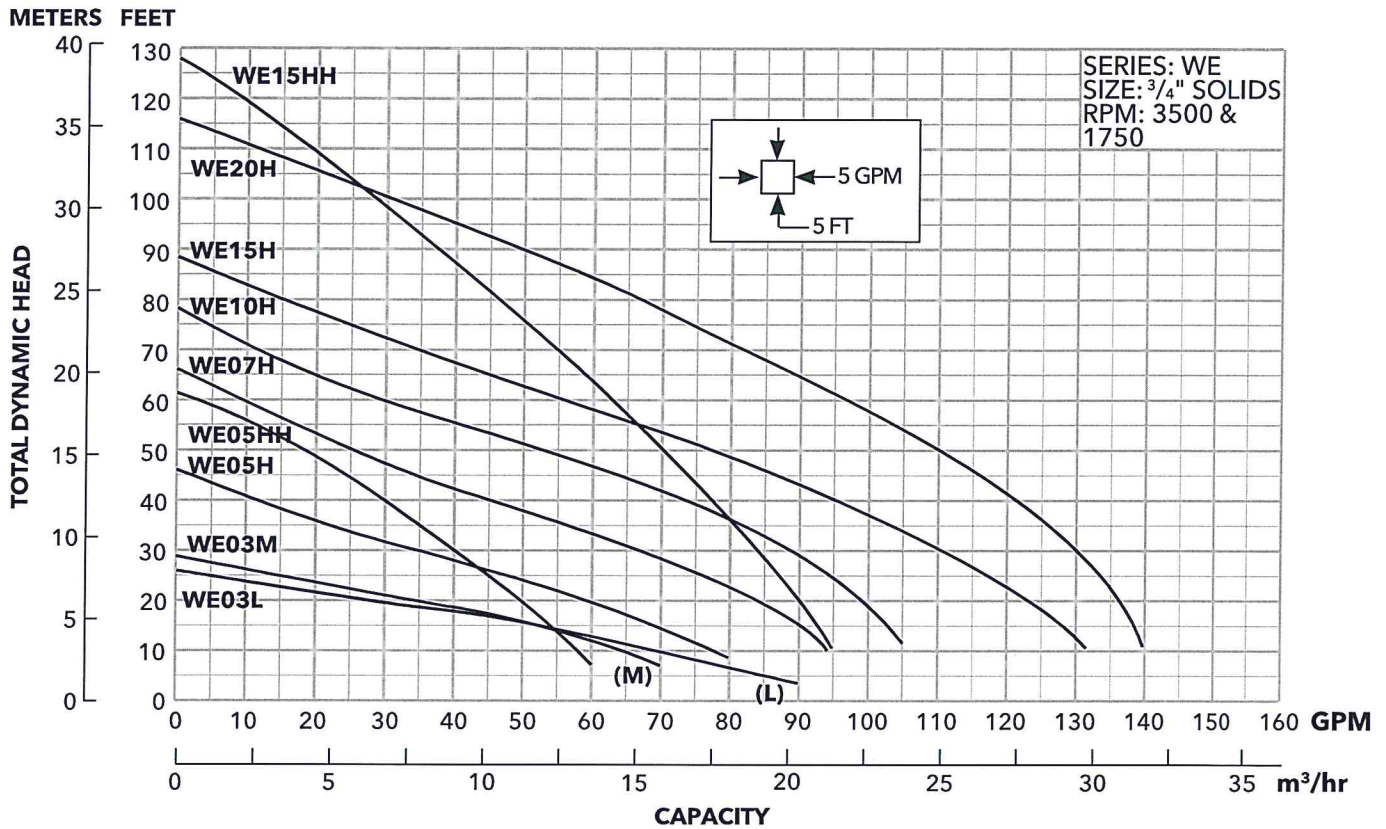
- Class 10 overload protection must be provided in separately ordered starter unit.
- STOW power cords all have bare lead cord ends.
- Designed for Continuous Operation: Pump ratings are within the motor manufacturer's recommended working limits, can be operated continuously without damage when fully submerged.
- Bearings: Upper and lower heavy duty ball bearing construction.
- Power Cable: Severe duty rated, oil and water resistant. Epoxy seal on motor end provides secondary moisture barrier in case of outer jacket damage and to prevent oil wicking. Standard cord is 20'. Optional lengths are available.
- O-ring: Assures positive sealing against contaminants and oil leakage.

AGENCY LISTINGS



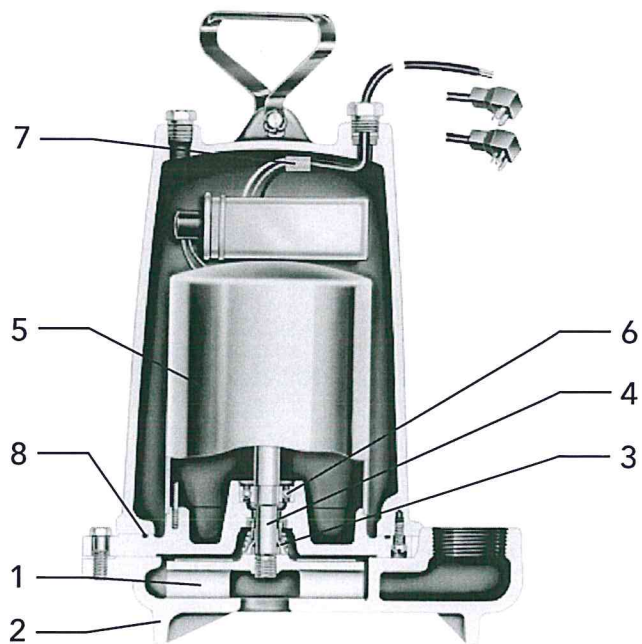
Tested to UL 778 and CSA 22.2 108 Standards
By Canadian Standards Association File #LR38549

Wastewater



COMPONENTS

Item No.	Description
1	Impeller
2	Casing
3	Mechanical Seal
4	Motor Shaft
5	Motor
6	Ball Bearings
7	Power Cable
8	Casing O-Ring



Wastewater

MODELS

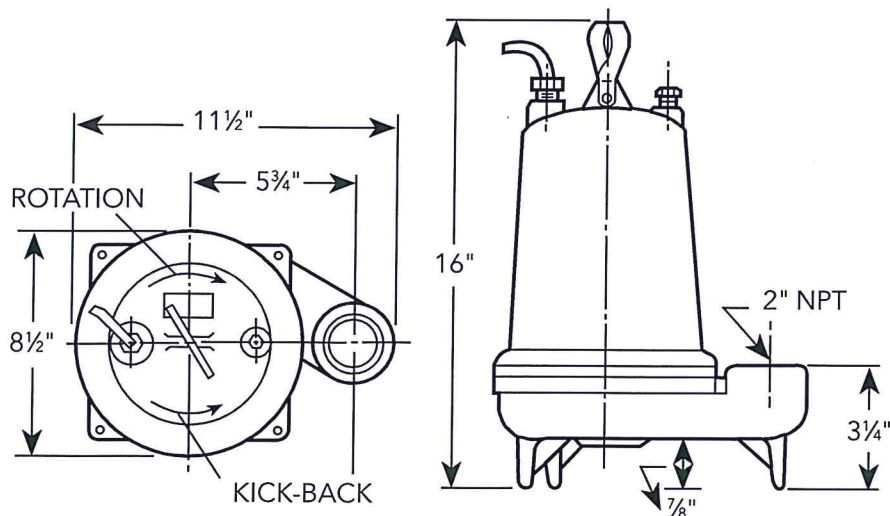
Order Number	HP	Phase	Volts	RPM	Impeller Diameter (in.)	Maximum Amps	Locked Rotor Amps	KVA Code	Full Load Efficiency %	Resistance		Power Cable Size	Weight (lbs.)	
										Start	Line-Line			
WE0311L	0.33	1	115	1750	5.38	10.7	30.0	M	54	11.9	1.7	16/3	56	
WE0318L			208			6.8	19.5	K	51	9.1	4.2			
WE0312L			230			4.9	14.1	L	53	14.5	8.0			
WE0311M			115			10.7	30.0	M	54	11.9	1.7			
WE0318M			208			6.8	19.5	K	51	9.1	4.2			
WE0312M			230			4.9	14.1	L	53	14.5	8.0			
WE0511H	0.5	1	115	3450	3.56	14.5	46.0	M	54	7.5	1.0	14/3	60	
WE0518H			208			8.1	31.0	K	68	9.7	2.4	16/3		
WE0512H			230			7.3	34.5	M	53	9.6	4.0			
WE0538H		3	200			4.9	22.6	R	68	NA	3.8	14/4		
WE0532H			230			3.3	18.8	R	70	NA	5.8			
WE0534H			460			1.7	9.4	R	70	NA	23.2			
WE0537H			575		1.4	7.5	R	62	NA	35.3				
WE0511HH		1	115		3.88	14.5	46.0	M	54	7.5	1.0	14/3		14/4
WE0518HH			208			8.1	31.0	K	68	9.7	2.4	16/3		
WE0512HH			230			7.3	34.5	M	53	9.6	4.0			
WE0538HH		3	200			4.9	22.6	R	68	NA	3.8	14/4		
WE0532HH			230			3.6	18.8	R	70	NA	5.8			
WE0534HH			460			1.8	9.4	R	70	NA	23.2			
WE0537HH			575		1.5	7.5	R	62	NA	35.3				
WE0718H	0.75	1	208	4.06	11.0	31.0	K	68	9.7	2.4	14/3	70		
WE0712H			230		10.0	27.5	J	65	12.2	2.7				
WE0738H		3	200		6.2	20.6	L	64	NA	5.7	14/4			
WE0732H			230		5.4	15.7	K	68	NA	8.6				
WE0734H			460		2.7	7.9	K	68	NA	34.2				
WE0737H			575		2.2	9.9	L	78	NA	26.5				
WE1018H	1	1	208	4.44	14.0	59.0	K	68	9.3	1.1	14/3	80		
WE1012H			230		12.5	36.2	J	69	10.3	2.1				
WE1038H		3	200		8.1	37.6	M	77	NA	2.7	14/4			
WE1032H			230		7.0	24.1	L	79	NA	4.1				
WE1034H			460		3.5	12.1	L	79	NA	16.2				
WE1037H			575		2.8	9.9	L	78	NA	26.5				
WE1518H	1.5	1	208	4.56	17.5	59.0	K	68	9.3	1.1	14/3	80		
WE1512H			230		15.7	50.0	H	68	11.3	1.6				
WE1538H		3	200		10.6	40.6	K	79	NA	1.9	14/4			
WE1532H			230		9.2	31.7	K	78	NA	2.9				
WE1534H			460		4.6	15.9	K	78	NA	11.4				
WE1537H			575		3.7	13.1	K	75	NA	16.9				
WE1518HH		1	208	5.50	17.5	59.0	K	68	9.3	1.1	14/3			
WE1512HH			230		15.7	50.0	H	68	11.3	1.6				
WE1538HH		3	200		10.6	40.6	K	79	NA	1.9	14/4			
WE1532HH			230		9.2	31.7	K	78	NA	2.9				
WE1534HH			460		4.6	15.9	K	78	NA	11.4				
WE1537HH			575		3.7	13.1	K	75	NA	16.9				
WE2012H	2	1	230	5.38	18.0	49.6	F	78	3.2	1.2	14/3	83		
WE2038H		3	200		12.0	42.4	K	78	NA	1.7	14/4			
WE2032H			230		11.6	42.4	K	78	NA	1.7				
WE2034H			460		5.8	21.2	K	78	NA	6.6				
WE2037H			575		4.7	16.3	L	78	NA	10.5				

PERFORMANCE RATINGS (gallons per minute)

Order No.		WE-03L	WE-03M	WE-05H	WE-07H	WE-10H	WE-15H	WE05HH	WE15HH	WE-20H
Total Head Feet of Water	HP	⅓	⅓	½	¾	1	1½	½	1½	2
	RPM	1750	1750	3500	3500	3500	3500	3500	3500	3500
	5	86	-	-	-	-	-	-	-	-
	10	70	63	78	94	-	-	58	95	-
	15	52	52	70	90	103	128	53	93	138
	20	27	35	60	83	98	123	49	90	136
	25	5	15	48	76	94	117	45	87	133
	30	-	-	35	67	88	110	40	83	130
	35	-	-	22	57	82	103	35	80	126
	40	-	-	-	45	74	95	30	77	121
	45	-	-	-	35	64	86	25	74	116
	50	-	-	-	25	53	77	-	70	110
	55	-	-	-	-	40	67	-	66	103
	60	-	-	-	-	30	56	-	63	96
	65	-	-	-	-	20	45	-	58	89
	70	-	-	-	-	-	35	-	55	81
	75	-	-	-	-	-	25	-	51	74
	80	-	-	-	-	-	-	-	47	66
	90	-	-	-	-	-	-	-	37	49
	100	-	-	-	-	-	-	-	28	30

DIMENSIONS

(All dimensions are in inches. Do not use for construction purposes.)



STANDARD PANEL OPTIONS

Pump Order Number	K Series		Boulay Series	
	Simplex	Duplex	Simplex	Duplex
WE0311L	KS19020WF	KD19020WF	S10020	D10020
WE0318L	KS19020WF	KD19020WF	S10020	D10020
WE0312L	KS19020WF	KD19020WF	S10020	D10020
WE0311M	KS19020WF	KD19020WF	S10020	D10020
WE0318M	KS19020WF	KD19020WF	S10020	D10020
WE0312M	KS19020WF	KD19020WF	S10020	D10020
WE0511H	KS19020WF	KD19020WF	S10020	D10020
WE0518H	KS19020WF	KD19020WF	S10020	D10020
WE0512H	KS19020WF	KD19020WF	S10020	D10020
WE0538H	KS31255WF	KD31255WF	S34063	D34063
WE0532H	KS31255WF	KD31255WF	S32540	D32540
WE0534H	KS31255WF	KD31255WF	S31625	D31625
WE0537H	N/A	N/A	S31625	D31625
WE0511HH	KS19020WF	KD19020WF	S10020	D10020
WE0518HH	KS19020WF	KD19020WF	S10020	D10020
WE0512HH	KS19020WF	KD19020WF	S10020	D10020
WE0538HH	KS31255WF	KD31255WF	S34063	D34063
WE0532HH	KS31255WF	KD31255WF	S32540	D32540
WE0534HH	KS31255WF	KD31255WF	S31625	D31625
WE0537HH	N/A	N/A	S31625	D31625
WE0718H	KS19020WF	KD19020WF	S10020	D10020
WE0712H	KS19020WF	KD19020WF	S10020	D10020
WE0738H	KS34518WF	KD34518WF	S36310	D36310
WE0732H	KS34518WF	KD34518WF	S34063	D34063
WE0734H	KS31255WF	KD31255WF	S32540	D32540
WE0737H	N/A	N/A	S31625	D31625
WE1018H	KS19020WF	KD19020WF	S10020	D10020
WE1012H	KS19020WF	KD19020WF	S10020	D10020
WE1038H	KS34518WF	KD34518WF	S36310	D36310
WE1032H	KS34518WF	KD34518WF	S36310	D36310
WE1034H	KS34518WF	KD34518WF	S32540	D32540
WE1037H	N/A	N/A	S32540	D32540
WE1518H	KS19020WF	KD19020WF	S10020	D10020
WE1512H	KS19020WF	KD19020WF	S10020	D10020
WE1538H	KS34518WF	KD34518WF	S31016	D31016
WE1532H	KS34518WF	KD34518WF	S36310	D36310
WE1534H	KS34518WF	KD34518WF	S34063	D34063
WE1537H	N/A	N/A	S32540	D32540
WE1518HH	KS19020WF	KD19020WF	S10020	D10020
WE1512HH	KS19020WF	KD19020WF	S10020	D10020
WE1538HH	KS34518WF	KD34518WF	S31016	D31016
WE1532HH	KS34518WF	KD34518WF	S36310	D36310
WE1534HH	KS34518WF	KD34518WF	S34063	D34063
WE1537HH	N/A	N/A	S32540	D32540
WE2012H	KS19020WF	KD19020WF	S10020	D10020
WE2038H	KS34518WF	KD34518WF	S31016	D31016
WE2032H	KS34518WF	KD34518WF	S31016	D31016
WE2034H	KS34518WF	KD34518WF	S34063	D34063
WE2037H	N/A	N/A	S34063	D34063

Note: Boulay Series part numbers have additional available features, see page 7 for more information.

Note: K Series panel part numbers include floats, to order without float switches, remove the 'WF' suffix. Boulay Series panels do not include float switches.