

**State Environmental Policy Act (SEPA)  
ENVIRONMENTAL CHECKLIST**

File No. \_\_\_\_\_

**PLEASE READ CAREFULLY BEFORE COMPLETING THE CHECKLIST!**

**Purpose of Checklist:**

The State Environmental Policy Act (SEPA) chapter 43.21C RCW, requires all governmental agencies to consider the environmental impacts of a proposal before making decisions. An Environmental Impact Statement (EIS) must be prepared for all proposals with probable significant adverse impacts on the quality of the environment. The purpose of this checklist is to provide information to help you and the agency identify impacts from your proposal (and to reduce or avoid impacts from the proposal, if it can be done) and to help the agency decide whether an EIS is required.

**Instructions for Applicants:**

This environmental checklist asks you to describe some basic information about your proposal. Governmental agencies use this checklist to determine whether the environmental impacts of your proposal are significant, requiring preparation of an EIS. Answer the questions briefly, with the most precise information known, or give the best description you can.

You must answer each question accurately and carefully, to the best of your knowledge. In most cases, you should be able to answer the questions from your own observations or project plans without the need to hire experts. If you really do not know the answer, or if a question does not apply to your proposal, write "do not know" or "does not apply." Complete answers to the questions now may avoid unnecessary delays later.

Some questions ask about governmental regulations, such as zoning, shoreline, and landmark designations. Answer these questions if you can. If you have problems, the governmental agencies can assist you.

The checklist questions apply to all parts of your proposal, even if you plan to do them over a period of time or on different parcels of land. Attach any additional information that will describe your proposal or its environmental effects. The agency to which you submit this checklist may ask you to explain your answers or provide additional information reasonably related to determining if there may be significant adverse impact.

**Use of checklist for nonproject proposals:**

Complete this checklist for nonproject proposals, even though questions may be answered "*does not apply.*"

IN ADDITION, complete the SUPPLEMENTAL SHEET FOR NONPROJECT ACTIONS (Part D).

For nonproject actions, the references in the checklist to the words "project," "applicant," and "property or site" should be read as "proposal," "proposer," and "affected geographic area," respectively.

**A. BACKGROUND**

1. Name of proposed project: "Wonderground" Building
2. Applicant: North Lincoln LLC, DBA "Wonderground"
3. Address: 815 N. Lincoln Street  
City/State/Zip: Spokane, WA 99201 Phone: 303-718-1617  
Agent or Primary Contact: David Wilde, Wolfe Architectural Group  
Address: 1015 N. Calispel  
City/State/Zip: Spokane, WA 99201 Phone: 509-455-6999  
Location of Project: Spokane WA  
Address: 815 N. Lincoln Street  
Section: 18 Quarter: NW Township: 25N Range: 43E  
Tax Parcel Number(s) 35182.4401
4. Date checklist prepared: September 25, 2023
5. Agency requesting checklist: City of Spokane
6. Proposed timing or schedule (including phasing, if applicable): \_\_\_\_\_  
October - December 2023
  
7. a. Do you have any plans for future additions, expansion, or further activity related to or connected with this proposal? If yes, explain. \_\_\_\_\_  
No
  
- b. Do you own or have options on land nearby or adjacent to this proposal? If yes, explain. \_\_\_\_\_  
Yes, Own 35182.4407, 35182.4408, 35182.4304, & 35182.4305
  
8. List any environmental information you know about that has been prepared, or will be prepared, directly related to this proposal. \_\_\_\_\_  
Spokane Environmental Decision B2313706SEPA  
See attached notice of decision

9. Do you know whether applications are pending for governmental approvals of other proposals directly affecting the property covered by your proposal? If yes, explain. \_\_\_\_\_

Prior Demolition Permit

Current Building Permit Application

10. List any government approvals or permits that will be needed for your proposal, if known. \_\_\_\_\_

City Building Permit

11. Give brief, complete description of your proposal, including the proposed uses and the size of the project and site. There are several questions later in this checklist that ask you to describe certain aspects of your proposal. You do not need to repeat those answers on this page. \_\_\_\_\_

Site grading, footings, and foundations for a 1-story Building to contain indoor Pickleball play courts and Future TI space.

12. Location of the proposal: Give sufficient information for a person to understand the precise location of your proposed project, including a street address, if any, and section, township and range, if known. If a proposal would occur over a range of area, provide the range or boundaries of the site(s). Provide a legal description, site plan, vicinity map, and topographic map, if reasonably available. While you should submit any plans required by the agency, you are not required to duplicate maps or detailed plans submitted with any permit application related to this checklist. \_\_\_\_\_

815 N. Lincoln St. Spokane, WA 99201

See attached map

13. Does the proposed action lie within the Aquifer Sensitive Area (ASA)? The General Sewer Service Area? The Priority Sewer Service Area? The City of Spokane? (See: Spokane County's ASA Overlay Zone Atlas for boundaries.) \_\_\_\_\_

Aquifer Sensitive Area, General sewer service area &

City of Spokane

14. The following questions supplement Part A.

a. Critical Aquifer Recharge Area (CARA) / Aquifer Sensitive Area (ASA)

(1) Describe any systems, other than those designed for the disposal of sanitary waste installed for the purpose of discharging fluids below the ground surface (includes systems such as those for the disposal of stormwater or drainage from floor drains). Describe the type of system, the amount of material to be disposed of through the system and the types of material likely to be disposed of (including materials which may enter the system inadvertently through spills or as a result of firefighting activities). \_\_\_\_\_

Storm water to be detained on-site and discharged into city's storm system at a peak rate of 0.05 cubic feet per second.

Interior Floor drains to City of Spokane Sanitary Sewer

(2) Will any chemicals (especially organic solvents or petroleum fuels) be stored in aboveground or underground storage tanks? If so, what types and quantities of material will be stored? \_\_\_\_\_

No

(3) What protective measures will be taken to insure that leaks or spills of any chemicals stored or used on site will not be allowed to percolate to groundwater. This includes measures to keep chemicals out of disposal systems. \_\_\_\_\_

None required, all drains to city sanitary sewer.

(4) Will any chemicals be stored, handled or used on the site in a location where a spill or leak will drain to surface or groundwater or to a stormwater disposal system discharging to surface or groundwater? \_\_\_\_\_

No .

b. Stormwater

(1) What are the depths on the site to groundwater and to bedrock (if known)? \_\_\_\_\_  
Bedrock is at <10' from surface, groundwater level is unknown.

(2) Will stormwater be discharged into the ground? If so, describe any potential impacts. \_\_\_\_\_  
No.

**B. ENVIRONMENTAL ELEMENTS**

**1. Earth**

a. General description of the site (check one):

Flat  Rolling  Hilly  Steep slopes  Mountainous

Other: \_\_\_\_\_  
\_\_\_\_\_

b. What is the steepest slope on the site (approximate percent slope)? < 5%

c. What general types of soils are found on the site (for example, clay, sand, gravel, peat, muck)? If you know the classification of agricultural soils, specify them and note any agricultural land of long-term commercial significance and whether the proposal results in removing any of these soils. \_\_\_\_\_  
Rock. No agricultural soils

d. Are there surface indications or history of unstable soils in the immediate vicinity? If so, describe. \_\_\_\_\_  
No

e. Describe the purpose, type, total area, and approximate quantities and total affected area of any filling, excavation, and grading proposed. Indicate source of fill: \_\_\_\_\_

Imported structural fill, 14,400 sf, approximately 1000 yards

f. Could erosion occur as a result of clearing, construction, or use? If so, generally describe. \_\_\_\_\_

No

g. About what percent of the site will be covered with impervious surfaces after project construction (for example, asphalt, or buildings)? \_\_\_\_\_

100%

h. Proposed measures to reduce or control erosion or other impacts to the earth, if any: \_\_\_\_\_

Erosion Control Plan (attached)

## 2. Air

a. What type of emissions to the air would result from the proposal during construction, operation, and maintenance when the project is completed? If any, generally describe and give approximate quantities if known. \_\_\_\_\_

Dust During construction

b. Are there any off-site sources of emissions or odor that may affect your proposal? If so, generally describe. \_\_\_\_\_

No

- c. Proposed measures to reduce or control emissions or other impacts to air, if any: \_\_\_\_\_  
Water will be sprayed during compaction of engineered fill to  
minimize dust  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**3. Water**

a. SURFACE WATER:

- (1) Is there any surface water body on or in the immediate vicinity of the site (including year-round and seasonal streams, saltwater, lakes, ponds, wetlands)? If yes, describe type and provide names. If appropriate, state what stream or river it flows into. \_\_\_\_\_

No.

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

- (2) Will the project require any work over, in, or adjacent to (within 200 feet) the described waters? If yes, please describe and attach available plans. \_\_\_\_\_

No

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

- (3) Estimate the amount of fill and dredge material that would be placed in or removed from the surface water or wetlands and indicate the area of the site that would be affected. Indicate the source of fill material. \_\_\_\_\_

none

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

- (4) Will the proposal require surface water withdrawals or diversions? If yes, give general description, purpose, and approximate quantities if known. \_\_\_\_\_

no

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

(5) Does the proposal lie within a 100-year floodplain? If so, note location on the site plan. \_\_\_\_\_

No

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(6) Does the proposal involve any discharge of waste materials to surface waters? If so, describe the type of waste and anticipated volume of discharge. \_\_\_\_\_

No

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b. GROUNDWATER:

(1) Will groundwater be withdrawn from a well for drinking water or other purposes? If so, give a general description of the well, proposed uses and approximate quantities withdrawn from the well. Will water be discharged to groundwater? Give general description, purpose, and approximate quantities if known. \_\_\_\_\_

Water used for dust control will come from the city of Spokane  
water system

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(2) Describe waste material that will be discharged into the ground from septic tanks or other sources, if any (for example: Domestic sewage; industrial, containing the following chemicals...; agricultural; etc.). Describe the general size of the system, the number of such systems, the number of houses to be served (if applicable), or the number of animals or humans the system(s) are expected to serve. \_\_\_\_\_

None

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c. WATER RUNOFF (INCLUDING STORMWATER):

(1) Describe the source of runoff (including stormwater) and method of collection and disposal if any (include quantities, if known). Where will this water flow? Will this water flow into other waters? If so, describe. \_\_\_\_\_

All stormwater to be collected and detained on site, and discharged to the city's storm system per stormwater variance application (see attached)

(2) Could waste materials enter ground or surface waters? If so, generally describe. \_\_\_\_\_

No

(3) Does the proposal alter or otherwise affect drainage patterns in the vicinity of the site? If so, describe. \_\_\_\_\_

No

d. PROPOSED MEASURES to reduce or control surface, ground, and runoff water, and drainage patten impacts, if any. \_\_\_\_\_

Currently building stormwater drains directly to city sanitary sewer, and surface stormwater sheds into right-of-way.

The proposed design will reduce or eliminate these impositions on the city's storm and sanitary sewer systems

**4. Plants**

a. Check the type of vegetation found on the site:

Deciduous tree:  alder  maple  aspen

Other: \_\_\_\_\_

Evergreen tree:  fir  cedar  pine

Other: \_\_\_\_\_

Shrubs  Grass  Pasture  Crop or grain

Orchards, vineyards or other permanent crops

Wet soil plants:  cattail  buttercup  bullrush  skunk cabbage

Other: \_\_\_\_\_

Water plants:  water lily  eelgrass  milfoil

Other: \_\_\_\_\_

Other types of vegetation: weeds \_\_\_\_\_

b. What kind and amount of vegetation will be removed or altered? \_\_\_\_\_

None

\_\_\_\_\_  
\_\_\_\_\_

c. List threatened and endangered species known to be on or near the site. \_\_\_\_\_

None known

\_\_\_\_\_  
\_\_\_\_\_

d. Proposed landscaping, use of native plants, or other measures to preserve or enhance vegetation on the site, if any: \_\_\_\_\_

The proposed Design will add street trees and sidewalk plantings within right-of-way

\_\_\_\_\_  
\_\_\_\_\_

e. List all noxious weeds and invasive species known to be on or near the site. \_\_\_\_\_

None

**5. Animals**

a. Check and List any birds and other animals which have been observed on or near the site or are known to be on or near the site:

Birds:  hawk  heron  eagle  songbirds

Other: Sparrows

Mammals:  deer  bear  elk  beaver

Other: None

Fish:  bass  salmon  trout  herring  shellfish

Other: None

Other (not listed in above categories): \_\_\_\_\_

b. List any threatened or endangered animal species known to be on or near the site.

None known

c. Is the site part of a migration route? If so, explain. \_\_\_\_\_

None known

d. Proposed measures to preserve or enhance wildlife, if any: \_\_\_\_\_

None

e. List any invasive animal species known to be on or near the site. \_\_\_\_\_  
None known

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**6. Energy and natural resources**

a. What kinds of energy (electric, natural gas, oil, wood stove, solar) will be used to meet the completed project's energy needs? Describe whether it will be used for heating, manufacturing, etc.  
Electric and natural gas.

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b. Would your project affect the potential use of solar energy by adjacent properties? If so, generally describe. \_\_\_\_\_

No

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c. What kinds of energy conservation features are included in the plans of this proposal? List other proposed measures to reduce or control energy impacts, if any: \_\_\_\_\_  
Enhanced building envelope & reduced energy lighting

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**7. Environmental health**

a. Are there any environmental health hazards, including exposure to toxic chemicals, risk of fire and explosion, spill, or hazardous waste that could occur as a result of this proposal? If so, describe. \_  
None

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(1) Describe any known or possible contamination at the site from present or past uses. \_\_\_\_\_  
None. Existing building has been tested and abatement performed  
prior to building demolition

(2) Describe existing hazardous chemicals/conditions that might affect project development and design. This includes underground hazardous liquid and gas transmission pipelines located within the project area and in the vicinity. \_\_\_\_\_  
None

(3) Describe any toxic or hazardous chemicals/conditions that might be stored, used, or produced during the project's development or construction, or at any time during the operating life of the project. \_\_\_\_\_  
None

(4) Describe special emergency services that might be required. \_\_\_\_\_  
None

(5) Proposed measures to reduce or control environmental health hazards, if any:  
None

b. NOISE:

(1) What types of noise exist in the area which may affect your project (for example: traffic, equipment, operation, other)? \_\_\_\_\_

None  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

(2) What types and levels of noise would be created by or associated with the project on a short-term or a long-term basis (for example: traffic, construction, operation, other)? Indicate what hours noise would come from the site. \_\_\_\_\_

Construction noise to be restricted to daytime working hours.  
Future business tenants to comply with city ordinances  
\_\_\_\_\_  
\_\_\_\_\_

(3) Proposed measure to reduce or control noise impacts, if any: \_\_\_\_\_

None  
\_\_\_\_\_  
\_\_\_\_\_

**8. Land and shoreline use**

a. What is the current use of the site and adjacent properties? Will the proposal affect current land uses on nearby or adjacent properties? If so, describe. \_\_\_\_\_

Commercial use.  
Will not affect adjacent current land use  
\_\_\_\_\_  
\_\_\_\_\_

b. Has the project site been used as working farmlands or working forest lands? If so, describe. How much agricultural or forest land of long-term commercial significance will be converted to other uses as a result of the proposal, if any? If resource lands have not been designated, how many acres in farmland or forest land tax status will be converted to nonfarm or nonforest use? \_\_\_\_\_

No  
\_\_\_\_\_  
\_\_\_\_\_

1) Will the proposal affect or be affected by surrounding working farm or forest land normal business operations, such as oversize equipment access, the application of pesticides, tilling, and harvesting? If so, how: \_\_\_\_\_

No

c. Describe any structures on the site. \_\_\_\_\_

1 existing building, demolished under prior permit

d. Will any structures be demolished? If so, which? \_\_\_\_\_

Yes, under prior permit and SEPA.

e. What is the current zoning classification of the site? \_\_\_\_\_

DTG Downtown General

f. What is the current comprehensive plan designation of the site? \_\_\_\_\_

Downtown

g. If applicable, what is the current shoreline master program designation of the site? \_\_\_\_\_

None

h. Has any part of the site been classified as a critical area by the city or the county? If so, specify. \_\_\_\_

No

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i. Approximately how many people would reside or work in the completed project? \_\_\_\_\_

10 or fewer employees

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j. Approximately how many people would the completed project displace? \_\_\_\_\_

None

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k. Proposed measures to avoid or reduce displacement impacts, if any: \_\_\_\_\_

None

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l. Proposed measures to ensure the proposal is compatible with existing and projected land uses and plans, if any: \_\_\_\_\_

Proposed land use is compatible with zoning codes, land use plan,  
and adjacent existing land uses.

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m. Proposed measures to ensure the proposal is compatible with nearby agricultural and forest lands of long-term commercial significance, if any: \_\_\_\_\_

None

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**9. Housing**

a. Approximately how many units would be provided, if any? Indicate whether high, middle, or low-income housing. \_\_\_\_\_

None

b. Approximately how many units, if any, would be eliminated? Indicate whether high-, middle- or low-income housing. \_\_\_\_\_

None

c. Proposed measures to reduce or control housing impacts, if any: \_\_\_\_\_

None

**10. Aesthetics**

a. What is the tallest height of any proposed structure(s), not including antennas; what is the principal exterior building material(s) proposed? \_\_\_\_\_

34' (from low end of site), Brick and architectural metal panels

b. What views in the immediate vicinity would be altered or obstructed? \_\_\_\_\_

None

c. Proposed measures to reduce or control aesthetic impacts, if any: \_\_\_\_\_

Compliance with City of Spokane Design Standards

**11. Light and Glare**

- a. What type of light or glare will the proposal produce? What time of day would it mainly occur? \_\_\_\_\_  
Exterior lighting from dusk to dawn  
\_\_\_\_\_  
\_\_\_\_\_
  
- b. Could light or glare from the finished project be a safety hazard or interfere with views? \_\_\_\_\_  
no  
\_\_\_\_\_  
\_\_\_\_\_
  
- c. What existing off-site sources of light or glare may affect your proposal? \_\_\_\_\_  
none  
\_\_\_\_\_  
\_\_\_\_\_
  
- d. Proposed measures to reduce or control light and glare impacts, if any: \_\_\_\_\_  
Exterior lighting to comply with city standards for cut-off  
\_\_\_\_\_  
\_\_\_\_\_

**12. Recreation**

- a. What designated and informal recreational opportunities are in the immediate vicinity? \_\_\_\_\_  
Riverfront Park, Wonder Market, Spokane Arena, Centennial Trail  
\_\_\_\_\_  
\_\_\_\_\_
  
- b. Would the proposed project displace any existing recreational uses? If so, describe. \_\_\_\_\_  
No  
\_\_\_\_\_  
\_\_\_\_\_
  
- c. Proposed measures to reduce or control impacts on recreation, including recreation opportunities to be provided by the project or applicant, if any: \_\_\_\_\_  
None, the building will provide space for year-round indoor recreational activities.  
\_\_\_\_\_  
\_\_\_\_\_

**13. Historic and cultural preservation**

- a. Are there any buildings, structures, or sites, located on or near the sited that are over 45 years old listed in or eligible for listing in national, state, or local preservation registers located on or near the site? If so, specifically describe. \_\_\_\_\_

Wonder Building at 835 N Post.

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- b. Are there any landmarks, features, or other evidence of Indian or historic use or occupation? This may include human burials or old cemeteries. Are there any material evidence, artifacts, or areas of cultural importance on or near the site? Please list any professional studies conducted at the site to identify such resources. \_\_\_\_\_

No

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- c. Describe the methods used to assess the potential impacts to cultural and historic resources on or near the project site. Examples include consultation with tribes and the department of archaeology and historic preservation, archaeological surveys, historic maps, GIS data, etc. \_\_\_\_\_

None

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- d. Proposed measures to avoid, minimize, or compensate for loss, changes to, and disturbance to resources. Please include plans for the above and any permits that may be required \_\_\_\_\_

none

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**14. Transportation**

a. Identify public streets and highways serving the site or affected geographic area and describe proposed access to the existing street system. Show on site plans, if any. \_\_\_\_\_

Lincoln St. and Mallon Ave., no driveway access.

b. Is site or affected geographic area currently served by public transit? If so, generally describe. If not, what is the approximate distance to the nearest transit stop \_\_\_\_\_

Yes, approximately 200' to multiple bus lines and stops on Monroe

c. How many additional parking spaces would the completed project or non-project proposal have? How many would the project or proposal eliminate? \_\_\_\_\_

No parking spaces

d. Will the proposal require any new or improvements to existing roads, streets, pedestrian, bicycle or state transportation facilities, not including driveways? If so, generally describe (indicate whether public or private). \_\_\_\_\_

Replace existing sidewalks and improve accessible curb ramp at corner of Lincoln and Mallon

e. Will the project or proposal use (or occur in the immediate vicinity of) water, rail or air transportation? If so, generally describe. \_\_\_\_\_

no

- f. How many vehicular trips per day would be generated by the completed project or proposal? If known, indicate when peak volumes would occur and what percentage of the volume would be trucks (such as commercial and non-passenger vehicles). What data or transportation models were used to make these estimates? \_\_\_\_\_

Unknown, the building is within the downtown parking exemption.

(Note: to assist in review and if known, indicate vehicle trips during PM peak, AM Peak, and Weekday (24 hours).)

- g. Will the proposal interfere with, affect or be affected by the movement of agricultural and forest products on roads or streets in the area? If so, general describe. \_\_\_\_\_

no

- h. Proposed measures to reduce or control transportation impacts, if any: \_\_\_\_\_

None

### 15. Public services

- a. Would the project result in an increased need for public services (for example: fire protection, police protection, public transit, health care, schools, other)? If so, generally describe. \_\_\_\_\_

No, the building replaces an existing building of comparable scale. the new building will be fully sprinkled.

- b. Proposed measures to reduce or control direct impacts on public services, if any: \_\_\_\_\_

None

**16. Utilities**

a. Check utilities currently available at the site:

- electricity
- natural gas
- water
- refuse service
- telephone
- sanitary sewer
- septic system

Other: \_\_\_\_\_  
\_\_\_\_\_

b. Describe the utilities that are proposed for the project, the utility providing the service, and the general construction activities on the site or in the immediate vicinity which might be needed: \_\_\_\_\_

No additional utilities  
\_\_\_\_\_  
\_\_\_\_\_

### C. SIGNATURE

I, the undersigned, swear under penalty of perjury that the above responses are made truthfully and to the best of my knowledge. I also understand that, should there be any willful misrepresentation or willful lack of full disclosure on my part, the *agency* must withdraw any determination of Nonsignificance that it might issue in reliance upon this checklist.

Date: 9/25/2023 Signature: \_\_\_\_\_

***Please Print or Type:***

Proponent: North Lincoln LLC Address: 1314 S Grand Blvd. #2-288  
Spokane, WA 99202  
Phone: 303-718-1617

Person completing form (if different from proponent): David Wilde, Wolfe Architectural Group  
Phone: 509-455-6999 Address: 1015 N. Calispel St.  
Spokane WA 99201

#### FOR STAFF USE ONLY

Staff member(s) reviewing checklist: \_\_\_\_\_

Based on this staff review of the environmental checklist and other pertinent information, the staff concludes that:

- A. there are no probable significant adverse impacts and recommends a Determination of Nonsignificance.
- B. probable significant adverse environmental impacts do exist for the current proposal and recommends a Mitigated Determination of Nonsignificance with conditions.
- C. there are probable significant adverse environmental impacts and recommends a Determination of Significance.



**DEVELOPMENT SERVICES CENTER**  
808 W. SPOKANE FALLS BLVD.  
SPOKANE, WASHINGTON 99201-3329  
509.625.6300  
MY.SPOKANECITY.ORG

## **SPOKANE ENVIRONMENTAL DECISION**

**File No. B2313706SEPA**

### **MITIGATED DETERMINATION OF NON-SIGNIFICANCE (MDNS)**

**Date of Issuance: 9/21/2023**

**Proponent:** Jay Torgerson, Rob's Demolition, 3810 E Boone Ave

**Location of proposal:** 815 N Lincoln St

**Description of proposal:** Demolition of a 17,138 sqft commercial building.

**Lead agency:** City of Spokane, Development Services Center

**Plan Reviewer:** Amanda Kiehn

The City of Spokane has determined that this proposal will not have a probable significant adverse impact on the environment. Pursuant to WAC 197-11-350(3), the proposal has been clarified, changed, and conditioned to include necessary mitigation measures to avoid, minimize or compensate for probable significant impacts. An environmental impact statement (EIS) is not required under RCW 43.21C.030(2)(c). The necessary mitigation measures are listed below, and the Environmental Checklist is attached.

This determination is based on the following findings and conclusions:

1. Preparation of an Inadvertent Discovery Plan to be implemented into the scope of work as requested by the Spokane Tribe.
2. Prior to the demolition permit issuance, the building will need to come before the Landmarks Commission for eligibility review.

This MDNS is issued after using the optional DNS process in Section 197-11-355 WAC. There is no further comment period on the MDNS.



**Responsible official:** Dermott Murphy

**Position/Title:** Building Official

**Address:** City of Spokane  
Development Services Center, Attention: Admin Team  
808 West Spokane Falls Boulevard  
Spokane, WA 99201-3343  
**Phone:** (509) 625-6300 **Fax:** (509) 625-6822

**Signature:** *Dermott Murphy* Dermott Murphy (Sep 21, 2023 13:48 PDT) **Print Name:** DM

You may appeal this determination in writing to the Hearing Examiner, City of Spokane, 808 West Spokane Falls Boulevard, Spokane WA 99201-3343, no later than 14 days from the date of decision. Be prepared to make specific objections. Information on SEPA appeal procedures can be provided at the Planning and Development Department

/SEPA/Lincoln, 815 N - 815 N Lincoln Demolition






# B2313706SEPA MDNS

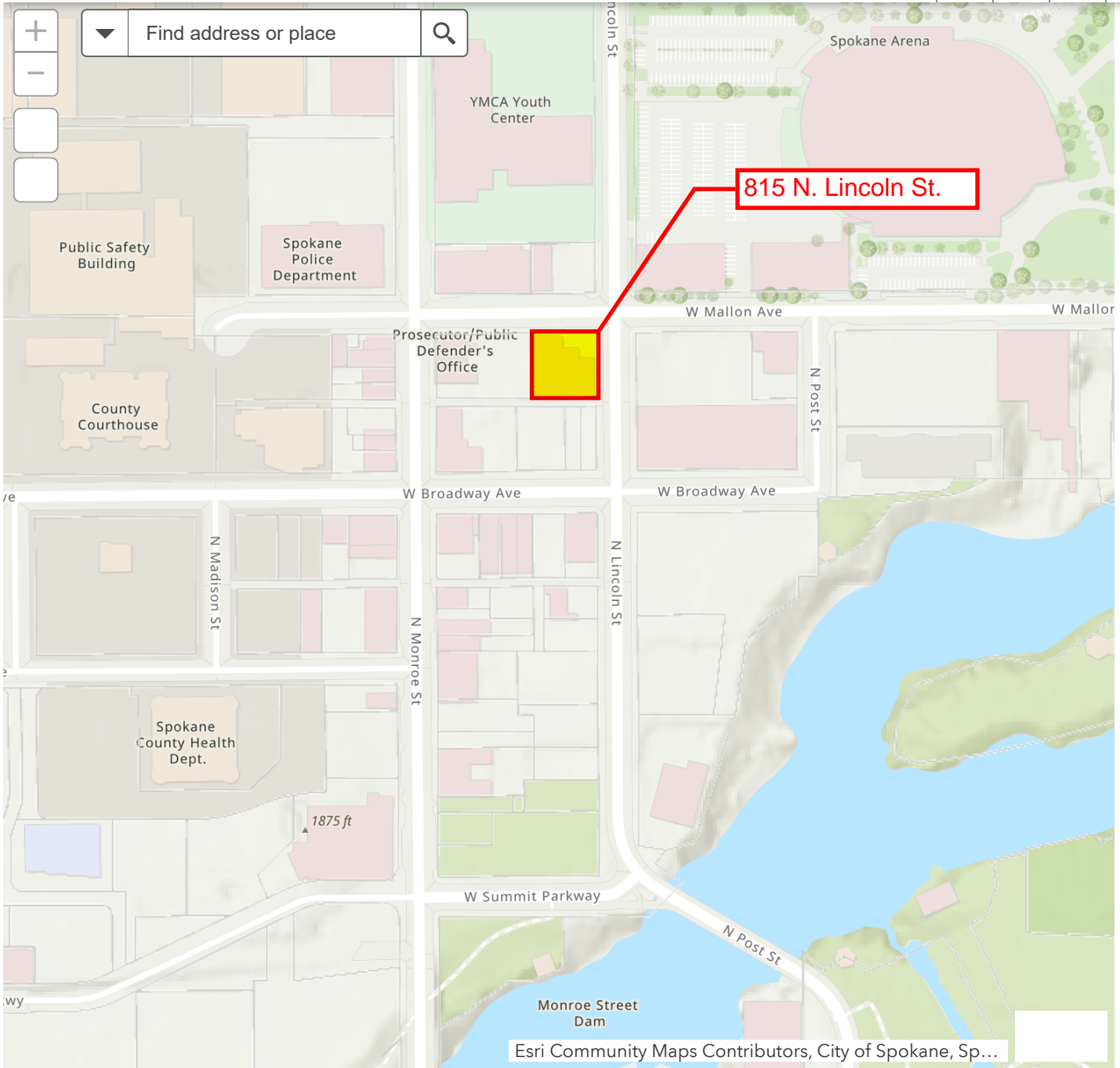
Final Audit Report

2023-09-21

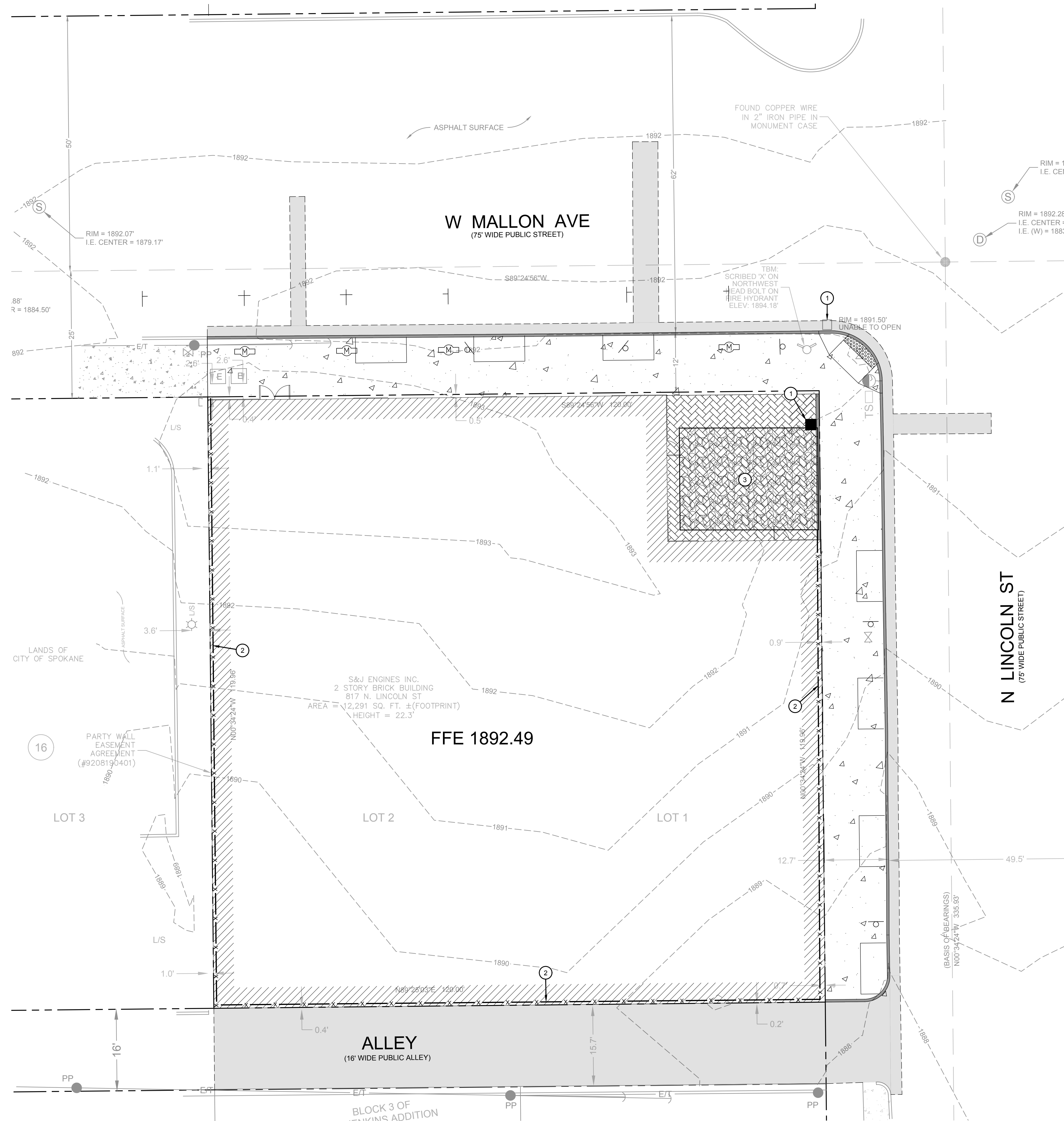
Created:	2023-09-21
By:	AMANDA KIEHN (AKIEHN@SPOKANECITY.ORG)
Status:	Signed
Transaction ID:	CBJCHBCAABAAuDhZPiHHntU1hHMq80e-X9Srpmtbqln

## "B2313706SEPA MDNS" History

-  Document created by AMANDA KIEHN (AKIEHN@SPOKANECITY.ORG)  
2023-09-21 - 7:18:35 PM GMT
-  Document emailed to Dermott Murphy (dgmurphy@spokanecity.org) for signature  
2023-09-21 - 7:18:49 PM GMT
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2023-09-21 - 8:48:38 PM GMT
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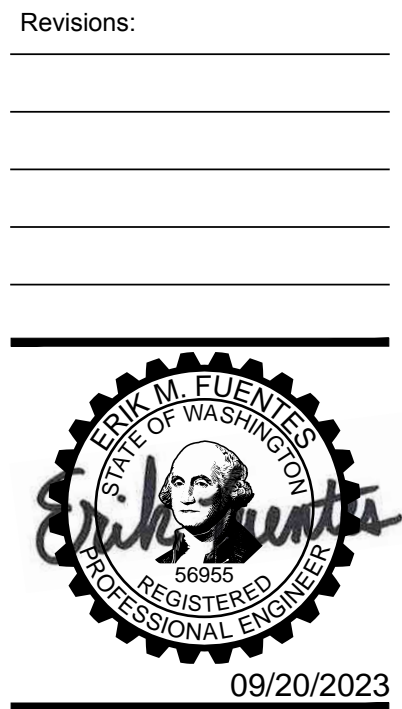


Esri Community Maps Contributors, City of Spokane, Sp...



KEY NOTES		
KEY	DESCRIPTION	DETAIL/SHEET
①	INSTALL INLET PROTECTION TO PREVENT SEDIMENT FROM ENTERING INTO STORMWATER STRUCTURE.	7/C8.00
②	INSTALL NEW TEMPORARY SILT FENCE (330 LF).	2/C8.00
③	INSTALL NEW TEMPORARY CONSTRUCTION ENTRANCE.	1/C8.00

- GENERAL NOTES:**
- SEE EROSION ON SEDIMENT CONTROL NOTES ON SHEET C2.00 FOR ADDITIONAL INFORMATION.
  - ALL EROSION CONTROL BMPs SHOWN HEREON SATISFY THE MINIMUM REQUIREMENTS. ADDITIONAL EROSION CONTROL MEASURES MAY BE REQUIRED.



TEMPORARY EROSION AND SEDIMENT CONTROL PLAN

"WONDERGROUND" BUILDING  
 NORTH LINCOLN, LLC  
 815 N. LINCOLN ST.  
 SPOKANE, WA

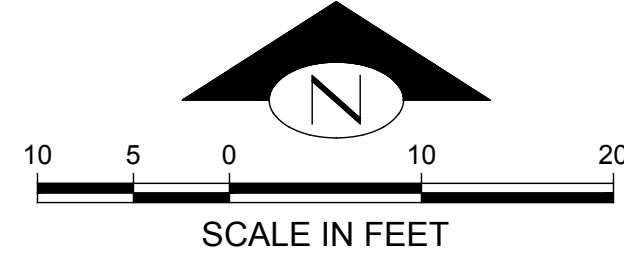


Project No.: 23.133  
 Date: 09/20/2023  
 Drawn By: GR  
 Checked By: EF

**C4.00**

BASE MAP/TOPOGRAPHY PROVIDED BY OTHERS. DCG/WATERSHED CANNOT BE HELD LIABLE FOR ACCURACY. CONTRACTOR SHALL FIELD VERIFY GRADES, UTILITIES, AND ALL OTHER EXISTING FEATURES AND CONDITIONS. IF CONDITIONS ARE NOT AS SHOWN AND/OR PLANS CANNOT BE CONSTRUCTED AS SHOWN, CONTACT DCG/WATERSHED PRIOR TO CONSTRUCTION.

CALL 811  
 2 BUSINESS DAYS  
 BEFORE YOU DIG  
 (UNDERGROUND UTILITY LOCATIONS ARE APPROX.)



**DCG WATERSHED**  
 601 W Main Ave, Suite 617, Spokane, WA 99201  
 P: 509.606.3600, www.dcgwatershed.com  
 FEDERAL WAY | KIRKLAND | MOUNT VERNON | SEATTLE | SPOKANE | WHIDBEY ISLAND

City of Spokane  
Department of Engineering Services  
808 W. Spokane Falls Boulevard  
Spokane, Washington 99201-3313



### DESIGN STANDARDS VARIANCE REQUEST FORM

**Project Name:** *Wonderground Building (815 N Lincoln St, Spokane, WA 99201)*

**City Project Number (if applicable):** *none yet assigned*

List below any deviations from the City of Spokane Design Standards you are proposing. For each variance requested, explain fully the reasons why City Standards cannot be met, and describe how the proposed variance will satisfy fundamental requirements for safety, function, fire protection, appearance and maintainability. Attach additional supporting information as needed.

*A geotechnical report prepared for the proposed development determined that the site is entirely underlain by basalt bedrock and infiltration is infeasible. Other means of onsite stormwater disposal (including LID methods) have been considered and determined to be infeasible. For this reason, we are proposing a variance to the City's standard stormwater requirement that stormwater be disposed of onsite, and instead proposing detention, flow control, and controlled release of onsite stormwater to the City's stormwater main in N Lincoln St. Our proposed onsite stormwater system limits total-site peak stormwater discharges to 0.05 cubic feet per second for the 50-year, 24-hour design storm, as dictated by City staff during early conceptual discussions of the project.*

*Attachments: Existing Site Stormwater Management Exhibit, Proposed Site Stormwater Management Exhibit, Geotechnical Report, HydroCAD Stormwater Modeling Output*

Submitted by:

Name (please print) *Erik Fuentes, PE*  
Company *DCG/Watershed*

Signature *Erik Fuentes* Date 09/20/2023

FOR CITY USE ONLY

Approved  Denied

\_\_\_\_\_  
Director of Engineering Services

\_\_\_\_\_  
Date

# EXISTING SITE STORMWATER MANAGEMENT

A dye test, performed by City staff in September 2023, indicated that runoff from the existing ~13,000 SF (approx.) roof flows unmitigated to the City sewer.

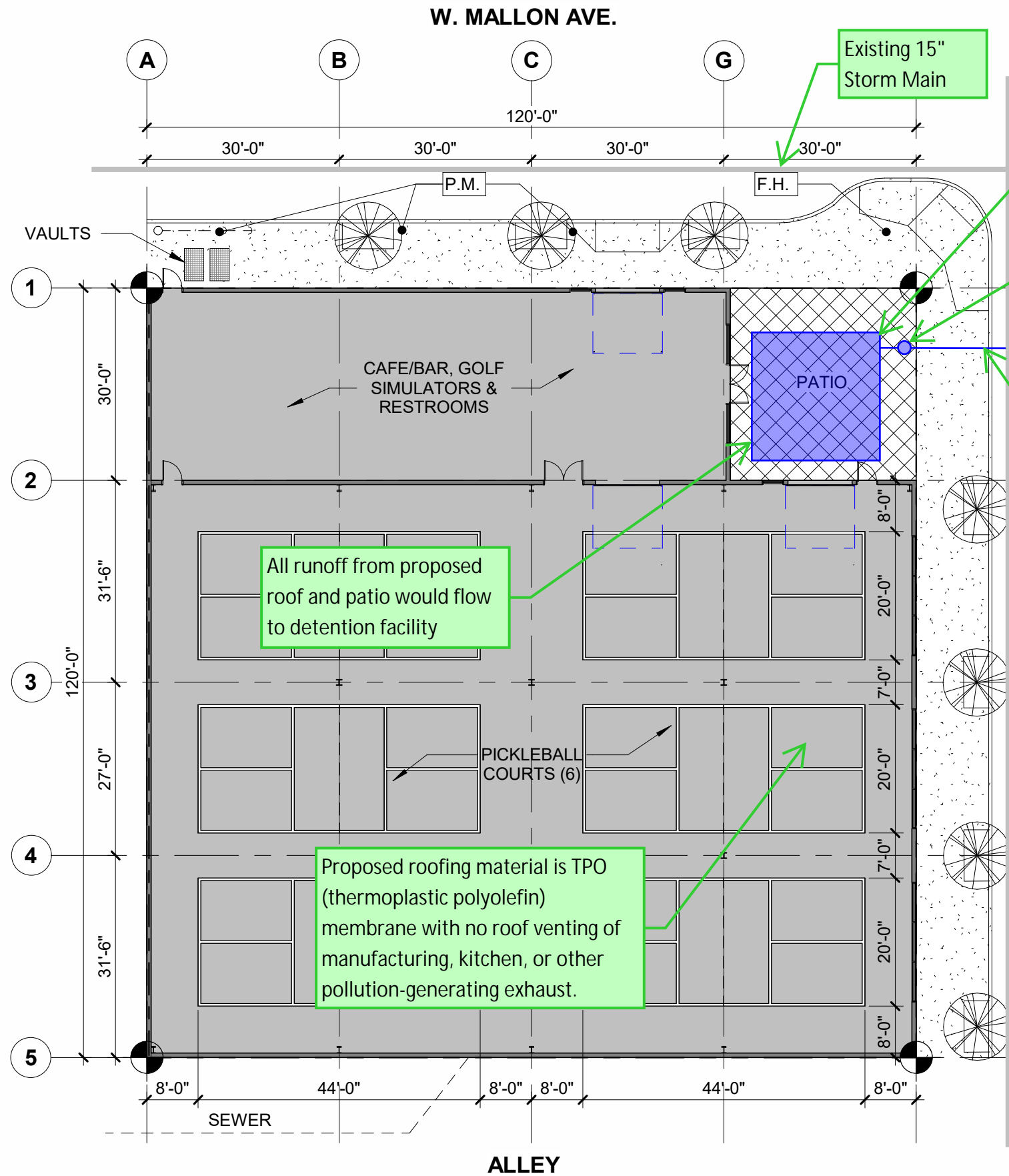
Runoff from existing onsite pollution-generating impervious areas sheet flows unmitigated into the right-of-way.



Existing Site Stormwater Flow Rates (14,400 SF)

Event	Rainfall (inches)	Runoff (cfs)	Volume (acre-feet)	Depth (inches)
6-month	0.83	0.36	0.017	0.63
2-year	1.20	0.55	0.027	0.99
10-year	1.80	0.85	0.043	1.58
25-year	2.00	0.95	0.049	1.77
50-year	2.20	1.05	0.054	1.97
100-year	2.40	1.15	0.060	2.17

# PROPOSED SITE STORMWATER MITIGATION



Proposed Stormwater Flow Rates  
Generated Onsite (14,400 SF)

Event	Rainfall (inches)	Runoff (cfs)	Volume (acre-feet)	Depth (inches)
6-month	0.83	0.36	0.017	0.63
2-year	1.20	0.55	0.027	0.99
10-year	1.80	0.85	0.043	1.58
25-year	2.00	0.95	0.049	1.77
50-year	2.20	1.05	0.054	1.97
100-year	2.40	1.15	0.060	2.17

Proposed Stormwater Flow Rates  
Mitigated (14,400 SF)

Event	Inflow (cfs)	Primary (cfs)	Elevation (feet)	Storage (acre-feet)
6-month	0.36	0.02	1,887.40	0.008
2-year	0.55	0.03	1,888.16	0.014
10-year	0.85	0.04	1,889.50	0.024
25-year	0.95	0.04	1,889.96	0.027
50-year	1.05	0.04	1,890.43	0.030
100-year	1.15	0.25	1,892.03	0.031

Other means of onsite stormwater mitigation (as suggested by the SRSM and Eastern Washington Low Impact Development Manual) which were considered, but determined to be infeasible, are listed below:

- **Dispersion** is infeasible due to lack of permeable site coverage, as is often the case in urban areas.
- **Bioretention/Rain Gardens** would require underdrain systems on this site, due to the lack of infiltrating soils. These would effectively provide water quality treatment, if required, but the development of this site does not propose any pollution-generating surfaces. In terms of detention/retention, bio-retention would ultimately require controlled release of stormwater into the City's drainage system, thus providing only the same benefits as subsurface detention and flow control.
- **Tree planting** can play a role in reducing stormwater runoff, but not in a measurable way that helps a development project to meet stormwater flow control standards.
- **Permeable pavements** would not be effective on this site because subsurface soils are not suitable for infiltration. Any runoff infiltrated through permeable pavements would have to be collected in an underdrain system and ultimately conveyed to the City's drainage system.
- **Green roofs** slow runoff discharge rates for small storm events, and to a lesser extent reduce the total volume of runoff by allowing for evaporation and transpiration. However, they aren't particularly effective in helping to meet flow control standards during large storm events, which typically control the stormwater design. They also introduce significant expense in construction – both in labor and materials needed to build the green roofs themselves, as well as the additional structural loading on the roof - and ongoing maintenance.
- Rainwater harvesting is infeasible because the proposed use of this site does not include a need for rainwater.

# AdvancedGeo

An Employee-Owned Company



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07 September 2023

Project No. 22-6764

Mr. David Wilde  
WOLFE ARCHITECTURAL GROUP  
1015 North Calispel Street, Suite B  
Spokane, WA 99201  
Via Email: [dwilde@wagarch.com](mailto:dwilde@wagarch.com)

**Subject: Localized Shallow Geologic Conditions  
FORMER R A S PROPERTIES, LLC  
815 and 817 North Lincoln Street, Spokane, Washington**

Dear Mr. Wilde:

On behalf of North Lincoln LLC, AdvancedGeo, Inc. (AGI) is providing the following information regarding localized geologic conditions encountered at the site during performance of a subsurface investigation on 30 March 2022.

Shallow geologic conditions in the Emerson-Garfield neighborhood of Spokane include basalt with overlying glacial gravels of varying thickness. The depth to basalt can vary between approximately 2 and 40 feet below surface grade. Groundwater is generally present at depths between 30 and 50 feet.

As part of a due diligence investigation, AGI advanced four (4) shallow borings at the site using a truck-mounted, GeoProbe 5400 direct push rig. Borings were advanced in the following areas:

- At the south end of the main warehouse (interior).
- Immediately west of the center of the main warehouse (interior).
- At the north end of the main warehouse (interior).
- Adjacent to the north side of the building (exterior) in the current parking area.

Refusal was encountered in each boring at depths between 2 and 8 feet below surface grade due to the presence of basalt bedrock. Basalt was present at a more shallow depth on the north side of the property (2 feet) and slightly deeper depth (8 feet) on the south side of the property. Soils encountered overlying the basalt bedrock were generally gravelly silt and sands, with poor sample recovery.



07 September 2023  
Project No. 22-6764  
Page 2 of 2



Should you have any questions or need more information, please do not hesitate to contact our office at (800) 511-9300.

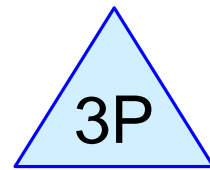
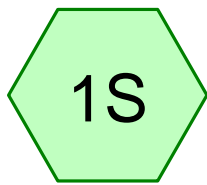
Sincerely,

**AdvancedGeo, Inc.**

A handwritten signature in blue ink that reads "Bob Marty". The signature is written over a horizontal line.

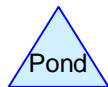
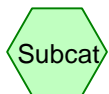
Robert E. Marty  
President

cc: Mr. Pete Mounsey



Post-Development (Roof  
& Patio)

Detention



**20230919\_815 W Mallon\_Post\_Combined\_005cfs\_4x2500galtanks**

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**Area Listing (all nodes)**

Area (acres)	CN	Description (subcatchment-numbers)
0.331	98	Roofs (1S)
<b>0.331</b>	<b>98</b>	<b>TOTAL AREA</b>

**20230919\_815 W Mallon\_Post\_Combined\_005cfs\_4x2500galtanks**

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**Soil Listing (all nodes)**

Area (acres)	Soil Group	Subcatchment Numbers
0.000	HSG A	
0.000	HSG B	
0.000	HSG C	
0.000	HSG D	
0.331	Other	1S
<b>0.331</b>		<b>TOTAL AREA</b>

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Time span=1.00-72.00 hrs, dt=0.01 hrs, 7101 points  
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN  
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

**Subcatchment 1S: Post-Development (Roof &** Runoff Area=14,400 sf 100.00% Impervious Runoff Depth=0.99"  
Tc=5.0 min CN=98 Runoff=0.55 cfs 0.027 af

**Pond 3P: Detention** Peak Elev=1,888.16' Storage=0.014 af Inflow=0.55 cfs 0.027 af  
Outflow=0.03 cfs 0.027 af

**Total Runoff Area = 0.331 ac Runoff Volume = 0.027 af Average Runoff Depth = 0.99"**  
**0.00% Pervious = 0.000 ac 100.00% Impervious = 0.331 ac**

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### Summary for Subcatchment 1S: Post-Development (Roof & Patio)

Runoff = 0.55 cfs @ 11.96 hrs, Volume= 0.027 af, Depth= 0.99"  
 Routed to Pond 3P : Detention

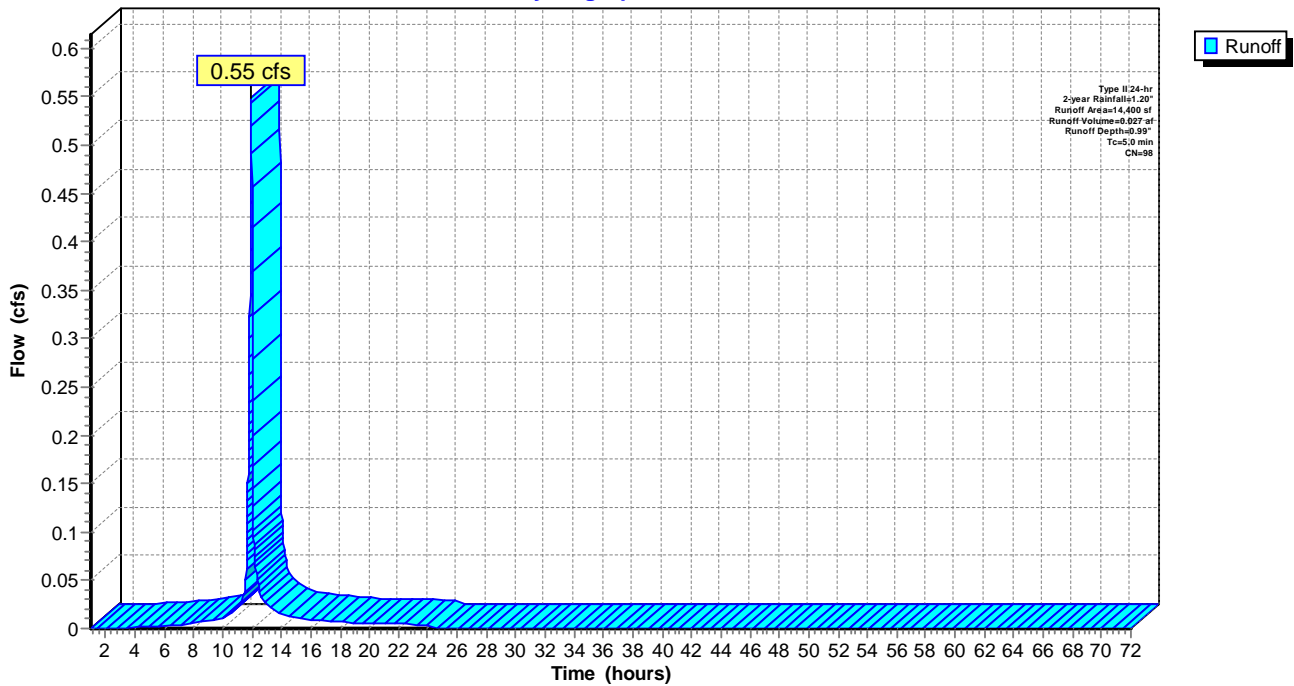
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-72.00 hrs, dt= 0.01 hrs  
 Type II 24-hr 2-year Rainfall=1.20"

Area (sf)	CN	Description
* 14,400	98	Roofs
14,400	98	100.00% Impervious Area

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

### Subcatchment 1S: Post-Development (Roof & Patio)

Hydrograph



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**Summary for Pond 3P: Detention**

Inflow Area = 0.331 ac, 100.00% Impervious, Inflow Depth = 0.99" for 2-year event  
 Inflow = 0.55 cfs @ 11.96 hrs, Volume= 0.027 af  
 Outflow = 0.03 cfs @ 12.85 hrs, Volume= 0.027 af, Atten= 95%, Lag= 53.8 min  
 Primary = 0.03 cfs @ 12.85 hrs, Volume= 0.027 af  
 Routed to nonexistent node 4P

Routing by Stor-Ind method, Time Span= 1.00-72.00 hrs, dt= 0.01 hrs  
 Peak Elev= 1,888.16' @ 12.85 hrs Surf.Area= 0.007 ac Storage= 0.014 af

Plug-Flow detention time= 238.0 min calculated for 0.027 af (100% of inflow)  
 Center-of-Mass det. time= 237.9 min ( 1,015.7 - 777.7 )

Volume	Invert	Avail.Storage	Storage Description
#1	1,886.24'	0.031 af	<b>7.00'W x 11.23'L x 4.25'H Prismatic</b> x 4

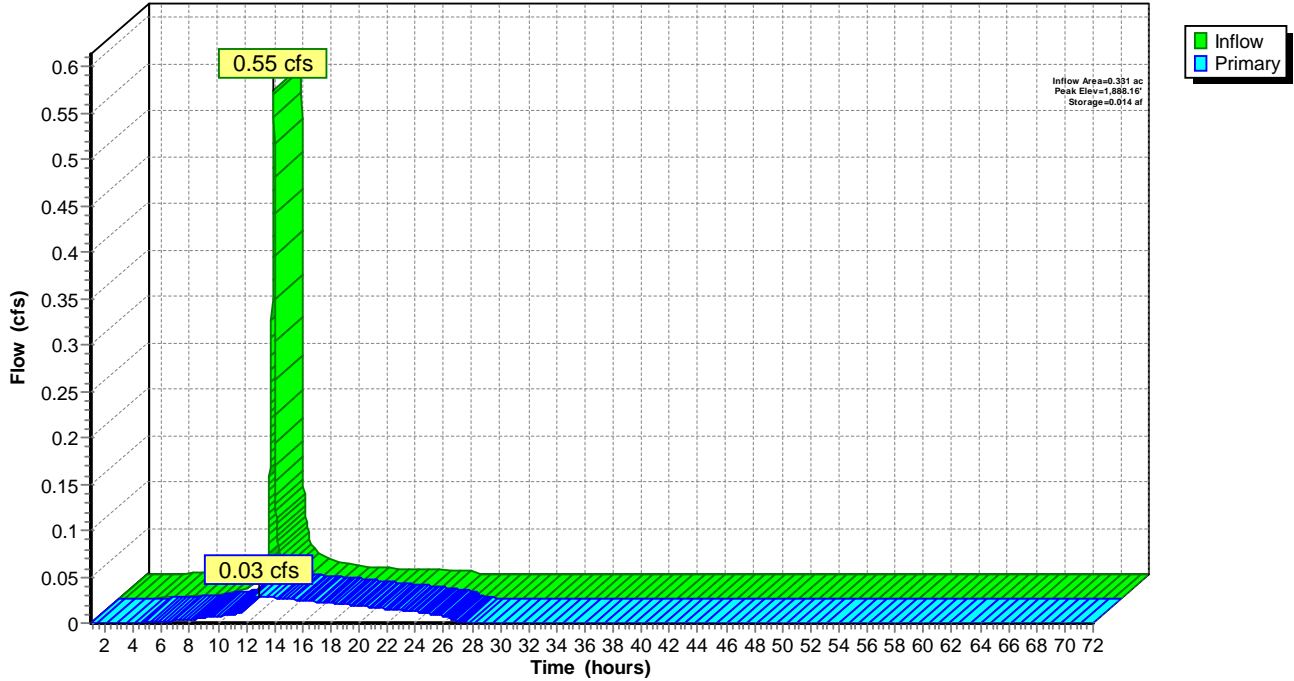
Device	Routing	Invert	Outlet Devices
#1	Primary	1,886.14'	<b>0.5" Horiz. Orifice/Grate X 3.00</b> C= 0.600 Limited to weir flow at low heads
#2	Primary	1,891.99'	<b>24.0" Horiz. Orifice/Grate</b> C= 0.600 Limited to weir flow at low heads

**Primary OutFlow** Max=0.03 cfs @ 12.85 hrs HW=1,888.16' (Free Discharge)  
 1=Orifice/Grate (Orifice Controls 0.03 cfs @ 6.85 fps)  
 2=Orifice/Grate ( Controls 0.00 cfs)

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### Pond 3P: Detention

#### Hydrograph





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**Stage-Discharge for Pond 3P: Detention**

Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)
1,886.24	0.00	1,888.59	0.03	1,890.94	0.04
1,886.29	0.01	1,888.64	0.03	1,890.99	0.04
1,886.34	0.01	1,888.69	0.03	1,891.04	0.04
1,886.39	0.01	1,888.74	0.03	1,891.09	0.04
1,886.44	0.01	1,888.79	0.03	1,891.14	0.04
1,886.49	0.01	1,888.84	0.03	1,891.19	0.04
1,886.54	0.01	1,888.89	0.03	1,891.24	0.04
1,886.59	0.01	1,888.94	0.03	1,891.29	0.04
1,886.64	0.01	1,888.99	0.03	1,891.34	0.04
1,886.69	0.01	1,889.04	0.03	1,891.39	0.05
1,886.74	0.02	1,889.09	0.03	1,891.44	0.05
1,886.79	0.02	1,889.14	0.03	1,891.49	0.05
1,886.84	0.02	1,889.19	0.03	1,891.54	0.05
1,886.89	0.02	1,889.24	0.03	1,891.59	0.05
1,886.94	0.02	1,889.29	0.03	1,891.64	0.05
1,886.99	0.02	1,889.34	0.04	1,891.69	0.05
1,887.04	0.02	1,889.39	0.04	1,891.74	0.05
1,887.09	0.02	1,889.44	0.04	1,891.79	0.05
1,887.14	0.02	1,889.49	0.04	1,891.84	0.05
1,887.19	0.02	1,889.54	0.04	1,891.89	0.05
1,887.24	0.02	1,889.59	0.04	1,891.94	0.05
1,887.29	0.02	1,889.64	0.04	1,891.99	<b>0.05</b>
1,887.34	0.02	1,889.69	0.04		
1,887.39	0.02	1,889.74	0.04		
1,887.44	0.02	1,889.79	0.04		
1,887.49	0.02	1,889.84	0.04		
1,887.54	0.02	1,889.89	0.04		
1,887.59	0.02	1,889.94	0.04		
1,887.64	0.02	1,889.99	0.04		
1,887.69	0.02	1,890.04	0.04		
1,887.74	0.02	1,890.09	0.04		
1,887.79	0.03	1,890.14	0.04		
1,887.84	0.03	1,890.19	0.04		
1,887.89	0.03	1,890.24	0.04		
1,887.94	0.03	1,890.29	0.04		
1,887.99	0.03	1,890.34	0.04		
1,888.04	0.03	1,890.39	0.04		
1,888.09	0.03	1,890.44	0.04		
1,888.14	0.03	1,890.49	0.04		
1,888.19	0.03	1,890.54	0.04		
1,888.24	0.03	1,890.59	0.04		
1,888.29	0.03	1,890.64	0.04		
1,888.34	0.03	1,890.69	0.04		
1,888.39	0.03	1,890.74	0.04		
1,888.44	0.03	1,890.79	0.04		
1,888.49	0.03	1,890.84	0.04		
1,888.54	0.03	1,890.89	0.04		

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**Stage-Area-Storage for Pond 3P: Detention**

Elevation (feet)	Storage (acre-feet)	Elevation (feet)	Storage (acre-feet)	Elevation (feet)	Storage (acre-feet)
1,886.24	0.000	1,888.59	0.017	1,890.94	0.031
1,886.29	0.000	1,888.64	0.017	1,890.99	0.031
1,886.34	0.001	1,888.69	0.018	1,891.04	0.031
1,886.39	0.001	1,888.74	0.018	1,891.09	0.031
1,886.44	0.001	1,888.79	0.018	1,891.14	0.031
1,886.49	0.002	1,888.84	0.019	1,891.19	0.031
1,886.54	0.002	1,888.89	0.019	1,891.24	0.031
1,886.59	0.003	1,888.94	0.019	1,891.29	0.031
1,886.64	0.003	1,888.99	0.020	1,891.34	0.031
1,886.69	0.003	1,889.04	0.020	1,891.39	0.031
1,886.74	0.004	1,889.09	0.021	1,891.44	0.031
1,886.79	0.004	1,889.14	0.021	1,891.49	0.031
1,886.84	0.004	1,889.19	0.021	1,891.54	0.031
1,886.89	0.005	1,889.24	0.022	1,891.59	0.031
1,886.94	0.005	1,889.29	0.022	1,891.64	0.031
1,886.99	0.005	1,889.34	0.022	1,891.69	0.031
1,887.04	0.006	1,889.39	0.023	1,891.74	0.031
1,887.09	0.006	1,889.44	0.023	1,891.79	0.031
1,887.14	0.006	1,889.49	0.023	1,891.84	0.031
1,887.19	0.007	1,889.54	0.024	1,891.89	0.031
1,887.24	0.007	1,889.59	0.024	1,891.94	0.031
1,887.29	0.008	1,889.64	0.025	1,891.99	0.031
1,887.34	0.008	1,889.69	0.025		
1,887.39	0.008	1,889.74	0.025		
1,887.44	0.009	1,889.79	0.026		
1,887.49	0.009	1,889.84	0.026		
1,887.54	0.009	1,889.89	0.026		
1,887.59	0.010	1,889.94	0.027		
1,887.64	0.010	1,889.99	0.027		
1,887.69	0.010	1,890.04	0.027		
1,887.74	0.011	1,890.09	0.028		
1,887.79	0.011	1,890.14	0.028		
1,887.84	0.012	1,890.19	0.029		
1,887.89	0.012	1,890.24	0.029		
1,887.94	0.012	1,890.29	0.029		
1,887.99	0.013	1,890.34	0.030		
1,888.04	0.013	1,890.39	0.030		
1,888.09	0.013	1,890.44	0.030		
1,888.14	0.014	1,890.49	<b>0.031</b>		
1,888.19	0.014	1,890.54	0.031		
1,888.24	0.014	1,890.59	0.031		
1,888.29	0.015	1,890.64	0.031		
1,888.34	0.015	1,890.69	0.031		
1,888.39	0.016	1,890.74	0.031		
1,888.44	0.016	1,890.79	0.031		
1,888.49	0.016	1,890.84	0.031		
1,888.54	0.017	1,890.89	0.031		

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Time span=1.00-72.00 hrs, dt=0.01 hrs, 7101 points  
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN  
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

**Subcatchment 1S: Post-Development (Roof &** Runoff Area=14,400 sf 100.00% Impervious Runoff Depth=1.58"  
Tc=5.0 min CN=98 Runoff=0.85 cfs 0.043 af

**Pond 3P: Detention** Peak Elev=1,889.50' Storage=0.024 af Inflow=0.85 cfs 0.043 af  
Outflow=0.04 cfs 0.043 af

**Total Runoff Area = 0.331 ac Runoff Volume = 0.043 af Average Runoff Depth = 1.58"**  
**0.00% Pervious = 0.000 ac 100.00% Impervious = 0.331 ac**

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### Summary for Subcatchment 1S: Post-Development (Roof & Patio)

Runoff = 0.85 cfs @ 11.96 hrs, Volume= 0.043 af, Depth= 1.58"  
 Routed to Pond 3P : Detention

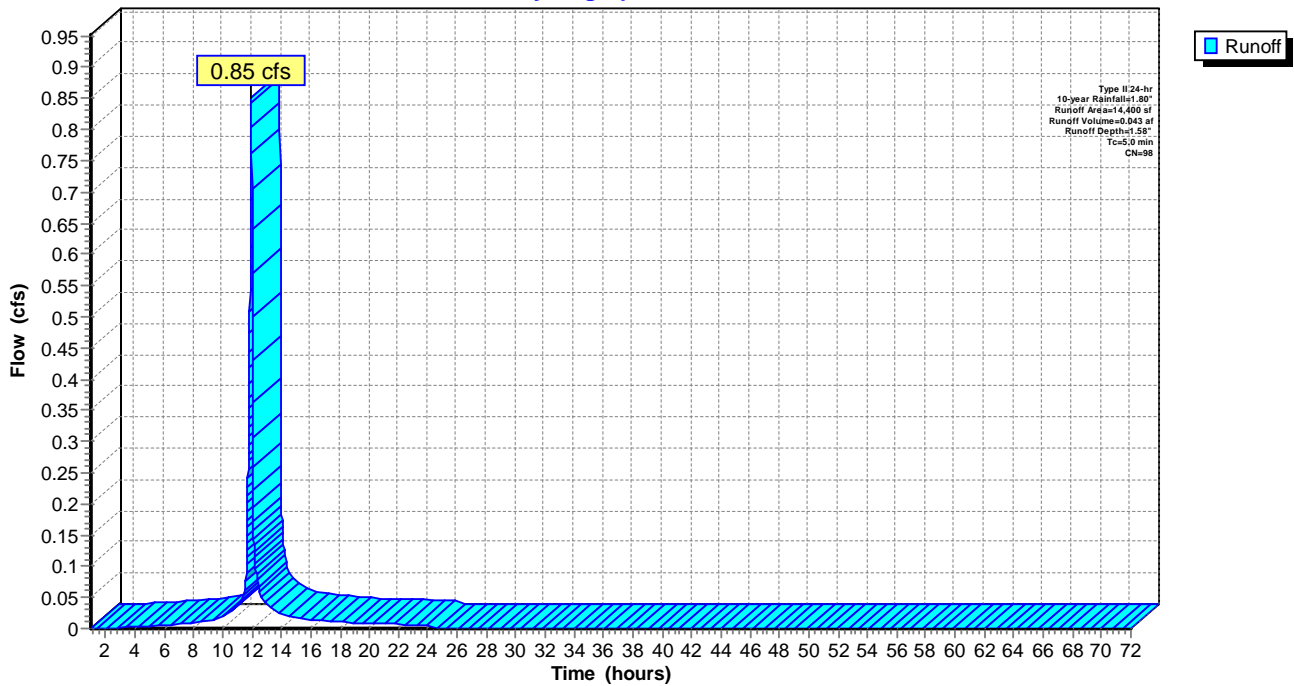
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-72.00 hrs, dt= 0.01 hrs  
 Type II 24-hr 10-year Rainfall=1.80"

Area (sf)	CN	Description
*	14,400	98 Roofs
	14,400	98 100.00% Impervious Area

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

### Subcatchment 1S: Post-Development (Roof & Patio)

Hydrograph



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**Summary for Pond 3P: Detention**

Inflow Area = 0.331 ac, 100.00% Impervious, Inflow Depth = 1.58" for 10-year event  
 Inflow = 0.85 cfs @ 11.96 hrs, Volume= 0.043 af  
 Outflow = 0.04 cfs @ 13.08 hrs, Volume= 0.043 af, Atten= 96%, Lag= 67.5 min  
 Primary = 0.04 cfs @ 13.08 hrs, Volume= 0.043 af  
 Routed to nonexistent node 4P

Routing by Stor-Ind method, Time Span= 1.00-72.00 hrs, dt= 0.01 hrs  
 Peak Elev= 1,889.50' @ 13.08 hrs Surf.Area= 0.007 ac Storage= 0.024 af

Plug-Flow detention time= 319.9 min calculated for 0.043 af (100% of inflow)  
 Center-of-Mass det. time= 319.9 min ( 1,085.6 - 765.7 )

Volume	Invert	Avail.Storage	Storage Description
#1	1,886.24'	0.031 af	<b>7.00'W x 11.23'L x 4.25'H Prismatic</b> x 4

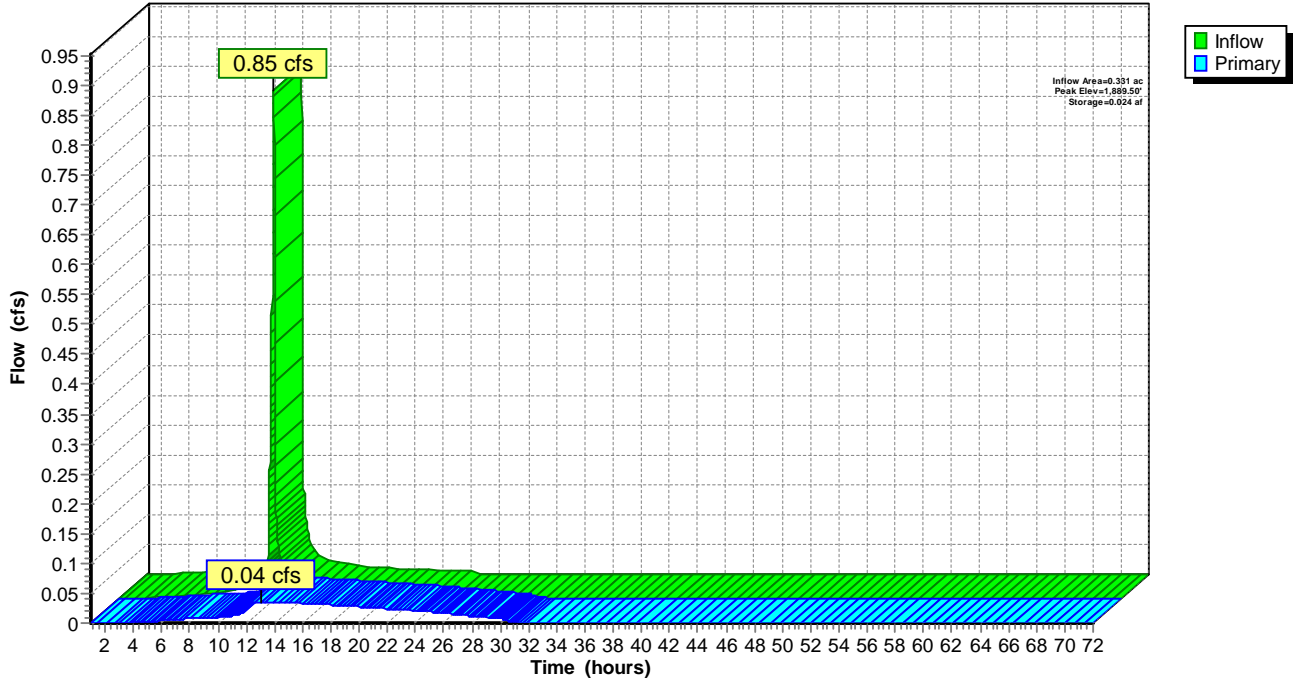
Device	Routing	Invert	Outlet Devices
#1	Primary	1,886.14'	<b>0.5" Horiz. Orifice/Grate X 3.00</b> C= 0.600 Limited to weir flow at low heads
#2	Primary	1,891.99'	<b>24.0" Horiz. Orifice/Grate</b> C= 0.600 Limited to weir flow at low heads

**Primary OutFlow** Max=0.04 cfs @ 13.08 hrs HW=1,889.50' (Free Discharge)  
 1=Orifice/Grate (Orifice Controls 0.04 cfs @ 8.82 fps)  
 2=Orifice/Grate ( Controls 0.00 cfs)

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### Pond 3P: Detention

#### Hydrograph



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**Stage-Discharge for Pond 3P: Detention**

Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)
1,886.24	0.00	1,888.59	0.03	1,890.94	0.04
1,886.29	0.01	1,888.64	0.03	1,890.99	0.04
1,886.34	0.01	1,888.69	0.03	1,891.04	0.04
1,886.39	0.01	1,888.74	0.03	1,891.09	0.04
1,886.44	0.01	1,888.79	0.03	1,891.14	0.04
1,886.49	0.01	1,888.84	0.03	1,891.19	0.04
1,886.54	0.01	1,888.89	0.03	1,891.24	0.04
1,886.59	0.01	1,888.94	0.03	1,891.29	0.04
1,886.64	0.01	1,888.99	0.03	1,891.34	0.04
1,886.69	0.01	1,889.04	0.03	1,891.39	0.05
1,886.74	0.02	1,889.09	0.03	1,891.44	0.05
1,886.79	0.02	1,889.14	0.03	1,891.49	0.05
1,886.84	0.02	1,889.19	0.03	1,891.54	0.05
1,886.89	0.02	1,889.24	0.03	1,891.59	0.05
1,886.94	0.02	1,889.29	0.03	1,891.64	0.05
1,886.99	0.02	1,889.34	0.04	1,891.69	0.05
1,887.04	0.02	1,889.39	0.04	1,891.74	0.05
1,887.09	0.02	1,889.44	0.04	1,891.79	0.05
1,887.14	0.02	1,889.49	0.04	1,891.84	0.05
1,887.19	0.02	1,889.54	0.04	1,891.89	0.05
1,887.24	0.02	1,889.59	0.04	1,891.94	0.05
1,887.29	0.02	1,889.64	0.04	1,891.99	<b>0.05</b>
1,887.34	0.02	1,889.69	0.04		
1,887.39	0.02	1,889.74	0.04		
1,887.44	0.02	1,889.79	0.04		
1,887.49	0.02	1,889.84	0.04		
1,887.54	0.02	1,889.89	0.04		
1,887.59	0.02	1,889.94	0.04		
1,887.64	0.02	1,889.99	0.04		
1,887.69	0.02	1,890.04	0.04		
1,887.74	0.02	1,890.09	0.04		
1,887.79	0.03	1,890.14	0.04		
1,887.84	0.03	1,890.19	0.04		
1,887.89	0.03	1,890.24	0.04		
1,887.94	0.03	1,890.29	0.04		
1,887.99	0.03	1,890.34	0.04		
1,888.04	0.03	1,890.39	0.04		
1,888.09	0.03	1,890.44	0.04		
1,888.14	0.03	1,890.49	0.04		
1,888.19	0.03	1,890.54	0.04		
1,888.24	0.03	1,890.59	0.04		
1,888.29	0.03	1,890.64	0.04		
1,888.34	0.03	1,890.69	0.04		
1,888.39	0.03	1,890.74	0.04		
1,888.44	0.03	1,890.79	0.04		
1,888.49	0.03	1,890.84	0.04		
1,888.54	0.03	1,890.89	0.04		

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**Stage-Area-Storage for Pond 3P: Detention**

Elevation (feet)	Storage (acre-feet)	Elevation (feet)	Storage (acre-feet)	Elevation (feet)	Storage (acre-feet)
1,886.24	0.000	1,888.59	0.017	1,890.94	0.031
1,886.29	0.000	1,888.64	0.017	1,890.99	0.031
1,886.34	0.001	1,888.69	0.018	1,891.04	0.031
1,886.39	0.001	1,888.74	0.018	1,891.09	0.031
1,886.44	0.001	1,888.79	0.018	1,891.14	0.031
1,886.49	0.002	1,888.84	0.019	1,891.19	0.031
1,886.54	0.002	1,888.89	0.019	1,891.24	0.031
1,886.59	0.003	1,888.94	0.019	1,891.29	0.031
1,886.64	0.003	1,888.99	0.020	1,891.34	0.031
1,886.69	0.003	1,889.04	0.020	1,891.39	0.031
1,886.74	0.004	1,889.09	0.021	1,891.44	0.031
1,886.79	0.004	1,889.14	0.021	1,891.49	0.031
1,886.84	0.004	1,889.19	0.021	1,891.54	0.031
1,886.89	0.005	1,889.24	0.022	1,891.59	0.031
1,886.94	0.005	1,889.29	0.022	1,891.64	0.031
1,886.99	0.005	1,889.34	0.022	1,891.69	0.031
1,887.04	0.006	1,889.39	0.023	1,891.74	0.031
1,887.09	0.006	1,889.44	0.023	1,891.79	0.031
1,887.14	0.006	1,889.49	0.023	1,891.84	0.031
1,887.19	0.007	1,889.54	0.024	1,891.89	0.031
1,887.24	0.007	1,889.59	0.024	1,891.94	0.031
1,887.29	0.008	1,889.64	0.025	1,891.99	0.031
1,887.34	0.008	1,889.69	0.025		
1,887.39	0.008	1,889.74	0.025		
1,887.44	0.009	1,889.79	0.026		
1,887.49	0.009	1,889.84	0.026		
1,887.54	0.009	1,889.89	0.026		
1,887.59	0.010	1,889.94	0.027		
1,887.64	0.010	1,889.99	0.027		
1,887.69	0.010	1,890.04	0.027		
1,887.74	0.011	1,890.09	0.028		
1,887.79	0.011	1,890.14	0.028		
1,887.84	0.012	1,890.19	0.029		
1,887.89	0.012	1,890.24	0.029		
1,887.94	0.012	1,890.29	0.029		
1,887.99	0.013	1,890.34	0.030		
1,888.04	0.013	1,890.39	0.030		
1,888.09	0.013	1,890.44	0.030		
1,888.14	0.014	1,890.49	<b>0.031</b>		
1,888.19	0.014	1,890.54	0.031		
1,888.24	0.014	1,890.59	0.031		
1,888.29	0.015	1,890.64	0.031		
1,888.34	0.015	1,890.69	0.031		
1,888.39	0.016	1,890.74	0.031		
1,888.44	0.016	1,890.79	0.031		
1,888.49	0.016	1,890.84	0.031		
1,888.54	0.017	1,890.89	0.031		



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Time span=1.00-72.00 hrs, dt=0.01 hrs, 7101 points  
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN  
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

**Subcatchment 1S: Post-Development (Roof &** Runoff Area=14,400 sf 100.00% Impervious Runoff Depth=1.77"  
Tc=5.0 min CN=98 Runoff=0.95 cfs 0.049 af

**Pond 3P: Detention** Peak Elev=1,889.96' Storage=0.027 af Inflow=0.95 cfs 0.049 af  
Outflow=0.04 cfs 0.049 af

**Total Runoff Area = 0.331 ac Runoff Volume = 0.049 af Average Runoff Depth = 1.77"**  
**0.00% Pervious = 0.000 ac 100.00% Impervious = 0.331 ac**

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### Summary for Subcatchment 1S: Post-Development (Roof & Patio)

Runoff = 0.95 cfs @ 11.96 hrs, Volume= 0.049 af, Depth= 1.77"  
 Routed to Pond 3P : Detention

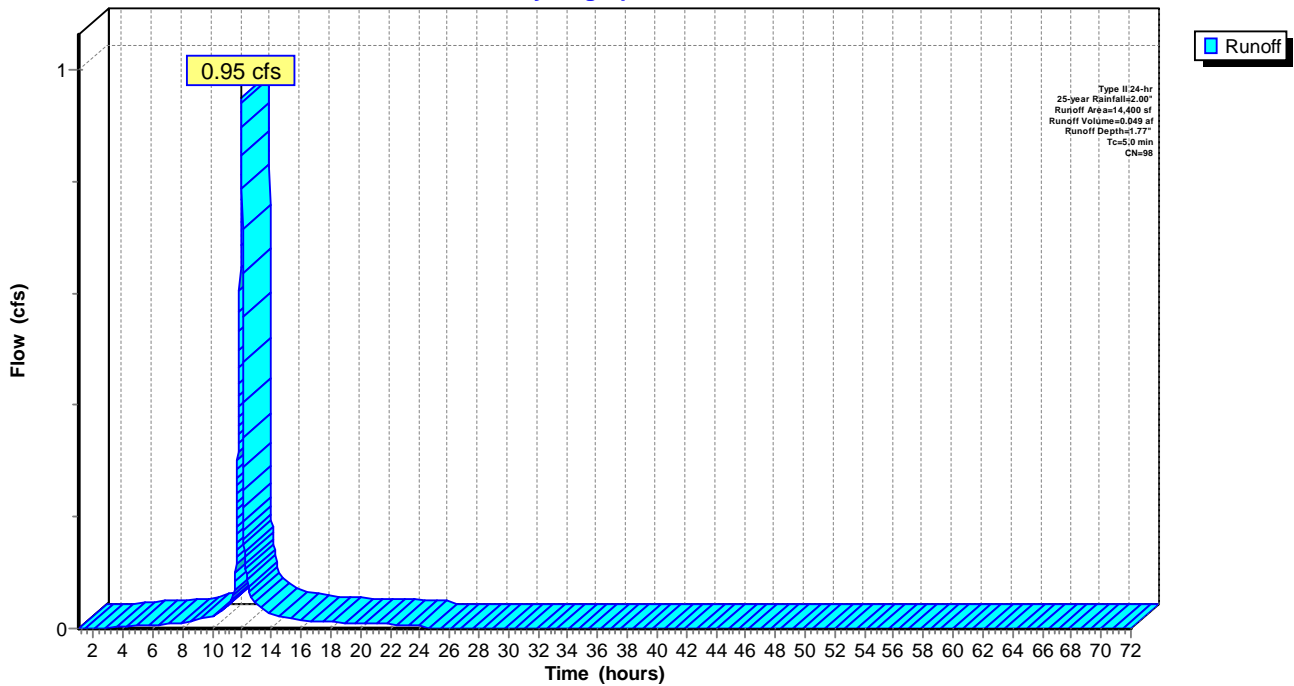
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-72.00 hrs, dt= 0.01 hrs  
 Type II 24-hr 25-year Rainfall=2.00"

Area (sf)	CN	Description
* 14,400	98	Roofs
14,400	98	100.00% Impervious Area

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

### Subcatchment 1S: Post-Development (Roof & Patio)

Hydrograph



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**Summary for Pond 3P: Detention**

Inflow Area = 0.331 ac, 100.00% Impervious, Inflow Depth = 1.77" for 25-year event  
 Inflow = 0.95 cfs @ 11.96 hrs, Volume= 0.049 af  
 Outflow = 0.04 cfs @ 13.17 hrs, Volume= 0.049 af, Atten= 96%, Lag= 72.6 min  
 Primary = 0.04 cfs @ 13.17 hrs, Volume= 0.049 af  
 Routed to nonexistent node 4P

Routing by Stor-Ind method, Time Span= 1.00-72.00 hrs, dt= 0.01 hrs  
 Peak Elev= 1,889.96' @ 13.17 hrs Surf.Area= 0.007 ac Storage= 0.027 af

Plug-Flow detention time= 344.2 min calculated for 0.049 af (100% of inflow)  
 Center-of-Mass det. time= 344.2 min ( 1,107.0 - 762.8 )

Volume	Invert	Avail.Storage	Storage Description
#1	1,886.24'	0.031 af	<b>7.00'W x 11.23'L x 4.25'H Prismatic</b> x 4

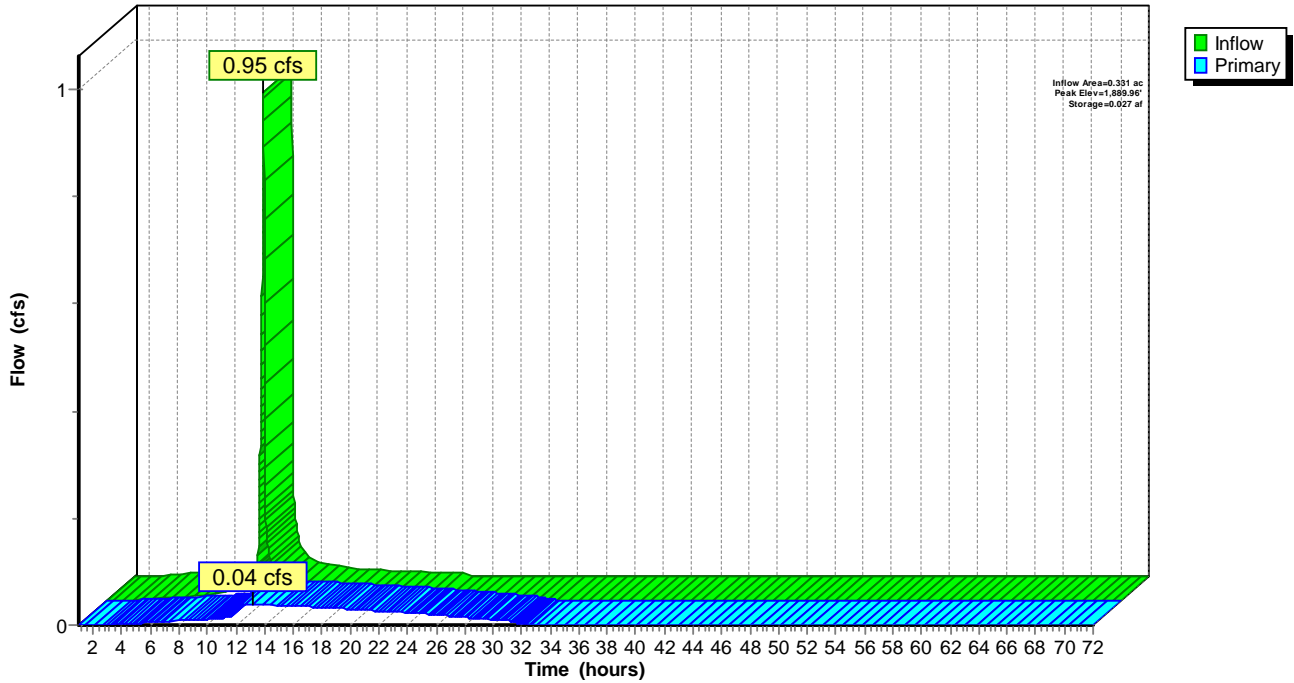
Device	Routing	Invert	Outlet Devices
#1	Primary	1,886.14'	<b>0.5" Horiz. Orifice/Grate X 3.00</b> C= 0.600 Limited to weir flow at low heads
#2	Primary	1,891.99'	<b>24.0" Horiz. Orifice/Grate</b> C= 0.600 Limited to weir flow at low heads

**Primary OutFlow** Max=0.04 cfs @ 13.17 hrs HW=1,889.96' (Free Discharge)  
 1=Orifice/Grate (Orifice Controls 0.04 cfs @ 9.41 fps)  
 2=Orifice/Grate ( Controls 0.00 cfs)

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### Pond 3P: Detention

Hydrograph



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**Stage-Discharge for Pond 3P: Detention**

Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)
1,886.24	0.00	1,888.59	0.03	1,890.94	0.04
1,886.29	0.01	1,888.64	0.03	1,890.99	0.04
1,886.34	0.01	1,888.69	0.03	1,891.04	0.04
1,886.39	0.01	1,888.74	0.03	1,891.09	0.04
1,886.44	0.01	1,888.79	0.03	1,891.14	0.04
1,886.49	0.01	1,888.84	0.03	1,891.19	0.04
1,886.54	0.01	1,888.89	0.03	1,891.24	0.04
1,886.59	0.01	1,888.94	0.03	1,891.29	0.04
1,886.64	0.01	1,888.99	0.03	1,891.34	0.04
1,886.69	0.01	1,889.04	0.03	1,891.39	0.05
1,886.74	0.02	1,889.09	0.03	1,891.44	0.05
1,886.79	0.02	1,889.14	0.03	1,891.49	0.05
1,886.84	0.02	1,889.19	0.03	1,891.54	0.05
1,886.89	0.02	1,889.24	0.03	1,891.59	0.05
1,886.94	0.02	1,889.29	0.03	1,891.64	0.05
1,886.99	0.02	1,889.34	0.04	1,891.69	0.05
1,887.04	0.02	1,889.39	0.04	1,891.74	0.05
1,887.09	0.02	1,889.44	0.04	1,891.79	0.05
1,887.14	0.02	1,889.49	0.04	1,891.84	0.05
1,887.19	0.02	1,889.54	0.04	1,891.89	0.05
1,887.24	0.02	1,889.59	0.04	1,891.94	0.05
1,887.29	0.02	1,889.64	0.04	1,891.99	<b>0.05</b>
1,887.34	0.02	1,889.69	0.04		
1,887.39	0.02	1,889.74	0.04		
1,887.44	0.02	1,889.79	0.04		
1,887.49	0.02	1,889.84	0.04		
1,887.54	0.02	1,889.89	0.04		
1,887.59	0.02	1,889.94	0.04		
1,887.64	0.02	1,889.99	0.04		
1,887.69	0.02	1,890.04	0.04		
1,887.74	0.02	1,890.09	0.04		
1,887.79	0.03	1,890.14	0.04		
1,887.84	0.03	1,890.19	0.04		
1,887.89	0.03	1,890.24	0.04		
1,887.94	0.03	1,890.29	0.04		
1,887.99	0.03	1,890.34	0.04		
1,888.04	0.03	1,890.39	0.04		
1,888.09	0.03	1,890.44	0.04		
1,888.14	0.03	1,890.49	0.04		
1,888.19	0.03	1,890.54	0.04		
1,888.24	0.03	1,890.59	0.04		
1,888.29	0.03	1,890.64	0.04		
1,888.34	0.03	1,890.69	0.04		
1,888.39	0.03	1,890.74	0.04		
1,888.44	0.03	1,890.79	0.04		
1,888.49	0.03	1,890.84	0.04		
1,888.54	0.03	1,890.89	0.04		

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**Stage-Area-Storage for Pond 3P: Detention**

Elevation (feet)	Storage (acre-feet)	Elevation (feet)	Storage (acre-feet)	Elevation (feet)	Storage (acre-feet)
1,886.24	0.000	1,888.59	0.017	1,890.94	0.031
1,886.29	0.000	1,888.64	0.017	1,890.99	0.031
1,886.34	0.001	1,888.69	0.018	1,891.04	0.031
1,886.39	0.001	1,888.74	0.018	1,891.09	0.031
1,886.44	0.001	1,888.79	0.018	1,891.14	0.031
1,886.49	0.002	1,888.84	0.019	1,891.19	0.031
1,886.54	0.002	1,888.89	0.019	1,891.24	0.031
1,886.59	0.003	1,888.94	0.019	1,891.29	0.031
1,886.64	0.003	1,888.99	0.020	1,891.34	0.031
1,886.69	0.003	1,889.04	0.020	1,891.39	0.031
1,886.74	0.004	1,889.09	0.021	1,891.44	0.031
1,886.79	0.004	1,889.14	0.021	1,891.49	0.031
1,886.84	0.004	1,889.19	0.021	1,891.54	0.031
1,886.89	0.005	1,889.24	0.022	1,891.59	0.031
1,886.94	0.005	1,889.29	0.022	1,891.64	0.031
1,886.99	0.005	1,889.34	0.022	1,891.69	0.031
1,887.04	0.006	1,889.39	0.023	1,891.74	0.031
1,887.09	0.006	1,889.44	0.023	1,891.79	0.031
1,887.14	0.006	1,889.49	0.023	1,891.84	0.031
1,887.19	0.007	1,889.54	0.024	1,891.89	0.031
1,887.24	0.007	1,889.59	0.024	1,891.94	0.031
1,887.29	0.008	1,889.64	0.025	1,891.99	0.031
1,887.34	0.008	1,889.69	0.025		
1,887.39	0.008	1,889.74	0.025		
1,887.44	0.009	1,889.79	0.026		
1,887.49	0.009	1,889.84	0.026		
1,887.54	0.009	1,889.89	0.026		
1,887.59	0.010	1,889.94	0.027		
1,887.64	0.010	1,889.99	0.027		
1,887.69	0.010	1,890.04	0.027		
1,887.74	0.011	1,890.09	0.028		
1,887.79	0.011	1,890.14	0.028		
1,887.84	0.012	1,890.19	0.029		
1,887.89	0.012	1,890.24	0.029		
1,887.94	0.012	1,890.29	0.029		
1,887.99	0.013	1,890.34	0.030		
1,888.04	0.013	1,890.39	0.030		
1,888.09	0.013	1,890.44	0.030		
1,888.14	0.014	1,890.49	<b>0.031</b>		
1,888.19	0.014	1,890.54	0.031		
1,888.24	0.014	1,890.59	0.031		
1,888.29	0.015	1,890.64	0.031		
1,888.34	0.015	1,890.69	0.031		
1,888.39	0.016	1,890.74	0.031		
1,888.44	0.016	1,890.79	0.031		
1,888.49	0.016	1,890.84	0.031		
1,888.54	0.017	1,890.89	0.031		

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Time span=1.00-72.00 hrs, dt=0.01 hrs, 7101 points  
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN  
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

**Subcatchment 1S: Post-Development (Roof &** Runoff Area=14,400 sf 100.00% Impervious Runoff Depth=1.97"  
Tc=5.0 min CN=98 Runoff=1.05 cfs 0.054 af

**Pond 3P: Detention** Peak Elev=1,890.43' Storage=0.030 af Inflow=1.05 cfs 0.054 af  
Outflow=0.04 cfs 0.054 af

**Total Runoff Area = 0.331 ac Runoff Volume = 0.054 af Average Runoff Depth = 1.97"**  
**0.00% Pervious = 0.000 ac 100.00% Impervious = 0.331 ac**

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### Summary for Subcatchment 1S: Post-Development (Roof & Patio)

Runoff = 1.05 cfs @ 11.96 hrs, Volume= 0.054 af, Depth= 1.97"  
 Routed to Pond 3P : Detention

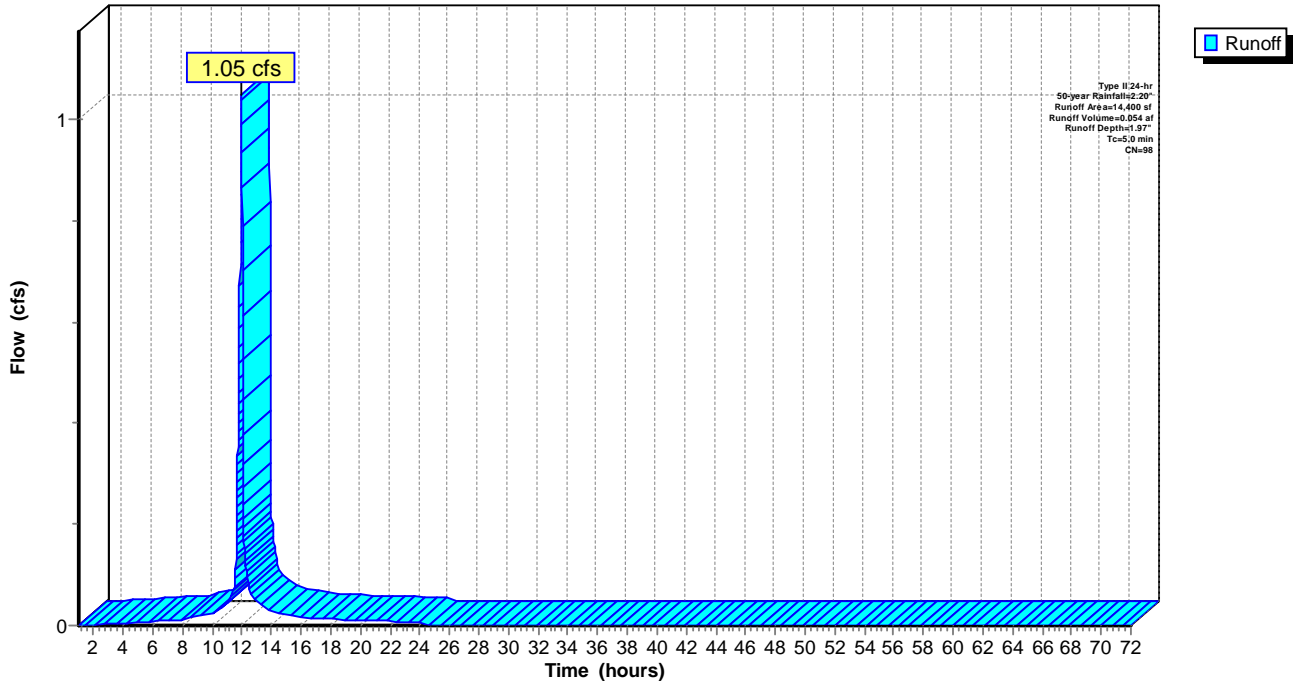
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-72.00 hrs, dt= 0.01 hrs  
 Type II 24-hr 50-year Rainfall=2.20"

Area (sf)	CN	Description
* 14,400	98	Roofs
14,400	98	100.00% Impervious Area

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

### Subcatchment 1S: Post-Development (Roof & Patio)

Hydrograph





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**Summary for Pond 3P: Detention**

Inflow Area = 0.331 ac, 100.00% Impervious, Inflow Depth = 1.97" for 50-year event  
 Inflow = 1.05 cfs @ 11.96 hrs, Volume= 0.054 af  
 Outflow = 0.04 cfs @ 13.25 hrs, Volume= 0.054 af, Atten= 96%, Lag= 77.4 min  
 Primary = 0.04 cfs @ 13.25 hrs, Volume= 0.054 af  
 Routed to nonexistent node 4P

Routing by Stor-Ind method, Time Span= 1.00-72.00 hrs, dt= 0.01 hrs  
 Peak Elev= 1,890.43' @ 13.25 hrs Surf.Area= 0.007 ac Storage= 0.030 af

Plug-Flow detention time= 367.4 min calculated for 0.054 af (100% of inflow)  
 Center-of-Mass det. time= 367.3 min ( 1,127.7 - 760.4 )

Volume	Invert	Avail.Storage	Storage Description
#1	1,886.24'	0.031 af	<b>7.00'W x 11.23'L x 4.25'H Prismatic</b> x 4

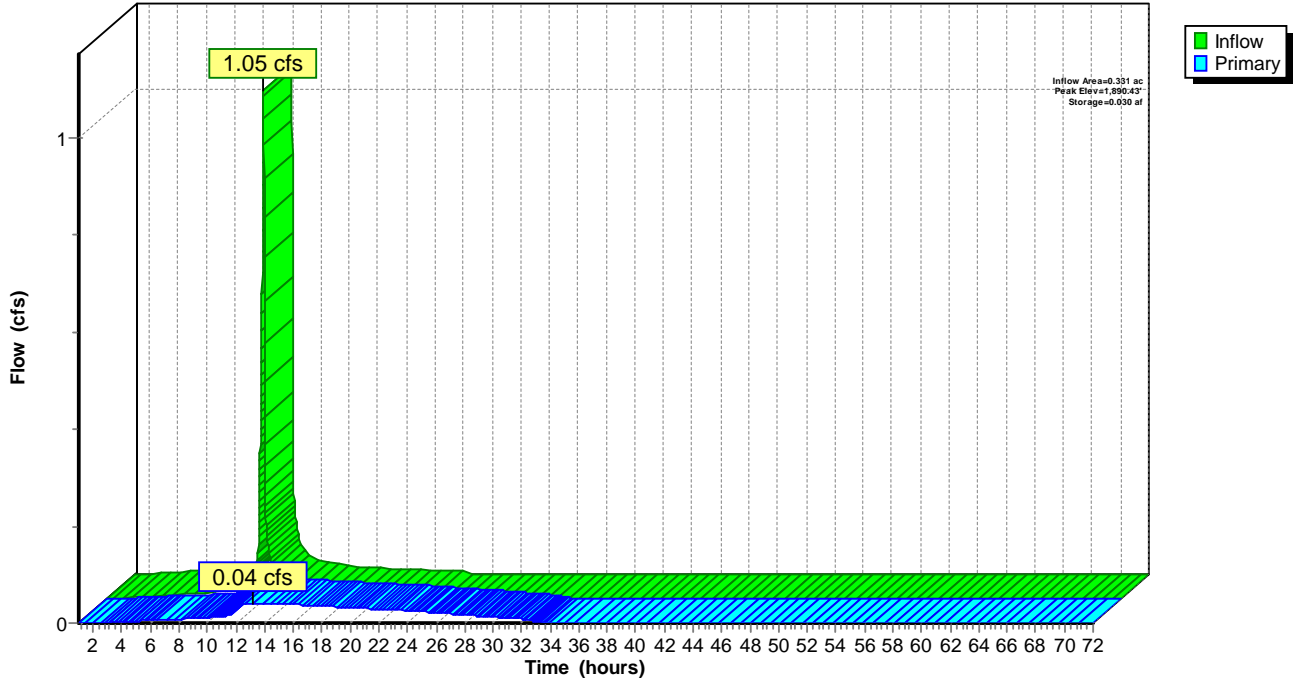
Device	Routing	Invert	Outlet Devices
#1	Primary	1,886.14'	<b>0.5" Horiz. Orifice/Grate X 3.00</b> C= 0.600 Limited to weir flow at low heads
#2	Primary	1,891.99'	<b>24.0" Horiz. Orifice/Grate</b> C= 0.600 Limited to weir flow at low heads

**Primary OutFlow** Max=0.04 cfs @ 13.25 hrs HW=1,890.43' (Free Discharge)  
 1=Orifice/Grate (Orifice Controls 0.04 cfs @ 9.97 fps)  
 2=Orifice/Grate ( Controls 0.00 cfs)

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### Pond 3P: Detention

Hydrograph



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**Stage-Discharge for Pond 3P: Detention**

Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)
1,886.24	0.00	1,888.59	0.03	1,890.94	0.04
1,886.29	0.01	1,888.64	0.03	1,890.99	0.04
1,886.34	0.01	1,888.69	0.03	1,891.04	0.04
1,886.39	0.01	1,888.74	0.03	1,891.09	0.04
1,886.44	0.01	1,888.79	0.03	1,891.14	0.04
1,886.49	0.01	1,888.84	0.03	1,891.19	0.04
1,886.54	0.01	1,888.89	0.03	1,891.24	0.04
1,886.59	0.01	1,888.94	0.03	1,891.29	0.04
1,886.64	0.01	1,888.99	0.03	1,891.34	0.04
1,886.69	0.01	1,889.04	0.03	1,891.39	0.05
1,886.74	0.02	1,889.09	0.03	1,891.44	0.05
1,886.79	0.02	1,889.14	0.03	1,891.49	0.05
1,886.84	0.02	1,889.19	0.03	1,891.54	0.05
1,886.89	0.02	1,889.24	0.03	1,891.59	0.05
1,886.94	0.02	1,889.29	0.03	1,891.64	0.05
1,886.99	0.02	1,889.34	0.04	1,891.69	0.05
1,887.04	0.02	1,889.39	0.04	1,891.74	0.05
1,887.09	0.02	1,889.44	0.04	1,891.79	0.05
1,887.14	0.02	1,889.49	0.04	1,891.84	0.05
1,887.19	0.02	1,889.54	0.04	1,891.89	0.05
1,887.24	0.02	1,889.59	0.04	1,891.94	0.05
1,887.29	0.02	1,889.64	0.04	1,891.99	<b>0.05</b>
1,887.34	0.02	1,889.69	0.04		
1,887.39	0.02	1,889.74	0.04		
1,887.44	0.02	1,889.79	0.04		
1,887.49	0.02	1,889.84	0.04		
1,887.54	0.02	1,889.89	0.04		
1,887.59	0.02	1,889.94	0.04		
1,887.64	0.02	1,889.99	0.04		
1,887.69	0.02	1,890.04	0.04		
1,887.74	0.02	1,890.09	0.04		
1,887.79	0.03	1,890.14	0.04		
1,887.84	0.03	1,890.19	0.04		
1,887.89	0.03	1,890.24	0.04		
1,887.94	0.03	1,890.29	0.04		
1,887.99	0.03	1,890.34	0.04		
1,888.04	0.03	1,890.39	0.04		
1,888.09	0.03	1,890.44	0.04		
1,888.14	0.03	1,890.49	0.04		
1,888.19	0.03	1,890.54	0.04		
1,888.24	0.03	1,890.59	0.04		
1,888.29	0.03	1,890.64	0.04		
1,888.34	0.03	1,890.69	0.04		
1,888.39	0.03	1,890.74	0.04		
1,888.44	0.03	1,890.79	0.04		
1,888.49	0.03	1,890.84	0.04		
1,888.54	0.03	1,890.89	0.04		

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**Stage-Area-Storage for Pond 3P: Detention**

Elevation (feet)	Storage (acre-feet)	Elevation (feet)	Storage (acre-feet)	Elevation (feet)	Storage (acre-feet)
1,886.24	0.000	1,888.59	0.017	1,890.94	0.031
1,886.29	0.000	1,888.64	0.017	1,890.99	0.031
1,886.34	0.001	1,888.69	0.018	1,891.04	0.031
1,886.39	0.001	1,888.74	0.018	1,891.09	0.031
1,886.44	0.001	1,888.79	0.018	1,891.14	0.031
1,886.49	0.002	1,888.84	0.019	1,891.19	0.031
1,886.54	0.002	1,888.89	0.019	1,891.24	0.031
1,886.59	0.003	1,888.94	0.019	1,891.29	0.031
1,886.64	0.003	1,888.99	0.020	1,891.34	0.031
1,886.69	0.003	1,889.04	0.020	1,891.39	0.031
1,886.74	0.004	1,889.09	0.021	1,891.44	0.031
1,886.79	0.004	1,889.14	0.021	1,891.49	0.031
1,886.84	0.004	1,889.19	0.021	1,891.54	0.031
1,886.89	0.005	1,889.24	0.022	1,891.59	0.031
1,886.94	0.005	1,889.29	0.022	1,891.64	0.031
1,886.99	0.005	1,889.34	0.022	1,891.69	0.031
1,887.04	0.006	1,889.39	0.023	1,891.74	0.031
1,887.09	0.006	1,889.44	0.023	1,891.79	0.031
1,887.14	0.006	1,889.49	0.023	1,891.84	0.031
1,887.19	0.007	1,889.54	0.024	1,891.89	0.031
1,887.24	0.007	1,889.59	0.024	1,891.94	0.031
1,887.29	0.008	1,889.64	0.025	1,891.99	0.031
1,887.34	0.008	1,889.69	0.025		
1,887.39	0.008	1,889.74	0.025		
1,887.44	0.009	1,889.79	0.026		
1,887.49	0.009	1,889.84	0.026		
1,887.54	0.009	1,889.89	0.026		
1,887.59	0.010	1,889.94	0.027		
1,887.64	0.010	1,889.99	0.027		
1,887.69	0.010	1,890.04	0.027		
1,887.74	0.011	1,890.09	0.028		
1,887.79	0.011	1,890.14	0.028		
1,887.84	0.012	1,890.19	0.029		
1,887.89	0.012	1,890.24	0.029		
1,887.94	0.012	1,890.29	0.029		
1,887.99	0.013	1,890.34	0.030		
1,888.04	0.013	1,890.39	0.030		
1,888.09	0.013	1,890.44	0.030		
1,888.14	0.014	1,890.49	<b>0.031</b>		
1,888.19	0.014	1,890.54	0.031		
1,888.24	0.014	1,890.59	0.031		
1,888.29	0.015	1,890.64	0.031		
1,888.34	0.015	1,890.69	0.031		
1,888.39	0.016	1,890.74	0.031		
1,888.44	0.016	1,890.79	0.031		
1,888.49	0.016	1,890.84	0.031		
1,888.54	0.017	1,890.89	0.031		

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Time span=1.00-72.00 hrs, dt=0.01 hrs, 7101 points  
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN  
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

**Subcatchment 1S: Post-Development (Roof &** Runoff Area=14,400 sf 100.00% Impervious Runoff Depth=2.17"  
Tc=5.0 min CN=98 Runoff=1.15 cfs 0.060 af

**Pond 3P: Detention** Peak Elev=1,892.03' Storage=0.031 af Inflow=1.15 cfs 0.060 af  
Outflow=0.25 cfs 0.060 af

**Total Runoff Area = 0.331 ac Runoff Volume = 0.060 af Average Runoff Depth = 2.17"**  
**0.00% Pervious = 0.000 ac 100.00% Impervious = 0.331 ac**

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### Summary for Subcatchment 1S: Post-Development (Roof & Patio)

Runoff = 1.15 cfs @ 11.96 hrs, Volume= 0.060 af, Depth= 2.17"  
 Routed to Pond 3P : Detention

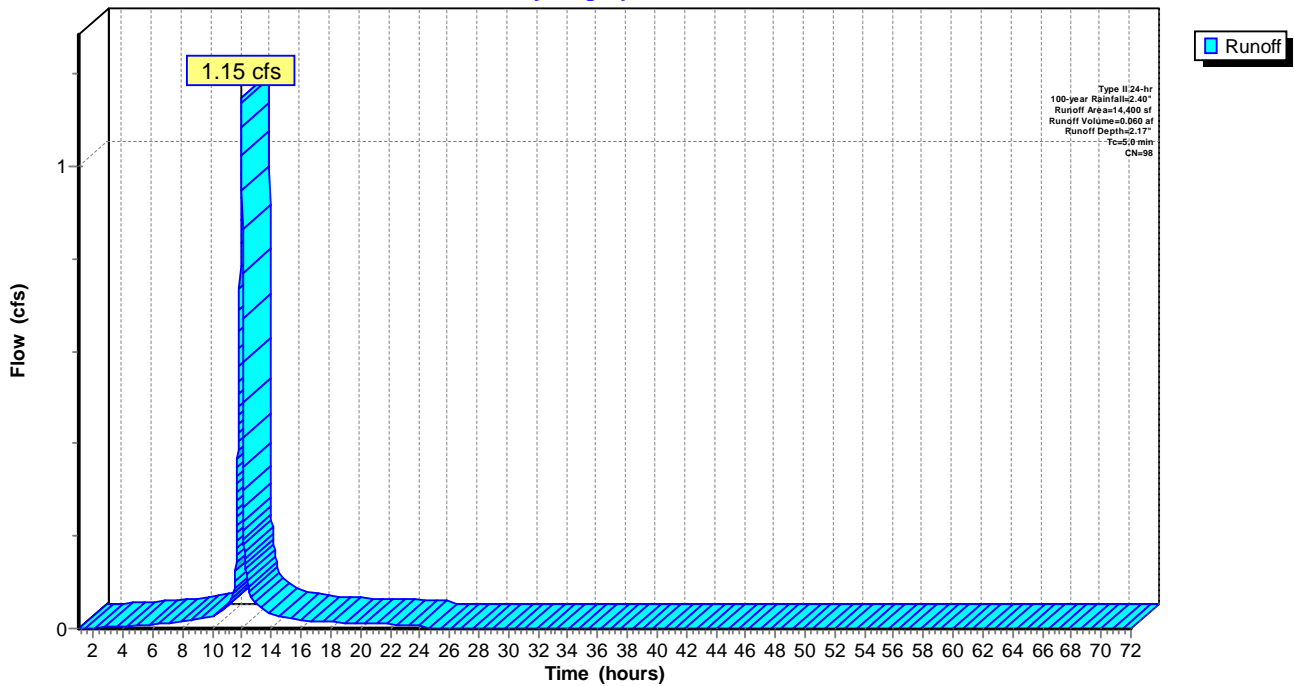
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 1.00-72.00 hrs, dt= 0.01 hrs  
 Type II 24-hr 100-year Rainfall=2.40"

Area (sf)	CN	Description
* 14,400	98	Roofs
14,400	98	100.00% Impervious Area

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

### Subcatchment 1S: Post-Development (Roof & Patio)

Hydrograph



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**Summary for Pond 3P: Detention**

Inflow Area = 0.331 ac, 100.00% Impervious, Inflow Depth = 2.17" for 100-year event  
 Inflow = 1.15 cfs @ 11.96 hrs, Volume= 0.060 af  
 Outflow = 0.25 cfs @ 12.17 hrs, Volume= 0.060 af, Atten= 78%, Lag= 12.8 min  
 Primary = 0.25 cfs @ 12.17 hrs, Volume= 0.060 af  
 Routed to nonexistent node 4P

Routing by Stor-Ind method, Time Span= 1.00-72.00 hrs, dt= 0.01 hrs  
 Peak Elev= 1,892.03' @ 12.17 hrs Surf.Area= 0.007 ac Storage= 0.031 af

Plug-Flow detention time= 353.8 min calculated for 0.060 af (100% of inflow)  
 Center-of-Mass det. time= 353.7 min ( 1,111.9 - 758.2 )

Volume	Invert	Avail.Storage	Storage Description
#1	1,886.24'	0.031 af	<b>7.00'W x 11.23'L x 4.25'H Prismaoid</b> x 4

Device	Routing	Invert	Outlet Devices
#1	Primary	1,886.14'	<b>0.5" Horiz. Orifice/Grate X 3.00</b> C= 0.600 Limited to weir flow at low heads
#2	Primary	1,891.99'	<b>24.0" Horiz. Orifice/Grate</b> C= 0.600 Limited to weir flow at low heads

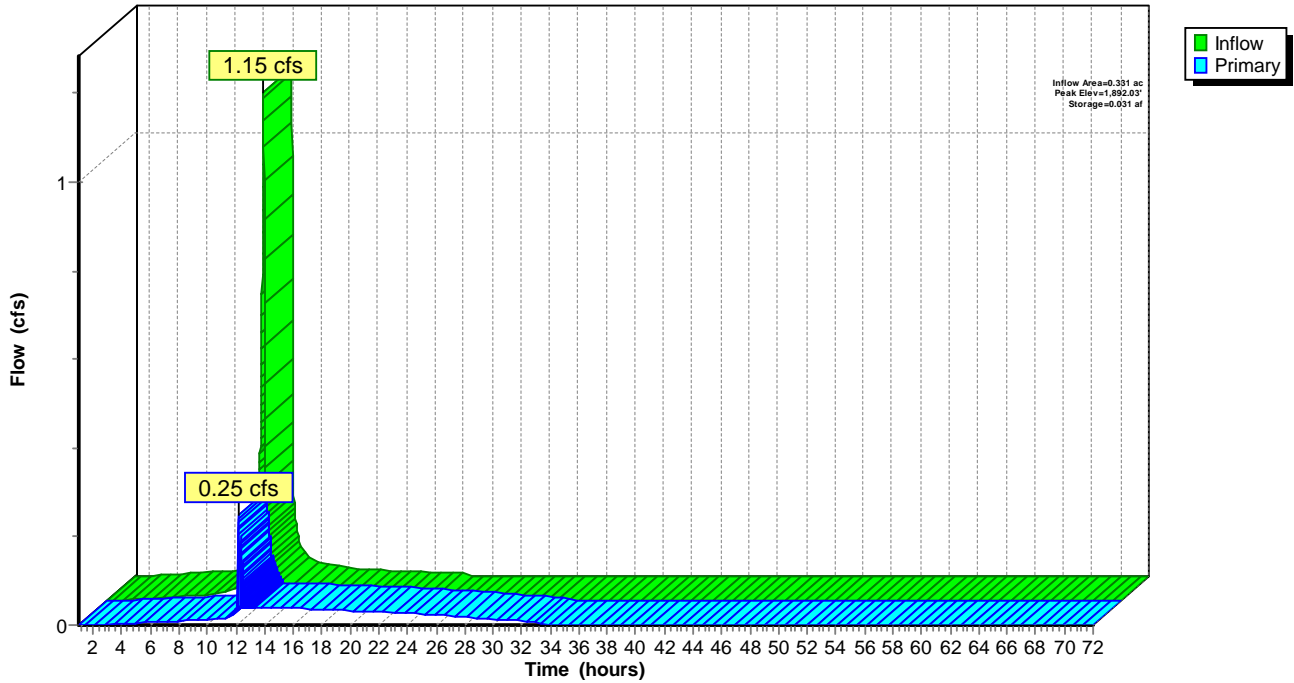
**Primary OutFlow** Max=0.22 cfs @ 12.17 hrs HW=1,892.03' (Free Discharge)

- ↑ **1=Orifice/Grate** (Orifice Controls 0.05 cfs @ 11.69 fps)
- ↳ **2=Orifice/Grate** (Weir Controls 0.17 cfs @ 0.66 fps)

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### Pond 3P: Detention

Hydrograph





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**Stage-Discharge for Pond 3P: Detention**

Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)	Elevation (feet)	Primary (cfs)
1,886.24	0.00	1,888.59	0.03	1,890.94	0.04
1,886.29	0.01	1,888.64	0.03	1,890.99	0.04
1,886.34	0.01	1,888.69	0.03	1,891.04	0.04
1,886.39	0.01	1,888.74	0.03	1,891.09	0.04
1,886.44	0.01	1,888.79	0.03	1,891.14	0.04
1,886.49	0.01	1,888.84	0.03	1,891.19	0.04
1,886.54	0.01	1,888.89	0.03	1,891.24	0.04
1,886.59	0.01	1,888.94	0.03	1,891.29	0.04
1,886.64	0.01	1,888.99	0.03	1,891.34	0.04
1,886.69	0.01	1,889.04	0.03	1,891.39	0.05
1,886.74	0.02	1,889.09	0.03	1,891.44	0.05
1,886.79	0.02	1,889.14	0.03	1,891.49	0.05
1,886.84	0.02	1,889.19	0.03	1,891.54	0.05
1,886.89	0.02	1,889.24	0.03	1,891.59	0.05
1,886.94	0.02	1,889.29	0.03	1,891.64	0.05
1,886.99	0.02	1,889.34	0.04	1,891.69	0.05
1,887.04	0.02	1,889.39	0.04	1,891.74	0.05
1,887.09	0.02	1,889.44	0.04	1,891.79	0.05
1,887.14	0.02	1,889.49	0.04	1,891.84	0.05
1,887.19	0.02	1,889.54	0.04	1,891.89	0.05
1,887.24	0.02	1,889.59	0.04	1,891.94	0.05
1,887.29	0.02	1,889.64	0.04	1,891.99	0.05
1,887.34	0.02	1,889.69	0.04	1,892.04	<b>0.28</b>
1,887.39	0.02	1,889.74	0.04		
1,887.44	0.02	1,889.79	0.04		
1,887.49	0.02	1,889.84	0.04		
1,887.54	0.02	1,889.89	0.04		
1,887.59	0.02	1,889.94	0.04		
1,887.64	0.02	1,889.99	0.04		
1,887.69	0.02	1,890.04	0.04		
1,887.74	0.02	1,890.09	0.04		
1,887.79	0.03	1,890.14	0.04		
1,887.84	0.03	1,890.19	0.04		
1,887.89	0.03	1,890.24	0.04		
1,887.94	0.03	1,890.29	0.04		
1,887.99	0.03	1,890.34	0.04		
1,888.04	0.03	1,890.39	0.04		
1,888.09	0.03	1,890.44	0.04		
1,888.14	0.03	1,890.49	0.04		
1,888.19	0.03	1,890.54	0.04		
1,888.24	0.03	1,890.59	0.04		
1,888.29	0.03	1,890.64	0.04		
1,888.34	0.03	1,890.69	0.04		
1,888.39	0.03	1,890.74	0.04		
1,888.44	0.03	1,890.79	0.04		
1,888.49	0.03	1,890.84	0.04		
1,888.54	0.03	1,890.89	0.04		

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**Stage-Area-Storage for Pond 3P: Detention**

Elevation (feet)	Storage (acre-feet)	Elevation (feet)	Storage (acre-feet)	Elevation (feet)	Storage (acre-feet)
1,886.24	0.000	1,888.59	0.017	1,890.94	0.031
1,886.29	0.000	1,888.64	0.017	1,890.99	0.031
1,886.34	0.001	1,888.69	0.018	1,891.04	0.031
1,886.39	0.001	1,888.74	0.018	1,891.09	0.031
1,886.44	0.001	1,888.79	0.018	1,891.14	0.031
1,886.49	0.002	1,888.84	0.019	1,891.19	0.031
1,886.54	0.002	1,888.89	0.019	1,891.24	0.031
1,886.59	0.003	1,888.94	0.019	1,891.29	0.031
1,886.64	0.003	1,888.99	0.020	1,891.34	0.031
1,886.69	0.003	1,889.04	0.020	1,891.39	0.031
1,886.74	0.004	1,889.09	0.021	1,891.44	0.031
1,886.79	0.004	1,889.14	0.021	1,891.49	0.031
1,886.84	0.004	1,889.19	0.021	1,891.54	0.031
1,886.89	0.005	1,889.24	0.022	1,891.59	0.031
1,886.94	0.005	1,889.29	0.022	1,891.64	0.031
1,886.99	0.005	1,889.34	0.022	1,891.69	0.031
1,887.04	0.006	1,889.39	0.023	1,891.74	0.031
1,887.09	0.006	1,889.44	0.023	1,891.79	0.031
1,887.14	0.006	1,889.49	0.023	1,891.84	0.031
1,887.19	0.007	1,889.54	0.024	1,891.89	0.031
1,887.24	0.007	1,889.59	0.024	1,891.94	0.031
1,887.29	0.008	1,889.64	0.025	1,891.99	0.031
1,887.34	0.008	1,889.69	0.025	1,892.04	0.031
1,887.39	0.008	1,889.74	0.025		
1,887.44	0.009	1,889.79	0.026		
1,887.49	0.009	1,889.84	0.026		
1,887.54	0.009	1,889.89	0.026		
1,887.59	0.010	1,889.94	0.027		
1,887.64	0.010	1,889.99	0.027		
1,887.69	0.010	1,890.04	0.027		
1,887.74	0.011	1,890.09	0.028		
1,887.79	0.011	1,890.14	0.028		
1,887.84	0.012	1,890.19	0.029		
1,887.89	0.012	1,890.24	0.029		
1,887.94	0.012	1,890.29	0.029		
1,887.99	0.013	1,890.34	0.030		
1,888.04	0.013	1,890.39	0.030		
1,888.09	0.013	1,890.44	0.030		
1,888.14	0.014	1,890.49	<b>0.031</b>		
1,888.19	0.014	1,890.54	0.031		
1,888.24	0.014	1,890.59	0.031		
1,888.29	0.015	1,890.64	0.031		
1,888.34	0.015	1,890.69	0.031		
1,888.39	0.016	1,890.74	0.031		
1,888.44	0.016	1,890.79	0.031		
1,888.49	0.016	1,890.84	0.031		
1,888.54	0.017	1,890.89	0.031		