

MassDEP

Groundwater Permit Program Overview and Requirements



Massachusetts Department of Environmental Protection
January 2012

Groundwater Advisory Task Force

- Hydrogeologists
- Engineers
- Local officials
- Environmental groups
- Development community
- MassDEP staff



Changes to Groundwater Program

- Secondary treatment definition
- Streamline process
- Activities not requiring a permit
- Separate hydrogeological study
- Modifications to groundwater quality standards
- Incorporate drinking water standards
- Zone II requirements



Changes to Groundwater Program (cont'd)

- Disinfection
- Certifications
- Financial security requirements
- Permit types
- Other changes



Secondary Treatment Definition

- 314 CMR 5.02
- “Secondary treatment”
 1. 85% removal of BOD and TSS (30/30)
- “Enhanced secondary treatment”
 1. 200 fecal coliform organisms/100 ml
 2. 10 mg/l of total and nitrate nitrogen



Permit Streamlining

Reduced Time Frames

- MassDEP review time reduced
- Permittee response time reduced
- Eliminate permit bottlenecks
- Certifications w/application
 1. Engineers report
 2. Plans & specifications
 3. Hydrogeologic study



Permit Streamlining

Revised Timelines

MassDEP Task	Application Without Deficiencies (days)	Application With Deficiencies (days)
Previous Permit Review including hydrogeologic review	320	520
New Hydrogeologic/General Permit	120	192
New Hydrogeologic/Individual Permit	195	276



Activities Not Requiring A Permit

- 314 CMR 5.05
- Ground source heat pump. DWS guidance at:
<http://www.mass.gov./dep/water/laws/ghspguid.doc>
- Non-contact cooling water $\leq 15,000$ gpd and ≤ 40 Degrees Celsius
- Reclaimed water system with a permit under 314 CMR 20.00



Hydrogeologic Study

- 314 CMR 5.09
- Early MassDEP involvement – scoping session
- Separate application, guidance and fee
- Expedited review with accepted time frames
- MassDEP approval – proponent knows the acceptable flow



Hydrogeologic Evaluation

314 CMR 5.09

Results in

- ★ Preliminary site evaluation
- ★ Determination of Permit to apply for – General or Individual
- ★ For Zone IIs/IWPAs notification of standards to be required in permit;
- ★ Monitoring Well plan approval.



Hydrogeologic Evaluation BRPWP83

Process:

- Pre-scoping meeting with MassDEP Region
- Scope submitted
 - *Applicant sends Notice to Environmental Monitor of Scope submittal*
 - *If ZII/IWPA, Notice to public water system via certified mail*
 - ZII/IWPA Scope must include accessing time of travel for determination of standards



Hydrogeologic Evaluation BRPWP83

MassDEP review of Scope

Is scope acceptable?

If **no**,

- Applicant responds to MassDEP comments, second review of scope
- If Scope not acceptable, Scope rejected
- Can submit new Scope

If **yes**,

- MassDEP Approves Scope,
- Approval letter sent to Applicant,
- Applicant conducts field investigation (*MassDEP presence during on-site work*)



Hydrogeologic Evaluation BRPWP83

MassDEP Review of Hydrogeologic Report

- ★ Applicant submits Hydrogeologic report with application
 - *If ZII/IWPA Notice to public water system via certified mail*

- ★ Report reviewed by regional staff
 - *Zone II/IWPA – Region, Boston and Water Supply staff confer to determine appropriate TOC limits if outside 2 year time of travel*



Hydrogeologic Evaluation BRPWP83

MassDEP Review of Hydrogeologic Report

Report Acceptable?

- If **no**, Applicant responds to MassDEP comments.
 - MassDEP review of response. If not approved,
 - » Site determined to be unsuitable or report incomplete
 - » Can submit new scope



Hydrogeologic Evaluation BRPWP83

- If **yes**, MassDEP approves report
 - Site approved for specific design conditions
 - Applicant informed of applicable ZII limits
 - Applicant informed of tentative determination for permit coverage under an individual or general permit and which permit category to apply under



Modification to Groundwater Standards

- 314 CMR 5.10
- All groundwater is actual or potential source of potable water
- Effluent limitations consistent with levels established in 310 CMR 22.00
- Eliminate 314 CMR 6.00
- Any Class III in existence as of 3/20/09 can remain
- “Special Effluent Limitations” – 5.10(9)



Zone II/IWPA Requirements

- 314 CMR 5.10(4A)
- More stringent than standard discharge
- No discharge within the 6-month travel time or Zone I, whichever is larger
- Additional standards within 2-year travel time
- Outside 2-year travel time, established Total Organic Carbon (TOC) standard with limited flexibility



Emerging Contaminants

- Existence of trace levels of natural and synthetic compounds in aquatic environments
 - Pharmaceuticals
 - Personal Care Products
 - Disinfection By-Products
 - Endocrine Disruptors



Effluent Limits Within a Zone II/IWPA

Parameter	Zone II/IWPA outside 2-year travel time	Zone II/IWPA* within 2-Yr.Travel Time
Total Nitrogen (mg/l)	10	5
TSS (mg/l)	10	5
Turbidity (NTU)	5	2
BOD (mg/l)	30	10
TOC (mg/l)	3	1
Fecal coliform	200	Median of ND
Virus	No standard	5-log reduction of MS2 or poliovirus

** No discharge allowed in Zone I or 6-month travel time, whichever is greater*



What is TOC?

- Total Organic Carbon
 - Defined as: The oxidizable carbon present in treated sewage as measured by a Massachusetts certified laboratory



Why Measure TOC

- Established test
- Use as a surrogate similar to Fecal Coliform
- Low TOC indicative of high level of treatment
- PPCP/EDC do not have established limits



TOC Standard in Zone II/IWPA

- 1 mg/l within 2-year travel time (no exceptions)
- 3 mg/l outside 2-year travel time unless otherwise determined by MassDEP
 1. Zone of Contribution
 2. Mitigation or additional source protection provided
 3. Determination by Boston, Region and Water Supply staff.



Disinfection

- Technology based limits require “enhanced secondary treatment” that includes fecal limit of 200/100 ml - 314 CMR 5.10(4)(a)
- MassDEP will not require disinfection unless:
 1. Open sand beds
 2. Zone II/IWPA
 3. Reclaimed water within 100 feet of irrigation well
 4. Direct injection into saturated zone
 5. MassDEP determines necessary to protect the public health, safety, welfare or the environment



Certifications

- Submitted with Permit Application
 1. Engineers Report
 2. Plans & Specifications
 3. Hydrogeological Study



Financial Security

314 CMR 5.15

- Required if a PWTF treats sewage with a residential component, including care facilities
 1. Immediate Repair and Replacement Account
 2. Capital Reserve Account
- Regulations establish the formulas



Financial Security (cont'd)

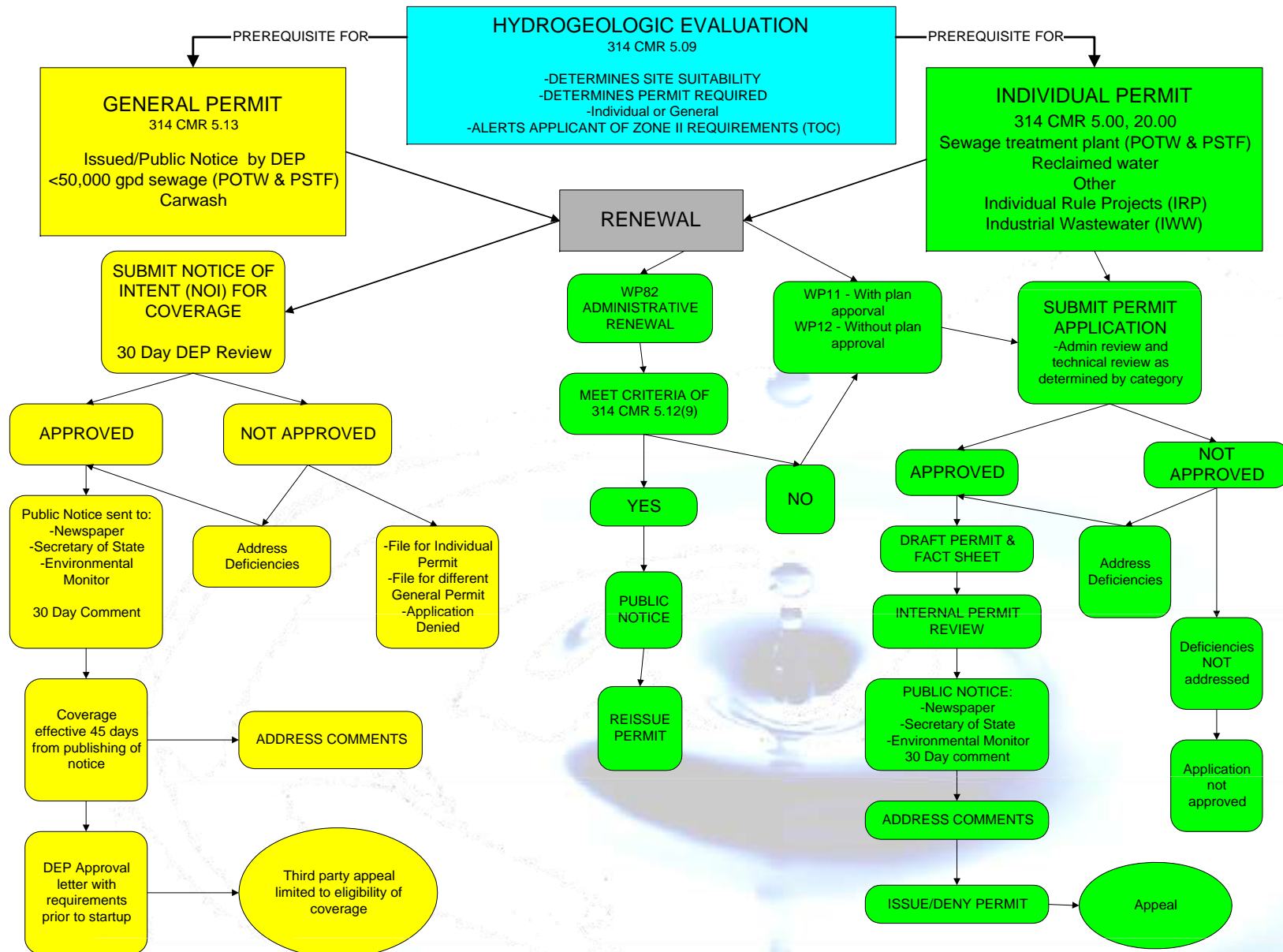
- Standard documents – reduced review time
 1. Submitted 90 days prior to facility start-up
 2. Reviewed in regional office and signed by DRDs
 3. Kept in regional office
 4. Funds in account 30 days prior to facility start-up
 5. Documents located at Y:\BRP Groundwater
- MassDEP reserves right to require these accounts for non-residential PWTFS



Permit Types & Renewals

- Individual Permits
- General Permits (314 CMR 5.13)
- Permit Renewals (314 CMR 5.12)
- Administrative Renewal (314 CMR 5.12(9))





PERMIT APPLICATION PROCESS

Individual Permits



Massachusetts Department of Environmental Protection
January 2012

Individual Permit Process

Permit Application submitted

★ Application includes:

- Engineering Report with Certification
- Hydrogeologic Certification
- Plans and Specifications Certification
- If in Zone II/IWPA
 - Applicant notifies Public Water Supply (314 CMR 5.09(A)(8))



Individual Permit Process



Application Reviewed

- Administrative Review
- Technical Review
- Timelines for reviews and responses to deficiencies as specified for each category
- Application Complete?
 - If **NO**, Deficiency Notice sent
 - Applicant responds
 - MassDEP review determines not approvable, or application complete



Individual Permit Process

★ Application Reviewed (cont'd)

➤ Application Complete?

▪ If **YES**, Permit and Fact Sheet drafted

- Draft permit and public notice sent to applicant
- Applicant publishes notice in:
 - » Newspaper
 - » Central Register
 - » Environmental Monitor
- 30 Day public Comment period
 - » Address comments
 - » Issue/Deny permit
 - » Plan Approval Letter



Individual Permit Process

MassDEP Approval letter

- ★ Requires submittal of the following 90 days prior to startup:
 - O&M Manual
 - Startup plan
 - Copy of draft contract (if contract ops), staffing plan or facility staff
 - Plans & Specs
 - Financial Security documents (if applicable)
- ★ Inspection and Clearwater test prior to startup



Individual Permit Process

- For facilities requiring Financial Assurance Mechanisms (FAMs):
 - FAM documents will contain amounts to be accumulated for escrow and capital reserve
 - Calculated by project engineer, confirmed by MassDEP (Formula in 314 CMR 5.15(5))
 - Accumulated funds must be available 30 days prior to startup (Immediate Repair Account) and as scheduled for Capital Reserve Account
 - FAM Documents are reviewed and maintained by Regional Counsel



PERMIT APPLICATION PROCESS

General Permits



General Permits

- 314 CMR 5.13
- Submit Notice of Intent for coverage
- Third party can only appeal eligibility
- Examples
 1. WWTP < 50,000 gpd
 2. Carwashes
 3. Others under development
- MassDEP reserves right to require an individual permit



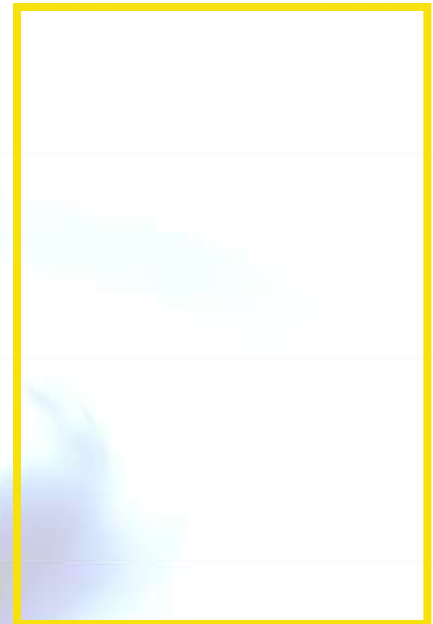
General Permit Issuance vs. Coverage

- Public Notice of permit by MassDEP
- General Permit effective for 5 years from Issuance Date
- Applicant submits Notice of Intent (NOI) requesting coverage under the General Permit



General Permit Application Process

- NOI Submitted for coverage
- NOI includes the following:
 - Project Description
 - Design Criteria (Flow rate, loadings, treatment units)
 - Engineer Certification
 - Plans & Specifications Certification
 - Hydrogeologic Certification
 - Signing of NOI = Waiver of Appeal rights



General Permit Application Process

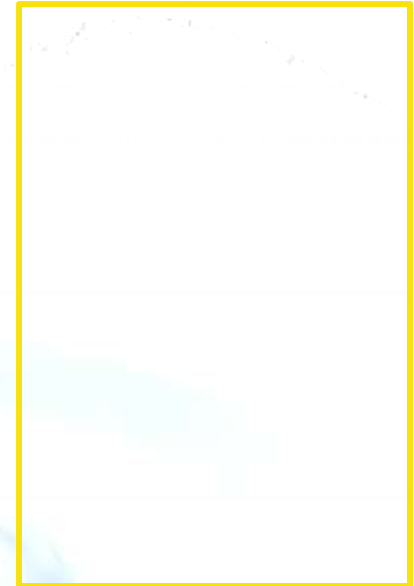
- MassDEP Review
 - Combined Administrative and Technical
- NOI Complete?
 - If **NO**, Deficiency Notice sent
 - Applicant responds
 - MassDEP review determines complete, not approvable, or needs Individual Permit



General Permit Application Process

➤ NOI Complete?

- If **YES**, Public Notice sent to applicant
 - Applicant publishes notice in:
 - » Newspaper
 - » Central Register
 - » MEPA
 - Coverage effective 45 days from publishing of notice
 - » 30-Day comment period/15 days to respond to comments
 - » Comments limited to eligibility for coverage
 - MassDEP can determine if Individual permit required



General Permit Application Process

NOI Complete (*cont'd*)

MassDEP sends General Permit, Fact Sheet & Approval letter

- Description of Facility
- Cites approved design flow
- Assigns Permit # for facility
- Cites Monitoring wells to be sampled, as approved
- Inspection and Clear Water Test required prior to startup

– Covers approval required under 314
CMR 12.03(4)



General Permit Application Process

MassDEP Approval letter (cont'd)

Requires submittal of the following 90 days prior to startup:

- O&M Manual
- Startup plan
- Copy of draft contract (if contract ops), staffing plan or facility staff
- Engineer's report
- Plans & Specs
- Financial Security documents (if applicable)



General Permit Application Process

- For facilities requiring Financial Assurance Mechanisms (FAMs):
 - FAM documents will contain amounts to be accumulated for escrow and capital reserve
 - Calculated by project engineer, confirmed by MassDEP (Formula in 314 CMR 5.15(5))
 - Accumulated funds must be available 30 days prior to startup (Immediate Repair Account) and as scheduled for Capital Reserve Account
 - FAM Documents are reviewed and maintained by Regional Counsel



General Permit Application Process

- Appeal
 - Third party appeal
 - Limited to applicant's eligibility, NOT contents of permit



PERMIT APPLICATION PROCESS *Renewals*



Massachusetts Department of Environmental Protection
January 2012

Permit Renewals

- Renewal of coverage under General Permit
 - BRPWP80 or BRPWP81
- Individual Permit Renewal
 - BRPWP11 & BRPWP12
 - Administrative Renewal



Permit Renewals

General

- “Administratively Continued” per 314 CMR 5.13(12)
 - If MassDEP does not reissue General Permit prior to its expiration
 - Can grant coverage to those who submitted prior to expiration date
 - Can grant coverage to those who submitted after expiration date
 - Those with coverage prior to expiration remain covered, provided they submitted renewal application on time



Permit Renewals

General

- Submit NOI for renewal (WP80 or WP81)
 - All who have been granted coverage must submit NOI for renewal 180 days prior to expiration of General Permit, regardless of when initial coverage was granted.
 - **EXAMPLE:**
 - General permit Issued by MassDEP on 7/1/2009
 - Expires on 7/1/2014.
 - Renewal due 1/2/2014
 - Applicant who was granted coverage 7/1/2012 must file for renewal by 1/2/2014



Individual Permit Renewals

- NO change to the existing renewal categories
 - BRPWP11 – Renewal or Modification with plan approval
 - BRPWP12 – Renewal or Modification without plan approval
- Application 180 days prior to expiration
- Not for renewal of General Permits



Individual Permit Renewals

Administrative Renewal

- Applies to Individual permits issued under 314 CMR 5.00 only
- Extend existing permit up to 5 years (pending any comments and responses to comments)
- Eliminates backlog
- Shorter timelines, lower fee



Individual Permit Renewals (cont'd)

Administrative Renewal

- Must meet **all** criteria of 314 CMR 5.12(9)
 - Application 180 days prior to expiration
 - No modifications required or requested
 - Operating in compliance with BMPs, O&M plan, Permit, CMR 5.00, and CMR 12.00
 - MA Registered Engineer inspects and certifies that facility is in compliance



Individual Permit Renewals

Administrative Renewal

➤ Criteria of 5.12(9) cont'd:

- MassDEP determines stricter limits not required
- Compliance with FAMs (if required)
- Facility is not required to submit engineering report for treatment plant evaluation (operational year 14 through 19, or beyond per CMR 5.12 (7) & (8))
- Does not treat industrial wastewater
- Application signed and certified as required by CMR 5.14



Groundwater Permit Regulation

Other Revisions

- Eliminate prohibition of groundwater discharge when a sewer is available
- Incorporate policies/guidance
- Permit transfer – 314 CMR 5.12(4)
- New General Conditions – use with all new permits, including renewals
- Nutrient Loading Approach
- Seasonal Facilities



Groundwater Permitting

Local Input

- Hydrogeological Scope – comment
- Hydrogeological Field Work – on site evaluation
- Draft Groundwater Permit – comment
- Construction of Disposal Field – on site inspection
- Local Bylaws – relevance to project



Groundwater Discharge and Reclaimed Water Permit Programs

Permit Categories & Fees



Permit Categories & Fees



- New permit categories
- Modify existing categories
- Eliminate existing categories
- Fees and timelines



New Permit Categories

- ➔ **BRP WP79:** Individual Permit for WWTP
- ➔ **BRP WP80:** General Permit for “Other” Discharges
- ➔ **BRP WP81:** General Permit for WWTP <50,000 gpd
- ➔ **BRP WP82:** Administrative Renewal
- ➔ **BRP WP83:** Hydrogeological Evaluation
- ➔ **BRP WP84:** Reclaimed Water Permit
- ➔ **BRP WP85:** Individual Permit for “Other” Discharges



BRP WP79

- Individual permit for a sewage treatment facility
- Replaces BRP WP06 & 08
- Hydrogeologic Study requires a separate application
- Certifications

Fee = \$4,625



BRP WP80

- Notice of Intent (NOI) for a General Permit for “Other” Discharges
- New permit and renewals
- Replaces BRP WP10

Examples

Carwashes

Laundromats

Water treatment plant residuals

Fee = \$700



BRP WP81

- Notice of Intent (NOI) for a General Permit for a sewage treatment facility $\leq 50,000$ gpd
- New permits and renewals
- Replaces BRP WP06 & 08
- Hydrogeologic Study requires a separate application
- Certifications

Fee = \$700



BRP WP82

- Administrative Renewal of existing permits
- Partial replacement for BRP WP12
- No WWTP modifications necessary
- WWTP properly operated

Fee = \$250

- P.E. Certification
- Existing permit standards acceptable
- Facility does not treat industrial wastewater



BRP WP83

- Hydrogeological Evaluation
- Separate application
- Prerequisite for other applications
 1. *Limited flexibility in some instances*
- Includes scope of services

Fee = \$9,250



BRP WP84

- New Reclaimed Water Permit
- Required only if project is not permitted by another MassDEP program
- Includes treatment and transmission facilities

Fee = \$4,625



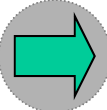
BRP WP85

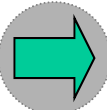
- New Individual Permit for “Other” Discharges not covered by a separate category
- Replaces BRP WP10

Fee = \$2,285



Modified Permit Categories




 **BRP WP11:** Renewal/Modification with plan approval

 **BRP WP12:** renewal/modification without plan approval

 **BRP WP68:** WWTP plan approval without permit modification



BRP WP11

-  Individual permit renewal or modification with plan approval
-  GW Program **and** Reclaimed Water Program
-  Revised timelines

Fee = \$1,490
(unchanged)






BRP WP12

- ➔ Individual permit renewal or modification without plan approval
- ➔ GW Program **and** Reclaimed Water Programs
- ➔ Revised timelines

Fee = \$725
(unchanged)



BRP WP68

-  Treatment works plan approval, without permit modification
-  GW, Surface Water, and Reclaimed Water Programs
-  Revised timelines

Fee = \$790

(unchanged)



Eliminate Permit Categories

BRP WP05: Experimental/Alternative Technology

BRP WP06: Major GW Discharge

BRP WP08: Minor GW Discharge

BRP WP10: Other GW Discharge


BRP WP42: GW Reclamation Project

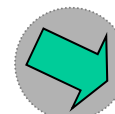


Groundwater Discharges

*Applies to permit categories BRP WP 79
(individual WWTP) & WP 81 (general WWTP)*

 **Large:** \$12,500 - $\geq 50,000$ gpd (previously 40,000 gpd)

 **Medium:** \$7,000 - $> 10,000$ gpd but $< 50,000$ gpd
(previously between 10,000 gpd & 40,000 gpd)

 **Small:** \$3,000 - $\leq 10,000$ gpd (unchanged)



Groundwater Discharges

- Applies to permit category BRP WP80
(general permit for specified discharges)

Fee = \$1,000

- Applies to permit category BRP WP85
(individual permit for other discharges)

Fee = \$175

- Fees in the above categories are not flow dependent



Reclaimed Water

- Applies to permit category BRP WP84

Fee = \$1,000

- Fee is not flow dependent



Questions?

- Contact

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- Email: alan.slater@state.ma.us

