

**CITY OF BEVERLY**  
**RULES AND REGULATIONS**

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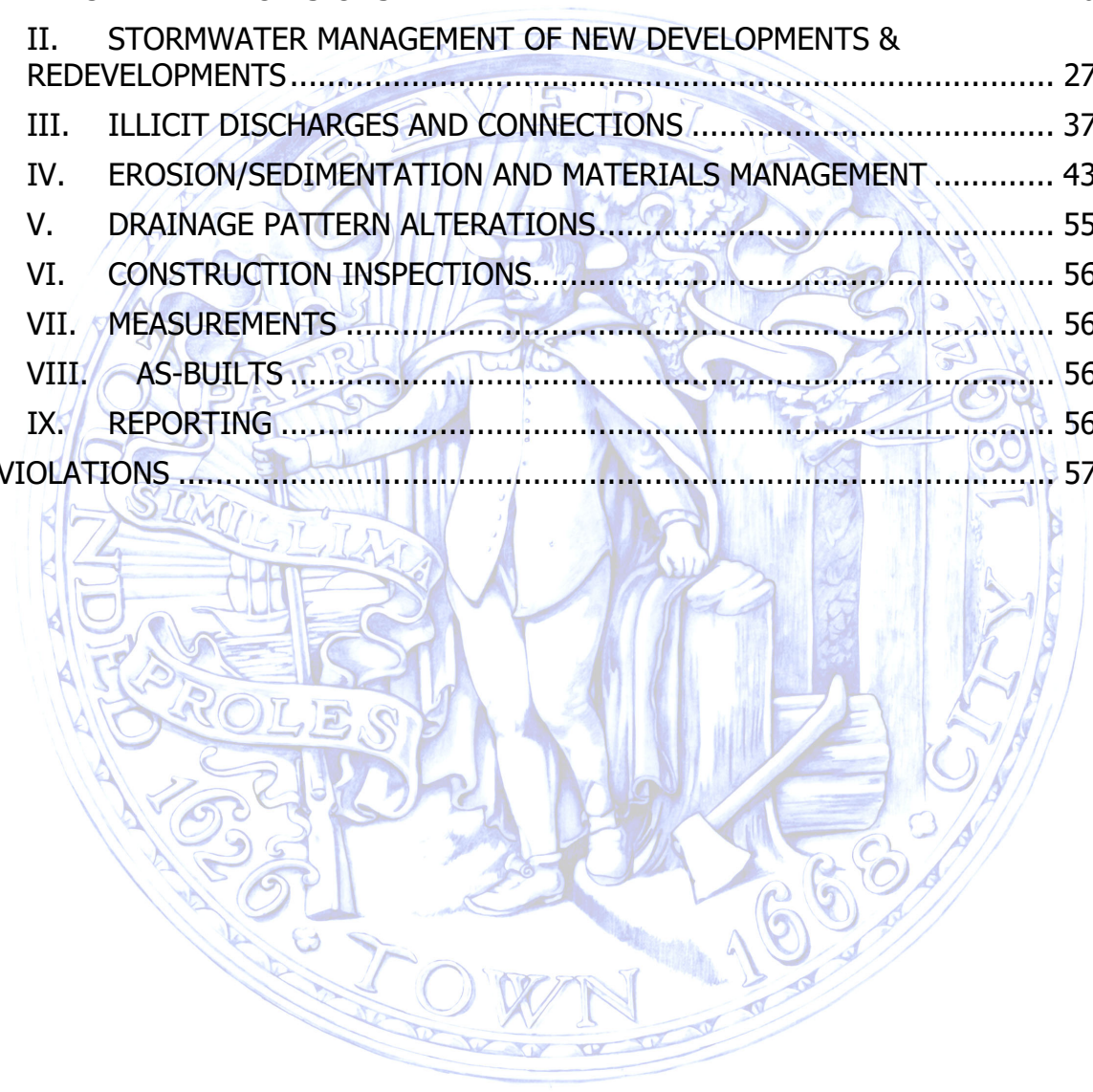
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GENERAL REQUIREMENTS

Any and all work within the City of Beverly that requires an engineered plan on City or Private property is subject to the following requirements.

The property owner and/or Developer is responsible for any and all design, permit applications, construction related activities, proper (timely) communication with City Departments, utility coordination, construction related inspections, long-term operations, annual maintenance inspections, system maintenance, system repairs and all required reporting to the City of Beverly Engineering Department.

**I. REQUIREMENTS FOR PERMITTING AND APPROVALS**

- Engineered plan stamped by a Massachusetts licensed Professional Engineer
- Existing and Proposed private and public utilities shown on plan
- Pre and Post Condition topography
- Drainage Calculations, as necessary
- An original export direct from AutoCAD in PDF format in addition to stamped scanned document
- Revision dates, if applicable
- Parcel ID, Street Address, Property Owner name and contact information

The City of Beverly Engineering Department will review applications for compliance with City Standards and Rules/Regulations outlined herein and make appropriate comments and requirements, as necessary.

The Engineering Department reserves the right to make Conditional Approvals if full compliance cannot be met at the Department's sole discretion.

Construction Oversight Engineer (see details below) must be identified in the permit application.

**II. GENERAL REQUIREMENTS FOR CONSTRUCTION:**

All site work during construction including, but not limited to: erosion control, grading, water, sewer and drainage utility infrastructure (mains and services) is required to have all direct oversight, inspections, measurements, as-built documentation and periodic reporting performed by the Engineer of Record or a Construction Oversight Engineer (COE) hired by the Owner/Developer. This COE must be identified in writing to the Engineering Department by the Owner/Developer at the time of Design Approval, if known, but no later than at

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the time of Pre-Construction Notification (PCN). If a change is made in the COE between the time of Design Approval and the PCN, such change should be made in writing to the Engineering Department.

City of Beverly Engineering Department will determine required critical inspections, measurements, as-built documentation and reporting based upon proposed work and any conditional approvals. It is the Engineering Department's sole responsibility to audit any work associated with construction related activities, but it is the Owner/Developer's direct responsibility to manage, oversee and ensure daily on-site Project Management and compliance.

Construction Phasing and Staging diagrams may be required for large site development projects with long durations. Any projects requiring the use of City sidewalks or roadways for long term staging will be required to submit sketches showing appropriate pedestrian routing for Engineering Department and Police Department approval.

For Projects located within the Downtown Parking District, fees apply for the use of City parking spaces during Construction. Fees differ per parking zone. Please refer to [www.ParkBeverly.com/home](http://www.ParkBeverly.com/home) for parking zone map.

Blue Zone (public parking lots) Parking	\$4/space/day
Purple Zone (River Street and Margin Street) Parking	\$8/space/day
Green Zone Parking	\$12/space/day

These fees will be paid through the Engineering Department and will be enforced by the City's Parking Enforcement personnel. For long-term projects, fees can be paid on a monthly basis. For short-term (less than 6 month duration), fees should be paid weekly. Fees unpaid past the due date are subject to violations on a per-day basis.

**III. PRE-CONSTRUCTION NOTIFICATION AND PROCEDURE**

A pre-construction notification must be provided to the Engineering Department a minimum of one week prior to the commencement of any site work activities. An on-site pre-construction meeting must be scheduled at the time of this notification to include the Engineering Department, Owner/Developer and Owner/Developer's Construction Oversight Engineer. When applicable, erosion control methods must be installed prior to this meeting. Property lines and any wetland/easement/ROW/boundaries and/or encroachments of importance shall be flagged and marked in the field, prior to this meeting.

**IV. CRITICAL INSPECTIONS**



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Owner/Developer Responsible for scheduling following inspections at appropriate times with Engineering Department and their Construction Oversight Engineer

- Pre-Construction Meeting/Project Kick-off
- Erosion Control Initial Sign-Off (At the time of Pre-Construction Meeting)
- Property boundaries (At the time of the Pre-Construction Meeting)
- Wetland Flag Sign-Off (Conservation Commission coordination when required)
- Utility work (See Water System, Sewer System and Stormwater System Regulations herein for details)
- Erosion Control Maintenance inspections (periodic reporting)
- Close-out

**V. CRITICAL MEASUREMENTS**

- Sitewide spot topography/grade/elevation verification in NAVD 88 to ensure compliance with proposed plans
- Site layout/Property boundaries in accordance with approved monumentation
- Utility locations/As-builts (See Water System, Sewer System and Stormwater System Regulations herein for details)
- Foundation As-Built (Per Municipal Inspection Department requirements)

**VI. AS-BUILTS**

As-builts must be stamped by Owner/Developer's Construction Oversight Engineer or the Engineer of Record. They should include at a minimum the below information

- Property boundaries/Easements/ROWs
- Building footprints
- Underground utilities (See Water System, Sewer System and Stormwater System Regulations herein for details)
- Wetland delineation
- Final topography
- Appropriate labelling including but not limited to Street names, Parcel ID, property addresses, property owners, utility demarcations, map legend, North arrow, title block, revision dates (if applicable).
- CAD drawings must be provided in .dwg format. Files shall be geo-referenced using the State of Massachusetts NAD1983 coordinate system.

**VII. REPORTING**

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**For Projects of a duration of one year or less**

- Monthly Reports
  - Erosion Control Inspection and Maintenance logs
  - Drainage system inspections after significant storm events (see details under Stormwater System Regulations)
  - Significant milestone/progress completed in time period
  - Any relevant utility, site grading and other pertinent photographic documentation
  - Interim utility tie-cards
  - Upcoming schedule/milestones
  - Work to Complete (percentage complete)
  - Anticipated upcoming City approvals/sign-offs

**For Projects of a duration of one year or greater do not require monthly reports, however, will require quarterly and annual reports**

- Quarterly reports include all information listed above (monthly reports for short term projects)
- Annual Reports
  - Bond reduction requests, if applicable (See Planning Board Regulations)
  - Stormwater maintenance reports (see details under Stormwater System Regulations)
  - Any completed As-Built drafts to date
  - Updated insurance Certificates from Contractor/Developer
  - Digging Contractor License renewal through Engineering Department

**VIII. NON-COMPLIANCE**

If at any time the Engineering Department finds the work on site to be in non-compliance or in violation of State or Local safety and/or State, Local or Federal environmental considerations, the Engineering Department's representative may issue a stop work order which will remain in effect until appropriate mitigation measure can be determined.

If and when applicable, the Engineering Department reserves its right to issue fines/citations.



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**RULES AND REGULATIONS – LICENSING REQUIREMENTS**

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LICENSING REQUIREMENTS

**I. LICENSED DIGGING CONTRACTOR**

- a) A **CERTIFICATE OF INSURANCE** naming the City of Beverly as an additional party insured as their interest may appear, with a combined single limit of \$1,000,000 comprehensive general liability insurance. Additionally, XCU coverage and worker’s compensation must be included and listed on the insurance certificate. The insurance presented to the City must be current. Contractors are responsible for keeping the City informed of policy changes or renewals. Certificates of insurance are to be presented to the City upon license renewal. Failure to present current certificates of insurance could result in denial of licensure.
- b) **THREE (3) LETTERS OF REFERENCE** from cities or towns where similar work has been performed. References must include a brief description of services that were performed as well as contact information (name, position, phone #).

The License is an annual license. It requires all new Contractors a **LICENSING FEE OF \$250.00** and all returning Contractors a **LICENSING FEE OF \$150.00** payable to the City of Beverly. Contractors are responsible for renewing their license. All Digging Contractor’s licenses expire on December 31.

- Certify that they have read, understand and agree to all City of Beverly Engineering Department Rules and Regulations as outlined herein
- License is valid for a Calendar year (Jan-Dec)
- An up to date COI is required at license renewal. No additional references are required.
- Any work requiring earthwork on City or Private Property requires an up to date Digging Contractor License

**II. CONSTRUCTION OVERSIGHT ENGINEER**

**THERE IS NO FEE TO BECOME A CITY OF BEVERLY LICENSED CONSTRUCTION OVERSIGHT ENGINEER**

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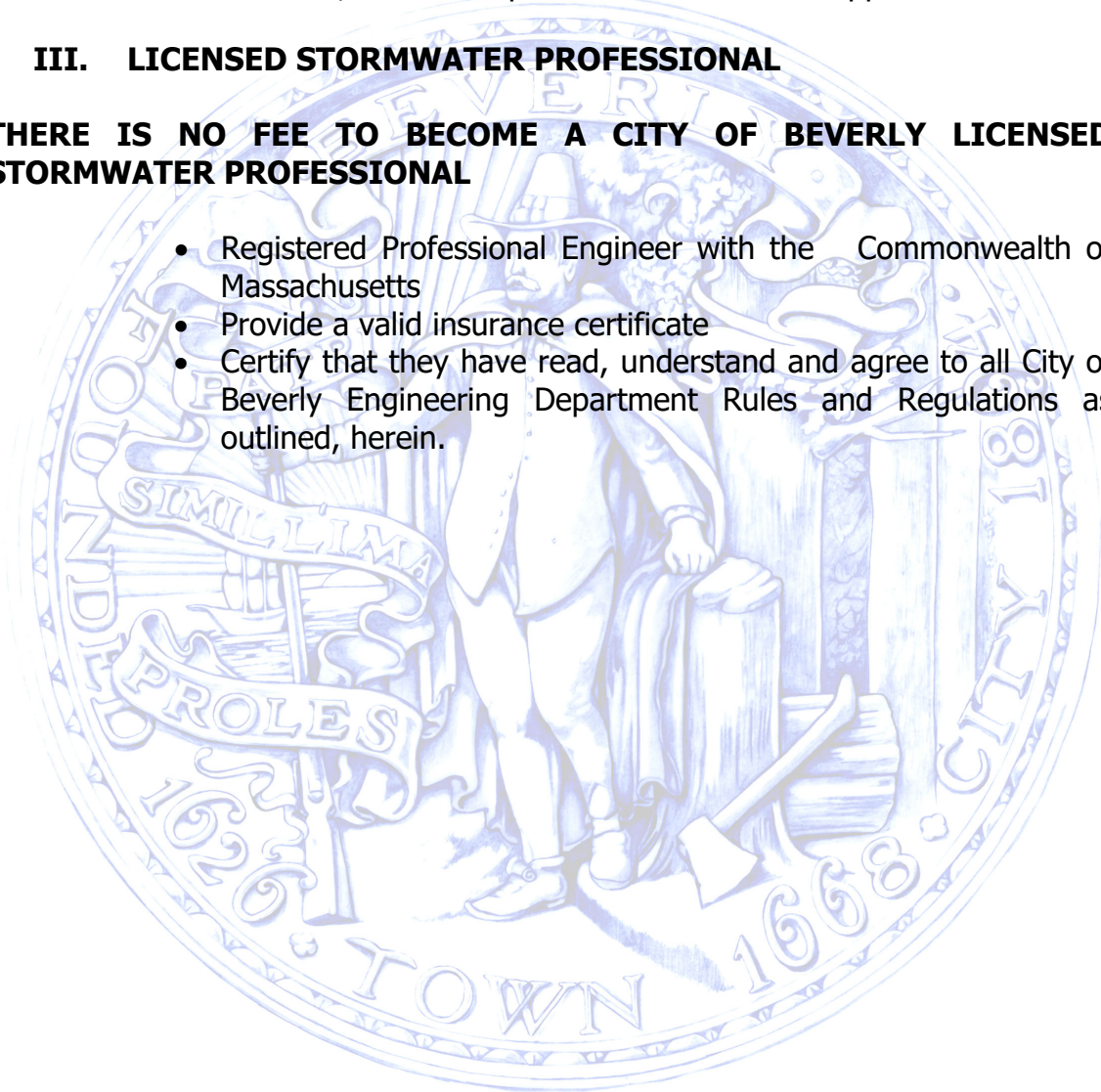
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- Registered Professional Engineer with the Commonwealth of Massachusetts
- Certify that they have read, understand and agree to all City of Beverly Engineering Department Rules and Regulations as outlined herein
- It is encouraged that the Design Engineer of Record doubles as the Construction Oversight Engineer to ensure consistency, however, it is not required or a condition of approval.

**III. LICENSED STORMWATER PROFESSIONAL**

**THERE IS NO FEE TO BECOME A CITY OF BEVERLY LICENSED STORMWATER PROFESSIONAL**

- Registered Professional Engineer with the Commonwealth of Massachusetts
- Provide a valid insurance certificate
- Certify that they have read, understand and agree to all City of Beverly Engineering Department Rules and Regulations as outlined, herein.





**CITY OF BEVERLY**  
**RULES AND REGULATIONS – OPENING OF STREETS & SIDEWALKS**

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STREET OPENING REGULATIONS

**ANY PERSON WISHING TO EXCAVATE IN ANY STREET OR SIDEWALK IN THE CITY OF BEVERLY MUST OBTAIN A STREET OPENING PERMIT AT THE ENGINEERING OFFICE IN CITY HALL BEFORE WORK IS BEGUN.**

To obtain a Digging permit:

- 1) **CONTRACTORS MUST BE** on the list of licensed excavators in Beverly.
- 2) The applicant must at the time of application **PRESENT A VALID DIG SAFE NUMBER.**
- 3) A **PERMIT FEE OF \$100.00** payable to the City of Beverly is required to obtain a street opening permit. Each street opening requires its own individual street opening permit fee. Street opening permits are valid for one (1) month from the date the permit is issued. Street opening permits are void after that period. An additional permit must then be issued to continue work.
- 4) The applicant **MUST SUBMIT A CHECK** payable to the City of Beverly **FOR \$1000.00 OR \$10.00 PER LINEAR FOOT OF TRENCH**, whichever is greater for each opening. Upon completion of the work and proper patching, a portion of the money will be released. The remainder will be released upon final proper patch according to our specifications. This is commonly referred to as a Street Escrow payment.
- 5) Excavation in a moratorium road, or excavation in a street with a PCI (Pavement Condition Index) of 85 through 100, as designated by the City of Beverly Pavement Maintenance System, will be subject to a mandatory surcharge using the following fee schedule (per utility cut):

<u>Road Surface Age:</u>	<u>PCI:</u>	<u>Associated Fee</u>
0-12 Months Old:	100-98	\$5000
13-24 Months Old:	97-95	\$4000
15-36 Months Old:	94-92	\$3000
37-48 Months Old:	91-89	\$2000
49-60 Months Old:	88-86	\$1000
49-60 Months Old:	85-84	\$500
49-60 Months Old:	83-82	\$400
49-60 Months Old:	81-80	\$300
60 Months or Older:	< 80	Standard Permit Fee

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**RULES AND REGULATIONS – OPENING OF STREETS & SIDEWALKS**

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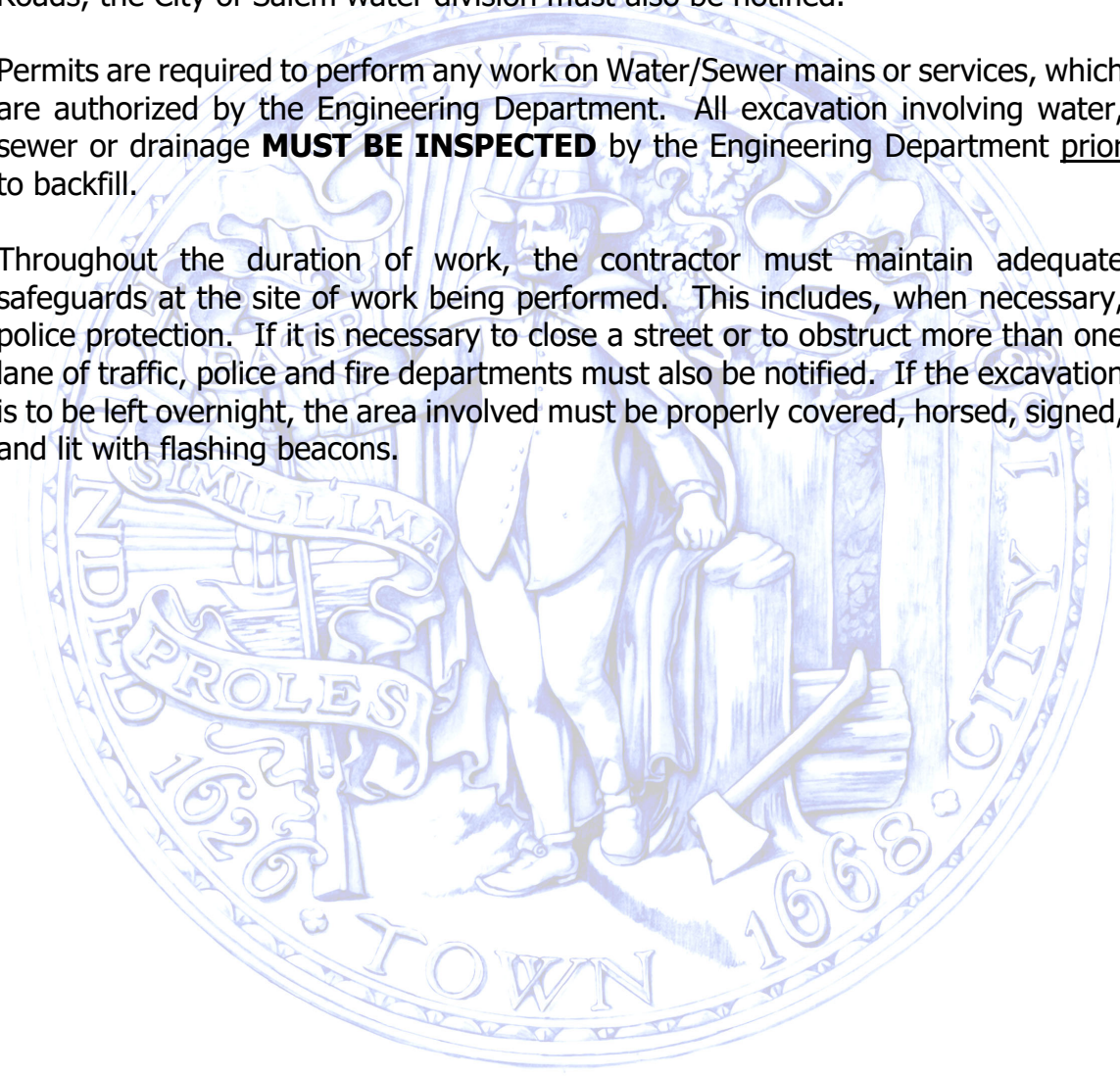
The greater amount shall be applied in all cases. For example, a road that is 15-36 months old with a PCI of 97-95 shall be subject to a \$4000 surcharge. **This surcharge is non-refundable.**

**Further Requirements and Conditions**

In the case of excavation in Rantoul St, Gloucester Crossing or Sohier and Tozer Roads, the City of Salem water division must also be notified.

Permits are required to perform any work on Water/Sewer mains or services, which are authorized by the Engineering Department. All excavation involving water, sewer or drainage **MUST BE INSPECTED** by the Engineering Department prior to backfill.

Throughout the duration of work, the contractor must maintain adequate safeguards at the site of work being performed. This includes, when necessary, police protection. If it is necessary to close a street or to obstruct more than one lane of traffic, police and fire departments must also be notified. If the excavation is to be left overnight, the area involved must be properly covered, horsed, signed, and lit with flashing beacons.





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**RULES AND REGULATIONS – PAVING REQUIREMENTS**

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PAVEMENT AND SIDEWALK RESTORATION REGULATIONS

**I. ROADWAYS**

Whenever trenches are cut in the traveled way, the surface shall be cut in straight lines. An acceptable method includes using a concrete/asphalt saw to cut the surface to its full depth including the reinforcing steel on concrete roadways. It is expected that the trench shall be overcut by 12-inches all around the excavated area. **The cutting operation shall not be done with a backhoe, gradall or any type or ripping equipment.**

Lyn-Pac or a well-graded gravelly soil shall be used to backfill the trench. It shall be installed in 12-inch lifts and compacted to 95% by using a Plate Compactor, Jumping Jack Compactor, or a Roller Type Compactor.

After the excavation work is completed and backfilled, it must be properly puddled or jetted. Water used for puddling or jetting must not be obtained from the Beverly water system unless prior arrangements have been made with the Engineering Department, hydrant meters issued, and specific details are addressed on a trench-by-trench basis. Immediately after jetting the disturbed area must be paved with a minimum of three inches of hot mix binder.

The permanent patch must be a minimum of 4½ inches thick containing 3 inches of binder mix and a 1½ inch finish course consisting of Class I Bituminous Concrete Pavement per current Mass Highway specifications. All joints involved in the patch, whether in the street or in the sidewalk, must be repaired by using the infra-red heat patching technique. The sides shall be tacked three times, initially, during and after.

A second acceptable permanent patch method shall be to pave binder flush to grade at a minimum of 4½ inches thick. The trench shall then be ground down at a depth of 2 inches at a minimum width of 6 feet. The trench shall then be paved with 2 inches of Class I Bituminous Concrete Pavement per current Mass Highway specifications.

If at any time the Engineering Department feels that the patch has not been adequately maintained, the contractor will be notified and shall have forty-eight (48) hours to repair the patch. If it has not been repaired after this time period, the Director of Public Services will complete the repairs from the cash deposited with the City Treasurer as specified in the City Ordinance.

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If it becomes necessary to open the roadway surface in a larger area than specified in this permit then the contractor shall apply for an additional permit to cover this project.

All utility companies whose services are located within or adjacent to the proposed installation areas shall be notified in writing of the proposed installation at least 48 hours prior to the start of any excavation in said areas. This is independent of the required dig safe notification.

Any bound or property marker shall not be removed or disturbed. If it becomes necessary to remove and reset any highway bounds then the contractor shall hire a Registered Professional Land Surveyor to perform this work. It shall be the responsibility of this land surveyor to submit to the Engineering Office a statement in writing and a plan containing his stamp and signature showing that said work has been performed.

**II. SIDEWALKS**

If the sidewalk area is disturbed, it shall be restored full width, in kind a minimum of 5 feet beyond any disturbed area.

After the subgrade has been prepared, a foundation of gravel shall be placed upon it. After being mechanically compacted thoroughly, the foundation shall be at least 8 inches in thickness and parallel to the proposed surface of the walk.

Where work is to be done on concrete sidewalks, all sections disturbed along the entire length of trench shall be removed to its full width, and shall be replaced with four inches of 3,500 pounds per square inch concrete (6 inches with wire reinforcement at driveways). All concrete shall be treated with a curing compound after it has set.

If a sidewalk is disturbed at any intersection or designated crosswalk area the appropriate ADA compliant curb cut shall be installed. For further information please see the links below:

[http://www.mass.gov/Eeops/docs/dps/aab\\_reqs/521021.pdf](http://www.mass.gov/Eeops/docs/dps/aab_reqs/521021.pdf)

[http://www.mass.gov/Eeops/docs/dps/aab\\_reqs/521022.pdf](http://www.mass.gov/Eeops/docs/dps/aab_reqs/521022.pdf)



**CITY OF BEVERLY**  
**RULES AND REGULATIONS – WATER SYSTEM**

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WATER SYSTEM REGULATIONS

- A **PERMIT FEE of \$100.00** payable to the City of Beverly is required to obtain a water permit. A **DIG PERMIT FEE of \$100.00** also accompanies this work, in most cases.
- **NO WATER PERMITS** will be issued to persons who ARE NOT licensed Digging Contractors in the City of Beverly.
- **NO WATER PERMITS** will be issued to any contractor or excavator who has any outstanding inspections, as-built drawings, or for any reason in the best interests of the City of Beverly as determined by the City Engineer or his agent.
- **ALL NEW DOMESTIC AND FIRE PROTECTION SERVICES** are subject to Water Demand Fees as outlined by the City of Beverly in Ch. 282 Section 282-13 subsection C entitled Demand Charge of the City of Beverly 2016 Code of Ordinances. Per schedule of charges, no credits are given for existing line size.

**I. MAINS**

- **WATER MAIN CONSTRUCTION** must be Class 52 cement lined ductile iron pipe with metal wedges placed in joints for continuity.
- **DUCTILE IRON MAINS AND SERVICES** shall be domestically manufactured in the United States. Pipe shall be cast, cleaned, lined, zinc coated, fabricated, tested, and certified at a US manufacturing facility.
- **PLASTIC MAIN CONSTRUCTION** shall only be considered in certain soil conditions at the discretion of the City of Beverly on a case by case basis.
- **WATER MAIN CONSTRUCTION** shall be professionally pressure tested and chlorinated and a test report submitted to the Engineering Department before the main can be put in service. Test reports shall include pressure test and bacterial test.

**II. DOMESTIC SERVICES**

- **DOMESTIC WATER SERVICES** from 1" to 2" must be entirely Type "K" copper. 4" and larger shall be Class 52 CLDI. Plastic pipe may be considered on a case by case basis and shall be at a minimum, pressure

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**RULES AND REGULATIONS – WATER SYSTEM**

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rated for 200 psi with stainless steel sleeves at end, brass compression fittings and tracer wire installed in the trench.

- **ALL ABANDONED OR DISCONTINUED SERVICES** shall be shut off and capped at the main at the expense of the owner.
- **THE CITY OF BEVERLY WATER DEPARTMENT** will make taps up to and including two inches (2") into water mains or ream the existing corporation. The Contractor shall provide a trench excavated to a width of at least four feet (4') to allow the tap to be made. The fee is **\$500.00** per tap.
- **ALL NEW DOMESTIC SERVICES** are subject to a water demand fee based on line size at the building foundation, as outlined in the 2016 City of Beverly Code of Ordinances Ch. 282, Section 282-13, subsection C entitled "Demand Charge" found on the City's website here <https://www.beverlyma.gov/DocumentCenter/View/167/Water-Demand-Fee-PDF>.

### **III. FIRE SUPPLY**

- **NEW OR MODIFIED FIRE OR SPRINKLER SERVICES** are to be separate from domestic services. They are to be professionally pressure tested and chlorinated and a test report submitted to the Engineering Department. Test reports shall include pressure test and bacterial test.
- **NEW OR MODIFIED FIRE OR SPRINKLER SERVICES** must have an approved backflow device licensed by the Massachusetts Department of Environmental Protection and Design Data Sheets must be submitted to the Water or Engineering Department.
- **NEW OR MODIFIED FIRE OR SPRINKLER SERVICES** are to be metered. The type and serial number is to be turned in to the Water Department office at City Hall with the initial reading if it is not zero.
- **ALL NEW FIRE SUPPLY SERVICES** are subject to a water demand fee based on line size at the building foundation, as outlined in the 2016 City of Beverly Code of Ordinances Ch. 282, Section 282-13, subsection C entitled "Demand Charge" found on the City's website here <https://www.beverlyma.gov/DocumentCenter/View/167/Water-Demand-Fee-PDF>.



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**RULES AND REGULATIONS – WATER SYSTEM**

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**IV. WATER METERS**

- **METER PITS**, if allowed, shall have a minimum opening of twenty-four inches (24") and shall have steps for every one foot (1') of vertical height. Meters shall be placed to be visible from the center of the opening. Covers shall be medium duty. Pit must be a minimum of 3 feet inside diameter.
- **NEW WATER METERS** must be purchased from the City of Beverly Engineering Department.
- **THE CITY OF BEVERLY** allows for one (1) primary meter per domestic service line for City of Beverly utility billing purposes. Submetering is allowed after the primary meter at the Owner's expense and the Owner is responsible for maintenance and reading of all submeters.
- **IRRIGATION METERS** (deduct meters) are not allowed in the City of Beverly.
- **THE WATER DEPARTMENT** must inspect the meter, as part of the final inspection.
- **WHEN APPLICABLE**, flange to flange connections shall be made with brass fittings.

**V. LEAD FREE BRASS VALVES AND FITTINGS**

- **FITTINGS MUST BE** Mueller, Cambridge, Redhed, Ford, MacDonald or Hays brand with compression ends. All corporations, curbcocks and stop and wastes, must open right.
- **ALL VALVES** (main line) shall open to the right. Main valves shall be resilient seat gate valves with stainless hardware, meet AWWA class c515 standards, have a single lead thread and a two-inch operating nut. The required number of turns to operate the valve shall be 3 turns per inch plus 3:

Valve Size	Number of Turns
4"	15
6"	21
8"	27
10"	33
12"	39
18"	57

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**RULES AND REGULATIONS – WATER SYSTEM**

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20"	63
24"	75

- **NO BUTTERFLY VALVES** allowed without permission from the Water or Engineering Department.
- **ALL MAIN-GATE VALVE BOXES** shall meet American Water Works Association Standards with an inside diameter of six inches (6").
- **ALL SERVICE BOXES SHALL** meet American Water Works Association Standards with an inside diameter of two inches (2").

**VI. HYDRANTS**

- **NEW HYDRANTS MUST** be American Flow Control, B62B as per current Water Dept specs, whether on public or private property. All hydrants shall open to the right.
- **HYDRANTS ARE NOT** to be turned on without the permission of the Engineering Department and Water Department.
- **THE CITY OF BEVERLY** may choose to utilize a City owned meter during construction when available. If none are available the Contractor must provide one privately and submit monthly readings to the Engineering Department for billing purposes. Charges will depend on actual billable water usage or at a minimum twenty-five dollars (\$25) a month, whichever amount is greater. A proper back-flow preventer must be used on all hydrants. User must notify the Fire Dept before each use and after each use. This regulation pertains to public and private hydrants.
- **MAINTENANCE OF PRIVATE HYDRANTS** is the responsibility of the hydrant/property owner. Only licensed drain-layers or professional contractors approved by the Engineering Department may perform hydrant maintenance and then, only with the City's permission.
- **HYDRANTS ARE NOT** to be turned on for watering lawns or filling swimming pools.

**VII. WATER LINE TESTING PROCEDURES**

- **PRESSURE TESTS:**



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**RULES AND REGULATIONS – WATER SYSTEM**

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- a. **PRIOR TO PRESSURE TESTING**, a flush of the main to be tested, will be conducted by the contractor. This will remove the high chlorine content and help remove air trapped in the main. Proper dichlorination procedures shall apply.
  - b. **A PRESSURE TEST WILL BE CONDUCTED** by a qualified contractor with a representative from the Water Department present.
  - c. **THE WATER MAIN** shall hold static pressure before calling Water Department to initiate Pressure Test.
  - d. **THE TEST PRESSURE** shall be 150 psi. (for domestic lines) and 200 psi (for fire lines) or 1½ times the static pressure of the connecting waterline, whichever is greater.
  - e. **ALL MAIN VALVES** and hydrant watch valves shall be in the open position and shall be included in the test.
  - f. **PRESSURE TEST SHALL** be maintained for two hours in duration.
  - g. **ALLOWABLE LEAKAGE:** ½ gallon per hour per diameter inch, per mile of pipe.
  - h. **PRESSURE DURING THE** test shall not deviate by more than 5 psi and shall not fall below the required test pressure.
- **CHLORINATION AND BACTERIA TESTING:**
    - a. **CHLORINATION AND BACTERIA TESTING** will be accomplished by a professional contractor approved by the Water Department.
    - b. **CHLORINE AND BACTERIA TESTING** will be according to AWWA requirements.
    - c. **FAILING BACTERIA TESTS** will require the following:
      - i. **FIRST FAILURE:** Flushing and re-test for bacteria.
      - ii. **SUBSEQUENT FAILURES:** Flushing, re-chlorinating the system, flushing the chlorine and re-test for bacteria.

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**VIII. CROSS CONNECTION**

- **NO PERSON SHALL MAINTAIN** upon premises served by the City of Beverly's water system a cross-connection, unless it is maintained in compliance with the DEP Regulations as per 310 CMR 22.22.
- **BACKFLOW PREVENTION DEVICES SHALL BE APPROVED** by the City and/or their designated representative and shall be tested in accordance with DEP Regulations. The cost for testing of such devices by the City and/or their designated representative shall be the responsibility of the customer/property owner.
- **FAILURE BY THE CUSTOMER/OWNER** to pay for the cost of testing such devices for two or more billing quarters will result in the bill being added to your property tax as a lien on your property.
- **FOR FURTHER INFORMATION** please see the City of Beverly's Cross Connection Control Program Ordinance (Article XXXI.)

**IX. GENERAL CONDITIONS**

- **NO WATER OR STREET OPENING PERMITS** will be issued for new or increased water service until Water Demand Charge is paid.
- **ALL WATER CONSTRUCTION MUST BE INSPECTED** by the Water Department or the Engineering Department prior to backfill. Ample advance notice must be given for inspections by calling 978-921-6057 or 978-605-2355.
- **ANY WORK BACKFILLED BEFORE INSPECTION** shall be uncovered if required by the Water or Engineering Department.
- **NO WATER WILL BE TURNED ON** until the service is metered and complete as-built drawings are returned to the Engineering Department.
- **OWNERS OF ILLEGALLY TURNED ON WATER SERVICES** will be charged for water at the rate of fifty dollars (\$50.00) per month retroactive to the date of the building permit.
- **ANY NEW, RELAID, OR RENEWED SERVICES** which cross multiple private properties shall have adequate Easement documentation between all affected parties recorded at the Registry of Deeds prior to commencement of work.



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**RULES AND REGULATIONS – WATER SYSTEM**

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- **ANY COMMON OWNERSHIP OF SERVICES** shall have defined responsibility and maintenance agreements between all affected parties as part of the Easement definitions as outlined above.
- **DOMESTIC AND FIRE PROTECTION SERVICES** shall be maintained as separate services and laid in accordance with City of Beverly standards. In all cases, unless otherwise approved in writing from the City, they shall be installed as separate lines outside of the building foundation with their own dedicated isolation and shut off valves.
- **ANY AND ALL ITEMS** not covered by these regulations will be resolved in the best interests of the City of Beverly.
- **THE CITY OF BEVERLY** reserves the right to withhold issuance of permits if any of the above conditions cannot be fully met to the satisfaction of the Engineering Department.

**X. CONSTRUCTION INSPECTIONS**

- Pre-Tap assessment of main during excavation for condition/conflicts
- Tap at Main post installation (prior to backfill)
- Service line to ten (10') feet of building foundation
- Meter Installation
- Trench backfill/compaction inspection

**XI. MEASUREMENTS**

- Depth at Main
- Swing ties to Corporation (2 ties, minimum)
- Swing ties to gate valve/shut off (2 ties, minimum)
- Swing ties to service at Foundation (distance from building corner)
- Depth at Foundation
- Any Notable bends, turns or deviations from straight pipe installations require swing ties every ten (10') feet
- Swing ties to any buried unions and/or fittings (2 ties, minimum)

**XII. AS-BUILTS**

- For service repairs, renewals or replacements in the existing location or new single family home services: updated "tie cards" may be hand drawn in a neat and legible fashion and submitted to Engineering Department
- For site developments: as-builts showing the location of the mains, services, hydrants, valves and other site wide infrastructure are required. Proper labelling to include material, diameter, and valve type.

**CITY OF BEVERLY**  
**RULES AND REGULATIONS - SEWER SYSTEM**

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SEWER SYSTEM REGULATIONS

- **A PERMIT FEE OF \$100.00** payable to the City of Beverly is required to obtain a sewer permit. A DIG PERMIT FEE of \$100.00 also accompanies this work, in most cases
- **NO SEWER PERMITS** will be issued to persons who ARE NOT licensed Digging Contractors in the City of Beverly.
- **NO SEWER PERMITS** will be issued to any contractor or excavator who has any outstanding inspections, substandard trenches, as-built drawings, or for any reason in the best interests of the City of Beverly as determined by the City Engineer or his agent.

**I. MAINS**

- **SEWER MAIN PIPE CONSTRUCTION** shall be P.V.C. Type SDR 35 or of a type and size to meet all design standards and shall be acceptable by the Engineer Department.
- **ALL NEW SEWER MAINS** shall be professionally pressure tested and a written test report submitted to the engineering division. All manholes shall be hydrostatically tested for leakage.

**II. LATERALS**

- **GRAVITY SEWER LATERAL PIPE** shall be P.V.C. Type SDR 35, not less than 4 inches in diameter and shall be laid full size from the main sewer to where it joins the P.V.C. schedule 40 or cast iron building connection. All connections of dissimilar pipe shall be of approved connectors.
- **GRAVITY SEWER LATERALS** shall be laid as straight as possible and on a uniform grade of not less than ¼ inch per foot (2%) or more than 10%.
- **LATERALS OVER 100 FT.** in length from the main to the structure being connected to sewer shall have a manhole or cleanout at the mid-point or every 100 feet.
- **SEWER LATERALS** shall be at least 10 feet horizontally and 18 inches below from any proposed or existing water service or main and at least 3 feet from any other underground utility.



**CITY OF BEVERLY**  
**RULES AND REGULATIONS - SEWER SYSTEM**

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- **FOR LATERAL CONNECTIONS TO DEEP SEWER MAINS**, the use of chimney structures is permitted and shall be constructed in a manner approved by the City Engineer or his agent.

**III. PRESSURE SEWER**

- **ALL P.V.C. PRESSURE SEWER PIPE** shall be a minimum of schedule 40. SDR 21 may also be used with proper compression joints and fittings.
- **THE MINIMUM COVER FOR PRESSURE SEWER** shall be 5 feet. Where this is not possible or practical, the pipe must be completely insulated. All depths less than 5 feet must receive prior approval by the City Engineer or his agent.
- **WHENEVER PRESSURE SEWERS ENTER MANHOLES**, the force main pipe shall enter the manhole in accordance with the "**PIPES ENTERING MANHOLES**" bullet below.
- **THE CITY WILL NOT MAINTAIN ANY PRIVATELY INSTALLED PRESSURE SEWER PIPE.**

**IV. BEDDING and BACKFILL**

- **THE BEDDING FOR ALL PIPE** shall be shaped to conform reasonably close to the lower 10% of the pipe. Recesses shall be excavated for bell and spigot in order to insure uniform support throughout the entire alignment of the pipe.
- **THE FIRST 12 INCHES OF BACKFILL OVER THE PIPE** shall be firmly compacted sand, bank run gravel, or  $\frac{3}{4}$ " crushed stone. For the remainder of the backfill, no stone larger than 8 inches will be permitted.
- **ALL BEDDING AND BACKFILL SPECIFICATIONS FOR P.V.C. PRESSURE SEWER PIPE** are the same as those for gravity lateral sewer pipe.

**V. GENERAL CONDITIONS**

- **WHERE ANY CHANGE OF PIPE DIRECTION IS NECESSARY**, if greater than 22 degrees, a manhole or cleanout is required to be constructed to the City's standard specifications.
- **IN THE EVENT LEDGE IS ENCOUNTERED**, all rock shall be removed to a minimum depth of 12 inches below the lateral pipe and replaced with

**CITY OF BEVERLY**  
**RULES AND REGULATIONS - SEWER SYSTEM**

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compacted sand,  $\frac{3}{4}$ " crushed stone, or gravel bedding. Changes in direction due to ledge will not be allowed. The route of laterals from the main to the structure being connected to the sewer should be as straight as possible.

- **WHERE A WYE FITTING IS NOT AVAILABLE**, a new WYE shall be cut into the main sewer and connected with appropriate fittings.
- **PIPES ENTERING MANHOLES** shall enter at the invert of the manhole. The existing invert shall be rebuilt with brick to accommodate the new connection. If a drop connection to a manhole is preferred, the drop will be built outside the manhole in a manner approved by the City Engineer or his agent.
- **WHERE ANY SEWER, MAIN OR SERVICE CROSSES ANY OTHER UTILITY**, the sewer shall be sleeved with ductile iron piping at a diameter of one size larger for 10 feet on either side using appropriate fittings to seal both ends.
- **ANY SEWER SERVICE PASSING UNDER OR THROUGH A FOUNDATION** shall be cast iron or schedule 40 P.V.C. pipe through a sleeve.
- **ALL SEWER PIPING AND STRUCTURES** must be inspected by the Engineering Divisions prior to any backfill. Ample advance notice must be given for inspections by calling 978-605-2355.
- **THE CONTRACTOR shall PROVIDE** an acceptable "as-built" location drawing with sufficient dimensions, ties and depth, to allow easy and accurate locating of piping of any and all work performed at the site.
- **ANY NEW, RELAID, OR RENEWED SERVICES** which cross multiple private properties shall have adequate Easement documentation between all affected parties recorded at the Registry of Deeds prior to commencement of work.
- **ANY COMMON OWNERSHIP OF SERVICES** shall have defined responsibility and maintenance agreements between all affected parties as part of the Easement definitions as outlined above.
- **ANY AND ALL ITEMS** not covered by these regulations will be resolved in the best interests of the City of Beverly.



**CITY OF BEVERLY**  
**RULES AND REGULATIONS - SEWER SYSTEM**

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- **THE CITY OF BEVERLY** reserves the right to withhold issuance of permits if any of the above conditions cannot be fully met to the satisfaction of the Engineering Department.

**VI. CONSTRUCTION INSPECTIONS**

- Pre-Connection Assessment of main for condition/conflict
- Connection at Main prior to backfill
- Service to within ten (10') of building foundation
- Connections at all manholes/transitions
- Trench backfill/compaction inspection

**VII. MEASUREMENTS**

- Depth to connection at main
- Swing ties to connection at main (2 ties, minimum)
- Linear distance along main to closest manhole
- Swing ties to service at building foundation (2 ties, minimum)
- Depth at building foundation
- Swing ties to any bends, manholes or cleanouts

**VIII. AS-BUILTS**

- For service repairs, renewals or replacements in the existing location or new single family home services: updated "tie cards" may be hand drawn in a neat and legible fashion and submitted to Engineering Department
- For site developments: as-builts showing the location of the mains, services, manholes and other site wide infrastructure are required. Proper labelling to include material, diameter, and flow direction.

**CITY OF BEVERLY**  
**RULES AND REGULATIONS – PRIVATE UTILITIES**

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PRIVATE UTILITY REGULATIONS

- A **PERMIT FEE OF \$100.00** payable to the City of Beverly is required to obtain a utility (telephone/cable/gas/electric) permit.
- **NO UTILITY PERMITS** will be issued to persons who ARE NOT licensed Digging Contractors in the City of Beverly.
- **NO UTILITY PERMITS** will be issued to any contractor or excavator who has any outstanding inspections, substandard trenches, as-built drawings, or for any reason in the best interests of the City of Beverly as determined by the City Engineer or his agent.

**I. PIPES**

- **ALL PIPES SHALL BE INSTALLED** no less than four (4) feet from the curbline on any City street.
- **ALL PIPES SHALL** maintain a minimum cover of no less than three (3) feet
- **ALL PIPES SHALL** maintain eighteen (18) inches of vertical separation from other utilities within the corridor, minimizing utility crossings where possible

**II. BEDDING and BACKFILL**

- **THE BEDDING FOR ALL PIPE** shall be shaped to conform reasonably close to the lower 10% of the pipe. Recesses shall be excavated for bell and spigot in order to insure uniform support throughout the entire alignment of the pipe.
- **THE FIRST 12 INCHES OF BACKFILL OVER THE PIPE** shall be firmly compacted sand, bank run gravel, or  $\frac{3}{4}$ " crushed stone. For the remainder of the backfill, no stone larger than 8 inches will be permitted.

**III. GENERAL CONDITIONS**

- **IN THE EVENT LEDGE IS ENCOUNTERED**, all rock shall be removed to a minimum depth of 12 inches below the lateral pipe and replaced with



**CITY OF BEVERLY**  
**RULES AND REGULATIONS – PRIVATE UTILITIES**

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compacted sand, ¾" crushed stone, or gravel bedding. Changes in direction due to ledge will not be allowed.

- **THE CONTRACTOR SHALL PROVIDE** an acceptable "as-built" location drawing with sufficient dimensions, ties and depth, to allow easy and accurate locating of piping of any and all work performed at the site for any new installations.
- **NEW AND RELAID UTILITIES** may not be laid on top of existing City infrastructure. Schematic drawings showing proposed layout including existing utilities will be required prior to commencement of construction.
- **ANY AND ALL ITEMS** not covered by these regulations will be resolved in the best interests of the City of Beverly
- **THE CITY OF BEVERLY** reserves the right to withhold issuance of permits if any of the above conditions cannot be fully met to the satisfaction of the Engineering Department.

**IV. CONSTRUCTION INSPECTIONS**

- Trench backfill/compaction inspection

**V. MEASUREMENTS**

- Swing ties to handholes, new utility poles (if applicable), manholes, gate boxes, or any other at grade structures
- Distances between at grade structures
- Detailed sketches of routes that are not straight lines between structures

**VI. AS-BUILTS**

- System sketches of conduits and at grade structures for any new lines being installed. Proper labelling including but not limited to size and material of lines.

**CITY OF BEVERLY**  
**RULES AND REGULATIONS – STORMWATER REGULATIONS**

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STORMWATER SYSTEM REGULATIONS

- **A PERMIT FEE OF \$100.00** payable to the City of Beverly is required to obtain a stormwater permit.
- **PERMITS ARE REQUIRED FOR** installation of sitewide drainage structures, sump pump tie-ins to City drainage infrastructure, and site activities which alter drainage patterns but do not trigger the need for Drainage Alteration permits.
- **SKETCHES ARE REQUIRED** for all proposed permit work
- **NO STORMWATER PERMITS** will be issued to persons who ARE NOT licensed Digging Contractors in the City of Beverly.
- **NO STORMWATER PERMITS** will be issued to any contractor or excavator who has any outstanding inspections, substandard trenches, as-built drawings, or for any reason in the best interests of the City of Beverly as determined by the City Engineer or his agent.
- **A STORMWATER PROFESSIONAL** licensed with the City of Beverly is responsible for overseeing the installation and ongoing maintenance of all stormwater devices installed.

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**I. GENERAL PROVISIONS**

**I.1. Authority**

These Regulations are promulgated in accordance with the City of Beverly Charter and the revised Ordinances of the City of Beverly.

**I.2. Purpose & Intent**

The purpose of the City of Beverly Stormwater Management & Construction Management Ordinance (hereafter referred to as the "Ordinance") is stated in Chapter 20, Article VII, Section 20-162 of the City Ordinance. These Regulations are promulgated to ensure fairness, to create uniformity of process, and to clarify and further define the provisions of the Ordinance, which is administered by the Engineering Department (hereafter called the "Department").

**I.3. Responsibility for Administration**



**CITY OF BEVERLY**  
**RULES AND REGULATIONS – STORMWATER REGULATIONS**

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The Department shall administer, implement, and enforce the provisions of these Regulations. Any powers granted or duties imposed upon the Department by these Regulations may be delegated in writing by the Director of Engineering (hereafter “the Director”) to persons or entities acting in the beneficial interest of or in the employ of the City.

**I.4. Severability**

If any provision of these Regulations or the application thereof is held to be invalid by a court of competent jurisdiction, such invalidity shall not affect other provisions or the application of any part of these Regulations not specifically held invalid, nor shall it invalidate any order, permit, or determination which previously had been issued, and to this end the provisions of these Regulations are declared to be severable.

**II. STORMWATER MANAGEMENT OF NEW DEVELOPMENTS & REDEVELOPMENTS**

**II.1. Definitions**

For the purposes of these Regulations, the following terms shall mean the following:

Alteration of Drainage Characteristics: Any activity on an area of land that changes the water quality, force, direction, timing or location of runoff flowing from the area. Such changes include: change from distributed runoff to confined, discrete discharge; change in the volume of runoff from the area; change in the peak rate of runoff from the area; and/or change in the recharge to groundwater on the area.

Best Management Practices (BMPs): Schedules of activities, prohibitions of practices, general good house keeping practices, pollution prevention and educational practices, maintenance procedures, and other management practices to prevent or reduce the discharge of pollutants directly or indirectly to stormwater, receiving waters, or stormwater conveyance systems. BMPs also include treatment practices, operating procedures, and practices to control site runoff, spillage or leaks, sludge or water disposal, or drainage from raw materials storage.

Clearing: Any activity that removes the vegetative surface cover.

DEP: The Massachusetts Department of Environmental Protection.

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**RULES AND REGULATIONS – STORMWATER REGULATIONS**

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Department: The City of Beverly Engineering Department or its designee.

Development: The modification of land to accommodate a new use that disturbs the ground surface or increases the impervious area.

Director: The Director of the City of Beverly Engineering Department or his/her designee.

Disturbance of Land: Any action that causes a change in the position, location, or arrangement of vegetation, soil, sand, rock, gravel or similar earth material.

Grading: Changing the level, elevation or shape of the ground surface.

Grubbing: The act of clearing land surface by digging up roots and stumps.

Impervious Surface: Any material or structure on or above the ground that prevents water from infiltrating the underlying soil. The term includes, but is not limited to, such things as paved roads, paved parking lots, sidewalks, and rooftops.

Massachusetts Stormwater Management Policy: The Policy issued by the Massachusetts Department of Environmental Protection (DEP), and as amended, that coordinates the requirements prescribed by state regulations promulgated under the authority of the Massachusetts Wetlands Protection Act MGL c. 131 s. 40 and Massachusetts Clean Waters Act MGL c. 21, §. 23-56.

Municipal Storm Drain System: The system of conveyances designed or used for collecting or conveying stormwater, including any road with a drainage system, street, gutter, curb, inlet, piped storm drain, pumping facility, retention or detention basin, natural or man-made or altered drainage channel, reservoir, and other drainage structures that together comprise the storm drainage system owned or operated by the City of Beverly.

Operation and Maintenance Plan: A plan setting up the functional, financial and organizational mechanisms for the ongoing operation and maintenance of a stormwater management system to insure that it continues to function as designed.

Outfall: The point at which stormwater flows out from a point source discernible, confined and discrete conveyance into waters of the Commonwealth.

Outstanding Resource Waters (ORW's): Waters designated by DEP as ORW's, including vernal pools certified by the Natural Heritage Program of the Massachusetts Department of Fisheries and Wildlife and Environmental Law



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**RULES AND REGULATIONS – STORMWATER REGULATIONS**

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Enforcement or identified by the Conservation Commission, all Class A designated public water supplies with their bordering vegetated wetlands, and other waters specifically designated as ORW's.

Owner: A person with a legal or equitable interest in property.

Person: An individual, partnership, association, firm, company, trust, corporation, agency, authority, department or political subdivision of the Commonwealth or the federal government, to the extent permitted by law, and any officer, employee, or agent of such person.

Point Source: Any discernible, confined, and discrete conveyance, including but not limited to, any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, or container from which pollutants are or may be discharged.

Redevelopment: Development, rehabilitation, expansion, demolition or phased projects that disturb the ground surface or increase the impervious area on previously developed sites.

Runoff: Rainfall, snowmelt, or irrigation water flowing over the ground surface.

Stormwater Management Plan: A drainage plan required as part of the application for a Stormwater Management Permit. See Section II.5.1.

Stormwater: Runoff from precipitation or snow melt; (is the same as stormwater);

Total Suspended Solids (TSS): All particles suspended in stormwater which will not pass through a filter. The term includes, but is not limited to, trash, debris, soil, silt, decaying plant matter, animal waste, industrial wastes and sewage.

## **II.2. Stormwater Handbook**

The Stormwater Management, Stormwater Policy Handbook, Volumes 1 & 2 (hereafter referred to as the Stormwater Handbook) as prepared by DEP and the Massachusetts Office of Coastal Zone Management, dated March 1997 (as updated and amended) are hereby incorporated by reference as part of these Regulations, and shall furnish additional policy, criteria and information including specifications and standards for the proper implementation of the requirements of these Regulations.

This Stormwater Handbook includes stormwater management standards and lists acceptable Best Management Practices in dealing with stormwater runoff. The

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**RULES AND REGULATIONS – STORMWATER REGULATIONS**

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Department, in collaboration with the Stormwater Management Advisory Committee, may, at its collective discretion and based on its collective experience, develop interpretive or informational policies to further the goals and objectives of these Regulations.

**II.3. Permits**

No person may, by development or redevelopment activity, alter the drainage characteristics of **one or more acres of land** draining to the City of Beverly municipal separate storm sewer system, surface waters or wetlands without a site development permit from the Department.

No stormwater permit is required for the following activities:

- a) Normal maintenance and improvement of land in agricultural use as defined by the Wetlands Protection Act regulation 310 CMR 10.04;
- b) Maintenance of existing landscaping, gardens or lawn areas associated with a single family dwelling provided such maintenance does not include the addition of soil material, construction of any walls or alteration of existing grades;
- c) The construction of fencing that will not alter existing terrain or drainage patterns;
- d) Construction of utilities other than drainage (gas, water, electric, telephone, etc.) which will not alter terrain, ground cover, or drainage patterns;
- e) Projects wholly within the jurisdiction of the Conservation Commission and requiring an Order of Conditions.

Although the activities outlined in a – e above do not require a site development permit, erosion control measures meeting the requirements of the City's Erosion/Sediment Control and Materials Management & Stormwater Management Regulations as described below and the approval of the Director must still be employed.

An application, four (4) copies of a Stormwater Management Plan and Operation and Maintenance plan and a filing fee established for this purpose by the Department shall be filed with the Department prior to any site work.

A performance guarantee may be required to be filed with the City of Beverly in the form of a bond, letter of credit, or other security in an amount deemed sufficient by the Department to cover all costs of improvements, landscaping, and maintenance of improvements for such period as specified by the City of Beverly, and engineering and inspection costs to cover the cost of failure or repair of improvements installed on the site. The



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**RULES AND REGULATIONS – STORMWATER REGULATIONS**

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security required by this paragraph shall be returned to the applicant upon successful implementation of the approved Stormwater Management Plan and Operation and Maintenance Plan and completion of all construction activities, as determined by the Director.

The applicant will be required to place a legal notice regarding the application in a newspaper of general circulation in the City at his/her own expense and mail a copy of such notice via regular mail to all immediate abutters of the property to be developed. Said notice shall be published within ten (10) days of the filing of the application with the Department and shall provide at least the following information:

- a) Location and nature of project;
- b) Date application for approval of a Stormwater Management Plan and Operation and Maintenance Plan was submitted to the Director;
- c) Location where application can be reviewed during normal City Hall business hours; and
- d) Deadline for receipt of written comments by the Director.

**II.4. Review and Approval**

1) The Department will review each application to determine its conformance with the provisions of the Ordinance and these Regulations. The Director shall consider any written comments received from any City department, board/commission, and the public as a result of the required public notice, and may require changes to the plan(s) or the submission of additional information as he/she deems necessary to create an acceptable and complete plan. The Department shall, in writing:

- Approve the permit application;
- Approve the permit application subject to such reasonable conditions as may be necessary to secure substantially the objectives of these Regulations, and issue the permit subject to those conditions; or
- Disapprove the permit application, indicating the reason(s) and procedure for submitting a revised application.

Pending preparation and approval of a revised plan, development activities may be allowed to proceed in accordance with conditions imposed by the Department, at the discretion of the Director.

Upon approval of the permit and prior to commencement of construction/demolition/activity on the site, the applicant shall be required to post a sign on the premises that identifies the fact that an approved stormwater

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**RULES AND REGULATIONS – STORMWATER REGULATIONS**

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management plan is on file with the Department and provides a contact phone number for questions or complaints about construction activities. Such sign shall be visible from at least one public way and of such size and construction methods deemed acceptable by the Director. Said sign shall be posted on site for the duration of construction activities.

The Director shall keep copies of all such applications, public comment, and approved plan on file for public review.

**II.5. Stormwater Management Requirements**

**1) Stormwater Management Plan**

The Stormwater Management Plan submitted for any project disturbing an acre of land or more must be designed to meet the standards set forth in Section B below, the DEP Stormwater Management Handbook Volumes I and II, and shall, at a minimum, include the following:

- A locus map;
- The existing zoning and land use at the site;
- The proposed land use;
- The location(s) of existing and proposed easements;
- The location of existing and proposed utilities;
- The site's existing & proposed topography with contours at 2 foot intervals;
- The existing site hydrology;
- A description & delineation of existing stormwater conveyances, impoundments, and wetlands on or adjacent to the site or into which storm water flows;
- A delineation of 100-year flood plains, if applicable;
- Estimated seasonal high groundwater elevation (November to April) in areas to be used for storm water retention, detention, or infiltration;
- The existing and proposed vegetation and ground surfaces with runoff coefficient for each;
- A drainage area map showing pre and post construction watershed boundaries, drainage area and stormwater flow paths;
- A description and drawings of all components of the proposed drainage system including:
  - locations, cross sections, and profiles of all brooks, streams, drainage swales and their method of stabilization;
  - all measures for the detention, retention or infiltration of water;



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**RULES AND REGULATIONS – STORMWATER REGULATIONS**

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- all measures for the protection of water quality;
  - the structural details for all components of the proposed drainage systems and stormwater management facilities;
  - notes on drawings specifying materials to be used, construction specifications, and typicals; and
  - expected hydrology with supporting calculations.
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- Proposed improvements including location of buildings or other structures, impervious surfaces, and drainage facilities, if applicable;
  - Timing, schedules, and sequence of development including clearing, stripping, rough grading, construction, final grading, and vegetative stabilization; and
  - A maintenance schedule for the period of construction.

**2) Standards**

Projects must meet the Standards of the Massachusetts Stormwater Management Policy. These Standards are:

- a) Stormwater management systems must be designed so that post-development peak discharge rates do not exceed pre-development peak discharge rates.
- b) Loss of annual recharge to groundwater should be minimized through the use of infiltration measures to the maximum extent practicable. The annual recharge from the post-development site should approximate the annual recharge rate from the pre-development or existing site conditions, based on soil types.
- c) For new development, stormwater management systems must be designed to remove 80% of the average annual load (post development conditions) of Total Suspended Solids (TSS). It is presumed that this standard is met when:
  - i. Suitable nonstructural practices for source control and pollution prevention and implemented;
  - ii. Stormwater management best management practices (BMPs) are sized to capture the prescribed runoff volume; and
  - iii. Stormwater management BMPs are maintained as designed.
- d) Redevelopment of previously developed sites must meet the Stormwater Management Standards to the maximum extent practicable. However, if it is not practicable to meet all the Standards, new (retrofitted or expanded) stormwater management systems must be designed to improve existing conditions.

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**RULES AND REGULATIONS – STORMWATER REGULATIONS**

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- e) All stormwater management systems must have an operation and maintenance plan to ensure that systems function as designed.

The remaining four Standards of the DEP Stormwater Management Handbook Volumes I and II not called out in this Ordinance and these Regulations shall be administered and enforced by the Conservation Commission under Notice of Intent applications for projects or parts of projects that fall within the Commission’s jurisdiction under the Wetlands Protection Act and the Beverly Wetlands Protection Ordinance.

When one or more of the Standards cannot be met, an applicant may demonstrate that an equivalent level of environmental protection will be provided.

**3) Project Changes**

Modifications to the plan shall be processed and approved or disapproved in the same manner as provided for in Sections II.3 & II.4 of these Regulations, except that the legal notice and abutter notification requirements may be waived by the Director if he/she deems such modifications to be minor in nature. All modifications shall be authorized by the Department in writing and shall be sent to the permittee.

**II.6. Operation and Maintenance Plans Requirements**

**1) Operation and Maintenance Plan**

An Operation and Maintenance Plan (O&M Plan) is required at the time of application for all projects. The maintenance plan shall be designed to ensure that Water Quality Standards are met in all seasons and throughout the life of the system. The Department shall make the final decision as to which maintenance option(s) is/are appropriate in a given situation. The Department will consider natural features, proximity of site to water bodies and wetlands, extent of impervious surfaces, size of the site, the types of stormwater management structures, and potential need for ongoing maintenance activities when making this decision. The O&M Plan shall remain on file with the Department and shall be an ongoing requirement. The O&M Plan shall include:

- a) The name(s) of the owner(s) of all components of the stormwater management system.
- b) Maintenance agreements that specify:



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**RULES AND REGULATIONS – STORMWATER REGULATIONS**

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- The names and addresses of the person(s) responsible for operation and maintenance;
- The person(s) responsible for financing maintenance and emergency repairs;
- A Maintenance Schedule for all drainage structures, including swales and ponds;
- A list of easements with the purpose and location of each; and
- The signature(s) of the owner(s).

**2) Stormwater Management Easement(s)**

- a) Stormwater management easements shall be provided by the property owner(s) as necessary for:
- access for facility inspections and maintenance,
  - preservation of stormwater runoff conveyance, infiltration, and detention areas and facilities, including flood routes for the 100-year storm event, and
  - direct maintenance access by heavy equipment to structures requiring regular cleanout.
- b) The purpose of each easement shall be specified in the maintenance agreement signed by the property owner.
- c) Stormwater management easements are required for all areas used for off-site stormwater control, unless the Department grants a waiver.
- d) Easements shall be recorded with the Essex South District Registry of Deeds prior to the issuance of a Certificate of Completion by the Department.

**3) Changes to Operation and Maintenance Plans**

The owner(s) of the stormwater management system must notify the Department of changes in ownership or assignment of financial responsibility.

The maintenance schedule in the Maintenance Agreement may be amended to achieve the purposes of the Ordinance by mutual written agreement of the Department and the responsible parties. Responsible parties include the owner(s) of the facility or property, persons with financial responsibility, and persons with operational responsibility.

**II.7. Inspections**

The Department, or its authorized agent, shall inspect the project site at the following stages:

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**RULES AND REGULATIONS – STORMWATER REGULATIONS**

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- 1) Initial Site Inspection: Prior to approval of the Stormwater Management and Operation and Maintenance Plans, the Department or its authorized agent shall conduct an initial site inspection.
- 2) Erosion Control Inspection: Prior to construction, the Department, or its authorized agent shall conduct a site inspection to ensure erosion control practices are in accord with the approved plan.
- 3) Bury Inspection: Prior to backfilling of any underground drainage or storm water conveyance structures, the Department or its authorized agent shall conduct a site inspection to ensure construction complies with the approved plan.
- 4) Final Inspection: After the stormwater management system has been constructed and before the surety has been released, the applicant or owner of record must submit, at no cost to the City, an electronic file of the "as-built" plan that has been certified by the design engineer detailing the actual stormwater management system as installed. The electronic files shall be in CAD or GIS format and may be submitted on CD, DVD, or by electronic mail, and shall be submitted in accordance with the Department's "Digital Data Requirements", as may be amended from time to time. The design engineer shall certify if the system has been built as he/she designed it, or if not what aspects of the system deviated from the approved plan. The Department, or its authorized agent shall inspect the system to confirm its "as-built" features and to evaluate the effectiveness of the system in an actual storm. If the inspector finds the system to be adequate he/she shall so report to the Department, which will issue a Certificate of Completion.

If the system is found to be inadequate by virtue of physical evidence of operational failure, even though it was built as called for in the Stormwater Management Plan, it shall be corrected by the permittee as required by the Department before the performance guarantee is released. If the permittee fails to act the City may use the surety bond to complete the work. Examples of inadequacy shall include, but not be limited to, errors in the infiltrative capability, errors in the maximum groundwater elevation, failure to properly define or construct flow paths, or erosive discharges from basins.

The Department or its designated agent shall be allowed to enter the subject property as deemed necessary to make regular inspections to ensure compliance with the approved plan.

## **II.8. Certificate of Completion**



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The Department will issue a certificate of completion upon receipt and approval of the final inspection reports and plans and/or upon otherwise determining that all work required by the permit has been satisfactorily completed in conformance with the City's Stormwater Management and Construction Management Ordinance and these Regulations.

**III. ILLICIT DISCHARGES AND CONNECTIONS**

**III.1. Definitions**

For the purposes of these Regulations, the following terms shall have the following meanings:

Authorized Enforcement Agency: employees or designees of the City of Beverly.

Best Management Practices (BMPs): Schedules of activities, prohibitions of practices, general good house keeping practices, pollution prevention and educational practices, maintenance procedures, and other management practices to prevent or reduce the discharge of pollutants directly or indirectly to stormwater, receiving waters, or stormwater conveyance systems. BMPs also include treatment practices, operating procedures, and practices to control site runoff, spillage or leaks, sludge or water disposal, or drainage from raw materials storage.

Clean Water Act: The federal Water Pollution Control Act (33 U.S.C. § 1251 et seq.), and any subsequent amendments thereto.

Hazardous Materials: Any material, including any substance, waste, or combination thereof, which because of its quantity, concentration, or physical, chemical, or infectious characteristics may cause, or significantly contribute to, a substantial present or potential hazard to human health, safety, property, or the environment when improperly treated, stored, transported, disposed of, or otherwise managed.

Illegal Discharge: Any direct or indirect non-storm water discharges to the municipal separate storm drain system, except as exempted in these Regulations.

Illicit Connections: Either of the following: **(a)** any drain or conveyance, whether on the surface or subsurface, which allows an illegal discharge to enter the municipal storm drainage system including but not limited to any conveyances which allow any non-storm water discharge including sewage, process wastewater, and wash water to enter the municipal storm drainage system and

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any connections to the municipal storm drainage system from indoor drains and sinks, regardless of whether said drain or connection had been previously allowed, permitted, or approved by an authorized enforcement agency, or **(b)** any drain or conveyance connected from a commercial or industrial land use to the municipal storm drainage system which has not been documented in plans, maps, or equivalent records and approved by an authorized enforcement agency.

Municipal Storm Drain System: The system of conveyances designed or used for collecting or conveying stormwater, including any road with a drainage system, street, gutter, curb, inlet, piped storm drain, pumping facility, retention or detention basin, natural or man-made or altered drainage channel, reservoir, and other drainage structures that together comprise the storm drainage system owned or operated by the City of Beverly.

National Pollutant Discharge Elimination System (NPDES) Storm Water Discharge Permit: A permit issued by the Environmental Protection Agency (or by a State under authority delegated pursuant to 33 USC § 1342(b)) that authorizes the discharge of pollutants to waters of the United States, whether the permit is applicable to an individual, group, or general area-wide basis.

Non-Storm Water Discharge: Any discharge to the municipal storm drainage system that is not composed entirely of storm water.

Person: An individual, partnership, association, firm, company, trust, corporation, agency, authority, department or political subdivision of the Commonwealth or the federal government, to the extent permitted by law, and any officer, employee, or agent of such person.

Pollutant: Anything which causes or contributes to pollution, including but not limited to paints, varnishes, and solvents; oil and other automotive fluids; non-hazardous liquid and solid wastes and yard wastes; refuse, rubbish, garbage, litter, or other discarded or abandoned objects, and accumulations, so that same may cause or contribute to pollution; floatables; pesticides, herbicides, and fertilizers; hazardous substances and wastes; sewage, fecal coliform and pathogens; dissolved and particulate metals; animal wastes; construction debris, wastes and residues; and noxious or offensive matter of any kind.

Premises: Any building, lot, parcel of land, or portion of land whether improved or unimproved including adjacent sidewalks and parking areas and driveways.

Storm Water: Any surface flow, runoff, and drainage consisting entirely of water from any form of natural precipitation, and resulting from such precipitation.



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Stormwater Pollution Prevention Plan: A document which describes the Best Management Practices and activities to be implemented by a person or business to identify sources of pollution or contamination at a site and the actions to eliminate or reduce pollutant discharges to stormwater, stormwater conveyance systems, and/or receiving waters to the maximum extent practicable.

Wastewater: Any water or other liquid, other than uncontaminated storm water, discharged from a premises.

### **III.2. Applicability**

These Regulations shall apply to all water entering the municipal storm drainage system generated on any developed and undeveloped lands unless explicitly exempted by an authorized enforcement agency.

### **III.3. Discharge Prohibitions**

No person shall discharge or cause to be discharged into the municipal storm drain system or municipal watercourses any materials, including but not limited to pollutants or waters containing any pollutants that cause or contribute to a violation of applicable water quality standards. The construction, use, maintenance or continued existence of illicit connections to the municipal separate storm drain system is prohibited. This prohibition expressly includes, without limitation, illicit connections made in the past, regardless of whether the connection was permissible under law or practices applicable or prevailing at the time of connection. A person is considered to be in violation of these Regulations if the person connects a line conveying anything other than uncontaminated stormwater to the municipal storm drainage system, or allows an illegal connection to continue.

The commencement, conduct or continuance of any illegal discharge to the municipal storm drain system is prohibited except as described as follows:

Water line flushing or other potable water sources, landscape irrigation or lawn watering, diverted stream flows, rising ground water, ground water infiltration to storm drains, uncontaminated pumped ground water, foundation or footing drains (not including active groundwater dewatering systems), crawl space pumps, air conditioning condensation, springs, non-commercial washing of vehicles, natural riparian habitat or wetland flows, swimming pools (if dechlorinated - typically less than one parts per million [PPM] chlorine), fire fighting activities, and any other water source not containing pollutants.

Discharges authorized in writing by an authorized enforcement agency as being necessary to protect public health and safety.

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Dye testing, provided a verbal or written notification is made to either the Department of Public Services or Engineering prior to the time of the test, and provided that the Department approves of the request.

Any non-storm water discharge permitted under an NPDES permit, waiver, or waste discharge order issued to the discharger and administered under the authority of the Federal Environmental Protection Agency, provided that the discharger is in full compliance with all requirements of the permit, waiver, or order and other applicable laws and regulations, and provided that written approval has been granted by an authorized enforcement agency for any discharge to the municipal separate storm drain system.

**III.4. Suspension of Access to the Municipal Separate Storm Drain System**

1) Suspension due to Illicit Discharges in Emergency Situations

The Department or its designee, may, without prior notice, suspend discharge access to the municipal storm drainage system from a premises when such suspension is necessary to stop an actual or threatened discharge which presents or may present imminent and substantial danger to the environment, or to the health or welfare of persons, or to the municipal storm drain system or waters of the United States. If the violator fails to comply with a suspension order issued in an emergency, the City of Beverly may take such steps as deemed necessary to prevent or minimize damage to the municipal storm drainage system or to the waters of the United States, or to minimize danger to persons.

2) Suspension due to the Detection of Illicit Discharge

Any person discharging to the municipal storm drain system in violation of these Regulations may have their access to said system terminated if such termination would abate or reduce an illicit discharge. The Department or its designee will notify a violator of the proposed termination of access to the municipal storm drain system.

A person commits an offense if he/she reinstates municipal storm drain system access to a premises terminated pursuant to these Regulations, without the prior written approval of the Department.

**III.5. Industrial or Construction Activity Discharges**



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Any person subject to an industrial or construction activity NPDES storm water discharge permit shall comply with all provisions of such permit. Proof of compliance with said permit may be required in a form acceptable to the Department prior to allowing discharges to the municipal separate storm drain system under said permit.

**III.6. Monitoring of Discharges**

1) Applicability

This section applies to all facilities and properties that have storm water discharges associated with industrial, commercial, and residential activity, including construction activity.

2) Access to Facilities

- a) The City of Beverly or its agent(s) shall be permitted to enter and inspect facilities and property subject to regulation under these Regulations as often as may be necessary to determine compliance with these Regulations. If a discharger has security measures in force that require proper identification and clearance before entry into its premises, the discharger shall make the necessary arrangements to allow access by representatives of the City of Beverly.
- b) Facility operators/property owners shall allow the City of Beverly or its agent(s) ready access to all parts of the premises for the purposes of inspection, sampling, examination and copying of any records that must be kept under the conditions of an NPDES permit to discharge storm water, and the performance of any additional duties as defined by State and Federal law.
- c) The City of Beverly or its agent(s) shall have the right to set up on any permitted facility or on private property such devices as are necessary in the opinion of the City to conduct monitoring and/or sampling of the facility's storm water discharge.
- d) The City of Beverly or its agent(s) shall have the right to require the discharger to install monitoring equipment acceptable to them, as necessary. The facility's/property's sampling and monitoring equipment shall be maintained at all times in a safe and proper operating condition by the discharger at its own expense. All devices used to measure storm water flow and quality shall be calibrated to ensure their accuracy.
- e) Any temporary or permanent obstruction to safe and easy access to the facility or property for inspection and/or sampling shall be promptly removed by the operator/property owner at the written or

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verbal request of the Department and shall not be replaced. The costs of clearing such access shall be borne by the operator/property owner.

- f) Unreasonable delays in allowing the City of Beverly or its agent(s) access to a permitted facility or privately owned property is a violation of a storm water discharge permit and/or of these Regulations. A person who is the operator of a facility with a NPDES permit to discharge storm water associated with industrial, commercial, or residential activity commits an offense if he/she denies the City reasonable access to the permitted facility for the purpose of conducting any activity authorized or required by these Regulations.
- g) If the City of Beverly or its agent(s) has been refused access to any part of the premises from which storm water is discharged, and he/she is able to demonstrate probable cause to believe that there may be a violation of these Regulations, or that there is a need to inspect and/or sample as part of a routine inspection and sampling program designed to verify compliance with these Regulations or any order issued hereunder, or to protect the overall public health, safety, and welfare of the community, then an authorized enforcement agency may seek the issuance of a search warrant from any court of competent jurisdiction.

**III.7. Requirement To Prevent, Control, and Reduce Stormwater Pollutants and the Use of Best Management Practices**

The Department of Engineering will adopt requirements identifying Best Management Practices for any activity, operation, or facility, which may cause or contribute to pollution or contamination of storm water, the municipal storm drainage system, or waters of the United States. The property owner or operator of a commercial or industrial establishment shall provide, at its own expense, reasonable protection from accidental discharge of prohibited materials or other wastes into the municipal storm drainage system or watercourses through the use of structural and non-structural BMPs. Further, any person responsible for a property or premises, which is, or may be, the source of an illicit discharge, may be required to implement, at said person's expense, additional structural and non-structural BMPs to prevent the further discharge of pollutants to the municipal storm drainage system. Compliance with all terms and conditions of a valid NPDES permit authorizing the discharge of storm water associated with industrial activity, to the extent practicable, shall be deemed compliance with the provisions of this section. These BMPs shall be part of a storm water pollution prevention plan (SWPPP) as necessary for compliance with the requirements of the particular NPDES permit



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**III.8. Watercourse Protection**

Every person owning property or in legal control of a premises through which a watercourse passes, shall keep and maintain that part of the watercourse within the property free of trash, debris, excessive vegetation, and other obstacles that would pollute, contaminate, or significantly retard the flow of water through the watercourse. In addition, such person shall maintain existing privately owned structures within or adjacent to a watercourse, so that such structures will not become a hazard to the use, function, or physical integrity of the watercourse.

**III.9. Notification of Spills**

Notwithstanding other requirements of law, as soon as any person responsible for a facility or operation, or responsible for emergency response for a facility or operation, has information of any known or suspected release of materials which are resulting or may result in illegal discharges or pollutants discharging into stormwater, the storm drain system, or water of the U.S. said person shall take all necessary steps to ensure the discovery, containment, and clean up of such release. In the event of such a release of hazardous materials said person shall immediately notify emergency response agencies of the occurrence via emergency dispatch services. In the event of a release of non-hazardous materials, said person shall notify the City of Beverly Departments of Public Services and Engineering in person or by phone or facsimile no later than the next business day. Notifications in person or by phone shall be confirmed by written notice addressed and mailed to the Departments of Public Services and Engineering within three (3) business days of the notice. If the discharge of prohibited materials emanates from a commercial or industrial establishment, the owner or operator of such establishment shall also retain an on-site written record of the discharge and the actions taken to prevent its recurrence. Such records shall be retained for at least three (3) years.

**IV. EROSION/SEDIMENTATION AND MATERIALS MANAGEMENT**

**IV.1. Definitions**

For the purposes of these Regulations, the following terms shall mean the following:

Clearing: Any activity that removes the vegetative surface cover.

Construction Chemicals: Chemical pollutants, such as paints, acids for cleaning masonry surfaces, cleaning solvents, asphalt products, soil additives used for stabilization, and concrete-curing compounds.

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Drainage Way: Any channel that conveys surface runoff throughout the site.

Erosion Control: A measure that prevents erosion.

Erosion and Sediment Control Plan: A set of plans prepared by or under the direction of a professional engineer licensed with the Commonwealth of Massachusetts indicating the specific measures and sequencing to be used to control sediment and erosion on a development site during and after construction.

Grading: Changing the level, elevation or shape of the ground surface.

Erosion Control Manual: Massachusetts Erosion and Sedimentation Control and Guidelines for Urban and Suburban Areas, A Guide for Planners, Designers and Municipal Officials as prepared by Franklin, Hampden, and Hampshire Conservation Districts for the Massachusetts Office of Environmental Affairs, the U.S. Environmental Protection Agency, and the National Resources Conservation Service dated March 1997 and reprinted May 2003 (as updated or amended).

Nutrients: Fertilizers that are used on construction sites when revegetating graded or disturbed areas.

Perimeter Control: A barrier that prevents sediment from leaving a site by filtering sediment-laden runoff or diverting it to a sediment trap or basin.

Pesticides: Insecticides, rodenticides and herbicides as used on construction sites to provide safe and healthy conditions, reduce maintenance and fire hazards, curb weeds and woody plants, and control rodents.

Petroleum Products: Petroleum products used during construction including fuels and lubricants for vehicles, power tools, and general equipment maintenance including but not limited to gasoline, diesel oil, kerosene, lubricating oils, and grease.

Phasing: Clearing a parcel of land in distinct phases, with the stabilization of each phase completed before the clearing of the next.

Sediment Control: Measures that prevent eroded sediment from leaving the site.

Site: A parcel of land or a contiguous combination of parcels, where grading work is performed as a single unified operation.



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Site Development Permit: A permit issued by the municipality for the construction or alteration of ground improvements and structures for the control of erosion, runoff, and grading during construction.

Solid Wastes: All solid wastes on construction sites such as that generated from trees and shrubs removed during land clearing and structure installation, wood and paper from packaging and building materials, scrap metals, sanitary wastes, rubber, plastic and glass, and masonry and asphalt products.

Stabilization: The use of practices that prevent exposed soil from eroding.

Start of Construction: The first land-disturbing activity associated with a development, including land preparation such as clearing, grading, and filling; installation of streets and walkways, excavation for basements, footings, piers, or foundations, erection of temporary forms, and installation of accessory or temporary buildings such as garages and construction offices.

Waterway: Any body of water, including, but not limited to lakes, ponds, rivers, streams, ocean and bodies of water located in the City of Beverly.

Watercourse: A channel that directs surface runoff to a waterway or to a public storm drain or system.

#### **IV.2. Erosion & Sedimentation Control Manual**

The Massachusetts Erosion and Sedimentation Control and Guidelines for Urban and Suburban Areas, A Guide for Planners, Designers and Municipal Officials (hereinafter referred to as the Erosion Control Manual) as prepared by Franklin, Hampden, and Hampshire Conservation Districts for the Massachusetts Office of Environmental Affairs, the U.S. Environmental Protection Agency, and the National Resources Conservation Service dated March 1997 and reprinted May 2003 (as updated or amended) is hereby incorporated by reference as part of these Regulations, and shall furnish additional policy, criteria and information including specifications and standards, for the proper implementation of the requirements of these Regulations.

This Erosion Control Manual includes a list of acceptable erosion and sediment control practices, including the specific design criteria for each practice. The Department may, at its own discretion and based on its own experience, develop interpretive or informational policies to further the goals and objectives of these Regulations.

#### **IV.3. Permits**

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1) **Projects Disturbing One Acre or More of Land**

No person shall be granted a site development permit for land-disturbing activity that would require the uncovering of one (1) acre or more (43,560 square feet) without the approval of an Erosion/Sediment Control and Materials Management Plan by the Department.

Each application shall bear the name(s), address(es) and emergency contact information of the owner and developer of the site, and of any consulting firm retained by the applicant together with the name of the applicant's principal contact at such firm. A filing fee established for this purpose by the Department shall accompany the application.

Each application shall include a statement that any land clearing, construction, or development involving the movement of earth shall be in accordance with the Erosion and Sediment Control and Materials Management Plan approved by the Department.

The applicant will be required to file with the City of Beverly a performance bond, letter of credit, or other security in an amount deemed sufficient by the Department to cover all costs of improvements, landscaping, and maintenance of improvements for such period as specified by the City of Beverly, and engineering and inspection costs to cover the cost of failure or repair of# improvements installed on the site. The security required by this paragraph shall be returned to the applicant upon successful implementation of the approved Erosion/Sedimentation Control and Materials Management Plan and satisfactory completion of construction activities, as determined by the Director.

The applicant will be required to place a legal notice regarding the application in a newspaper of general circulation in the City at his/her own expense, and shall also be required to mail a copy of such notice via regular mail to all abutters of the property to be developed. Said notice shall be published within three (3) days of the filing of the application with the Department, and shall provide at least the following information:

- i. Location and nature of project;
- ii. Date application for approval of an Erosion/Sediment Control and Materials Management Plan was submitted to the Department;
- iii. Location where application can be reviewed during normal City Hall business hours; and
- iv. Deadline for receipt of written comments by the Department.

2) **Projects Disturbing Less Than One Acre of Land But More Than One-Quarter Acre of Land**



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- a) No person shall be granted a site development permit for land-disturbing activity that would require uncovering less than one acre of land but more than one quarter acre of land without the approval of an Abbreviated Erosion/Sediment Control & Materials Management Application by the Department.

**3) Projects Disturbing Less Than One-Quarter Acre of Land**

- a) No person undertaking a project that will disturb less than one quarter acre of land shall commence work until they have submitted a Minor Project Management Application. Such projects shall be required to submit an erosion/sediment control and materials management plan with the application when, in the opinion of the Building Inspector, his designee, or the Director, the submission of such a plan is needed to further the purpose and intent of these Regulations and/or to safeguard surrounding property and public infrastructure systems.

**4) Exempt Projects**

No site development permit is required for the following activities:

- a) Any emergency activity that is immediately necessary for the protection of life, property, or natural resources;
- b) Repairs to any stormwater system deemed necessary by the Department;
- c) Existing nursery and agricultural operations conducted as a permitted main or accessory use.

Although the uses outlined in a) through c) above do not require a site development permit, erosion control measures meeting the approval of the Department must still be employed.

**IV.4. Review and Approval**

**1) Projects Disturbing One Acre or More of Land**

- a) The Department will review each application for a site development permit to determine its conformance with the provisions of these Regulations. The Department shall consider any written comments received from the public as a result of the required public notice, and may require changes or the submission of additional information as he deems necessary to create an acceptable and complete plan. The Department shall, in writing:
  - i. Approve the permit application;

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- ii. Approve the permit application subject to such reasonable conditions as may be necessary to secure substantially the objectives of this Ordinance, and issue the permit subject to those conditions; or
  - iii. Disapprove the permit application, indicating the reason(s) and procedure for submitting a revised application.
- b) Pending preparation and approval of a revised plan, development activities may be allowed to proceed in accordance with conditions imposed by the Department.
  - c) Upon approval of the permit and prior to commencement of construction/demolition/activity on the site, the applicant shall be required to post a sign on the premises that identifies the fact that an approved erosion and sediment control and materials management plan is on file with the Department and provides a contact phone number for questions or complaints about construction activities. Such sign shall be visible from at least one public way and of such size and construction methods deemed acceptable by the Department. Said sign shall be posted on site for the duration of construction activities.
  - d) The Department shall keep copies of all such applications, public comment, and approved plan (if any) on file for public review.

**2) Projects Disturbing Less Than One Acre of Land But More Than One-Quarter Acre of Land**

- a) The Department will review each abbreviated Erosion/Sediment Control and Materials Management Application to determine its conformance with the provisions of these Regulations. The Department shall, in writing:
  - i) Approve the permit application;
  - ii) Approve the permit application subject to such reasonable conditions as may be necessary to secure substantially the objectives of these Regulations, and issue the permit subject to those conditions; or
  - iii) Disapprove the permit application, indicating the reason(s) and procedure for submitting a revised application.
- b) Pending preparation and approval of a revised plan, development activities may be allowed to proceed in accordance with conditions by the Department.

**3) Projects Disturbing Less Than One-Quarter Acre of Land**



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- a) The Department will review each abbreviated Erosion/Sediment Control and Materials Management Application to determine its conformance with the provisions of this Ordinance. The Department shall, in writing:
  - i) Approve the permit application;
  - ii) Approve the permit application subject to such reasonable conditions as may be necessary to secure substantially the objectives of this Ordinance, and issue the permit subject to those conditions; or
  - iii) Disapprove the permit application, indicating the reason(s) and procedure for submitting a revised application.
- b) Pending preparation and approval of a revised plan, development activities may be allowed to proceed in accordance with conditions by the Department.

**IV.5. Erosion and Sediment Control and Materials Management Plan Requirements**

- 1)** The Erosion and Sediment Control and Materials Management Plan submitted for any project shall at a minimum include the following:
  - a) A brief narrative describing the project, the site and adjacent properties;
  - b) A natural resources map identifying soils, forest cover, and other resources protected under other chapters of the City Ordinances;
  - c) Identification of sensitive or potentially problematic areas or characteristics on and adjacent to the site;
  - d) Site development plan that includes the proposed project, existing and proposed grades, and all erosion control measures;
  - e) A sequence of construction of the development site, including stripping and clearing; rough grading; construction of utilities, infrastructure, and buildings; and final grading and landscaping. Sequencing shall identify the expected date on which clearing will begin, the estimated duration of exposure of cleared areas, areas of clearing, installation of temporary erosion and sediment control measures, and establishment of permanent vegetation;
  - f) Details and specifications of all erosion and sediment control measures necessary to meet the objectives of these Regulations throughout all phases of construction and after completion of development of the site. Depending upon the complexity of the project and/or the timing of construction activities, the drafting of intermediate plans may be required at the close of each season;
  - g) A vegetation/re-vegetation/landscaping plan that includes seeding mixtures and rates, types of sod, method of seedbed preparation, expected seeding dates, type and rate of lime and fertilizer

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application, and kind and quantity of mulching for both temporary and permanent vegetative control measures. For projects of less than one (1) acre, the Department shall provide a list of suggested plant/seed mixtures.

- h) An Operation and Maintenance Plan and list of parties responsible for erosion control structures before and during construction and after the completion of the project;
  - i) All proposed measures necessary to prevent, control and properly address pollutants on site in accordance with these Regulations; and
  - j) Any supporting calculations.
- 2) Modifications to the plan shall be processed and approved or disapproved in the same manner as Section IV.3. & IV.4. of these Regulations, except that the legal notice and abutter notification requirements may be waived by the Department if he/she deems such modifications to be minor in nature. All modifications shall be authorized by the Department in writing and shall be sent to the permittee.

**IV.6. Design Requirements**

- 1) Grading, erosion control practices, sediment control practices, and waterway crossings shall meet the design criteria set forth in the most recent version of the Erosion Manual, and shall be adequate to prevent transportation of sediment from the site to the satisfaction of the Department. Cut and fill slopes shall be *no greater than 2:1*, except as approved by the Department to meet other community or environmental objectives.
- 2) Clearing and grading of natural resources such as forests and wetlands shall not be permitted, except when in compliance with all other chapters of the Ordinances of the City. Clearing techniques that retain natural vegetation and drainage patterns, as described in the Manual, shall be used to the satisfaction of the Department.
- 3) Clearing, except that necessary to establish sediment control devices, shall not begin until all sediment control devices have been installed, stabilized and inspected and approved by the Department or its designee.
- 4) Phasing shall be required on all sites disturbing greater than 30 acres, with the size of each phase to be established at plan review and approved by the Department.
- 5) Erosion control requirements shall at a minimum include the following:



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- a) Soil stabilization shall be completed within *five days* of clearing or inactivity in construction;
  - b) If seeding or another vegetative erosion control method is used, it shall become established within *two weeks* or the Department may require the site to be reseeded or a non-vegetative option employed;
  - c) Special techniques that meet the design criteria outlined in the Manual on steep slopes or in drainage ways shall be used to ensure stabilization;
  - d) Soil stockpiles must be stabilized or covered at the end of each workday;
  - e) The entire site must be stabilized, using a heavy mulch layer or another method that does not require germination to control erosion, at the close of the construction season; the Department may suggest additional measures needed to secure a site when construction is not completed within a single building season;
  - f) Techniques shall be employed to prevent the blowing of dust or sediment from the site;
  - g) Techniques that divert upland runoff past disturbed slopes shall be employed.
- 6) Sediment controls requirements shall at a minimum include:
- a) Settling basins, sediment traps, or tanks and perimeter controls;
  - b) Settling basins that are designed in a manner that allows adaptation to provide long-term stormwater management, if required by the Department;
  - c) Protection for adjacent properties by the use of a vegetated buffer strip in combination with perimeter controls.
- 7) Waterway and watercourse protection requirements shall at a minimum include:
- a) A temporary stream crossing installed and approved The City of Beverly Conservation Commission if a waterway will be crossed regularly during construction;
  - b) Stabilization of the waterway channel before, during, and after any in-channel work.
  - c) All on-site stormwater conveyance channels shall be designed according to the criteria outlined in the Manual;
  - d) Stabilization adequate to prevent erosion located at the outlets of all pipes and paved channel(s).
- 8) Construction site access requirements shall at a minimum include:
- a) A temporary access road provided at all sites;

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- b) Stable construction entrance/exit to keep mud and sediment off of public ways;
  - c) Other measures required by the Department in order to ensure that sediment is not tracked onto public streets by construction vehicles or washed into storm drains.
- 9) Landscaping and re-vegetation employed on site shall consist of native plant species whenever practicable.

**IV.7. MATERIALS MANAGEMENT PRACTICES**

- 1) The permittee or his/her agents shall properly store, handle, apply and dispose of pesticides in the following manner:
- a) Pesticide storage areas on construction sites should be protected from the elements. Warning signs should be placed in areas recently sprayed or treated. Persons mixing and applying these chemicals should conform to the requirements of the Occupational Safety and Health Administration (OSHA).
  - b) Application rates should conform to registered label directions. Disposal of excess pesticides and pesticide-related wastes should conform to registered label directions for the disposal and storage of pesticides and pesticide containers set forth in applicable Federal, State, and local regulations that govern their usage, handling, storage, and disposal. Pesticide application should be the tool of last resort; methods that are the least disruptive to the environment and human health should be used first.
  - c) Pesticides should be disposed of through either a licensed waste management firm or at a treatment, storage, and disposal facility approved for such purposes. Containers should be triple-rinsed before disposal and rinse waters should be reused as product.
  - d) Other required practices include setting aside a locked storage area, tightly closing lids, storing in a cool, dry place, checking containers periodically for leaks or deterioration, maintaining a list of products in storage, using plastic sheeting to line the storage area, and notifying neighboring property owners prior to spraying.
- 2) The permittee or his/her agents shall properly store, handle, use and dispose of petroleum products. When storing petroleum products, follow these guidelines:
- a) Create a shelter around the area with cover and wind protection;
  - b) Line the storage area with a double layer of plastic sheeting or similar material;



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- c) Create an impervious berm around the perimeter with a capacity 110 percent greater than that of the largest container;
  - d) Clearly label all products;
  - e) Keep tanks off the ground;
  - f) Keep lids securely fastened; and
  - g) Oil and oily wastes such as crankcase oil, cans, rags, and paper dropped into oils and lubricants should be disposed of in proper receptacles or recycled. Waste oil for recycling should not be mixed with degreasers, solvents, antifreeze or brake fluid.
- 3) The permittee or his/her agents shall establish fuel and vehicle maintenance staging areas located away from all drainage courses and design these areas to control runoff.
- 4) The permittee or his/her agents shall provide sanitary facilities for construction workers.
- 5) The permittee or his/her agents shall develop and implement a spill prevention and control plan. Agencies, contractors and other commercial entities that store, handle, or transport fuel, oil or hazardous materials should develop a spill response plan. The plan should address post spill procedure information and have persons trained in spill handling on site or on call at all times. Materials for cleaning up spills should be kept on site and easily available. Spills should be cleaned up immediately and the contaminated material properly disposed of. The Fire Department, Board of Health and Engineering Departments shall be alerted immediately of the occurrence of a spill. Spill control plan components should include the following steps:
- a) Stop the source of the spill;
  - b) Contain any liquid;
  - c) Cover the spill with absorbent material such as kitty litter or sawdust, but do not use straw. Dispose of the used absorbent properly; and
  - d) Educate construction workers about proper materials handling and spill response procedures.
- 6) The permittee or his/her agents shall maintain and wash equipment and machinery in confined areas specifically designed to control runoff.
- 7) Washout from concrete trucks should be conducted outside of City limits wherever practical. When washout is conducted on site, it should be disposed of into:
- a) A designated area that will later be backfilled;

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- b) An area where the concrete wash can harden, be broken up, and then placed in a dumpster; or
  - c) A location not subject to urban runoff and more than 50 feet away from a storm drain, open ditch, or surface water.
- 8) Dumping washout into a sanitary sewer or storm drain or onto soil or pavement that carries urban runoff is prohibited.
- 9) All solid waste, including excess asphalt, produced during construction shall be removed from the site and legally disposed of off-site.
- 10) The permittee or his/her agents shall educate construction workers about proper materials handling and spill response procedures.
- 11) Permittee or his/her agents shall distribute or post informational material regarding chemical control.

**IV.8. INSPECTIONS**

- 1) The Engineering Department or designated agent shall make inspections as hereinafter required and either shall approve that portion of the work completed or shall notify the permittee wherein the work fails to comply with the approved Erosion and Sediment Control and Materials Management Plan. Plans for grading, stripping, excavating, and filling work bearing the stamp of approval of the Department shall be maintained at the site during the progress of the work. To obtain inspections, the permittee shall notify the Department at least two working days before the following:
- a) Start of construction
  - b) Installation of sediment and erosion measures
  - c) Completion of site clearing
  - d) Completion of rough grading
  - e) Completion of final grading
  - f) Close of the construction season
  - g) Completion of final landscaping
  - h) Removal of sediment and erosion control measures
- 2) The permittee or his/her agent shall make regular inspections of all control measures in accordance with the inspection schedule outlined on the approved Erosion and Sediment Control and Materials Management Plan(s). The purpose of such inspections will be to determine the overall effectiveness of the control plan and the need for additional control measures. All inspections shall be documented in written form and submitted to the Department at the time interval specified in the approved permit.



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3) The Department or its designated agent shall enter the property of the applicant as deemed necessary to make regular inspections to ensure compliance with the Plan.

**IV.9. Modifications**

The Department reserves the right to modify the Erosion and Sediment Control and Materials Management Plan upon written notice to the applicant.

**V. DRAINAGE PATTERN ALTERATIONS**

**1) Applicability**

It shall be unlawful for any person or other legal owner of real property in the City to disturb the existing grade of land by more than two feet without first obtaining the approval of the City Engineer and, where applicable:

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- a) The Conservation Commission if the property is subject to the Wetlands Protection Act or the City's Wetland Protection Ordinance and the Rules and Regulations adopted pursuant to that Ordinance; and
- b) The City's Planning Board, if the property is being altered pursuant to a subdivision which is subject to the Subdivision Control Law.

**2) Conditions for Issuance**

A permit required by this article will be issued by the Department to the owner or the owner's duly authorized agent after the Department has reviewed a plan to be submitted showing the nature of the grade change proposed, but only on such conditions, which shall be determined by the Department, that will ensure that the proposed grade changes will not adversely affect existing drainage and groundwater conditions, which would affect the public health, safety and welfare of any public way or adjoining real estate.

**3) Fee**

A permit fee shall be paid at the time that an application for a drainage permit is filed with the Department. The Department shall act to grant, with or without conditions, or deny a permit application within 14 days of its filing.

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**VI. CONSTRUCTION INSPECTIONS**

- Periodic inspections of system installation at milestones including but not limited to: subsurface infiltration system installation, outfall installation, overflow systems meeting City infrastructure.

**VII. MEASUREMENTS**

- Topography of surface stormwater management systems such as detention/retention ponds, swales, rain gardens, outfalls
- Detailed outfall structure sketches including inverts
- Inverts at all manholes and outfall points
- Depth of mains/services in City streets

**VIII. AS-BUILTS**

- For site developments: as-builts showing the location of the mains, laterals, catch basins, manholes, roof leaders, ponds, swales, rain gardens, subsurface infiltration systems and other site wide infrastructure are required. Proper labelling to include material, diameter, rim elevation, invert elevations and flow direction.
- This As-Built will be incorporated into the System's Long Term Maintenance and Operation plan so a consistent structure naming convention can be followed.

**IX. REPORTING**

- Monthly/Quarterly maintenance reports will be due to the Engineering Department during Construction as outlined in the General Requirements section of these Regulations
- Annual Maintenance reports are due to the Engineering Department once the system has been constructed and is in use.
- The Site Specific Long Term Maintenance Plan generated by the Applicant and approved by the Engineering Department shall outline all necessary maintenance items and reporting necessary. Such items shall include but not limited to visual inspection of all stormwater system structures, cleaning and repair of all structures, mowing of ponds or swales, removal of sediment from structures at certain thresholds. All inspection and maintenance reports will be due to the Engineering Department on an Annual basis.



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VIOLATIONS

Failure to perform work in accordance with the above rules and regulations may result in a shut down of the work site and fines assessed per violation. The fee for such violations shall be \$300 per violation per day, as outlined in City Ordinance 86.

Violations of these regulations shall include, but are not limited to:

1. Work without an engineered plan
2. Work without a grading plan
3. Work without drainage calculations
4. Work in violation of Conditional Approval (assessed per each condition)
5. Work without a Construction Oversight Engineer
6. Work without an approved pedestrian safety plan
7. Work blocking parking spaces, without prior approval
8. Working without valid license
9. Working without valid permits
10. Outstanding fees not paid
11. Work without Pre-Construction Notification
12. Work without a valid DigSafe Number
13. Failure to comply with approved grading and erosion control permit
14. Improper erosion controls
15. Adverse effect on neighboring properties
16. Unsafe trench excavation
17. Improper trench repair
18. Utility installation using improper materials and/or methods
19. Performing work without proper inspections
20. Improper storage of materials
21. Activating services without Department sign-offs
22. No As-Builts Provided
23. As-Builts missing critical measurements (assessed per each measurement)
24. Improper or missing periodic reporting (assessed per each required report)
25. Failure to follow approved Operation and Maintenance Plan
26. Illicit discharges