



Department of Planning and Zoning

149 Church Street, City Hall
Burlington, VT 05401-8415
Phone: (802) 865-7188
Fax: (802) 865-7195

www.burlingtonvt.gov/pz

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DEPARTMENT OF
PLANNING & ZONING

Zoning Permit Application

Use this form for ALL zoning permit applications. See the relevant checklist for specific requirements.

PROJECT LOCATION ADDRESS: <u>258-262 N. Winooski Ave</u>	
PROPERTY OWNER*: <u>256-262 N. Winooski LLC</u> <small>*If condominium unit, written approval from the Association is also required</small>	OWNER'S REPRESENTATIVE: <u>Marsh Gooding</u>
POSTAL ADDRESS: <u>PO BOX 1332</u>	POSTAL ADDRESS: <u>PO BOX 1332</u>
CITY, ST, ZIP: <u>Burlington, VT 05402</u>	CITY, ST, ZIP: <u>Burlington, VT 05402</u>
DAY PHONE: <u>970-846-9564</u>	DAY PHONE: <u>970-846-9564</u>
EMAIL: <u>marshgooding@gmail.com</u>	EMAIL: <u>marshgooding@gmail.com</u>
SIGNATURE: _____ <small>I am the owner and I duly authorize the owner's representative (if applicable) to act on my behalf for all matters pertaining to this zoning permit application.</small>	SIGNATURE: _____

Description of Proposed Project: Combination of lots into one parcel, demolition of 4 existing buildings, shared access driveway, construction of building with 23 apartments and one commercial space, 8 space parking waiver requested for commercial portion of project.

Existing Use of Property: Single Family Multi Family: # 4 Units Other: Commercial

Proposed Use of Property: Single Family Multi Family: # 23 Units Other: Commercial

Will 400 sq ft or more of land be disturbed, exposed and/or developed? Yes No
(If yes, you will need to provide the 'Erosion Prevention and Sediment Control Plan' questionnaire with a site plan)

For Single Family & Duplex, will total impervious area be 2500 sq ft or more? Yes No
(If yes, you will need to provide the 'Stormwater Management Plan' questionnaire with a site plan)

Are you proposing any work within or above the public right of way? Yes No
(If yes, you will need to receive prior approval from the Department of Public Works)

Estimated Construction Cost (value)*: \$ 3,000,000
(*Estimated cost a typical contractor would charge for all materials and labor, regardless of who physically completes the work)

- Within 30 days of submission, the permit application will be reviewed for completeness, and, if complete, will be processed administratively or referred to a board for review. All permit approvals or denials are subject to an appeal period (15 days for administrative permit; 30 days for board permit).
- A building (and/or electrical, mechanical, plumbing, curb cut) permit will also be required. Contact the Department of Public Works at 802-863-9094 to inquire.
- Please ask for assistance if you have any questions about filling out this form. Call the Planning and Zoning at 802-865-7188, or visit the office in the lower level of City Hall, 149 Church Street.

Office Use Only: Zone: NMU Eligible for Design Review? Y Age of House 1904 Lot Size 10335+
 Type: SN ___ AW ___ FC ___ BA ___ COA 1 ___ COA 2 COA 3 ___ CU ___ MA ___ VR ___ HO ___ SP ___ DT ___ MP ___
 Check No. 1028 Amount Paid 6110 (CAD) Zoning Permit # MA/CA
3510 (MA)
~~750 (CA)~~



Stormwater Management Plan Screening

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Please provide the following information to the Stormwater Program Manager in order to determine what the requirements will be for your project.

- General Information
 - Project Address: 256-262 North Winooski Avenue
 - Owner: 256-262 N Winooski LLC
 - Engineer: Scott Homsted, P.E., Krebs & Lansing Consulting Engineers, Inc.
 - Brief project description: The applicants propose to redevelop the property located at 256-262 North Winooski Avenue into an apartment complex. The existing site has several buildings, including the old Bushey Garage. The redeveloped site will feature two apartment buildings with a shared circulation road and parking.
 - Receiving system identification (the Stormwater Program Manager will verify the receiving system)
 - Combined Sewer (Main, North or East Plant)
 - Separate Storm (Lake, Winooski, Englesby, Centennial, Wetland, unnamed tributary)

Receiving system: Combined Sewer

- Please provide a map indicating where the project will tie into existing City infrastructure (catch basin, manhole, combined or separate stormwater line)
- Existing conditions: description of existing conditions, description of existing stormwater system, existing drainage issues, current connectivity to City system

The existing site features two single family homes, a duplex, and the old Bushey garage. The site features a combination of paved and compacted gravel driveway accesses and parking. The existing site is mostly flat and has no formal stormwater collection system. Stormwater runoff from the site flows towards and onto North Winooski Avenue. The closest city catch basin is approximately 400 feet to the south, at the North Winooski/North Union intersection.

- Proposed Conditions: description of proposed conditions, brief description of proposed stormwater system, proposed method of discharge to receiving water or City system (overland flow, direct connection via pipe, existing or new manhole or CB)

A new access drive and 25 space parking lot will be constructed to serve the project. The access drive will be shared with the Legal Aid property located to the north. Concrete ramps and sidewalks will be used to access the buildings. The parking lot and access drive will be graded to sheet stormwater runoff towards new stormwater infiltration areas located north and east of the proposed buildings.

The proposed project is a redevelopment project located in an area with discharge to the combined sewer system. Preliminary calculations show that overall impervious surface on the site will remain approximately the

same (78%+/-). The mapped soils in this area are Adams and Windsor loamy sands (AdA), which typically are very well drained with a high infiltrative capacity.

As a project with less than one acre of new or redeveloped impervious surface, a State of Vermont stormwater discharge permit is not required. The project has been designed to meet the City of Burlington's goal of 50% treatment for the one year, 24 hour storm event. To achieve this, two stormwater infiltration systems have been designed to treat stormwater runoff from the project, located north and east of the proposed building underneath the parking lot. Roof drains from the buildings will be connected directly to the infiltration chambers, while runoff from the access road and parking lot will be collected in catch basins with sumps prior to discharge to the infiltration system.

- Erosion Prevention and Sediment Control
 - Amount of earth disturbance 0.6 +/-
- Stormwater Management Plan
 - Impervious change summary

Condition	Type	Impervious (s.f.)
Existing Conditions	Existing Impervious	16,650
Proposed	Total Proposed	16,600
	Net New	1,700
	Existing to Remain	0
	Redeveloped	14,100

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STORMWATER MANAGEMENT PLAN
256-262 North Winooski Avenue Apartments
Burlington, Vermont

DEPARTMENT OF
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- General Information

- Project Address: *256-262 North Winooski Avenue*
- Owner: *256-262 N Winooski LLC*
- Engineer: *Scott Homsted, P.E., Krebs & Lansing Consulting Engineers, Inc.*
- Brief project description: *The applicants propose to redevelop the property located at 256-262 North Winooski Avenue into an apartment complex. The existing site has several buildings, including the old Bushey Garage. The redeveloped site will feature two apartment buildings with a shared circulation road and parking.*
- Receiving system identification (the Stormwater Program Manager will verify the receiving system)
 - Combined Sewer (Main, North or East Plant)
 - Separate Storm (Lake, Winooski, Englesby, Centennial, Wetland, unnamed tributary)

Receiving system: *Combined Sewer*

- Existing conditions: description of existing conditions, description of existing stormwater system, existing drainage issues, current connectivity to City system

The existing site features two single family homes, a duplex, and the old Bushey garage. The site features a combination of paved and compacted gravel driveway accesses and parking. The existing site is mostly flat and has no formal stormwater collection system. Stormwater runoff from the site flows towards and onto North Winooski Avenue. The closest city catch basin is approximately 400 feet to the south, at the North Winooski/North Union intersection.

- Proposed Conditions: description of proposed conditions, brief description of proposed stormwater system, proposed method of discharge to receiving water or City system (overland flow, direct connection via pipe, existing or new manhole or CB)

A new access drive and 25 space parking lot will be constructed to serve the project. The access drive will be shared with the Legal Aid property located to the north. Concrete ramps and sidewalks will be used to access the buildings. The parking lot and access drive will be graded to sheet stormwater runoff towards new stormwater infiltration areas located north and east of the proposed buildings. The proposed project is a redevelopment project located in an area with discharge to the

combined sewer system. Preliminary calculations show that overall impervious surface on the site will remain approximately the same (78%+/-). The mapped soils in this area are Adams and Windsor loamy sands (AdA), which typically are very well drained with a high infiltrative capacity.

- Stormwater Management Plan
 - Impervious change summary

Condition	Type	Total Impervious (s.f.)	Effective Impervious (s.f.)
Existing Conditions	Existing Impervious	16,650	16,650
Proposed	Total Proposed (1+2+3)	16,600	16,600
	1) New	1,700	1,700
	2) Existing to Remain	0	0
	3) Redeveloped	14,100	14,100
New New	Total Proposed - Existing	16,600	16,600

- Stormwater Management Summary (indicate method and what amounts of impervious are being addressed for each standard)

Standard	Amount of impervious managed	
	Net New impervious	Redeveloped/Existing Impervious
Water Quality/Grit Removal	1,700	13,900
Runoff Reduction	1,700	13,900
Q1 peak control/reduction	1,700	13,900
Q10 peak control/reduction	NA	NA
Other	NA	NA

- Management Methods
 - Water Quality/Grit/Other
Water quality treatment and grit removal will occur in catch basin sumps and the “isolator row” of stormwater infiltration chamber systems A and B.
 - Runoff Reduction (infiltration, evapotranspiration processes)
Runoff reduction will take place via taking advantage of the existing highly permeable soils on the site to employ stormwater infiltration chamber systems A and B.
 - Detention

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- *Stormwater detention will occur in the storage capacity of the infiltration chamber systems A & B and the voids in the surrounding stone.*
- Other
Per correspondence with the City Stormwater Plangineer regarding redevelopment sites, the site has been designed to treat over "50% of the one year storm".
- Calculations/Model Results
 - Water Quality Volume Calculations
Not applicable.
 - Other calculations as appropriate
 - PDFs of appropriate model results
We have attached HydroCad modeling results for the Existing Conditions, a hypothetical "50% Build Out" and the proposed post development site for the 1 year, 24 hour storm event. Peak flows off the site under these conditions is 0.74 c.f.s for the existing conditions, 0.02 c.f.s. for the "50% build out", and 0.0 c.f.s. for the post development site.
- Required Plans
 - Existing Conditions
See attached Sheet X-1, Existing Conditions Plan dated June 14, 2013
 - Proposed Conditions
See attached Sheet C-1, Site Plan dated June 14, 2013
 - Stormwater Details
See attached Sheet C-4, Civil Details dated June 14, 2013
- Stormwater Operation and Maintenance Plan
 - Simplified Plan showing the locations of all features of the stormwater system (manholes, tanks, rain gardens, catch basins, grit chambers, sand filters etc.) and assigning a unique identifier to each.
Attached Sheet C-1, Site Plan dated June 14, 2013, clearly shows all stormwater system features with unique identifiers.
 - Inspection Form/Table indicating
 - Frequency of inspection for each feature
 - What specifically needs to be inspected (plants, depth of grit, drain time)
 - Maintenance triggers (>50% of sump depth, infiltration not draining in 24 (48) hours etc)

Attached Sheet C-4, Civil Details dated June 14, 2013, clearly shows all stormwater system features a Stormwater System Maintenance Schedule and an Infiltration System Maintenance Schedule

- Confirmation that any covered parking/parking garage drainage is connected to an Oil/Grit separator and discharges to the sanitary sewer.

No covered parking/parking garage is proposed.



Burlington Department of Public Works
Stormwater Program

645 Pine Street
Burlington, VT 05401

PH: 802-540-1748 Email: mmoir@ci.burlington.vt.us



DEPARTMENT OF
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Small Project Erosion Prevention & Sediment Control Plan

This questionnaire, at a minimum, is required to accompany all zoning or building permit applications **which involve 400 sq. ft. or more of land disturbance**. Please also provide a site plan indicating the locations of all erosion prevention and sediment control measures (silt fence, hay bales etc).
Properties with greater than 2500 sq. ft. of total impervious surfaces, that are adding more impervious, will also be required to comply with additional long term stormwater management requirements.

1. Project Location 256-262 North Winooski Avenue
2. Brief Project Description (i.e. house foundation, swimming pool)

The applicants propose to redevelop the property located at 256-262 North Winooski Avenue into an apartment complex. The existing site has several buildings, including the old Bushey Garage. The redeveloped site will feature two apartment buildings with a shared circulation road and parking.

3. Owner Name: 256-262 N Winooski LLC
4. Owner Mailing Address: PO BOX 1332, Burlington, VT 05402
5. Owner Phone: 970-846-9564
6. Owner email: marshgooding@gmail.com; gatesgooding@gmail.com
7. Contractor Name: TBD
8. Contractor Phone: TBD
9. Contractor Email: TBD
10. Estimated Project Start Date 10/1/2013 Estimated End Date 4/1/2013
11. Area of Land Disturbance 26,000 sq. ft.
12. Total proposed (existing + new) amount of impervious: 16,600 sq. ft.
13. Estimated distance in feet from disturbance to nearest:
 - a. City Sidewalk or Street 0 ft
 - b. Drainage Ditch NA ft
 - c. Catch Basin (storm drain) 315 ft
 - d. Lake/River/Stream 2,070 ft
14. Site plan/sketch MUST BE ATTACHED showing the following:
 - Limits of disturbance
 - Direction of stormwater flow on site
 - Location of stockpiles (if any)
 - Location of sediment control BMP's (silt fence etc.)

EPSC QUESTIONNAIRE (See last page for typical solutions to these questions)

- A) Nature of all site disturbances (check all that apply):
- Underground utility trench(es) curb cut/driveway foundation cut/fill/regrading landscaping
- other _____
- B) Do you anticipate the need for any dewatering of excavations during the construction? Yes No
- If yes, how will the pumped water be managed or filtered to prevent the discharge of dirty water?
- _____
- _____

*impervious = any surface off of which water runs off rather than infiltrates, including, but not limited to rooftops and paved/unpaved (gravel/packed dirt) driveways, walkways and patios

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C) Will excavated soil be stockpiled on the site? Yes No

- If yes, how long will the stockpile be on site? (i.e. 1 day, 1 week) < 14 days

How do you propose to control erosion of the stockpile? A minimum of excess soil is anticipated. The majority of excavated material will be existing pavement and gravel subbase which will be removed from the site and taken to an appropriate disposal facility. Any stockpiles will be covered or mulched when not being utilized.

- If no, where is the ultimate disposal of excess soil? _____

D) How do you propose to prevent sediment from leaving the site and entering nearby city sidewalks/streets and storm drains and/or lakes, rivers and streams? (see page 4 for examples)

Silt fence or approved equal will be installed along the southerly limits of disturbance of the project. Disturbance for the proposed buildings and utility services will be within a contained excavation. Parking and access disturbance will generally be in existing gravel areas that will remain stable during construction.

E) Do you plan to park construction vehicles on or disturb City owned property like the greenbelt area? Yes No

- If yes, tell us how you agree to repair all disturbances or damage to City owned property and provide a written approval from the City allowing construction vehicles to park on City owned property.

City owned property will be disturbed as necessary to make utility connections. Construction vehicles will not park on City owned property.

- If no, then please monitor all construction and visitor vehicles and advise all not to park on City owned property.

F) How do you propose to either prevent or clean sediment generated from construction vehicles and activities that becomes deposited on City streets, sidewalks, or bikepaths and how frequently this will be done.

A stabilized construction entrance will be installed during construction. Daily sweeping will be performed on existing paved areas to remain and North Winooski Avenue.

G) Will stockpiles or disturbed soils be present and/or exposed after Nov. 1st of any construction year? Yes No

- If yes, tell us how you plan to stabilize any stockpile and/or disturbed soils.

A minimum of excess soil is anticipated. The majority of excavated material will be existing pavement and gravel subbase which will be removed from the site and taken to an appropriate disposal facility. Any stockpiles outside a contained excavation after Nov. 1 will be covered.

Do you agree to abide by the following conditions?

Y N Applicant will call 540-1748 or email mmoir@burlingtonvt.us at least 24 hours prior to initiating earth disturbance and submit the **name and contact (cell phone and email) of the erosion control coordinator for the project**

Y N Applicant will post the notice in a visible location

Y N I acknowledge that it is the responsibility of the owner and his/her representatives to ensure that:

- sediment does not enter surface water bodies (streams, ditches, ponds, lakes, wetlands etc.)
- sediment does not enter City conveyance infrastructure (catch basins, sewers etc.) and
- All sediment must be removed from the city ROW (sidewalks and roadways) by the end of each work day.

Y N Sediment control measures will be installed prior to the initiation of earth disturbance.

Y N During the non-winter construction season (April 15 – November 1): After an initial **14 day** period of initial disturbance, temporary or permanent stabilization (mulching, erosion control matting or tarps for stockpiles, or other approved method) of exposed areas and stockpiles will occur at the end of each work day unless:

- Earthwork is to continue in the area within the next 24 hours **and** there is NO liquid precipitation forecast for the next 24 hours; or
- If work is occurring in a self contained excavation (no outlet) with a depth of 2 feet or greater (e.g. house foundation excavation or utility trenches).

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- Y N During the winter construction period from November 1 to April 15, any **new disturbance** must be temporarily or permanently stabilized (mulching, erosion control matting or tarps for stockpiles, or other approved method) will occur at the end of each work day unless:
 - Earthwork is to continue in the area within the next 24 hours **and** there is **NO** liquid precipitation forecast for the next 24 hours; or
 - If work is occurring in a self-contained excavation (no outlet) with a depth of 2 feet or greater (e.g. house foundation excavation or utility trenches)
- Y N The perimeter of the site and all BMPs will be inspected at the **end of each workday** to ensure that sediment will not leave the site. If sediment has travelled beyond the site boundary, it shall be swept up or otherwise removed and deposited on-site in an upgradient area at the **end of each work day**.
- Y N The owner and his/her representatives shall abide by the best management practices (BMPs) indicated in this plan and conditions and in the Vermont DEC Low Risk Site Handbook for Erosion Prevention and Sediment Control (2006). Contact 802-540-1748 for a hard copy or go to the web:
http://vtwaterquality.org/stormwater/docs/construction/sw_low_risk_site_handbook.pdf
- Y N **If soils will be exposed after November 1st and winter construction has not been permitted the project will notify DPW prior to October 15th.** If the project is completed during the winter months, an additional inspection will be required to ensure that the site is buttoned up for the winter.
- Y N Within 48 hours of reaching final grading, the exposed soil will be seeded and mulched or covered with erosion control matting (for slopes steeper than 3:1 or high wind prone areas). Erosion control matting is preferred.
- Y N The owner will contact DPW to schedule a stabilization inspection when site work is finished and stabilization measures (seeding and mulching or matting) have been installed.

AGREEMENT

By filling out and signing this plan, I agree to abide by the terms and conditions outlined above. Failure to follow this plan can result in a stop work order by the City of Burlington, fines, or both.

By: Owner Contractor Architect/Engineer

Marsh Gooding
Name

[Signature]
Signature

6/13/13
Date

Additional Conditions of Approval:

Required Compliance Items:

- Notification of start/identification of EPSC responsible party
- Winter Stabilization Inspection (if applicable)
- Final Stabilization

256-262 North Winooski

Prepared by Microsoft

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Project Notes

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Area Listing (selected nodes)

Area (acres)	CN	Description (subcatchment-numbers)
0.300	39	>75% Grass cover, Good, HSG A (4S)
0.190	98	Buildings, drives, parking (4S)
0.490		TOTAL AREA

256-262 North Winooski

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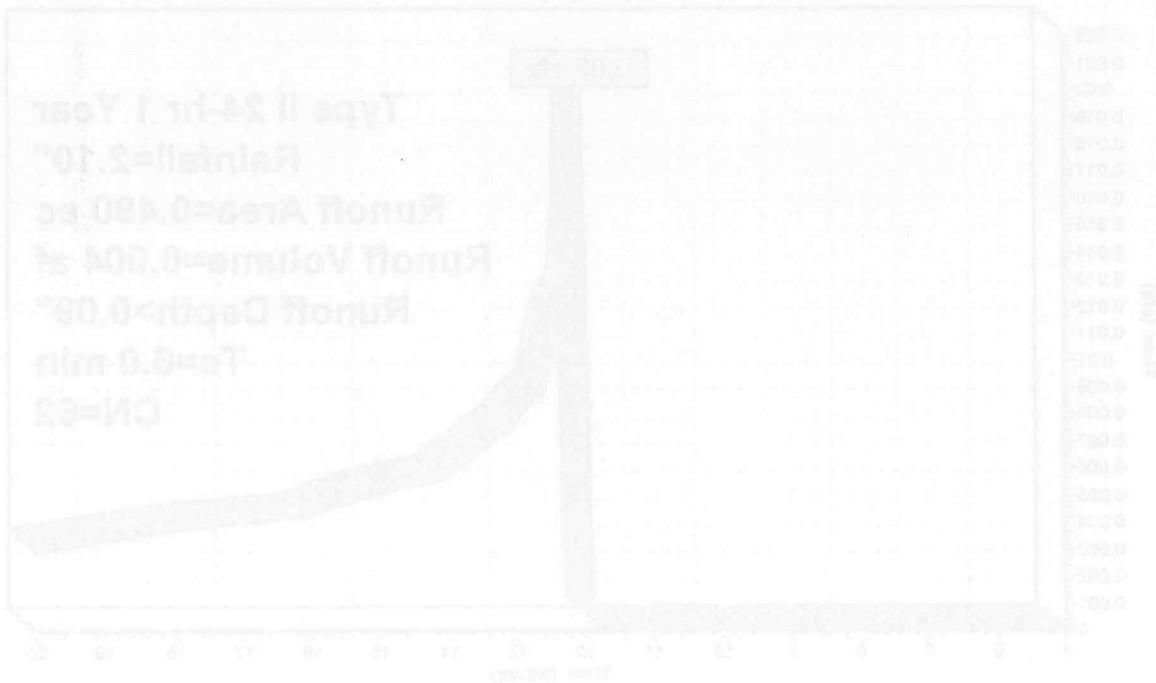
Soil Listing (selected nodes)

Area (acres)	Soil Group	Subcatchment Numbers
0.300	HSG A	4S
0.000	HSG B	
0.000	HSG C	
0.000	HSG D	
0.190	Other	4S
0.490		TOTAL AREA

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Summary for Subcatchment 4S: Proposed 50%Build

Runoff = 0.02 cfs @ 12.05 hrs, Volume= 0.004 af, Depth> 0.09"

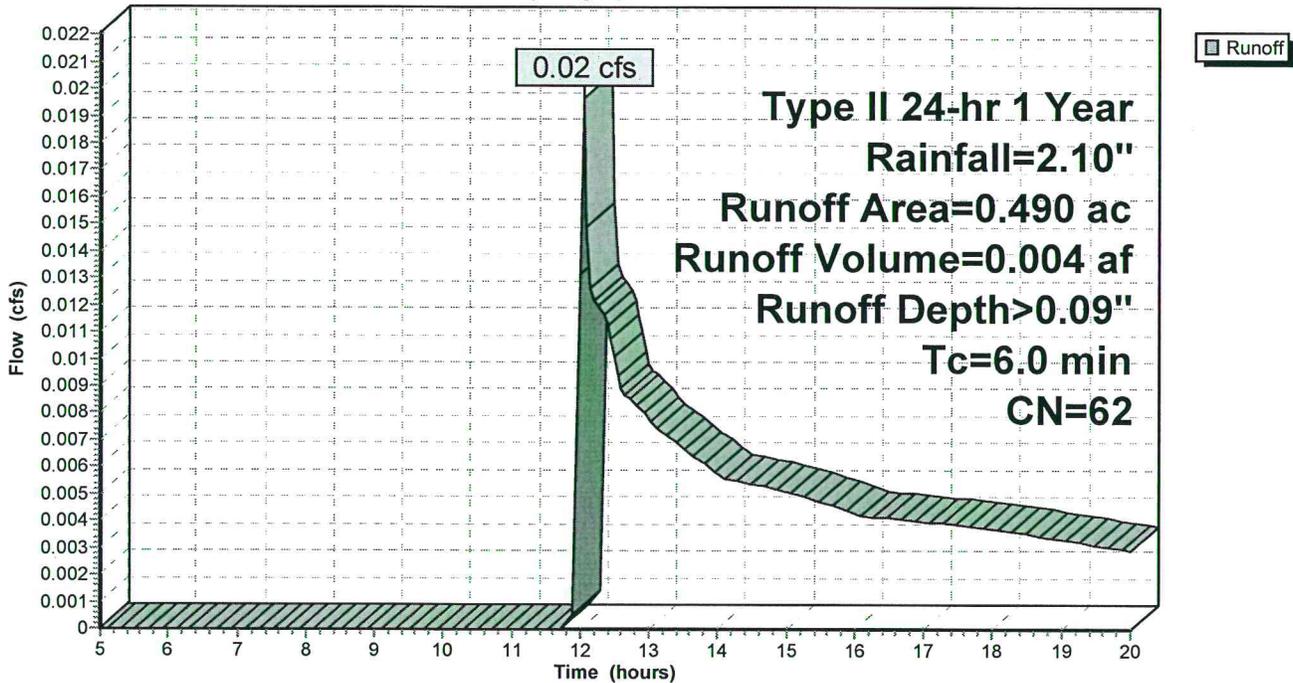
Runoff by SCS TR-20 method, UH=SCS, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 1 Year Rainfall=2.10"

Area (ac)	CN	Description
* 0.190	98	Buildings, drives, parking
0.300	39	>75% Grass cover, Good, HSG A
0.490	62	Weighted Average
0.300		61.22% Pervious Area
0.190		38.78% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry, Minimum

Subcatchment 4S: Proposed 50%Build

Hydrograph



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Area Listing (selected nodes)

Area (acres)	CN	Description (subcatchment-numbers)
0.106	39	>75% Grass cover, Good, HSG A (1S)
0.384	98	Buildings, drives, parking (1S)
0.490		TOTAL AREA

256-262 North Winooski

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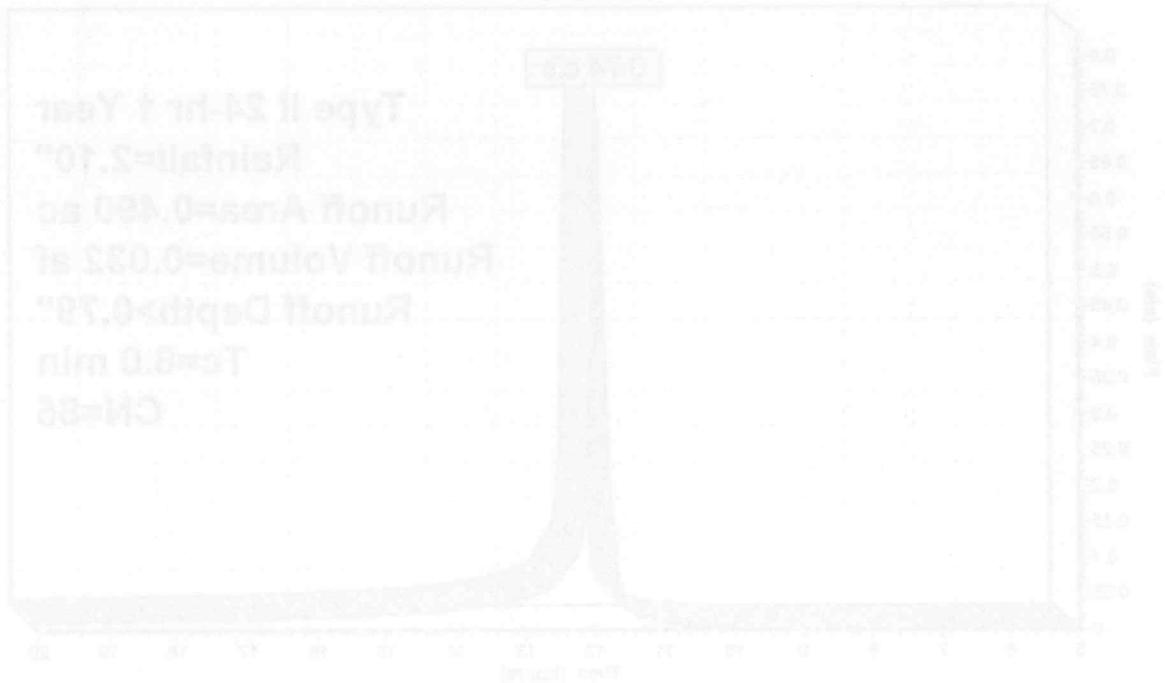
Soil Listing (selected nodes)

Area (acres)	Soil Group	Subcatchment Numbers
0.106	HSG A	1S
0.000	HSG B	
0.000	HSG C	
0.000	HSG D	
0.384	Other	1S
0.490		TOTAL AREA

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Type II 24-hr 1 Year Rainfall=2.10"

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Summary for Subcatchment 1S: Existing Conditions

Runoff = 0.74 cfs @ 11.98 hrs, Volume= 0.032 af, Depth> 0.79"

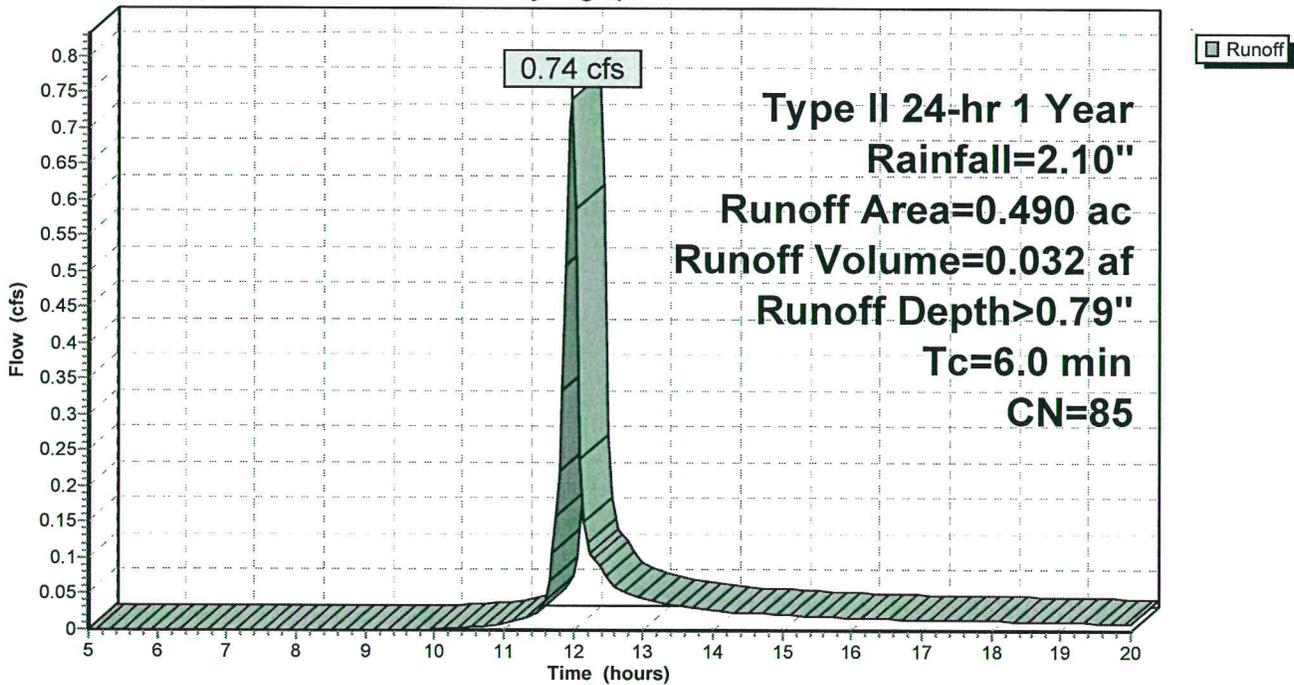
Runoff by SCS TR-20 method, UH=SCS, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Type II 24-hr 1 Year Rainfall=2.10"

Area (ac)	CN	Description
* 0.384	98	Buildings, drives, parking
0.106	39	>75% Grass cover, Good, HSG A
0.490	85	Weighted Average
0.106		21.63% Pervious Area
0.384		78.37% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry, Minimum

Subcatchment 1S: Existing Conditions

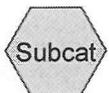
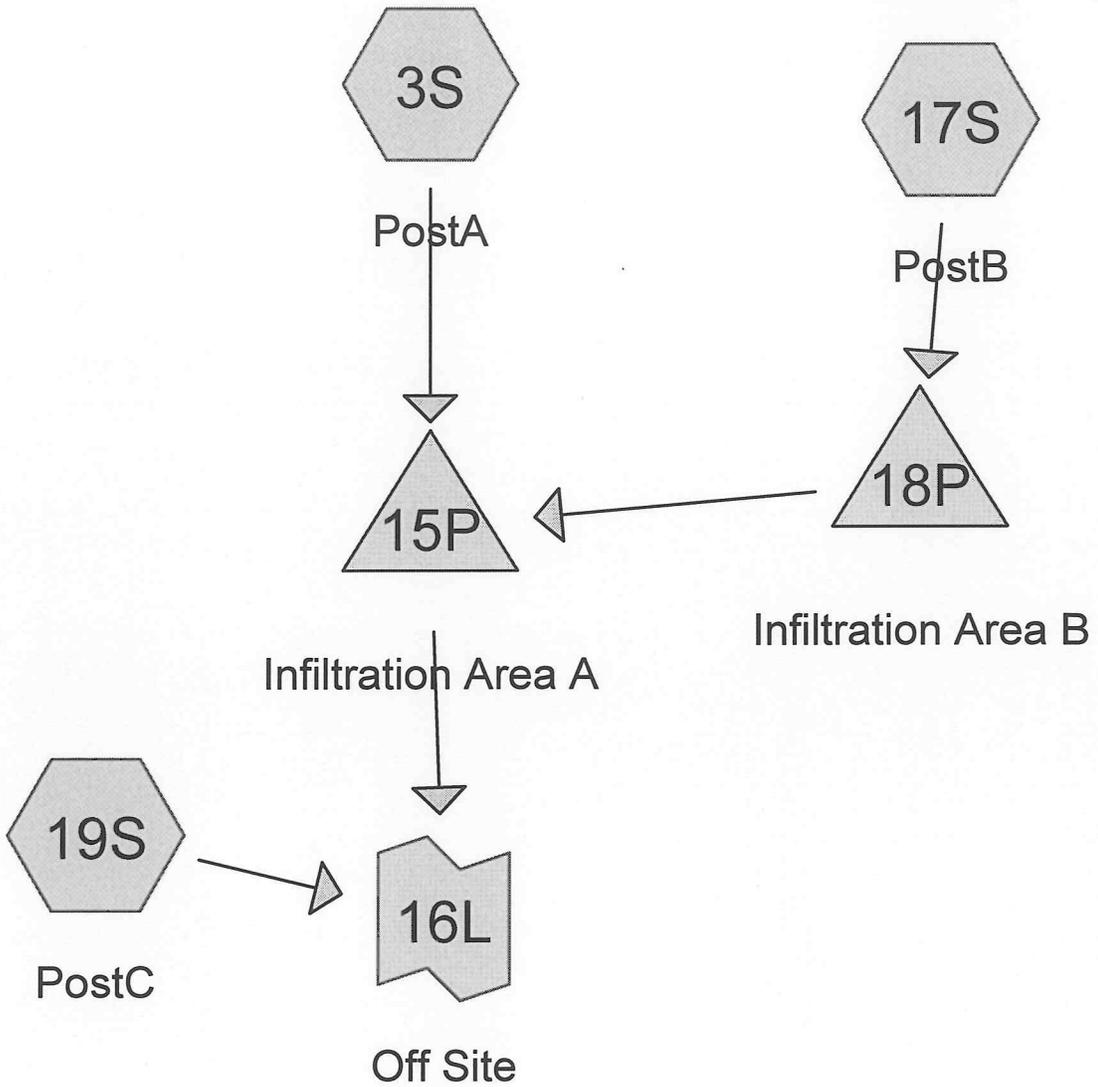
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256-262 North Winooski Avenue
Burlington Apartments

256-262 North Winooski

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Area Listing (selected nodes)

Area (acres)	CN	Description (subcatchment-numbers)
0.114	39	>75% Grass cover, Good, HSG A (3S, 17S, 19S)
0.380	98	Buildings, drives, parking (3S, 17S, 19S)
0.494		TOTAL AREA

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Soil Listing (selected nodes)

Area (acres)	Soil Group	Subcatchment Numbers
0.114	HSG A	3S, 17S, 19S
0.000	HSG B	
0.000	HSG C	
0.000	HSG D	
0.380	Other	3S, 17S, 19S
0.494		TOTAL AREA

256-262 North Winooski

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Type II 24-hr 1 Year Rainfall=2.10"

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Time span=5.00-20.00 hrs, dt=0.05 hrs, 301 points

Runoff by SCS TR-20 method, UH=SCS

Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 3S: PostA

Runoff Area=0.217 ac 90.32% Impervious Runoff Depth>1.23"
Tc=6.0 min CN=92 Runoff=0.49 cfs 0.022 af

Subcatchment 17S: PostB

Runoff Area=0.192 ac 83.85% Impervious Runoff Depth>0.96"
Tc=6.0 min CN=88 Runoff=0.35 cfs 0.015 af

Subcatchment 19S: PostC

Runoff Area=0.085 ac 27.06% Impervious Runoff Depth>0.02"
Tc=6.0 min CN=55 Runoff=0.00 cfs 0.000 af

Pond 15P: Infiltration Area A

Peak Elev=240.20' Storage=429 cf Inflow=0.49 cfs 0.022 af
Discarded=0.04 cfs 0.022 af Primary=0.00 cfs 0.000 af Outflow=0.04 cfs 0.022 af

Pond 18P: Infiltration Area B

Peak Elev=240.43' Storage=287 cf Inflow=0.35 cfs 0.015 af
Discarded=0.03 cfs 0.015 af Primary=0.00 cfs 0.000 af Outflow=0.03 cfs 0.015 af

Link 16L: Off Site

Inflow=0.00 cfs 0.000 af
Primary=0.00 cfs 0.000 af

Total Runoff Area = 0.494 ac Runoff Volume = 0.038 af Average Runoff Depth = 0.92"
23.08% Pervious = 0.114 ac 76.92% Impervious = 0.380 ac

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Summary for Subcatchment 3S: PostA

Runoff = 0.49 cfs @ 11.97 hrs, Volume= 0.022 af, Depth> 1.23"

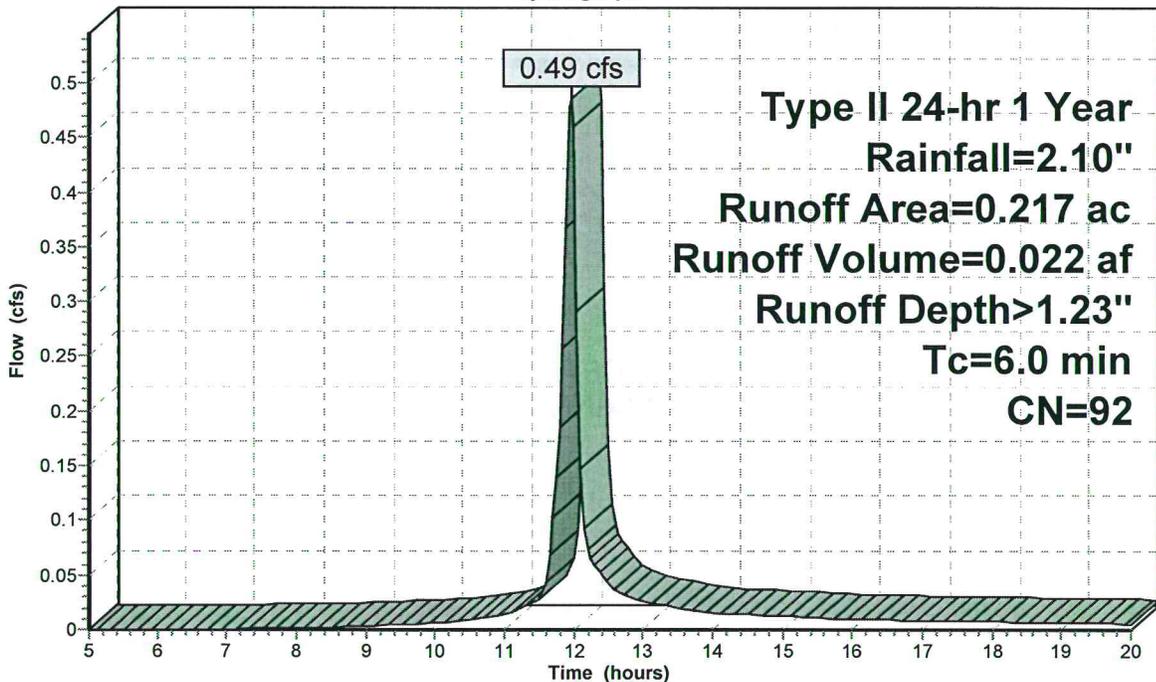
Runoff by SCS TR-20 method, UH=SCS, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
 Type II 24-hr 1 Year Rainfall=2.10"

Area (ac)	CN	Description
* 0.196	98	Buildings, drives, parking
0.021	39	>75% Grass cover, Good, HSG A
0.217	92	Weighted Average
0.021		9.68% Pervious Area
0.196		90.32% Impervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry, Minimum

Subcatchment 3S: PostA

Hydrograph

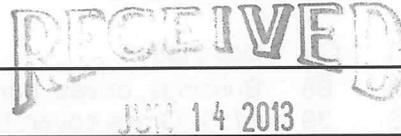


Summary for Subcatchment 17S: PostB

Runoff = 0.35 cfs @ 11.97 hrs, Volume= 0.015 af, Depth> 0.96"

Runoff by SCS TR-20 method, UH=SCS, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
 Type II 24-hr 1 Year Rainfall=2.10"

Area (ac)	CN	Description
* 0.161	98	Buildings, drives, parking
0.031	39	>75% Grass cover, Good, HSG A
0.192	88	Weighted Average
0.031		16.15% Pervious Area
0.161		83.85% Impervious Area

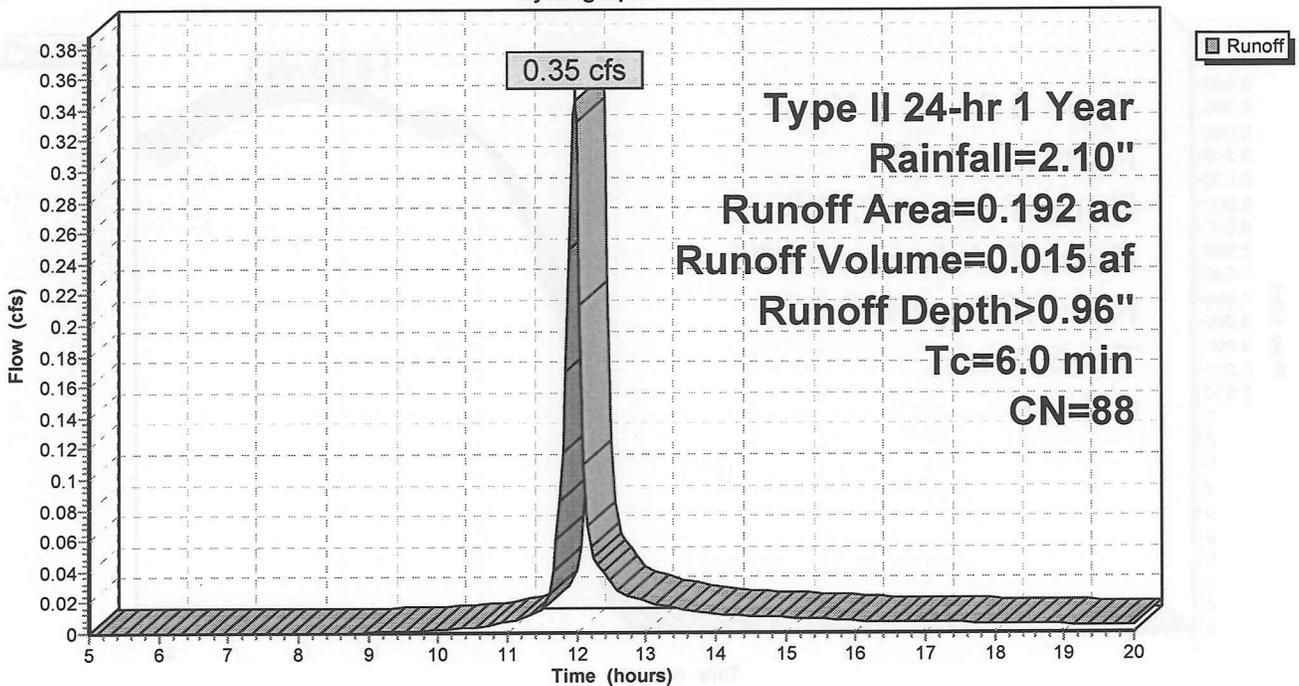


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Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.0					Direct Entry, Minimum

Subcatchment 17S: PostB

Hydrograph



Summary for Pond 15P: Infiltration Area A

Inflow Area = 0.409 ac, 87.29% Impervious, Inflow Depth > 0.66" for 1 Year event
 Inflow = 0.49 cfs @ 11.97 hrs, Volume= 0.022 af
 Outflow = 0.04 cfs @ 12.57 hrs, Volume= 0.022 af, Atten= 93%, Lag= 36.4 min
 Discarded = 0.04 cfs @ 12.57 hrs, Volume= 0.022 af
 Primary = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs / 2
 Peak Elev= 240.20' @ 12.57 hrs Surf.Area= 235 sf Storage= 429 cf

Plug-Flow detention time= 101.0 min calculated for 0.022 af (100% of inflow)
 Center-of-Mass det. time= 100.8 min (873.5 - 772.7)

Volume	Invert	Avail.Storage	Storage Description
#1	241.70'	33 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
#2A	237.10'	237 cf	6.25'W x 37.60'L x 3.50'H Field A 823 cf Overall - 230 cf Embedded = 593 cf x 40.0% Voids
#3A	237.60'	230 cf	StormTech SC-740 x 5 Inside #2 Effective Size= 44.6"W x 30.0"H => 6.45 sf x 7.12'L = 45.9 cf Overall Size= 51.0"W x 30.0"H x 7.56'L with 0.44' Overlap
		500 cf	Total Available Storage

Storage Group A created with Chamber Wizard

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
241.70	20	0	0
242.00	200	33	33

Device	Routing	Invert	Outlet Devices
#1	Discarded	237.10'	6.000 in/hr Exfiltration over Surface area Conductivity to Groundwater Elevation = 210.00'
#2	Primary	241.70'	2.0' long x 2.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88 2.85 3.07 3.20 3.32

Discarded OutFlow Max=0.04 cfs @ 12.57 hrs HW=240.20' (Free Discharge)

↑1=Exfiltration (Controls 0.04 cfs)

Primary OutFlow Max=0.00 cfs @ 5.00 hrs HW=237.10' (Free Discharge)

↑2=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Pond 15P: Infiltration Area A - Chamber Wizard Field A

Chamber Model = StormTech SC-740

Effective Size= 44.6"W x 30.0"H => 6.45 sf x 7.12'L = 45.9 cf

Overall Size= 51.0"W x 30.0"H x 7.56'L with 0.44' Overlap

51.0" Wide + 6.0" Spacing = 57.0" C-C

5 Chambers/Row x 7.12' Long = 35.60' + 12.0" End Stone x 2 = 37.60' Base Length

1 Rows x 51.0" Wide + 12.0" Side Stone x 2 = 6.25' Base Width

6.0" Base + 30.0" Chamber Height + 6.0" Cover = 3.50' Field Height

5 Chambers x 45.9 cf = 229.7 cf Chamber Storage

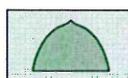
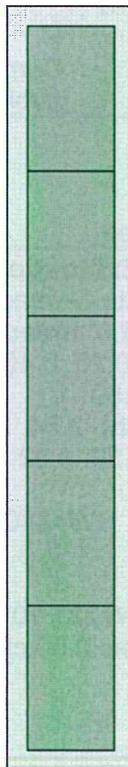
822.5 cf Field - 229.7 cf Chambers = 592.8 cf Stone x 40.0% Voids = 237.1 cf Stone Storage

Stone + Chamber Storage = 466.8 cf = 0.011 af

5 Chambers

30.5 cy Field

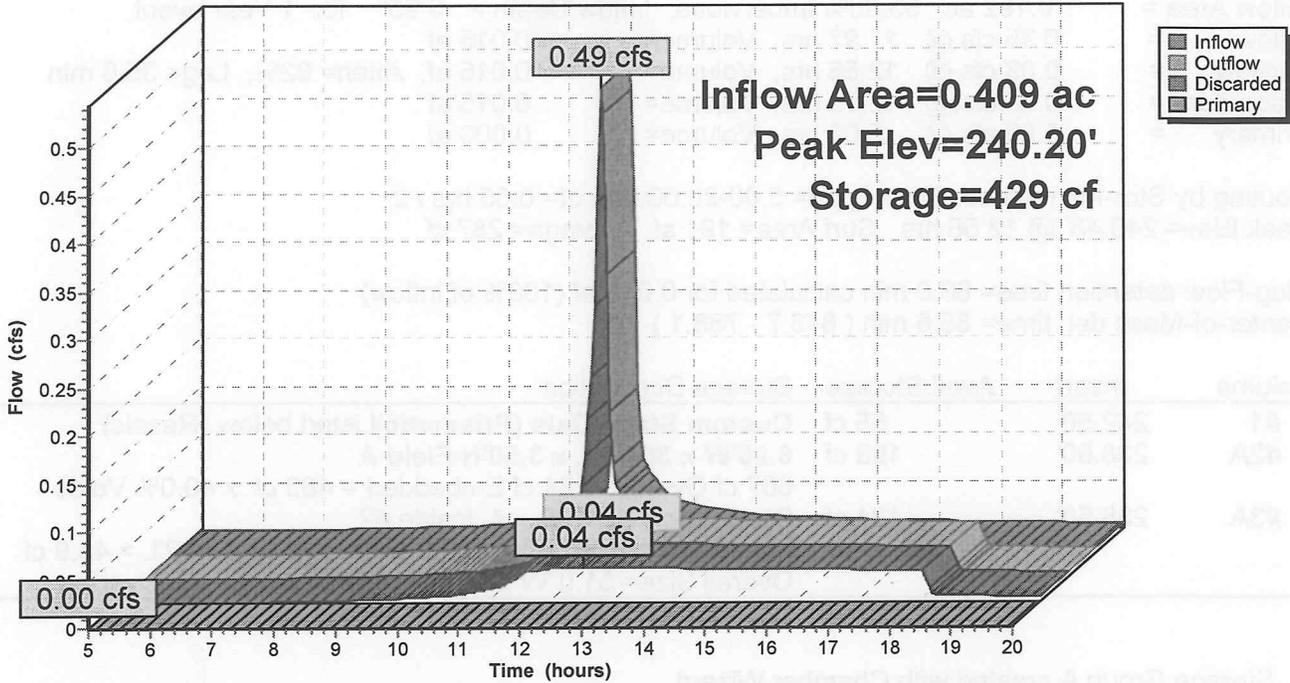
22.0 cy Stone



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Pond 15P: Infiltration Area A

Hydrograph



Summary for Pond 18P: Infiltration Area B

Inflow Area = 0.192 ac, 83.85% Impervious, Inflow Depth > 0.96" for 1 Year event
 Inflow = 0.35 cfs @ 11.97 hrs, Volume= 0.015 af
 Outflow = 0.03 cfs @ 12.56 hrs, Volume= 0.015 af, Atten= 92%, Lag= 35.0 min
 Discarded = 0.03 cfs @ 12.56 hrs, Volume= 0.015 af
 Primary = 0.00 cfs @ 5.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs / 2

Peak Elev= 240.43' @ 12.56 hrs Surf.Area= 191 sf Storage= 287 cf

Plug-Flow detention time= 86.0 min calculated for 0.015 af (100% of inflow)

Center-of-Mass det. time= 85.6 min (873.7 - 788.1)

Volume	Invert	Avail.Storage	Storage Description
#1	242.50'	55 cf	Custom Stage Data (Prismatic) Listed below (Recalc)
#2A	238.00'	193 cf	6.25'W x 30.48'L x 3.50'H Field A 667 cf Overall - 184 cf Embedded = 483 cf x 40.0% Voids
#3A	238.50'	184 cf	StormTech SC-740 x 4 Inside #2 Effective Size= 44.6"W x 30.0"H => 6.45 sf x 7.12'L = 45.9 cf Overall Size= 51.0"W x 30.0"H x 7.56'L with 0.44' Overlap
		432 cf	Total Available Storage

Storage Group A created with Chamber Wizard

Elevation (feet)	Surf.Area (sq-ft)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)
242.50	20	0	0
243.00	200	55	55

Device	Routing	Invert	Outlet Devices
#1	Discarded	238.00'	6.000 in/hr Exfiltration over Surface area Conductivity to Groundwater Elevation = 210.00'
#2	Primary	242.50'	2.0' long x 2.0' breadth Broad-Crested Rectangular Weir Head (feet) 0.20 0.40 0.60 0.80 1.00 1.20 1.40 1.60 1.80 2.00 2.50 3.00 3.50 Coef. (English) 2.54 2.61 2.61 2.60 2.66 2.70 2.77 2.89 2.88 2.85 3.07 3.20 3.32

Discarded OutFlow Max=0.03 cfs @ 12.56 hrs HW=240.43' (Free Discharge)

↑1=Exfiltration (Controls 0.03 cfs)

Primary OutFlow Max=0.00 cfs @ 5.00 hrs HW=238.00' (Free Discharge)

↑2=Broad-Crested Rectangular Weir (Controls 0.00 cfs)

Pond 18P: Infiltration Area B - Chamber Wizard Field A

Chamber Model = StormTech SC-740

Effective Size= 44.6"W x 30.0"H => 6.45 sf x 7.12'L = 45.9 cf

Overall Size= 51.0"W x 30.0"H x 7.56'L with 0.44' Overlap

51.0" Wide + 6.0" Spacing = 57.0" C-C

4 Chambers/Row x 7.12' Long = 28.48' + 12.0" End Stone x 2 = 30.48' Base Length

1 Rows x 51.0" Wide + 12.0" Side Stone x 2 = 6.25' Base Width

6.0" Base + 30.0" Chamber Height + 6.0" Cover = 3.50' Field Height

4 Chambers x 45.9 cf = 183.8 cf Chamber Storage

666.8 cf Field - 183.8 cf Chambers = 483.0 cf Stone x 40.0% Voids = 193.2 cf Stone Storage

Stone + Chamber Storage = 377.0 cf = 0.009 af

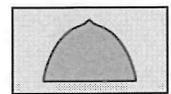
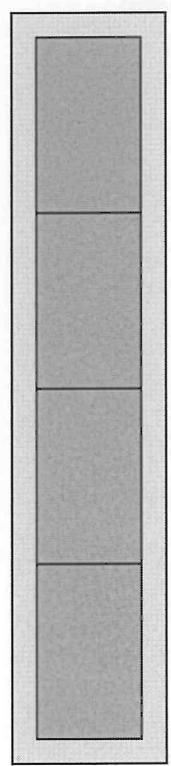
4 Chambers

24.7 cy Field

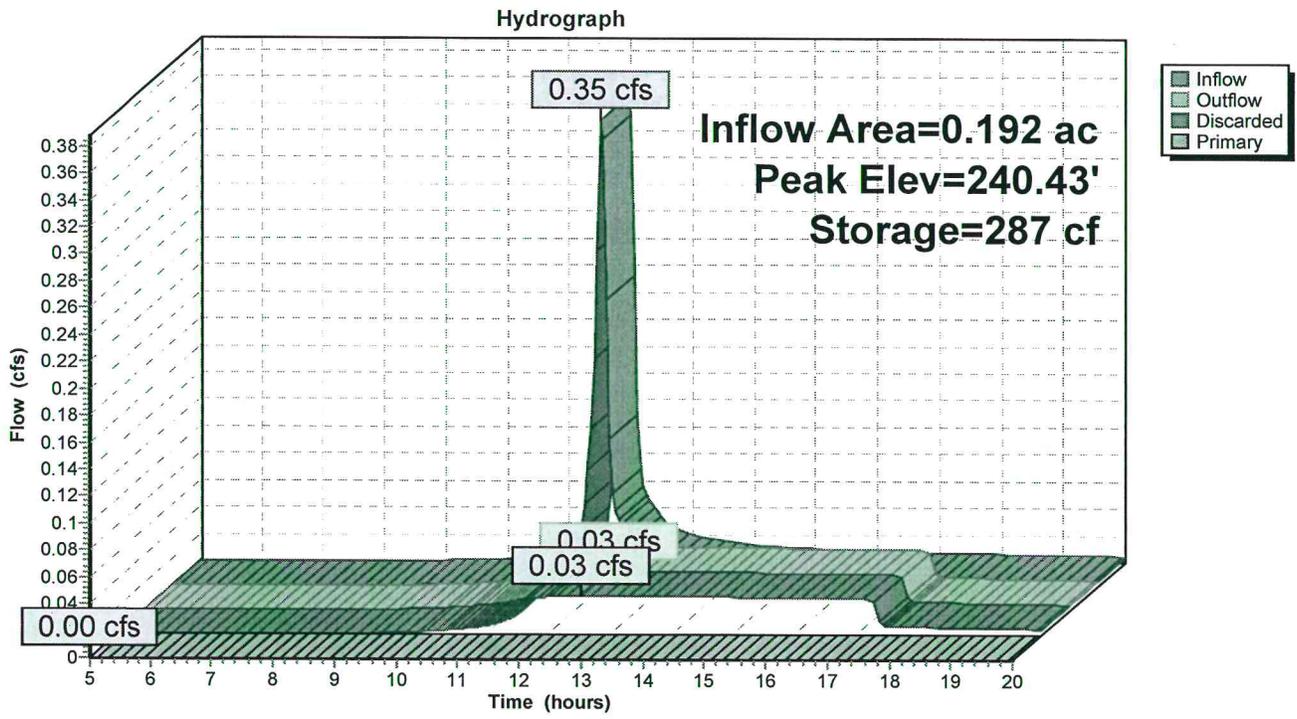
17.9 cy Stone

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Pond 18P: Infiltration Area B



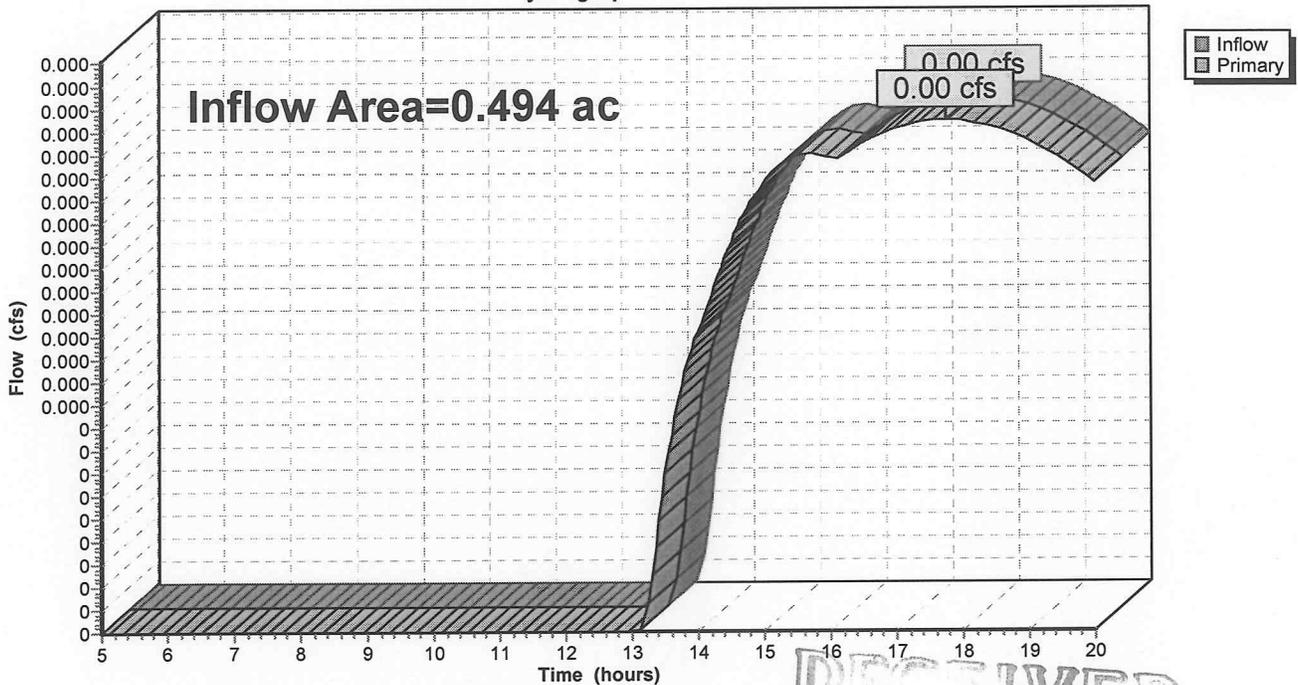
Summary for Link 16L: Off Site

Inflow Area = 0.494 ac, 76.92% Impervious, Inflow Depth > 0.00" for 1 Year event
Inflow = 0.00 cfs @ 17.76 hrs, Volume= 0.000 af
Primary = 0.00 cfs @ 17.76 hrs, Volume= 0.000 af, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs

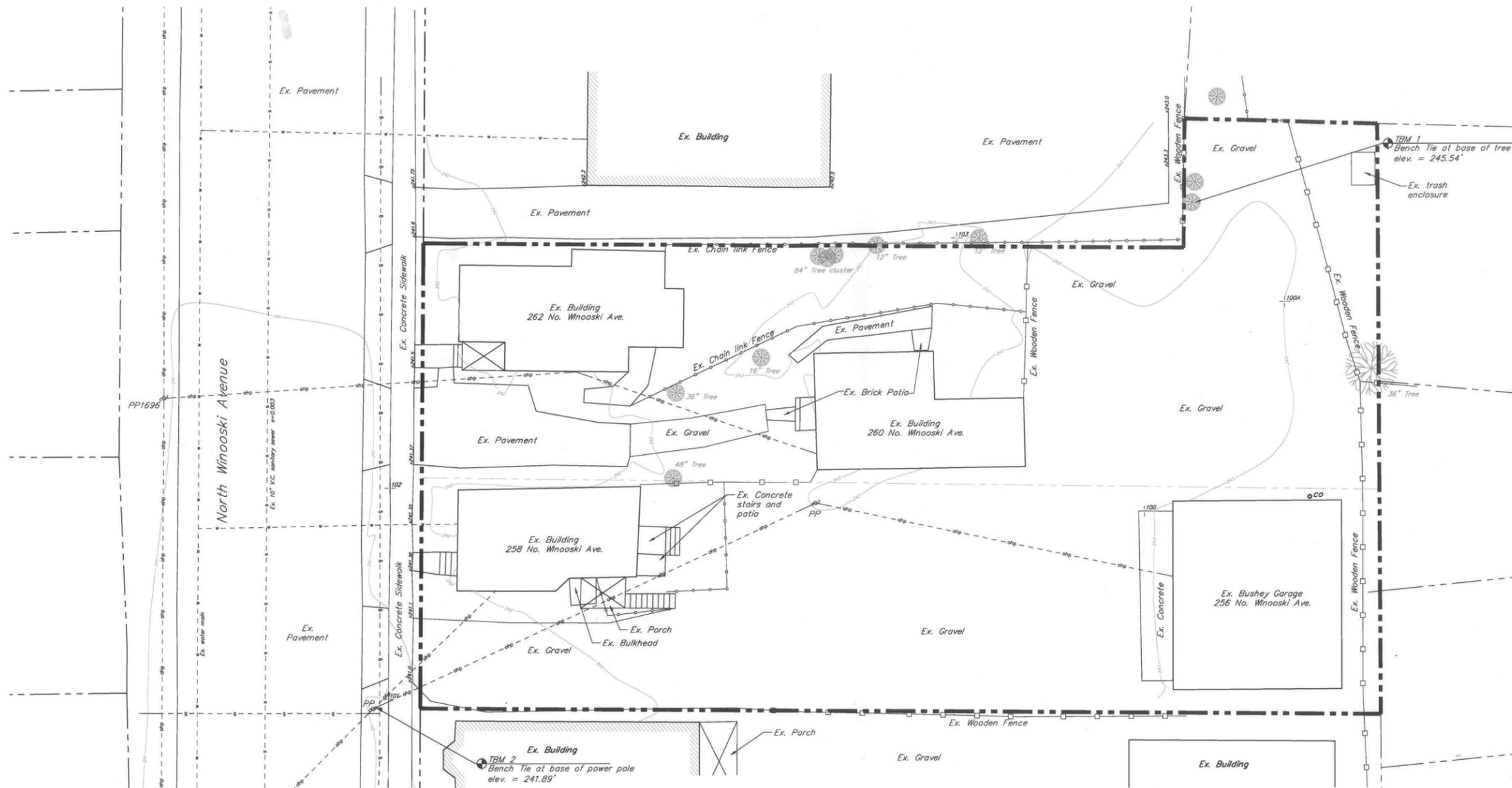
Link 16L: Off Site

Hydrograph



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Location Map
N.T.S.

Legend

— 12 —	Survey Control Point
— 12 —	Power pole
---	Approx. Property Line
---	Existing Sewer
---	Existing Gas
---	Existing Water
---	Existing Overhead Electric
---	Existing Chain link Fence
---	Existing Wooden Fence
---	Existing contour line
---	Existing gravel
---	Existing pavement
---	Existing brick
---	Existing concrete

- Notes:**
1. This plan has been prepared from a topographic survey performed in September 25, 2012 by Krebs and Lansing Consulting Engineers.
 2. This plan is in no way a boundary survey. Approximate property lines are from City of Burlington tax maps.
 3. Elevations are based on NAVD 88 and horizontal coordinates are based on the North American Datum of 1983, Vermont State Plan, US Foot.
 4. Utilities on this plan are based on physical evidence found in the field, existing "Dig Safe" marks and plans titled "Existing Sewer and Drainage System, City of Burlington, VT" prepared by Camp Dresser & McKee Inc. Utilities are not warranted to be exact or complete. Contractor shall call Dig-Safe prior to commencing any work.



Bar Scale 1" = 10'



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K&L PROJECT NO. 12189

PROJECT

260 NORTH
WINOOSKI
AVENUE

BURLINGTON, VT

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PLANNING & ZONING

DATE: JUNE 14, 2013
SCALE: 1" = 10'
CHECKED: MJB
DRAWN: SWH

REVISIONS

ZONING SUBMISSION

EXISTING
CONDITIONS
SITE
PLAN

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K&L PROJECT NO. 12189

PROJECT

260 NORTH
 WINOOSKI
 AVENUE

BURLINGTON, VT

DATE: JUNE 14, 2013

SCALE: 1" = 10'

CHECKED: MJB

DRAWN: SWH

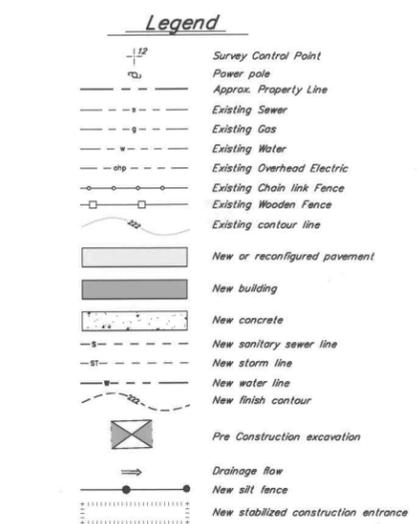
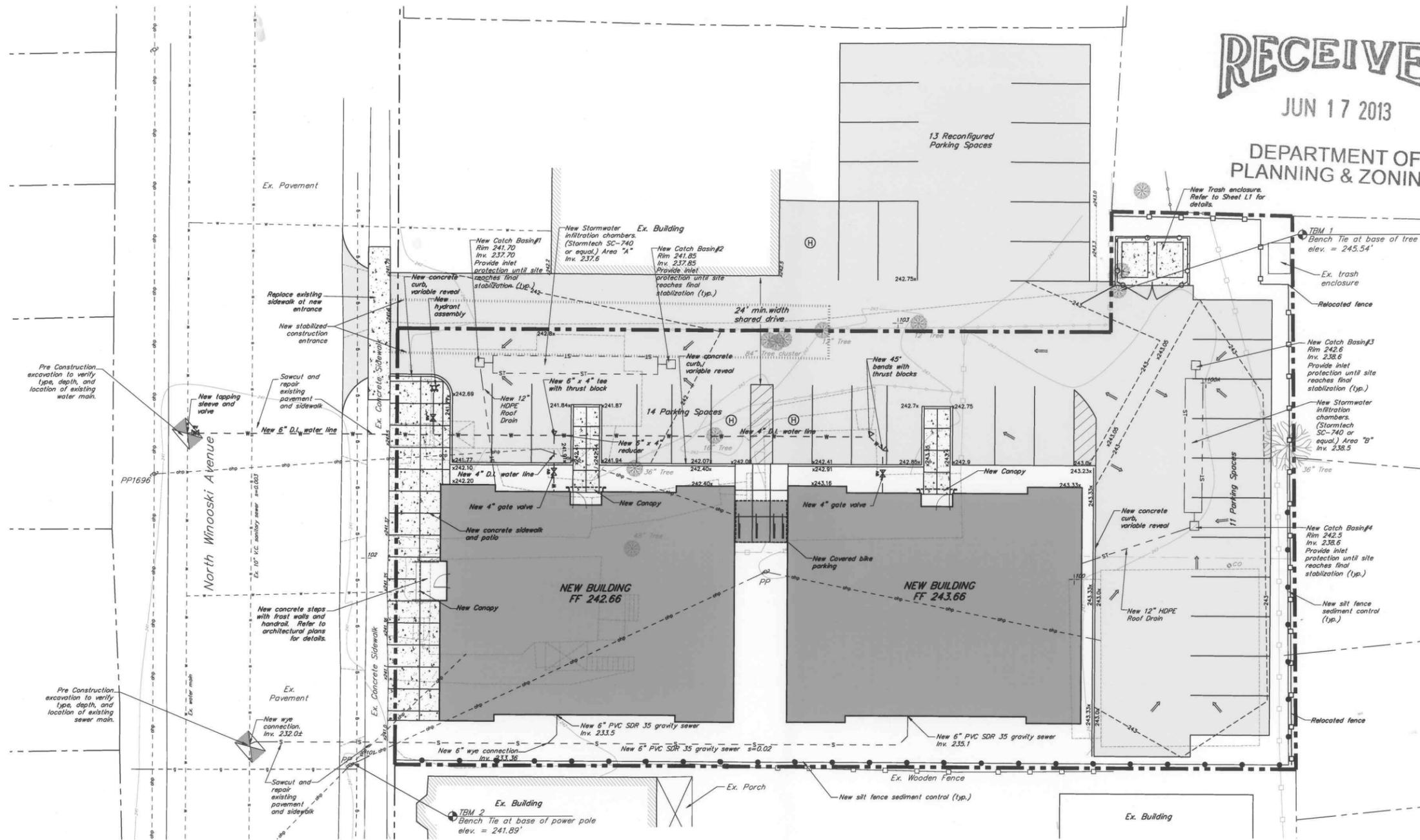
REVISIONS

ZONING SUBMISSION

SITE
 PLAN

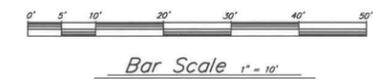
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12189/256-262winoski-zoning.dwg



EROSION PREVENTION & SEDIMENT CONTROL NOTES:

1. The limit of disturbance shall be clearly defined by the Contractors survey prior to clearing. All sediment control measures must be installed ahead of initiating principal earthwork activities for the project.
2. All erosion controls shall be installed as detailed in the publication Vermont Standards and Specifications for Erosion Prevention & Sediment Control and in accordance with these project plans. The site shall then be cleared and grubbed. All roots, stumps and deleterious materials shall be removed from the site. The Contractor shall minimize the amount of disturbed land at any given time.
3. All erosion control shall be placed as shown on the drawings or as ordered by the Engineer. The Contractor shall maintain the erosion control measures until the Engineer is satisfied that permanent ground cover is established and that further measures are not required. It shall be the responsibility of the On-site Plan Coordinator to employ appropriate erosion control as shown on these drawings and any other measures as necessary to trap sediment on site.
4. All operational stormwater treatment practices (e.g. ponds, grass lined swales) must be completely stabilized prior to directing runoff to them.
5. All areas of disturbance must have temporary or final stabilization within 7 days of initial disturbance. After this time any disturbance in the area must be stabilized at the end of each work day. The following exceptions apply: i) Stabilization is not required if work is to continue in the area within 24 hours and there is no precipitation forecast for the next 24 hours. ii) Stabilization is not required if the work is occurring in a self-contained excavation (i.e. no outlet) with a depth of 2 feet or greater (e.g. house foundation excavation, utility trenches).
6. The Contractor shall stabilize any portion of the site that is being worked and disturbed prior to beginning construction at another area of the site. At no time during construction shall there be more than 5 acres of exposed soil on site. Complete stabilization of each phase shown on the plans is necessary prior to moving on to the next phase.
7. Contractor shall be responsible for all erosion control measures necessary to comply with the approved Erosion & Sediment Control Plan and Narrative for this project. This plan indicates specific erosion control measures that must be installed to stabilize specific locations of the site. All necessary erosion control measures needed to minimize the discharge of sediment from site are not necessarily shown on the drawing.
8. Inspections of erosion prevention and sediment controls shall be conducted at least every seven (7) calendar days and within twenty-four (24) hours of the end of a storm event resulting in a discharge of stormwater from the construction site. Inspections shall be done by or under the direction of the On-Site Plan Coordinator. Any necessary repairs or modifications shall be immediately completed by the Contractor.
9. All excess material and topsoil to be re-used on-site shall be stockpiled in areas approved by the Engineer. These stockpiles shall be surrounded by silt fence and shall be seeded and temporarily stabilized to minimize wind and stormwater erosion potential. Contractor shall minimize disturbance at all times. All areas shall be seeded and mulched within 48 hours of final grading. Temporary stabilization, including stockpiles, shall be necessary for all disturbed areas that are not worked for 7 days or more. Seeding and mulching shall be necessary for disturbed areas that are not worked for 14 days or more.
10. All areas of disturbance shall be permanently or temporarily stabilized as soon as possible and generally within 48 hours of the beginning of excavation. All disturbed areas shall be seeded and stabilized to minimize wind and stormwater erosion potential. Stabilization measures shall include mulch and netting, North American Green erosion control matting, crushed stone or gravel, or pavement.
11. Acceptable methods of stabilization shall include, hay mulching (with netting) (1.5-2 tons per acre), bark mulch, erosion control matting, crushed stone, crushed gravel, all paving surfaces (concrete, asphalt, etc.), weighted impermeable barriers, and other materials as approved by the Engineer.
12. The Contractor shall use water for dust control.
13. When Engineer determines erosion control measures are deemed no longer necessary, all materials detained, including silts and construction runoff debris, shall be collected and disposed of in a manner acceptable to the Engineer.
14. The Contractor shall provide inlet protection around all catch basins (existing or new) that collect construction site stormwater runoff. Inlet protection for new catch basins shall be created immediately after installation.
15. The Contractor shall sweep and water all existing roadways and new pavement DAILY to maintain dust control. Crushed stone truck washes and stabilized construction entrances will be required at all site access points to prevent sediment from tracking off-site. Crushed stone will need to be added and/or replaced as sediment builds up and minimizes or reduces the effectiveness of the stone.



Notes:

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2. This plan is in no way a boundary survey. Approximate property lines are from City of Burlington tax maps.
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