

Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Wetlands

Provided by MassDEP:

WPA Form 3 – Notice of Intent

Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

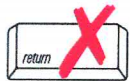
MassDEP File Number

Document Transaction Number

South Boston

City/Town

Important:
When filling out forms on the computer, use only the tab key to move your cursor - do not use the return key.



Note:
Before completing this form consult your local Conservation Commission regarding any municipal bylaw or ordinance.

A. General Information

1. Project Location (**Note:** electronic filers will click on button to locate project site):

10 Wendeller Street

a. Street Address

South Boston

b. City/Town

02127

c. Zip Code

Latitude and Longitude:

42 19' 43.79" N

d. Latitude

71 03' 16.52" W

e. Longitude

Ward 7

f. Assessors Map/Plat Number

Parcels 00750000 & 00751000

g. Parcel /Lot Number

2. Applicant:

Timothy

a. First Name

Johnson

b. Last Name

Tim Johnson Architect LLC

c. Organization

190 Old Colony Avenue

d. Street Address

South Boston

e. City/Town

MA

f. State

02127

g. Zip Code

617-464-4363

h. Phone Number

i. Fax Number

architecttj@verizon.net

j. Email Address

3. Property owner (required if different from applicant): Check if more than one owner

Niall & Malcolm

a. First Name

Dowdall & Barber

b. Last Name

Baker Court LLC

c. Organization

29 Carrolls Lane

d. Street Address

Quincy

e. City/Town

MA

f. State

02169

g. Zip Code

617-590-3574

h. Phone Number

i. Fax Number

NiallEDowdall@gmail.com

j. Email address

4. Representative (if any):

Steven

a. First Name

Eriksen

b. Last Name

Norse Environmental Services, Inc.

c. Company

92 Middlesex Road, Unit 4

d. Street Address

Tyngsborough

e. City/Town

MA

f. State

01879

g. Zip Code

978-649-9932

h. Phone Number

i. Fax Number

norseenvironmental@verizon.net

j. Email address

5. Total WPA Fee Paid (from NOI Wetland Fee Transmittal Form):

\$1,050.00

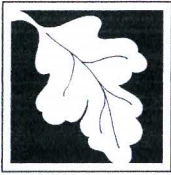
a. Total Fee Paid

\$512.50

b. State Fee Paid

\$537.50

c. City/Town Fee Paid



Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Wetlands

Provided by MassDEP:

WPA Form 3 – Notice of Intent

Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

MassDEP File Number

Document Transaction Number

South Boston

City/Town

A. General Information (continued)

6. General Project Description:

The applicant is proposing to raze an existing single family dwelling and driveway to construct a 3-story, 5 unit residential building with 7-car garage, drainage, associated utilities and grading within Land Subject to Coastal Storm Flowage (LSCSF).

7a. Project Type Checklist: (Limited Project Types see Section A. 7b.)

- 1. Single Family Home
- 2. Residential Subdivision
- 3. Commercial/Industrial
- 4. Dock/Pier
- 5. Utilities
- 6. Coastal engineering Structure
- 7. Agriculture (e.g., cranberries, forestry)
- 8. Transportation
- 9. Other

7b. Is any portion of the proposed activity eligible to be treated as a limited project (including Ecological Restoration Limited Project) subject to 310 CMR 10.24 (coastal) or 310 CMR 10.53 (inland)?

- 1. Yes No If yes, describe which limited project applies to this project. (See 310 CMR 10.24 and 10.53 for a complete list and description of limited project types)

2. Limited Project Type

If the proposed activity is eligible to be treated as an Ecological Restoration Limited Project (310 CMR 10.24(8), 310 CMR 10.53(4)), complete and attach Appendix A: Ecological Restoration Limited Project Checklist and Signed Certification.

8. Property recorded at the Registry of Deeds for:

Suffolk County Registry of Deeds

a. County

58921

c. Book

b. Certificate # (if registered land)

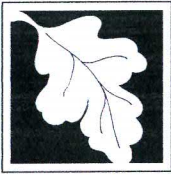
87

d. Page Number

B. Buffer Zone & Resource Area Impacts (temporary & permanent)

- 1. Buffer Zone Only – Check if the project is located only in the Buffer Zone of a Bordering Vegetated Wetland, Inland Bank, or Coastal Resource Area.
- 2. Inland Resource Areas (see 310 CMR 10.54-10.58; if not applicable, go to Section B.3, Coastal Resource Areas).

Check all that apply below. Attach narrative and any supporting documentation describing how the project will meet all performance standards for each of the resource areas altered, including standards requiring consideration of alternative project design or location.



Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Wetlands

Provided by MassDEP:

WPA Form 3 – Notice of Intent

Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

MassDEP File Number _____

Document Transaction Number _____

South Boston

City/Town

B. Buffer Zone & Resource Area Impacts (temporary & permanent) (cont'd)

For all projects affecting other Resource Areas, please attach a narrative explaining how the resource area was delineated.

Resource Area	Size of Proposed Alteration	Proposed Replacement (if any)
a. <input type="checkbox"/> Bank	1. linear feet _____	2. linear feet _____
b. <input type="checkbox"/> Bordering Vegetated Wetland	1. square feet _____	2. square feet _____
c. <input type="checkbox"/> Land Under Waterbodies and Waterways	1. square feet _____	2. square feet _____
	3. cubic yards dredged _____	

Resource Area	Size of Proposed Alteration	Proposed Replacement (if any)
d. <input type="checkbox"/> Bordering Land Subject to Flooding	1. square feet _____	2. square feet _____
	3. cubic feet of flood storage lost _____	4. cubic feet replaced _____
e. <input type="checkbox"/> Isolated Land Subject to Flooding	1. square feet _____	
	2. cubic feet of flood storage lost _____	3. cubic feet replaced _____
f. <input type="checkbox"/> Riverfront Area	1. Name of Waterway (if available) - specify coastal or inland _____	

2. Width of Riverfront Area (check one):

- 25 ft. - Designated Densely Developed Areas only
- 100 ft. - New agricultural projects only
- 200 ft. - All other projects

3. Total area of Riverfront Area on the site of the proposed project: _____ square feet

4. Proposed alteration of the Riverfront Area:

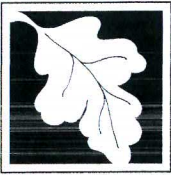
a. total square feet _____ b. square feet within 100 ft. _____ c. square feet between 100 ft. and 200 ft. _____

5. Has an alternatives analysis been done and is it attached to this NOI? Yes No

6. Was the lot where the activity is proposed created prior to August 1, 1996? Yes No

3. Coastal Resource Areas: (See 310 CMR 10.25-10.35)

Note: for coastal riverfront areas, please complete **Section B.2.f.** above.



Massachusetts Department of Environmental Protection
 Bureau of Resource Protection - Wetlands

WPA Form 3 – Notice of Intent

Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

Provided by MassDEP:

MassDEP File Number

Document Transaction Number

South Boston

City/Town

B. Buffer Zone & Resource Area Impacts (temporary & permanent) (cont'd)

Check all that apply below. Attach narrative and supporting documentation describing how the project will meet all performance standards for each of the resource areas altered, including standards requiring consideration of alternative project design or location.

Online Users:
 Include your document transaction number (provided on your receipt page) with all supplementary information you submit to the Department.

<u>Resource Area</u>	<u>Size of Proposed Alteration</u>	<u>Proposed Replacement (if any)</u>
a. <input type="checkbox"/> Designated Port Areas	Indicate size under Land Under the Ocean, below	
b. <input type="checkbox"/> Land Under the Ocean	_____	
	1. square feet	

	2. cubic yards dredged	
c. <input type="checkbox"/> Barrier Beach	Indicate size under Coastal Beaches and/or Coastal Dunes below	
d. <input type="checkbox"/> Coastal Beaches	_____	_____
	1. square feet	2. cubic yards beach nourishment
e. <input type="checkbox"/> Coastal Dunes	_____	_____
	1. square feet	2. cubic yards dune nourishment

	<u>Size of Proposed Alteration</u>	<u>Proposed Replacement (if any)</u>
f. <input type="checkbox"/> Coastal Banks	_____	
	1. linear feet	
g. <input type="checkbox"/> Rocky Intertidal Shores	_____	
	1. square feet	
h. <input type="checkbox"/> Salt Marshes	_____	_____
	1. square feet	2. sq ft restoration, rehab., creation
i. <input type="checkbox"/> Land Under Salt Ponds	_____	
	1. square feet	

	2. cubic yards dredged	
j. <input type="checkbox"/> Land Containing Shellfish	_____	
	1. square feet	
k. <input type="checkbox"/> Fish Runs	Indicate size under Coastal Banks, inland Bank, Land Under the Ocean, and/or inland Land Under Waterbodies and Waterways, above	

	1. cubic yards dredged	
l. <input checked="" type="checkbox"/> Land Subject to Coastal Storm Flowage	_____	
	1,805 +/- s.f.	

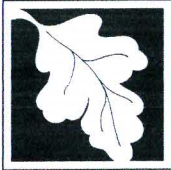
	1. square feet	

4. Restoration/Enhancement
 If the project is for the purpose of restoring or enhancing a wetland resource area in addition to the square footage that has been entered in Section B.2.b or B.3.h above, please enter the additional amount here.

_____	_____
a. square feet of BWV	b. square feet of Salt Marsh

5. Project Involves Stream Crossings

_____	_____
a. number of new stream crossings	b. number of replacement stream crossings



Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Wetlands

Provided by MassDEP:

WPA Form 3 – Notice of Intent

Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

MassDEP File Number _____

Document Transaction Number _____

South Boston

City/Town _____

C. Other Applicable Standards and Requirements

- This is a proposal for an Ecological Restoration Limited Project. Skip Section C and complete Appendix A: Ecological Restoration Limited Project Checklists – Required Actions (310 CMR 10.11).

Streamlined Massachusetts Endangered Species Act/Wetlands Protection Act Review

- 1. Is any portion of the proposed project located in **Estimated Habitat of Rare Wildlife** as indicated on the most recent Estimated Habitat Map of State-Listed Rare Wetland Wildlife published by the Natural Heritage and Endangered Species Program (NHESP)? To view habitat maps, see the *Massachusetts Natural Heritage Atlas* or go to http://maps.massgis.state.ma.us/PRI_EST_HAB/viewer.htm.

- a. Yes No **If yes, include proof of mailing or hand delivery of NOI to:**

Natural Heritage and Endangered Species Program
Division of Fisheries and Wildlife
 1 Rabbit Hill Road
 Westborough, MA 01581

- b. 6/2019
Date of map

If yes, the project is also subject to Massachusetts Endangered Species Act (MESA) review (321 CMR 10.18). To qualify for a streamlined, 30-day, MESA/Wetlands Protection Act review, please complete Section C.1.c, and include requested materials with this Notice of Intent (NOI); OR complete Section C.2.f, if applicable. *If MESA supplemental information is not included with the NOI, by completing Section 1 of this form, the NHESP will require a separate MESA filing which may take up to 90 days to review (unless noted exceptions in Section 2 apply, see below).*

- c. Submit Supplemental Information for Endangered Species Review*
 - 1. Percentage/acreage of property to be altered:
 - (a) within wetland Resource Area _____ percentage/acreage
 - (b) outside Resource Area _____ percentage/acreage
 - 2. Assessor's Map or right-of-way plan of site
- 2. Project plans for entire project site, including wetland resource areas and areas outside of wetlands jurisdiction, showing existing and proposed conditions, existing and proposed tree/vegetation clearing line, and clearly demarcated limits of work **
 - (a) Project description (including description of impacts outside of wetland resource area & buffer zone)
 - (b) Photographs representative of the site

* Some projects **not** in Estimated Habitat may be located in Priority Habitat, and require NHESP review (see <http://www.mass.gov/eea/agencies/dfg/dfw/natural-heritage/regulatory-review/>). Priority Habitat includes habitat for state-listed plants and strictly upland species not protected by the Wetlands Protection Act.

** MESA projects may not be segmented (321 CMR 10.16). The applicant must disclose full development plans even if such plans are not required as part of the Notice of Intent process.



Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Wetlands

WPA Form 3 – Notice of Intent

Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

Provided by MassDEP:

MassDEP File Number

Document Transaction Number

South Boston

City/Town

C. Other Applicable Standards and Requirements (cont'd)

- (c) MESA filing fee (fee information available at http://www.mass.gov/dfwele/dfw/nhosp/regulatory_review/mesa/mesa_fee_schedule.htm).
Make check payable to "Commonwealth of Massachusetts - NHESP" and **mail to NHESP** at above address

Projects altering 10 or more acres of land, also submit:

- (d) Vegetation cover type map of site
- (e) Project plans showing Priority & Estimated Habitat boundaries
- (f) OR Check One of the Following
1. Project is exempt from MESA review.
Attach applicant letter indicating which MESA exemption applies. (See 321 CMR 10.14, http://www.mass.gov/dfwele/dfw/nhosp/regulatory_review/mesa/mesa_exemptions.htm; the NOI must still be sent to NHESP if the project is within estimated habitat pursuant to 310 CMR 10.37 and 10.59.)
2. Separate MESA review ongoing. a. NHESP Tracking # _____ b. Date submitted to NHESP _____
3. Separate MESA review completed.
Include copy of NHESP "no Take" determination or valid Conservation & Management Permit with approved plan.
3. For coastal projects only, is any portion of the proposed project located below the mean high water line or in a fish run?
- a. Not applicable – project is in inland resource area only b. Yes No

If yes, include proof of mailing, hand delivery, or electronic delivery of NOI to either:

South Shore - Cohasset to Rhode Island border, and the Cape & Islands:

Division of Marine Fisheries -
Southeast Marine Fisheries Station
Attn: Environmental Reviewer
836 South Rodney French Blvd.
New Bedford, MA 02744
Email: DMF.EnvReview-South@state.ma.us

North Shore - Hull to New Hampshire border:

Division of Marine Fisheries -
North Shore Office
Attn: Environmental Reviewer
30 Emerson Avenue
Gloucester, MA 01930
Email: DMF.EnvReview-North@state.ma.us

Also if yes, the project may require a Chapter 91 license. For coastal towns in the Northeast Region, please contact MassDEP's Boston Office. For coastal towns in the Southeast Region, please contact MassDEP's Southeast Regional Office.



Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Wetlands

Provided by MassDEP:

WPA Form 3 – Notice of Intent

Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

MassDEP File Number _____

Document Transaction Number _____

South Boston _____

City/Town _____

C. Other Applicable Standards and Requirements (cont'd)

Online Users:
Include your document transaction number (provided on your receipt page) with all supplementary information you submit to the Department.

4. Is any portion of the proposed project within an Area of Critical Environmental Concern (ACEC)?
a. Yes No If yes, provide name of ACEC (see instructions to WPA Form 3 or MassDEP Website for ACEC locations). **Note:** electronic filers click on Website.
b. ACEC _____
5. Is any portion of the proposed project within an area designated as an Outstanding Resource Water (ORW) as designated in the Massachusetts Surface Water Quality Standards, 314 CMR 4.00?
a. Yes No
6. Is any portion of the site subject to a Wetlands Restriction Order under the Inland Wetlands Restriction Act (M.G.L. c. 131, § 40A) or the Coastal Wetlands Restriction Act (M.G.L. c. 130, § 105)?
a. Yes No
7. Is this project subject to provisions of the MassDEP Stormwater Management Standards?
a. Yes. Attach a copy of the Stormwater Report as required by the Stormwater Management Standards per 310 CMR 10.05(6)(k)-(q) and check if:
1. Applying for Low Impact Development (LID) site design credits (as described in Stormwater Management Handbook Vol. 2, Chapter 3)
2. A portion of the site constitutes redevelopment
3. Proprietary BMPs are included in the Stormwater Management System.
b. No. Check why the project is exempt:
1. Single-family house
2. Emergency road repair
3. Small Residential Subdivision (less than or equal to 4 single-family houses or less than or equal to 4 units in multi-family housing project) with no discharge to Critical Areas.

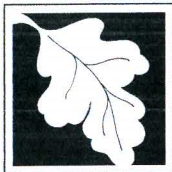
D. Additional Information

- This is a proposal for an Ecological Restoration Limited Project. Skip Section D and complete Appendix A: Ecological Restoration Notice of Intent – Minimum Required Documents (310 CMR 10.12).

Applicants must include the following with this Notice of Intent (NOI). See instructions for details.

Online Users: Attach the document transaction number (provided on your receipt page) for any of the following information you submit to the Department.

1. USGS or other map of the area (along with a narrative description, if necessary) containing sufficient information for the Conservation Commission and the Department to locate the site. (Electronic filers may omit this item.)
2. Plans identifying the location of proposed activities (including activities proposed to serve as a Bordering Vegetated Wetland [BVW] replication area or other mitigating measure) relative to the boundaries of each affected resource area.



Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Wetlands

Provided by MassDEP:

WPA Form 3 – Notice of Intent

Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

MassDEP File Number

Document Transaction Number

South Boston

City/Town

D. Additional Information (cont'd)

3. Identify the method for BVW and other resource area boundary delineations (MassDEP BVW Field Data Form(s), Determination of Applicability, Order of Resource Area Delineation, etc.), and attach documentation of the methodology.
4. List the titles and dates for all plans and other materials submitted with this NOI.
- Conservation Plan 10 Wendeller Street South Boston, MA
- | | |
|--------------------------------------|--------------------------|
| a. Plan Title | James Herrick |
| Civil Environmental Consultants | c. Signed and Stamped by |
| 9/4/2019 | 1"=10' |
| d. Final Revision Date | e. Scale |
| Architectural Plans | 8/26/19 |
| f. Additional Plan or Document Title | g. Date |
5. If there is more than one property owner, please attach a list of these property owners not listed on this form.
6. Attach proof of mailing for Natural Heritage and Endangered Species Program, if needed.
7. Attach proof of mailing for Massachusetts Division of Marine Fisheries, if needed.
8. Attach NOI Wetland Fee Transmittal Form
9. Attach Stormwater Report, if needed.

E. Fees

1. Fee Exempt: No filing fee shall be assessed for projects of any city, town, county, or district of the Commonwealth, federally recognized Indian tribe housing authority, municipal housing authority, or the Massachusetts Bay Transportation Authority.

Applicants must submit the following information (in addition to pages 1 and 2 of the NOI Wetland Fee Transmittal Form) to confirm fee payment:

City of Boston Check #1602

8/2/19

2. Municipal Check Number

3. Check date

Commonwealth of MA Check #1513

2/14/19

4. State Check Number

5. Check date

Malcolm

Barber

6. Payor name on check: First Name

7. Payor name on check: Last Name



Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Wetlands

WPA Form 3 – Notice of Intent

Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

Provided by MassDEP:

MassDEP File Number

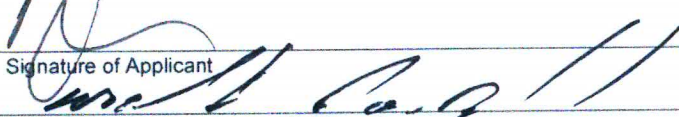
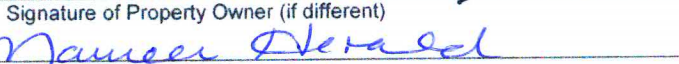

Document Transaction Number

City/Town

F. Signatures and Submittal Requirements

I hereby certify under the penalties of perjury that the foregoing Notice of Intent and accompanying plans, documents, and supporting data are true and complete to the best of my knowledge. I understand that the Conservation Commission will place notification of this Notice in a local newspaper at the expense of the applicant in accordance with the wetlands regulations, 310 CMR 10.05(5)(a).

I further certify under penalties of perjury that all abutters were notified of this application, pursuant to the requirements of M.G.L. c. 131, § 40. Notice must be made by Certificate of Mailing or in writing by hand delivery or certified mail (return receipt requested) to all abutters within 100 feet of the property line of the project location.

1. Signature of Applicant		2. Date	2-6-19
3. Signature of Property Owner (if different)		4. Date	2-14-19
5. Signature of Representative (if any)		6. Date	8-7-19

For Conservation Commission:

Two copies of the completed Notice of Intent (Form 3), including supporting plans and documents, two copies of the NOI Wetland Fee Transmittal Form, and the city/town fee payment, to the Conservation Commission by certified mail or hand delivery.

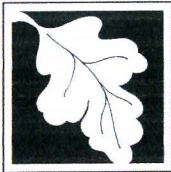
For MassDEP:

One copy of the completed Notice of Intent (Form 3), including supporting plans and documents, one copy of the NOI Wetland Fee Transmittal Form, and a **copy** of the state fee payment to the MassDEP Regional Office (see Instructions) by certified mail or hand delivery.

Other:

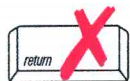
If the applicant has checked the "yes" box in any part of Section C, Item 3, above, refer to that section and the Instructions for additional submittal requirements.

The original and copies must be sent simultaneously. Failure by the applicant to send copies in a timely manner may result in dismissal of the Notice of Intent.



Massachusetts Department of Environmental Protection
 Bureau of Resource Protection - Wetlands
NOI Wetland Fee Transmittal Form
 Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

Important: When filling out forms on the computer, use only the tab key to move your cursor - do not use the return key.



A. Applicant Information

1. Location of Project:

10 Wendeller Street

a. Street Address

Check #1513

c. Check number

South Boston

b. City/Town

\$512.50

d. Fee amount

2. Applicant Mailing Address:

Timothy

a. First Name

Tim Johnson Architect LLC

c. Organization

190 Old Colony Avenue

d. Mailing Address

South Boston

e. City/Town

617-464-4363

h. Phone Number

i. Fax Number

MA

f. State

02127

g. Zip Code

architecttj@verizon.net

j. Email Address

3. Property Owner (if different):

Niall & Malcolm

a. First Name

Baker Court LLC

c. Organization

29 Carrolls Lane

d. Mailing Address

Quincy

e. City/Town

617-590-3574

h. Phone Number

i. Fax Number

MA

f. State

02169

g. Zip Code

NiallEDowdall@gmail.com

j. Email Address

To calculate filing fees, refer to the category fee list and examples in the instructions for filling out WPA Form 3 (Notice of Intent).

B. Fees

Fee should be calculated using the following process & worksheet. **Please see Instructions before filling out worksheet.**

Step 1/Type of Activity: Describe each type of activity that will occur in wetland resource area and buffer zone.

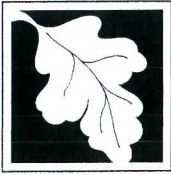
Step 2/Number of Activities: Identify the number of each type of activity.

Step 3/Individual Activity Fee: Identify each activity fee from the six project categories listed in the instructions.

Step 4/Subtotal Activity Fee: Multiply the number of activities (identified in Step 2) times the fee per category (identified in Step 3) to reach a subtotal fee amount. Note: If any of these activities are in a Riverfront Area in addition to another Resource Area or the Buffer Zone, the fee per activity should be multiplied by 1.5 and then added to the subtotal amount.

Step 5/Total Project Fee: Determine the total project fee by adding the subtotal amounts from Step 4.

Step 6/Fee Payments: To calculate the state share of the fee, divide the total fee in half and subtract \$12.50. To calculate the city/town share of the fee, divide the total fee in half and add \$12.50.



Massachusetts Department of Environmental Protection
 Bureau of Resource Protection - Wetlands
NOI Wetland Fee Transmittal Form
 Massachusetts Wetlands Protection Act M.G.L. c. 131, §40

B. Fees (continued)

Step 1/Type of Activity	Step 2/Number of Activities	Step 3/Individual Activity Fee	Step 4/Subtotal Activity Fee
Category 3(b)	1	\$1,050.00	\$1,050.00
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
Step 5/Total Project Fee:			\$1,050.00

Step 6/Fee Payments:

Total Project Fee:	\$1,050.00
State share of filing Fee:	\$512.50
City/Town share of filling Fee:	\$537.50
	a. Total Fee from Step 5
	b. 1/2 Total Fee less \$12.50
	c. 1/2 Total Fee plus \$12.50

C. Submittal Requirements

- a.) Complete pages 1 and 2 and send with a check or money order for the state share of the fee, payable to the Commonwealth of Massachusetts.

Department of Environmental Protection
 Box 4062
 Boston, MA 02211

- b.) **To the Conservation Commission:** Send the Notice of Intent or Abbreviated Notice of Intent; a **copy** of this form; and the city/town fee payment.

To MassDEP Regional Office (see Instructions): Send a copy of the Notice of Intent or Abbreviated Notice of Intent; a **copy** of this form; and a **copy** of the state fee payment. (E-filers of Notices of Intent may submit these electronically.)



NORSE ENVIRONMENTAL SERVICES, INC.

92 Middlesex Road, Unit 4

Tyngsboro, MA 01879

TEL. (978) 649-9932 • FAX (978) 649-7582

Website: www.norseenvironmental.com

Notice of Intent Report

For

**10 Wendeller Street
South Boston, MA**

Prepared For

Tim Johnson Architect LLC
190 Old Colony Avenue
South Boston, MA 02127

Prepared By

Norse Environmental Services, Inc.
92 Middlesex Road, Unit 4
Tyngsborough, MA 01879

August 2019
Revised September 2019

Narrative

The applicant is proposing to raze an existing single family dwelling and driveway to construct a 3-story, 5 unit residential building with a 7-car garage, drainage, associated utilities and grading within Land Subject to Coastal Storm Flowage (LSCSF) per 310 CMR 10.04. The dwelling will be on a slab foundation and the site will be serviced by city sewer and water. The site will have 30 +/- c.y. of cut for the foundation installation and 127 +/- c.y. of fill with a net amount of 97 +/- c.y. of material to be brought on site (see attached letter by Civil Environmental Consultants LLC). Erosion controls will be set and maintained for the duration of the project.

Site Description

The combined parcels (ID Numbers 0700750000 & 0700751000) consists of 3,090 +/- s.f. of land with a street address of 10 Wendeller Street, located easterly on Wendeller Street in South Boston, MA. An existing single family dwelling, driveway, fence with overgrown vegetation are located on the parcels. The sites are bounded by residential dwellings on Wendeller Street and Ward Street.

Soils

The Web Soil Survey Norfolk and Suffolk County maps this site as Urban land, wet substratum. Urban land, wet substratum consists of areas where 85 percent of the land surface is covered by structures or impervious surfaces such as buildings, pavement, industrial sites, and railroad yards, and where the underlying soil is dominated by fill material overlying wet soils. The underlying wet soils may include Freetown, Saco, Scarborough, and Swansea. The areas are irregular in shape range from 6 to 2,100 acres in size. A water table may be present in the lower substratum. Included with this unit in mapping are areas of Udorthents, loamy soils and Udorthents, wet substratum soils where the soil is exposed.

Resource Area

Approximately 1, 805 +/- s.f. of the site is located within LSCSF. 310 CMR 10.04 Land Subject to Coastal Storm Flowage means, "land subject to any inundation caused by coastal storms up to and including that caused by the 100-year storm, surge of record or storm of record, whichever is

greater”. According to the FEMA Flood Insurance Rate Map the portion of the site in LSCSF is designated as Zone AE with an elevation of 10 ft. or 16.46 ft Boston City Base (BCB).

310 CMR 10.00 The Massachusetts Wetland Protection Act presently has no performance standards for work within LSCSF. However, the Commonwealth of Massachusetts, “Applying the Massachusetts Coastal Wetlands Regulations” provides guidance for work within LSCSF.

The project proposes to disturb 1,805 s.f. LSCSF. Per the Massachusetts Building Code section 780 CMR 120G Flood-Resistant Construction and Construction in Coastal Dunes, requires construction at or above the Base Flood Elevation. The first-floor elevation and utility elevation are proposed at 18.0 +/- ft. (BCB) or the living area will be a minimum of 1.54 ft above the base flood elevation (see enclosed Climate Resiliency Checklist).

The project also proposes green space to include 307+/- s.f. of lawn area and 46 +/- s.f. of pervious area or 11% of the lot.

Stormwater

The project has been designed to meet the stormwater standards to the maximum extent practicable. The stormwater on site will be managed through roof drains, drywell, oil/grit separator and trench drain. Existing conditions do not provide drainage. The applicant is improving site conditions by providing drainage. Runoff is stored and infiltrated into (2) drywells. Larger less frequent storms will overflow to the street to the combined sewer within Wendeller Street approved by Boston Water and Sewer Department. Stormwater is collected via roof drains which discharge into the drywell. 82% of stormwater is captured from building and driveway apron. 11% of proposed lawn and pervious areas will infiltrate into the ground (enclosed see Drainage Report).

Straw wattles for erosion controls will be installed around the perimeter of the site prior to construction. The project site will be maintained and there will be no discharge of any pollutants during construction (see enclosed Operation and Maintenance Plan).

Priority Habitat

There are no Priority Habitat, or Estimated Habitat for Rare or Endangered Species located at the proposed project according to MassGIS (map enclosed).

Area of Critical Environmental Concern

The project is not located within an Area of Critical Environmental Concern (ACEC) according to the MassGIS (map enclosed).

Outstanding Resource Water

The project is not located within an Outstanding Resource Water (ORW).

CIVIL ENVIRONMENTAL CONSULTANTS LLC
ENGINEERS AND LAND SURVEYORS

8 Oak Street
Peabody, MA 01960
Phone (978) 531-1191
Fax (978) 531-5501
ceclandsurvey@comcast.net

August 23, 2019

Tim Johnson
190 Old Colony Ave
Boston Ma 02127

Re: 10 Wendeller Street Cut & Fill Calculations

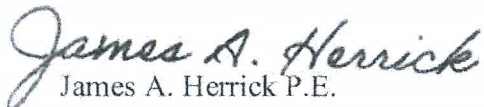
Mr. Johnson,

In Regards to the Cut & Fill Calculations for 10 Wendeller Street;

We have calculated that that the site will have 30 cubic yards of cut for the foundation installation and approximately 127 cubic yards of fill with a net amount of approximately 97 cubic yards of material to be brought in onto the site. The material excavated for the installation of the foundation shall be stored on site inside the perimeter of the foundation enclosure and utilized to properly backfill the foundation post installation. The entire site shall be surrounded at the with straw wattle to prevent any erosion of this material offsite.

Fill brought onto the site will only occur after the foundation is installed. Since all fill will be used to bring the existing ground grade up inside the foundation perimeter to the proper elevation for the installation of the subgrade and garage slab of the building, the concrete foundation wall enclosure will be utilized to prevent the erosion of the material offsite.

if you have any questions please feel free to call my office,


James A. Herrick P.E.

Notification to Abutters Under the Massachusetts Wetlands Protection Act

In accordance with the second paragraph of Massachusetts General Laws Chapter 131, Section 40 you are hereby notified of the following.

- A. The name of the applicant is Tim Johnson Architect LLC
- B. The applicant has filed a Notice of Intent with the Conservation Commission for the municipality of Boston, seeking permission to remove, fill, dredge, or alter an Area Subject to Protection under the Wetlands Protection Act (General Laws Chapter 131, Section 40).
- C. The address where the activity is proposed is 10 Wendeller Street- South Boston Ward 7 Parcels 00750000 & 00751000.

Proposing to raze an existing single family dwelling and driveway to construct a 3-story, 5 unit residential building with a 7-car garage, drainage, associated utilities and grading within Land Subject to Coastal Storm Flowage (LSCSF).
- D. Copies of the Notice of Intent may be examined at: Boston Conservation Commission located at Boston City Hall, 1 City Hall Square, Room 709 Boston, MA 02201 between the hours of 9:00 a.m. to 5:00 p.m. on the following days of the week: Monday through Friday. For more information, call: 617-635-3850.
- E. Copies of the Notice of Intent may also be examined at Norse Environmental Services by calling this telephone number 978-649-9932 between the hours of 8:00 a.m. and 6:00 p.m. on the following days of the week: Monday thru Thursday/ Friday until 12:00 p.m.
- F. Information regarding the date, time, and place of the public hearing may be obtained from the Boston Conservation Commission by calling this telephone number 617-635-3850 between the hours of 9:00 a.m. to 5:00 p.m. on the following days of the week: Monday thru Friday. For more information, call: 617-635-3850.

A public hearing will take place at 6 p.m. on October 23, 2019 at Boston City Hall, 1 City Hall Square in the Piemonte Room, 5th floor.

The following is a link to view the Public Notice Page to confirm hearing date and agenda items: <https://www.boston.gov/public-notices>

Note: Notice of the public hearing, including its date, time, and place, will be published at least five (5) days in advance in the Boston Herald.

Note: Notice of the public hearing, including its date, time, and place, will be posted in the City or Town Hall not less than forty-eight (48) hours in advance.

Note: You also may contact your local Conservation Commission or the nearest Department of Environmental Protection Regional Office for more information about this application or the Wetland Protection Act. To contact DEP Call: **Northeast Region:** 978-694-3200.

If you have any further questions please call Steven Eriksen at Norse Environmental Services, Inc., 978-649-9932.

AFFIDAVIT OF SERVICE


Under the Massachusetts Wetlands Protection Act

(to be submitted to the Massachusetts Department of Environmental Protection and the Conservation Commission when filing a Notice of Intent)

I, Steven Eriksen, hereby certify to the best of my knowledge, under the pains and penalties of perjury that on October 8, 2019 I gave notification to the abutters in compliance with the second paragraph of Massachusetts General Law Chapter 131, Section 40, and the DEP Guide to Abutter Notification dated April 8, 1994, in connection with the following matter:

A Notice of Intent filed under the Massachusetts Wetlands Protection Act by Tim Johnson Architect LLC with the Boston Conservation Commission on October 8, 2019 for property located at 10 Wendeller Street – South Boston Ward 7 Parcels 00750000 & 00751000.

The form of the notification, and a list of the abutters to whom it was given and their addressees, are attached to this Affidavit of Service.



Name

10-8-19

Date

OSTAL SERVICE®

Address of Sender

ENVIRONMENTAL SERVICES, INC
 92 Middlesex Road - Unit 4
 Tyngsboro, MA 01879

Certificate of Mailing — Firm (Domestic)

Affix stamp



TOTAL NO. of Pieces Listed by Sender: **26**

TOTAL NO. of Pieces Received at Post Office: **26**

Postmaster, per (signer)

[Handwritten Signature]

Print barcode here.



0000

U.S. POSTAGE PAID
 TYNGSBORO, MA
 01879
 OCT 08, 19
 AMOUNT
\$10.66
 R2305H126082-20

USPS Tracking Number Firm-specific Identifier	Address	Postage	Fee	Special Handling	Parcel Airift
1	MAROIS ARMAND 48 ELLERY ST SOUTH BOSTON, MA 02127				
2	15 WENDELLER STREET 15 WENDELLER ST #1 SOUTH BOSTON, MA 02127				
3	HUANG WENHAN 15 WENDELLER ST #1 SOUTH BOSTON, MA 02127				
4	WITTE RUSSELL M 44-41 PURVES ST APT 608 LONG ISLAND CITY, NY 11101				
5	PHU JASON TS 22 SYMONDS ST SALEM, MA 01970				
6	ZIADLOU MOSLAFI TS 36 GEN W H DEVINE WAY SOUTH BOSTON, MA 02127				

Certificate of Mailing — Firm (Domestic)

Address of Sender

ENVIRONMENTAL SERVICES, INC
32 Middlesex Road - Unit 4
Tyngsboro, MA 01879

Affix stamp



TOTAL NO. of Pieces Listed by Sender	26	TOTAL NO. of Pieces Received at Post Office	26
Postmaster, per (signer)		<i>[Signature]</i>	

Print barcode here.

USPS Tracking Number Firm-specific Identifier	Address	Postage	Fee	Special Handling	Parcel Airtift
1	DOWDALL NIAL 25 MATHAURS ST MILTON, MA 02186				
2	EIGHT WENDELLER ST CONDO 171 MILK ST SUITE 32 BOSTON, MA 02109				
3	GARVAN CAITYLN 8 WENDELLER ST #1 SOUTH BOSTON, MA 02127				
4	MACRAE ALEXANDER S 8 WENDELLER ST #2 SOUTH BOSTON, MA 02127				
5	KELLY KATHLEEN 4 WENDELLER ST SOUTH BOSTON, MA 02127				
6	FIFTY-7 PREBLE STREET CONDO 57 PREBLE ST SOUTH BOSTON, MA 02127				

Certificate of Mailing — Firm (Domestic)

Address of Sender

ENVIRONMENTAL SERVICES, INC
92 Middlesex Road - Unit 4
Tyngsboro, MA 01879

USPS Tracking Number
Firm-specific Identifier

Affix stamp

TOTAL NO. of Pieces Listed by Sender: 26

TOTAL NO. of Pieces Received at Post Office: 26

Postmaster, per (signer): *JAM*

Print barcode here



Address	Postage	Fee	Special Handling	Parcel Airfare
O'CONNELL STEPHEN 57 PREBLE ST #1 SOUTH BOSTON, MA 02127				
MCCORMACK CHARLOTTE 57 PREBLE ST #2 SOUTH BOSTON, MA 02127				
SADIQ SARAH 57 PREBLE ST #3 SOUTH BOSTON, MA 02127				
ROMAN CATH ARCH OF BOS 66 DEVINE WAY SOUTH BOSTON, MA 02127				
KRONCKE DOUGLAS W 14 CAULFIELD RD WAYLAND, MA 01778				
KIERNAN OWEN PO BOX 870141-MILTON VILLA MILTON, MA 02187				

Certificate of Mailing — Firm (Domestic)

Address of Sender

ENVIRONMENTAL SERVICES, INC
92 Middlesex Road - Unit 4
Tyngsboro, MA 01879

Affix stamp



TOTAL NO. of Pieces Listed by Sender: 26

TOTAL NO. of Pieces Received at Post Office: 26

Postmaster, per (signer)

[Handwritten Signature]

USPS Tracking Number
Firm-specific Identifier

1

2

3

4

5

6

Address

MILLEN JEFFREY
46 WARD ST
SOUTH BOSTON, MA 02127

BOSTON HOUSING AUTHORITY
27 MCDONOUGH WAY
SOUTH BOSTON, MA 02127

Postage

Fee

Special Handling

Parcel/Air/ift

Print barcode here.

Climate Resiliency Checklist

NOTE: Project filings should be prepared and submitted using the online [Climate Resiliency Checklist](#).

A.1 - Project Information

Project Name:	RESIDENTIAL APARTMENTS			8-14-19 7-31-19 8-28-19 9-4-19
Project Address:	10 WENDUEN ST., SOUTH BOSTON			9-26-19
Project Address Additional:				10-3-19
Filing Type (select)	Initial (PNF, EPNF, NPC or other substantial filing) Design / Building Permit (prior to final design approval), or Construction / Certificate of Occupancy (post construction completion)			
Filing Contact	Name	Company	Email	Phone
Is MEPA approval required	Yes/no		Date	

A.3 - Project Team

Owner / Developer:	BAKER COURT, LLC
Architect:	TIM JOHNSON ARCHITECT, LLC
Engineer:	CIVIL ENVIRONMENTAL CONSULTANTS, LLC
Sustainability / LEED:	
Permitting:	
Construction Management:	

A.3 - Project Description and Design Conditions

List the principal Building Uses:	R-2, MULTI-FAMILY & S-2, NECESSARY PARKING.
List the First Floor Uses:	APARTMENT & GARAGE
List any Critical Site Infrastructure and or Building Uses:	

Site and Building:

Site Area:	3,090 SF	Building Area:	7,315 SF
Building Height:	33'-7" Ft	Building Height:	3 Stories
Existing Site Elevation - Low:	15.3 Ft BCB	Existing Site Elevation - High:	17.4 Ft BCB
Proposed Site Elevation - Low:	15.3 Ft BCB	Proposed Site Elevation - High:	17.4 Ft BCB
Proposed First Floor Elevation:	18.0 Ft BCB	Below grade levels:	0 Stories

Article 37 Green Building:

LEED Version - Rating System :		LEED Certification:	Yes / No
Proposed LEED rating:	Certified/Silver/ Gold/Platinum	Proposed LEED point score:	Pts.

Building Envelope

When reporting R values, differentiate between R discontinuous and R continuous. For example, use "R13" to show R13 discontinuous and use R10c.i. to show R10 continuous. When reporting U value, report total assembly U value including supports and structural elements.

Roof:	<input type="text" value="(R)"/>	Exposed Floor:	<input type="text" value="(R)"/>
Foundation Wall:	<input type="text" value="(R)"/>	Slab Edge (at or below grade):	<input type="text" value="(R)"/>

Vertical Above-grade Assemblies (%'s are of total vertical area and together should total 100%):

Area of Opaque Curtain Wall & Spandrel Assembly:	<input style="width: 100px;" type="text" value="(%)"/>	Wall & Spandrel Assembly Value:	<input style="width: 100px;" type="text" value="(U)"/>
Area of Framed & Insulated / Standard Wall:	<input style="width: 100px;" type="text" value="(%)"/>	Wall Value:	<input style="width: 100px;" type="text" value="(R)"/>
Area of Vision Window:	<input style="width: 100px;" type="text" value="%"/>	Window Glazing Assembly Value:	<input style="width: 100px;" type="text" value="(U)"/>
		Window Glazing SHGC:	<input style="width: 100px;" type="text" value="(SHGC)"/>
Area of Doors:	<input style="width: 100px;" type="text" value="%"/>	Door Assembly Value:	<input style="width: 100px;" type="text" value="(U)"/>

Energy Loads and Performance

For this filing – describe how energy loads & performance were determined

Annual Electric:	<input style="width: 100px;" type="text" value="(kWh)"/>	Peak Electric:	<input style="width: 100px;" type="text" value="(kW)"/>
Annual Heating:	<input style="width: 100px;" type="text" value="(MMbtu/hr)"/>	Peak Heating:	<input style="width: 100px;" type="text" value="(MMbtu)"/>
Annual Cooling:	<input style="width: 100px;" type="text" value="(Tons/hr)"/>	Peak Cooling:	<input style="width: 100px;" type="text" value="(Tons)"/>
Energy Use - Below ASHRAE 90.1 - 2013:	<input style="width: 100px;" type="text" value="%"/>	Have the local utilities reviewed the building energy performance?:	<input style="width: 100px;" type="text" value="Yes / no"/>
Energy Use - Below Mass. Code:	<input style="width: 100px;" type="text" value="%"/>	Energy Use Intensity:	<input style="width: 100px;" type="text" value="(kBtu/SF)"/>

Back-up / Emergency Power System

Electrical Generation Output:	<input style="width: 100px;" type="text" value="(kW)"/>	Number of Power Units:	<input style="width: 100px;" type="text"/>
System Type:	<input style="width: 100px;" type="text" value="(kW)"/>	Fuel Source:	<input style="width: 100px;" type="text"/>

Emergency and Critical System Loads (in the event of a service interruption)

Electric:	<input style="width: 100px;" type="text" value="(kW)"/>	Heating:	<input style="width: 100px;" type="text" value="(MMbtu/hr)"/>
		Cooling:	<input style="width: 100px;" type="text" value="(Tons/hr)"/>

B – Greenhouse Gas Reduction and Net Zero / Net Positive Carbon Building Performance

Reducing GHG emissions is critical to avoiding more extreme climate change conditions. To achieve the City's goal of carbon neutrality by 2050 new buildings performance will need to progressively improve to net carbon zero and positive.

B.1 – GHG Emissions - Design Conditions

For this Filing - Annual Building GHG Emissions: (Tons)

For this filing - describe how building energy performance has been integrated into project planning, design, and engineering and any supporting analysis or modeling:

Describe building specific passive energy efficiency measures including orientation, massing, envelop, and systems:

Describe building specific active energy efficiency measures including equipment, controls, fixtures, and systems:

Describe building specific load reduction strategies including on-site renewable, clean, and energy storage systems:

Describe any area or district scale emission reduction strategies including renewable energy, central energy plants, distributed energy systems, and smart grid infrastructure:

Describe any energy efficiency assistance or support provided or to be provided to the project:

B.2 - GHG Reduction - Adaptation Strategies

Describe how the building and its systems will evolve to further reduce GHG emissions and achieve annual carbon net zero and net positive performance (e.g. added efficiency measures, renewable energy, energy storage, etc.) and the timeline for meeting that goal (by 2050):

C - Extreme Heat Events

Annual average temperature in Boston increased by about 2° F in the past hundred years and will continue to rise due to climate change. By the end of the century, the average annual temperature could be 56° (compared to 46° now) and the number of days above 90° (currently about 10 a year) could rise to 90.

C.1 – Extreme Heat - Design Conditions

Temperature Range - Low: Deg.
Annual Heating Degree Days:

Temperature Range - High: Deg.
Annual Cooling Degree Days:

What Extreme Heat Event characteristics will be / have been used for project planning

Days - Above 90°: #
Number of Heatwaves / Year: #

Days - Above 100°: #
Average Duration of Heatwave (Days): #

Describe all building and site measures to reduce heat-island effect at the site and in the surrounding area:

C.2 - Extreme Heat - Adaptation Strategies

Describe how the building and its systems will be adapted to efficiently manage future higher average temperatures, higher extreme temperatures, additional annual heatwaves, and longer heatwaves:

Describe all mechanical and non-mechanical strategies that will support building functionality and use during extended interruptions of utility services and infrastructure including proposed and future adaptations:

D - Extreme Precipitation Events

From 1958 to 2010, there was a 70 percent increase in the amount of precipitation that fell on the days with the heaviest precipitation. Currently, the 10-Year, 24-Hour Design Storm precipitation level is 5.25". There is a significant probability that this will increase to at least 6" by the end of the century. Additionally, fewer, larger storms are likely to be accompanied by more frequent droughts.

D.1 - Extreme Precipitation - Design Conditions

10 Year, 24 Hour Design Storm: In.

Describe all building and site measures for reducing storm water run-off:

D.2 - Extreme Precipitation - Adaptation Strategies

Describe how site and building systems will be adapted to efficiently accommodate future more significant rain events (e.g. rainwater harvesting, on-site storm water retention, bio swales, green roofs):

E - Sea Level Rise and Storms

Under any plausible greenhouse gas emissions scenario, sea levels in Boston will continue to rise throughout the century. This will increase the number of buildings in Boston susceptible to coastal flooding and the likely frequency of flooding for those already in the floodplain.

Is any portion of the site in a FEMA SFHA? Yes / No

What Zone: A, AE, AH, AO, AR, A99, V, VE
 Current FEMA SFHA Zone Base Flood Elevation:

Is any portion of the site in a BPDA Sea Level Rise - Flood Hazard Area? Use the online [BPDA SLR-FHA Mapping Tool](#) to assess the susceptibility of the project site. Yes / No

If you answered YES to either of the above questions, please complete the following questions. Otherwise you have completed the questionnaire; thank you!

E.1 – Sea Level Rise and Storms – Design Conditions

Proposed projects should identify immediate and future adaptation strategies for managing the flooding scenario represented on the BPDA Sea Level Rise - Flood Hazard Area (SLR-FHA) map, which depicts a modeled 1% annual chance coastal flood event with 40 inches of sea level rise (SLR). Use the online [BPDA SLR-FHA Mapping Tool](#) to identify the highest Sea Level Rise - Base Flood Elevation for the site. The Sea Level Rise - Design Flood Elevation is determined by adding either 24" of freeboard for critical facilities and infrastructure and any ground floor residential units OR 12" of freeboard for other buildings and uses.

Sea Level Rise - Base Flood Elevation:	<input type="text" value="16.46 Ft BCB"/>	First Floor Elevation:	<input type="text" value="18.0 Ft BCB"/>
Sea Level Rise - Design Flood Elevation:	<input type="text" value="18.0 Ft BCB"/>	Accessible Route Elevation:	<input type="text" value="17.1 Ft BCB"/>
Site Elevations at Building:	<input type="text" value="15.3-17.4 BCB"/>		

Describe site design strategies for adapting to sea level rise including building access during flood events, elevated site areas, hard and soft barriers, wave / velocity breaks, storm water systems, utility services, etc.:

Describe how the proposed Building Design Flood Elevation will be achieved including dry / wet flood proofing, critical systems protection, utility service protection, temporary flood barriers, waste and drain water back flow prevention, etc.:

Describe how occupants might shelter in place during a flooding event including any emergency power, water, and waste water provisions and the expected availability of any such measures:

Describe any strategies that would support rapid recovery after a weather event:

E.2 – Sea Level Rise and Storms – Adaptation Strategies

Describe future site design and or infrastructure adaptation strategies for responding to sea level rise including future elevating of site areas and access routes, barriers, wave / velocity breaks, storm water systems, utility services, etc.:

Describe future building adaptation strategies for raising the Sea Level Rise Design Flood Elevation and further protecting critical systems, including permanent and temporary measures:

A pdf and word version of the Climate Resiliency Checklist is provided for informational use and off-line preparation of a project submission. NOTE: Project filings should be prepared and submitted using the online [Climate Resiliency Checklist](#).

For questions or comments about this checklist or Climate Change best practices, please contact:
John.Dalzell@boston.gov



Massachusetts Department of Environmental Protection
Bureau of Resource Protection - Wetlands Program

Checklist for Stormwater Report

A. Introduction

Important: When filling out forms on the computer, use only the tab key to move your cursor - do not use the return key.



A Stormwater Report must be submitted with the Notice of Intent permit application to document compliance with the Stormwater Management Standards. The following checklist is NOT a substitute for the Stormwater Report (which should provide more substantive and detailed information) but is offered here as a tool to help the applicant organize their Stormwater Management documentation for their Report and for the reviewer to assess this information in a consistent format. As noted in the Checklist, the Stormwater Report must contain the engineering computations and supporting information set forth in Volume 3 of the Massachusetts Stormwater Handbook. The Stormwater Report must be prepared and certified by a Registered Professional Engineer (RPE) licensed in the Commonwealth.

The Stormwater Report must include:

- The Stormwater Checklist completed and stamped by a Registered Professional Engineer (see page 2) that certifies that the Stormwater Report contains all required submittals.¹ This Checklist is to be used as the cover for the completed Stormwater Report.
- Applicant/Project Name
- Project Address
- Name of Firm and Registered Professional Engineer that prepared the Report
- Long-Term Pollution Prevention Plan required by Standards 4-6
- Construction Period Pollution Prevention and Erosion and Sedimentation Control Plan required by Standard 8²
- Operation and Maintenance Plan required by Standard 9

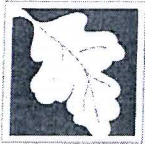
In addition to all plans and supporting information, the Stormwater Report must include a brief narrative describing stormwater management practices, including environmentally sensitive site design and LID techniques, along with a diagram depicting runoff through the proposed BMP treatment train. Plans are required to show existing and proposed conditions, identify all wetland resource areas, NRCS soil types, critical areas, Land Uses with Higher Potential Pollutant Loads (LUHPPL), and any areas on the site where infiltration rate is greater than 2.4 inches per hour. The Plans shall identify the drainage areas for both existing and proposed conditions at a scale that enables verification of supporting calculations.

As noted in the Checklist, the Stormwater Management Report shall document compliance with each of the Stormwater Management Standards as provided in the Massachusetts Stormwater Handbook. The soils evaluation and calculations shall be done using the methodologies set forth in Volume 3 of the Massachusetts Stormwater Handbook.

To ensure that the Stormwater Report is complete, applicants are required to fill in the Stormwater Report Checklist by checking the box to indicate that the specified information has been included in the Stormwater Report. If any of the information specified in the checklist has not been submitted, the applicant must provide an explanation. The completed Stormwater Report Checklist and Certification must be submitted with the Stormwater Report.

¹ The Stormwater Report may also include the Illicit Discharge Compliance Statement required by Standard 10. If not included in the Stormwater Report, the Illicit Discharge Compliance Statement must be submitted prior to the discharge of stormwater runoff to the post-construction best management practices.

² For some complex projects, it may not be possible to include the Construction Period Erosion and Sedimentation Control Plan in the Stormwater Report. In that event, the issuing authority has the discretion to issue an Order of Conditions that approves the project and includes a condition requiring the proponent to submit the Construction Period Erosion and Sedimentation Control Plan before commencing any land disturbance activity on the site.



Checklist for Stormwater Report

B. Stormwater Checklist and Certification

The following checklist is intended to serve as a guide for applicants as to the elements that ordinarily need to be addressed in a complete Stormwater Report. The checklist is also intended to provide conservation commissions and other reviewing authorities with a summary of the components necessary for a comprehensive Stormwater Report that addresses the ten Stormwater Standards.

Note: Because stormwater requirements vary from project to project, it is possible that a complete Stormwater Report may not include information on some of the subjects specified in the Checklist. If it is determined that a specific item does not apply to the project under review, please note that the item is not applicable (N.A.) and provide the reasons for that determination.

A complete checklist must include the Certification set forth below signed by the Registered Professional Engineer who prepared the Stormwater Report.

Registered Professional Engineer's Certification

I have reviewed the Stormwater Report, including the soil evaluation, computations, Long-term Pollution Prevention Plan, the Construction Period Erosion and Sedimentation Control Plan (if included), the Long-term Post-Construction Operation and Maintenance Plan, the Illicit Discharge Compliance Statement (if included) and the plans showing the stormwater management system, and have determined that they have been prepared in accordance with the requirements of the Stormwater Management Standards as further elaborated by the Massachusetts Stormwater Handbook. I have also determined that the information presented in the Stormwater Checklist is accurate and that the information presented in the Stormwater Report accurately reflects conditions at the site as of the date of this permit application.

Registered Professional Engineer Block and Signature



James A. Herrick

10/3/19

Signature and Date

Checklist

Project Type: Is the application for new development, redevelopment, or a mix of new and redevelopment?

- New development
- Redevelopment
- Mix of New Development and Redevelopment



Checklist for Stormwater Report

Checklist (continued)

LID Measures: Stormwater Standards require LID measures to be considered. Document what environmentally sensitive design and LID Techniques were considered during the planning and design of the project:

- No disturbance to any Wetland Resource Areas
- Site Design Practices (e.g. clustered development, reduced frontage setbacks)
- Reduced Impervious Area (Redevelopment Only)
- Minimizing disturbance to existing trees and shrubs
- LID Site Design Credit Requested:
 - Credit 1
 - Credit 2
 - Credit 3
- Use of "country drainage" versus curb and gutter conveyance and pipe
- Bioretention Cells (includes Rain Gardens)
- Constructed Stormwater Wetlands (includes Gravel Wetlands designs)
- Treebox Filter
- Water Quality Swale
- Grass Channel
- Green Roof
- Other (describe):

Standard 1: No New Untreated Discharges

- No new untreated discharges
- Outlets have been designed so there is no erosion or scour to wetlands and waters of the Commonwealth
- Supporting calculations specified in Volume 3 of the Massachusetts Stormwater Handbook included.



Checklist for Stormwater Report

Checklist (continued)

Standard 2: Peak Rate Attenuation

- Standard 2 waiver requested because the project is located in land subject to coastal storm flowage and stormwater discharge is to a wetland subject to coastal flooding.
- Evaluation provided to determine whether off-site flooding increases during the 100-year 24-hour storm.
- Calculations provided to show that post-development peak discharge rates do not exceed pre-development rates for the 2-year and 10-year 24-hour storms. If evaluation shows that off-site flooding increases during the 100-year 24-hour storm, calculations are also provided to show that post-development peak discharge rates do not exceed pre-development rates for the 100-year 24-hour storm.

Standard 3: Recharge

- Soil Analysis provided.
- Required Recharge Volume calculation provided.
- Required Recharge volume reduced through use of the LID site Design Credits.
- Sizing the infiltration, BMPs is based on the following method: Check the method used.
 - Static
 - Simple Dynamic
 - Dynamic Field¹
- Runoff from all impervious areas at the site discharging to the infiltration BMP.
- Runoff from all impervious areas at the site is *not* discharging to the infiltration BMP and calculations are provided showing that the drainage area contributing runoff to the infiltration BMPs is sufficient to generate the required recharge volume.
- Recharge BMPs have been sized to infiltrate the Required Recharge Volume.
- Recharge BMPs have been sized to infiltrate the Required Recharge Volume *only* to the maximum extent practicable for the following reason:
 - Site is comprised solely of C and D soils and/or bedrock at the land surface
 - M.G.L. c. 21E sites pursuant to 310 CMR 40.0000
 - Solid Waste Landfill pursuant to 310 CMR 19.000
 - Project is otherwise subject to Stormwater Management Standards only to the maximum extent practicable.
- Calculations showing that the infiltration BMPs will drain in 72 hours are provided.
- Property includes a M.G.L. c. 21E site or a solid waste landfill and a mounding analysis is included.

¹ 80% TSS removal is required prior to discharge to infiltration BMP if Dynamic Field method is used.



Checklist for Stormwater Report

Checklist (continued)

Standard 3: Recharge (continued)

- The infiltration BMP is used to attenuate peak flows during storms greater than or equal to the 10-year 24-hour storm and separation to seasonal high groundwater is less than 4 feet and a mounding analysis is provided.
- Documentation is provided showing that infiltration BMPs do not adversely impact nearby wetland resource areas.

Standard 4: Water Quality

The Long-Term Pollution Prevention Plan typically includes the following:

- Good housekeeping practices;
 - Provisions for storing materials and waste products inside or under cover;
 - Vehicle washing controls;
 - Requirements for routine inspections and maintenance of stormwater BMPs;
 - Spill prevention and response plans;
 - Provisions for maintenance of lawns, gardens, and other landscaped areas;
 - Requirements for storage and use of fertilizers, herbicides, and pesticides;
 - Pet waste management provisions;
 - Provisions for operation and management of septic systems;
 - Provisions for solid waste management;
 - Snow disposal and plowing plans relative to Wetland Resource Areas;
 - Winter Road Salt and/or Sand Use and Storage restrictions;
 - Street sweeping schedules:
-
- A Long-Term Pollution Prevention Plan is attached to Stormwater Report and is included as an attachment to the Wetlands Notice of Intent.
 - Treatment BMPs subject to the 44% TSS removal pretreatment requirement and the one inch rule for calculating the water quality volume are included, and discharge:
 - is within the Zone II or Interim Wellhead Protection Area
 - is near or to other critical areas
 - is within soils with a rapid infiltration rate (greater than 2.4 inches per hour)
 - involves runoff from land uses with higher potential pollutant loads.
 - The Required Water Quality Volume is reduced through use of the LID site Design Credits.
 - Calculations documenting that the treatment train meets the 80% TSS removal requirement and, if applicable, the 44% TSS removal pretreatment requirement, are provided.



Checklist for Stormwater Report

Checklist (continued)

Standard 4: Water Quality (continued)

- The BMP is sized (and calculations provided) based on:
 - The ½" or 1" Water Quality Volume or
 - The equivalent flow rate associated with the Water Quality Volume and documentation is provided showing that the BMP treats the required water quality volume.
- The applicant proposes to use proprietary BMPs, and documentation supporting use of proprietary BMP and proposed TSS removal rate is provided. This documentation may be in the form of the propriety BMP checklist found in Volume 2, Chapter 4 of the Massachusetts Stormwater Handbook and submitting copies of the TARP Report, STEP Report, and/or other third party studies verifying performance of the proprietary BMPs.
- A TMDL exists that indicates a need to reduce pollutants other than TSS and documentation showing that the BMPs selected are consistent with the TMDL is provided.

Standard 5: Land Uses With Higher Potential Pollutant Loads (LUHPPLs)

- The NPDES Multi-Sector General Permit covers the land use and the Stormwater Pollution Prevention Plan (SWPPP) has been included with the Stormwater Report.
- The NPDES Multi-Sector General Permit covers the land use and the SWPPP will be submitted *prior to* the discharge of stormwater to the post-construction stormwater BMPs.
- The NPDES Multi-Sector General Permit does *not* cover the land use.
- LUHPPLs are located at the site and industry specific source control and pollution prevention measures have been proposed to reduce or eliminate the exposure of LUHPPLs to rain, snow, snow melt and runoff, and been included in the long term Pollution Prevention Plan.
- All exposure has been eliminated.
- All exposure has *not* been eliminated and all BMPs selected are on MassDEP LUHPPL list.
- The LUHPPL has the potential to generate runoff with moderate to higher concentrations of oil and grease (e.g. all parking lots with >1000 vehicle trips per day) and the treatment train includes an oil grit separator, a filtering bioretention area, a sand filter or equivalent.

Standard 6: Critical Areas

- The discharge is near or to a critical area and the treatment train includes only BMPs that MassDEP has approved for stormwater discharges to or near that particular class of critical area.
- Critical areas and BMPs are identified in the Stormwater Report.



Checklist for Stormwater Report

Checklist (continued)

Standard 7: Redevelopments and Other Projects Subject to the Standards only to the maximum extent practicable

- The project is subject to the Stormwater Management Standards only to the maximum Extent Practicable as a:
 - Limited Project
 - Small Residential Projects: 5-9 single family houses or 5-9 units in a multi-family development provided there is no discharge that may potentially affect a critical area.
 - Small Residential Projects: 2-4 single family houses or 2-4 units in a multi-family development with a discharge to a critical area
 - Marina and/or boatyard provided the hull painting, service and maintenance areas are protected from exposure to rain, snow, snow melt and runoff
 - Bike Path and/or Foot Path
 - Redevelopment Project
 - Redevelopment portion of mix of new and redevelopment.
- Certain standards are not fully met (Standard No. 1, 8, 9, and 10 must always be fully met) and an explanation of why these standards are not met is contained in the Stormwater Report.
- The project involves redevelopment and a description of all measures that have been taken to improve existing conditions is provided in the Stormwater Report. The redevelopment checklist found in Volume 2 Chapter 3 of the Massachusetts Stormwater Handbook may be used to document that the proposed stormwater management system (a) complies with Standards 2, 3 and the pretreatment and structural BMP requirements of Standards 4-6 to the maximum extent practicable and (b) improves existing conditions.

Standard 8: Construction Period Pollution Prevention and Erosion and Sedimentation Control

A Construction Period Pollution Prevention and Erosion and Sedimentation Control Plan must include the following information:

- Narrative;
 - Construction Period Operation and Maintenance Plan;
 - Names of Persons or Entity Responsible for Plan Compliance;
 - Construction Period Pollution Prevention Measures;
 - Erosion and Sedimentation Control Plan Drawings;
 - Detail drawings and specifications for erosion control BMPs, including sizing calculations;
 - Vegetation Planning;
 - Site Development Plan;
 - Construction Sequencing Plan;
 - Sequencing of Erosion and Sedimentation Controls;
 - Operation and Maintenance of Erosion and Sedimentation Controls;
 - Inspection Schedule;
 - Maintenance Schedule;
 - Inspection and Maintenance Log Form.
- A Construction Period Pollution Prevention and Erosion and Sedimentation Control Plan containing the information set forth above has been included in the Stormwater Report.



Checklist for Stormwater Report

Checklist (continued)

Standard 8: Construction Period Pollution Prevention and Erosion and Sedimentation Control (continued)

- The project is highly complex and information is included in the Stormwater Report that explains why it is not possible to submit the Construction Period Pollution Prevention and Erosion and Sedimentation Control Plan with the application. A Construction Period Pollution Prevention and Erosion and Sedimentation Control has **not** been included in the Stormwater Report but will be submitted **before** land disturbance begins.
- The project is **not** covered by a NPDES Construction General Permit.
- The project is covered by a NPDES Construction General Permit and a copy of the SWPPP is in the Stormwater Report.
- The project is covered by a NPDES Construction General Permit but no SWPPP been submitted. The SWPPP will be submitted BEFORE land disturbance begins.

Standard 9: Operation and Maintenance Plan

- The Post Construction Operation and Maintenance Plan is included in the Stormwater Report and includes the following information:
 - Name of the stormwater management system owners;
 - Party responsible for operation and maintenance;
 - Schedule for implementation of routine and non-routine maintenance tasks;
 - Plan showing the location of all stormwater BMPs maintenance access areas;
 - Description and delineation of public safety features;
 - Estimated operation and maintenance budget; and
 - Operation and Maintenance Log Form.
- The responsible party is **not** the owner of the parcel where the BMP is located and the Stormwater Report includes the following submissions:
 - A copy of the legal instrument (deed, homeowner's association, utility trust or other legal entity) that establishes the terms of and legal responsibility for the operation and maintenance of the project site stormwater BMPs;
 - A plan and easement deed that allows site access for the legal entity to operate and maintain BMP functions.

Standard 10: Prohibition of Illicit Discharges

- The Long-Term Pollution Prevention Plan includes measures to prevent illicit discharges;
- An Illicit Discharge Compliance Statement is attached;
- NO Illicit Discharge Compliance Statement is attached but will be submitted **prior to** the discharge of any stormwater to post-construction BMPs.

INSTRUCTIONS:

1. In BMP Column, click on Blue Cell to Activate Drop Down Menu
2. Select BMP from Drop Down Menu
3. After BMP is selected, TSS Removal and other Columns are automatically completed.

Location: 10 WENDELLER

TSS Removal Calculation Worksheet

B BMP ¹	C TSS Removal Rate ¹	D Starting TSS Load*	E Amount Removed (C*D)	F Remaining Load (D-E)
Deep Sump and Hooded Catch Basin	0.25	1.00	0.25	0.75
Dry Well	0.80	0.75	0.60	0.15
	0.00	0.15	0.00	0.15
	0.00	0.15	0.00	0.15
	0.00	0.15	0.00	0.15

Separate Form Needs to be Completed for Each Outlet or BMP Train

Total TSS Removal = 85%

Project: 10 WENDELLER
 Prepared By: L.J.B.
 Date: 07/31/19

*Equals remaining load from previous BMP (E) which enters the BMP

STORMWATER
TREATMENT
OPERATION &
MAINTENANCE

APPENDIX

Infiltration System Maintenance Guidelines

Drywell

Inspect Drywell two times a year and measure the depth to the bottom of the system.

Once 12" of sediment accumulates on the bottom of the structure, use a Vacuum truck to remove the sediment from the system.

Vacuum Operator will pull up to structure and center vacuum hose over opening.

1. Remove cover to drywell.
2. Cleaning will begin according to specification. It is beneficial to vacuum and remove debris without excessive use of washdown water as it will fill the debris storage body faster. However, in many cases, debris must be broken up using a high-pressure wash gun.
3. Replace cover to drywell, making sure it fits properly and is in good condition (report any defects immediately to the collection systems supervisor). In many cases the catch basin is marked with a paint mark or hash to indicate it has been cleaned.

Stormwater BMP Inspection and Maintenance Log

Facility Name
10 Wendeller Street

Address
10 Wendeller Street South Boston, MA

Begin Date _____ End Date _____

Date	BMP ID#	BMP Description	Inspected by:	Cause for Inspection	Exceptions Noted	Comments and Actions Taken

Instructions: Record all inspections and maintenance for all treatment BMPs on this form. Use additional log sheets and/or attach extended comments or documentation as necessary. Submit a copy of the completed log with the annual independent inspectors' report to the municipality, and start a new log at that time.

- BMP ID# — Always use ID# from the Operation and Maintenance Manual.
- Inspected by — Note all inspections and maintenance on this form, including the required independent annual inspection.
- Cause for inspection — Note if the inspection is routine, pre-rainy season, post-storm, annual, or in response to a noted problem or complaint.
- Exceptions noted — Note any condition that requires correction or indicates a need for maintenance.
- Comments and actions taken — Describe any maintenance done and need for follow-up.

DRAINAGE REPORT

At

10 WENDELLER STREET

SOUTH BOSTON, MA

MAY 28, 2019



CIVIL ENVIRONMENTAL CONSULTANTS LLC, 8 OAK ST., PEABODY, MA 01960

Drainage Report
10 Wendeller Street
South Boston, MA

May 28, 2019

General

This report is enclosed to accompany the Drainage details shown on the site plan, submitted for the construction at 10 Wendeller Street.

Drainage analysis showing peak runoff for pre and post 2yr, 10yr, 25yr, and 100yr storms is provided and the peak flow difference is infiltrated on site using leaching facility shown on the plan.

Methodology

Software, 2015 Hydro-Cad, was used to analyze Pre and Post Developed site conditions, to determine time of concentration, composite runoff numbers, intensity, and storm runoff.

Runoff is stored and infiltrated into two 1,000 gallon drywells is the difference increased impervious areas for the roof runoff and other impervious areas on the property.

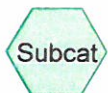
The table below shows relative storms for Pre- and Post-Developed conditions with the increased flow differential in the last column. Note outflow is constant for infiltration into ground at a rate of .03 CFS for all storms.

<u>Year Storm</u>	<u>Pre-Developed Q-CFS</u>	<u>Post Flow CFS</u>	<u>Flow After Infiltration CFS</u>
2 yr.	0.01	0.18	0.01
10 yr.	0.06	0.28	0.02
25 yr.	0.12	0.34	0.12
100 yr.	0.25	0.51	0.47

The computed infiltration amount is based upon revised storage for the increased runoff for the Post developed Q (cfs) storms which are infiltrated into the ground.



10 Wendeller -Existing Site



Routing Diagram for 3890-10 WENDELLER
Prepared by Civil Environmental Consultants LLC, Printed 5/28/2019
HydroCAD® 10.00-25 s/n 09048 © 2019 HydroCAD Software Solutions LLC

3890-10 WENDELLER

Prepared by Civil Environmental Consultants LLC

Printed 5/28/2019

HydroCAD® 10.00-25 s/n 09048 © 2019 HydroCAD Software Solutions LLC

Page 2

Area Listing (selected nodes)

Area (acres)	CN	Description (subcatchment-numbers)
0.050	39	>75% Grass cover, Good, HSG A (1S)
0.017	98	Roofs, HSG A (1S)
0.004	98	Unconnected pavement, HSG A (1S)
0.071	56	TOTAL AREA

3890-10 WENDELLERPrepared by Civil Environmental Consultants LLC
HydroCAD® 10.00-25 s/n 09048 © 2019 HydroCAD Software Solutions LLC**Soil Listing (selected nodes)**

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

3890-10 WENDELLER

Prepared by Civil Environmental Consultants LLC

HydroCAD® 10.00-25 s/n 09048 © 2019 HydroCAD Software Solutions LLC

10 wendeller existing site
NRCC 24-hr D 2-Year Rainfall=3.26"

Printed 5/28/2019

Page 4

Time span=0.00-24.00 hrs, dt=0.05 hrs, 481 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: 10 Wendeller -Existing Runoff Area=3,090 sf 29.45% Impervious Runoff Depth>0.27"
Tc=6.0 min UI Adjusted CN=55 Runoff=0.01 cfs 0.002 af

Total Runoff Area = 0.071 ac Runoff Volume = 0.002 af Average Runoff Depth = 0.27"
70.55% Pervious = 0.050 ac 29.45% Impervious = 0.021 ac

3890-10 WENDELLER

Prepared by Civil Environmental Consultants LLC
 HydroCAD® 10.00-25 s/n 09048 © 2019 HydroCAD Software Solutions LLC

10 wendeller existing site
 NRCC 24-hr D 2-Year Rainfall=3.26"
 Printed 5/28/2019
 Page 5

Summary for Subcatchment 1S: 10 Wendeller -Existing Site

Runoff = 0.01 cfs @ 12.20 hrs, Volume= 0.002 af, Depth> 0.27"

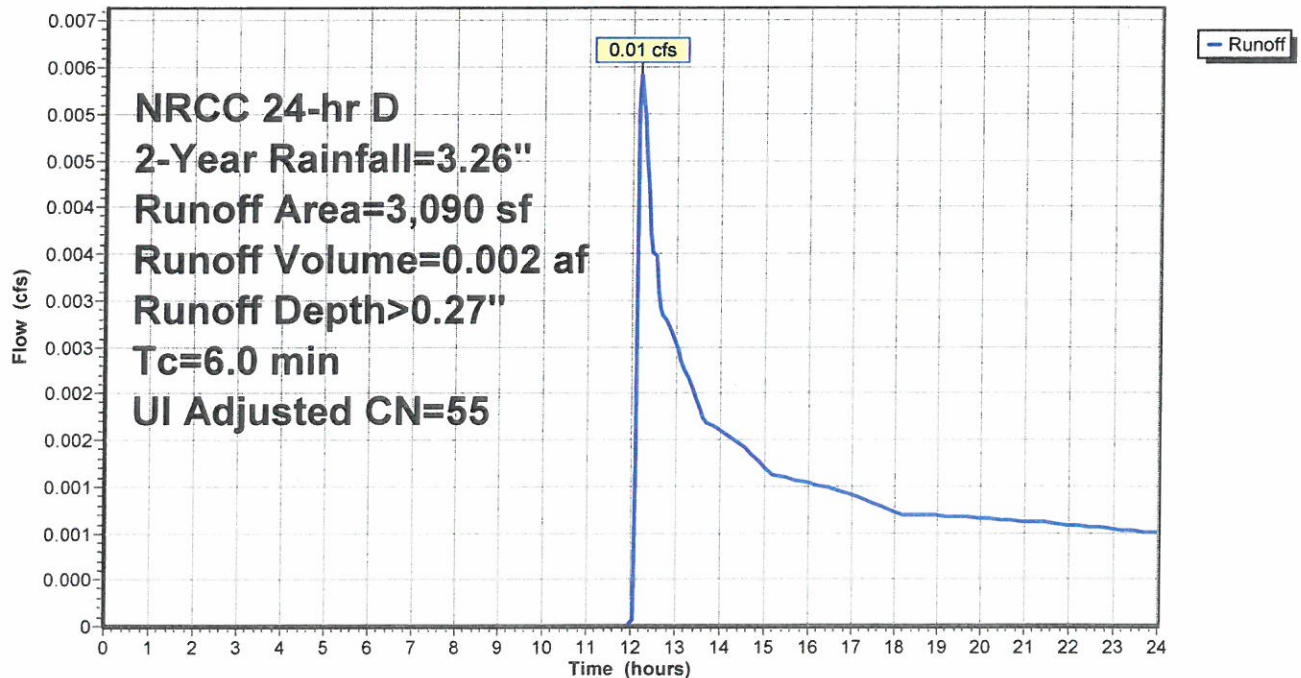
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
 NRCC 24-hr D 2-Year Rainfall=3.26"

Area (sf)	CN	Adj	Description
750	98		Roofs, HSG A
160	98		Unconnected pavement, HSG A
2,180	39		>75% Grass cover, Good, HSG A
3,090	56	55	Weighted Average, UI Adjusted
2,180			70.55% Pervious Area
910			29.45% Impervious Area
160			17.58% Unconnected

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

Subcatchment 1S: 10 Wendeller -Existing Site

Hydrograph



3890-10 WENDELLER

Prepared by Civil Environmental Consultants LLC

HydroCAD® 10.00-25 s/n 09048 © 2019 HydroCAD Software Solutions LLC

10 wendeller existing site

NRCC 24-hr D 2-Year Rainfall=3.26"

Printed 5/28/2019

Page 6

Hydrograph for Subcatchment 1S: 10 Wendeller -Existing Site

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	12.75	2.26	0.04	0.00
0.25	0.01	0.00	0.00	13.00	2.33	0.05	0.00
0.50	0.02	0.00	0.00	13.25	2.39	0.06	0.00
0.75	0.04	0.00	0.00	13.50	2.45	0.07	0.00
1.00	0.05	0.00	0.00	13.75	2.49	0.08	0.00
1.25	0.06	0.00	0.00	14.00	2.53	0.09	0.00
1.50	0.07	0.00	0.00	14.25	2.57	0.09	0.00
1.75	0.09	0.00	0.00	14.50	2.60	0.10	0.00
2.00	0.10	0.00	0.00	14.75	2.63	0.11	0.00
2.25	0.11	0.00	0.00	15.00	2.66	0.11	0.00
2.50	0.12	0.00	0.00	15.25	2.69	0.12	0.00
2.75	0.14	0.00	0.00	15.50	2.71	0.13	0.00
3.00	0.15	0.00	0.00	15.75	2.74	0.13	0.00
3.25	0.17	0.00	0.00	16.00	2.76	0.14	0.00
3.50	0.18	0.00	0.00	16.25	2.79	0.14	0.00
3.75	0.20	0.00	0.00	16.50	2.81	0.15	0.00
4.00	0.21	0.00	0.00	16.75	2.83	0.15	0.00
4.25	0.23	0.00	0.00	17.00	2.85	0.16	0.00
4.50	0.24	0.00	0.00	17.25	2.87	0.16	0.00
4.75	0.26	0.00	0.00	17.50	2.89	0.17	0.00
5.00	0.27	0.00	0.00	17.75	2.91	0.17	0.00
5.25	0.29	0.00	0.00	18.00	2.92	0.18	0.00
5.50	0.30	0.00	0.00	18.25	2.94	0.18	0.00
5.75	0.32	0.00	0.00	18.50	2.96	0.18	0.00
6.00	0.34	0.00	0.00	18.75	2.97	0.19	0.00
6.25	0.35	0.00	0.00	19.00	2.99	0.19	0.00
6.50	0.37	0.00	0.00	19.25	3.00	0.20	0.00
6.75	0.39	0.00	0.00	19.50	3.02	0.20	0.00
7.00	0.41	0.00	0.00	19.75	3.03	0.20	0.00
7.25	0.43	0.00	0.00	20.00	3.05	0.21	0.00
7.50	0.45	0.00	0.00	20.25	3.06	0.21	0.00
7.75	0.47	0.00	0.00	20.50	3.08	0.22	0.00
8.00	0.50	0.00	0.00	20.75	3.09	0.22	0.00
8.25	0.52	0.00	0.00	21.00	3.11	0.22	0.00
8.50	0.55	0.00	0.00	21.25	3.12	0.23	0.00
8.75	0.57	0.00	0.00	21.50	3.14	0.23	0.00
9.00	0.60	0.00	0.00	21.75	3.15	0.24	0.00
9.25	0.63	0.00	0.00	22.00	3.16	0.24	0.00
9.50	0.66	0.00	0.00	22.25	3.17	0.24	0.00
9.75	0.69	0.00	0.00	22.50	3.19	0.25	0.00
10.00	0.73	0.00	0.00	22.75	3.20	0.25	0.00
10.25	0.77	0.00	0.00	23.00	3.21	0.25	0.00
10.50	0.81	0.00	0.00	23.25	3.22	0.26	0.00
10.75	0.87	0.00	0.00	23.50	3.24	0.26	0.00
11.00	0.93	0.00	0.00	23.75	3.25	0.27	0.00
11.25	1.00	0.00	0.00	24.00	3.26	0.27	0.00
11.50	1.09	0.00	0.00				
11.75	1.23	0.00	0.00				
12.00	1.56	0.00	0.00				
12.25	2.03	0.02	0.01				
12.50	2.17	0.03	0.00				

3890-10 WENDELLER

Prepared by Civil Environmental Consultants LLC

HydroCAD® 10.00-25 s/n 09048 © 2019 HydroCAD Software Solutions LLC

10 wendeller existing site
NRCC 24-hr D 10-Year Rainfall=4.90"

Printed 5/28/2019

Page 7

Time span=0.00-24.00 hrs, dt=0.05 hrs, 481 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: 10 Wendeller -Existing Runoff Area=3,090 sf 29.45% Impervious Runoff Depth>0.93"
Tc=6.0 min UI Adjusted CN=55 Runoff=0.06 cfs 0.005 af

Total Runoff Area = 0.071 ac Runoff Volume = 0.005 af Average Runoff Depth = 0.93"
70.55% Pervious = 0.050 ac 29.45% Impervious = 0.021 ac

3890-10 WENDELLER

Prepared by Civil Environmental Consultants LLC

HydroCAD® 10.00-25 s/n 09048 © 2019 HydroCAD Software Solutions LLC

10 wendeller existing site

NRCC 24-hr D 10-Year Rainfall=4.90"

Printed 5/28/2019

Page 8

Summary for Subcatchment 1S: 10 Wendeller -Existing Site

Runoff = 0.06 cfs @ 12.14 hrs, Volume= 0.005 af, Depth> 0.93"

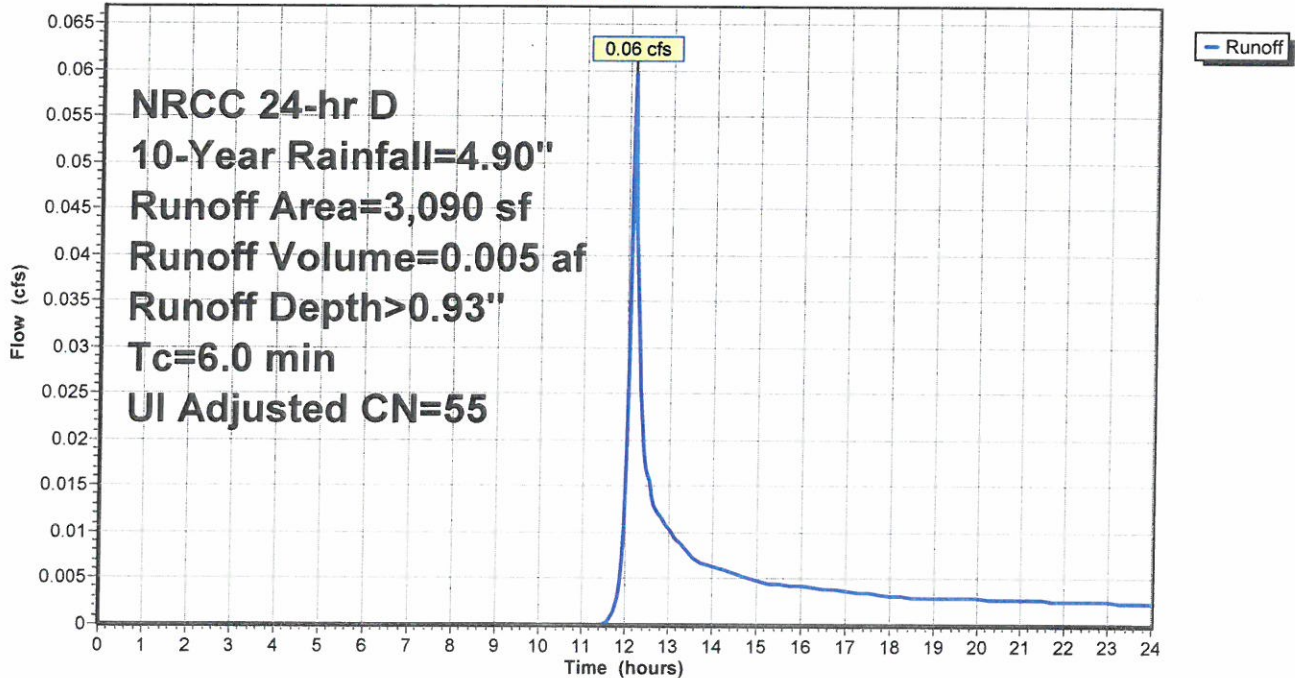
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
NRCC 24-hr D 10-Year Rainfall=4.90"

Area (sf)	CN	Adj	Description
750	98		Roofs, HSG A
160	98		Unconnected pavement, HSG A
2,180	39		>75% Grass cover, Good, HSG A
3,090	56	55	Weighted Average, UI Adjusted
2,180			70.55% Pervious Area
910			29.45% Impervious Area
160			17.58% Unconnected

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

Subcatchment 1S: 10 Wendeller -Existing Site

Hydrograph



3890-10 WENDELLER

Prepared by Civil Environmental Consultants LLC

HydroCAD® 10.00-25 s/n 09048 © 2019 HydroCAD Software Solutions LLC

10 wendeller existing site

NRCC 24-hr D 10-Year Rainfall=4.90"

Printed 5/28/2019

Page 9

Hydrograph for Subcatchment 1S: 10 Wendeller -Existing Site

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	12.75	3.39	0.31	0.01
0.25	0.02	0.00	0.00	13.00	3.51	0.35	0.01
0.50	0.04	0.00	0.00	13.25	3.60	0.38	0.01
0.75	0.05	0.00	0.00	13.50	3.68	0.41	0.01
1.00	0.07	0.00	0.00	13.75	3.74	0.43	0.01
1.25	0.09	0.00	0.00	14.00	3.80	0.45	0.01
1.50	0.11	0.00	0.00	14.25	3.86	0.47	0.01
1.75	0.13	0.00	0.00	14.50	3.91	0.49	0.01
2.00	0.15	0.00	0.00	14.75	3.96	0.51	0.01
2.25	0.17	0.00	0.00	15.00	4.00	0.53	0.00
2.50	0.19	0.00	0.00	15.25	4.04	0.55	0.00
2.75	0.21	0.00	0.00	15.50	4.08	0.56	0.00
3.00	0.23	0.00	0.00	15.75	4.12	0.58	0.00
3.25	0.25	0.00	0.00	16.00	4.15	0.59	0.00
3.50	0.27	0.00	0.00	16.25	4.19	0.61	0.00
3.75	0.29	0.00	0.00	16.50	4.22	0.62	0.00
4.00	0.32	0.00	0.00	16.75	4.25	0.63	0.00
4.25	0.34	0.00	0.00	17.00	4.28	0.65	0.00
4.50	0.36	0.00	0.00	17.25	4.31	0.66	0.00
4.75	0.38	0.00	0.00	17.50	4.34	0.67	0.00
5.00	0.41	0.00	0.00	17.75	4.37	0.68	0.00
5.25	0.43	0.00	0.00	18.00	4.40	0.70	0.00
5.50	0.46	0.00	0.00	18.25	4.42	0.71	0.00
5.75	0.48	0.00	0.00	18.50	4.44	0.72	0.00
6.00	0.50	0.00	0.00	18.75	4.47	0.73	0.00
6.25	0.53	0.00	0.00	19.00	4.49	0.74	0.00
6.50	0.56	0.00	0.00	19.25	4.52	0.75	0.00
6.75	0.59	0.00	0.00	19.50	4.54	0.76	0.00
7.00	0.62	0.00	0.00	19.75	4.56	0.77	0.00
7.25	0.65	0.00	0.00	20.00	4.58	0.78	0.00
7.50	0.68	0.00	0.00	20.25	4.61	0.79	0.00
7.75	0.71	0.00	0.00	20.50	4.63	0.80	0.00
8.00	0.75	0.00	0.00	20.75	4.65	0.81	0.00
8.25	0.78	0.00	0.00	21.00	4.67	0.82	0.00
8.50	0.82	0.00	0.00	21.25	4.69	0.83	0.00
8.75	0.86	0.00	0.00	21.50	4.71	0.84	0.00
9.00	0.90	0.00	0.00	21.75	4.73	0.85	0.00
9.25	0.94	0.00	0.00	22.00	4.75	0.86	0.00
9.50	0.99	0.00	0.00	22.25	4.77	0.87	0.00
9.75	1.04	0.00	0.00	22.50	4.79	0.88	0.00
10.00	1.10	0.00	0.00	22.75	4.81	0.89	0.00
10.25	1.16	0.00	0.00	23.00	4.83	0.90	0.00
10.50	1.22	0.00	0.00	23.25	4.85	0.90	0.00
10.75	1.30	0.00	0.00	23.50	4.86	0.91	0.00
11.00	1.39	0.00	0.00	23.75	4.88	0.92	0.00
11.25	1.51	0.00	0.00	24.00	4.90	0.93	0.00
11.50	1.64	0.00	0.00				
11.75	1.85	0.01	0.00				
12.00	2.35	0.06	0.02				
12.25	3.05	0.21	0.03				
12.50	3.26	0.27	0.02				

3890-10 WENDELLER

Prepared by Civil Environmental Consultants LLC

HydroCAD® 10.00-25 s/n 09048 © 2019 HydroCAD Software Solutions LLC

10 wendeller existing site

NRCC 24-hr D 25-Year Rainfall=6.19"

Printed 5/28/2019

Page 10

Time span=0.00-24.00 hrs, dt=0.05 hrs, 481 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: 10 Wendeller -Existing Runoff Area=3,090 sf 29.45% Impervious Runoff Depth>1.62"
Tc=6.0 min UI Adjusted CN=55 Runoff=0.12 cfs 0.010 af

Total Runoff Area = 0.071 ac Runoff Volume = 0.010 af Average Runoff Depth = 1.62"
70.55% Pervious = 0.050 ac 29.45% Impervious = 0.021 ac

3890-10 WENDELLER

Prepared by Civil Environmental Consultants LLC
 HydroCAD® 10.00-25 s/n 09048 © 2019 HydroCAD Software Solutions LLC

10 Wendeller existing site
 NRCC 24-hr D 25-Year Rainfall=6.19"
 Printed 5/28/2019
 Page 11

Summary for Subcatchment 1S: 10 Wendeller -Existing Site

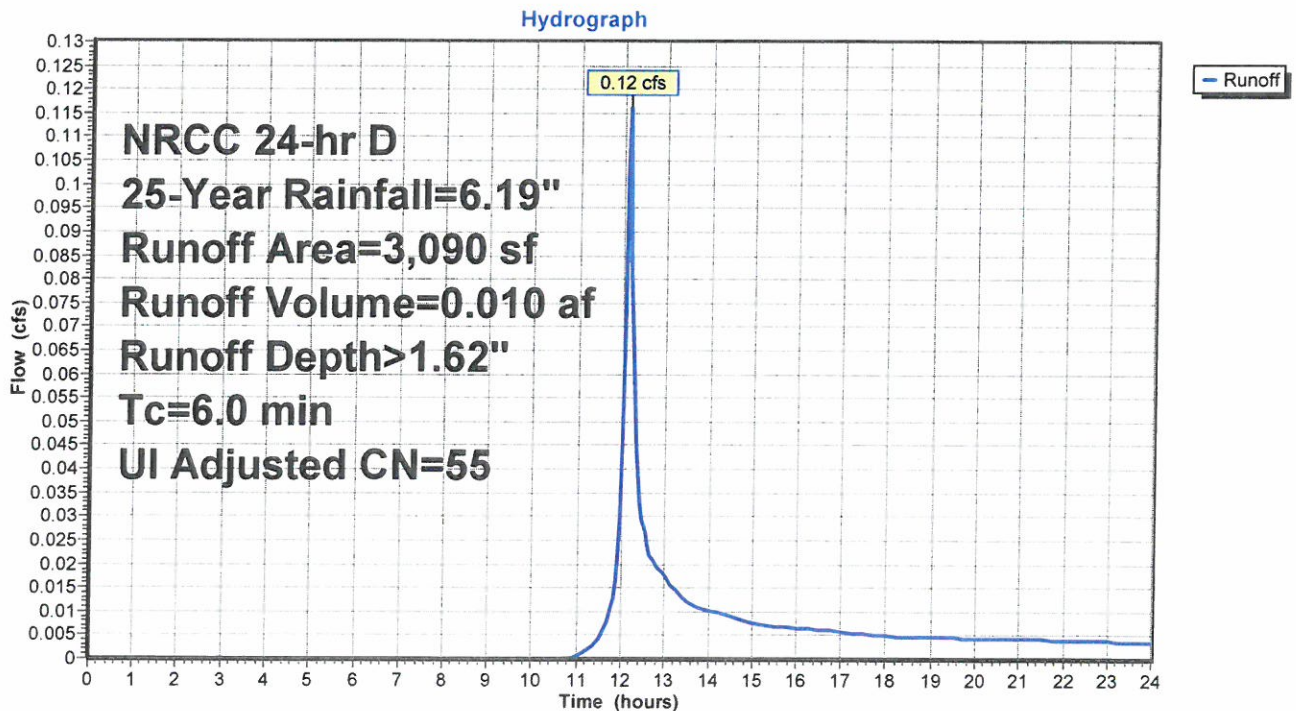
Runoff = 0.12 cfs @ 12.14 hrs, Volume= 0.010 af, Depth> 1.62"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
 NRCC 24-hr D 25-Year Rainfall=6.19"

Area (sf)	CN	Adj	Description
750	98		Roofs, HSG A
160	98		Unconnected pavement, HSG A
2,180	39		>75% Grass cover, Good, HSG A
3,090	56	55	Weighted Average, UI Adjusted
2,180			70.55% Pervious Area
910			29.45% Impervious Area
160			17.58% Unconnected

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

Subcatchment 1S: 10 Wendeller -Existing Site



3890-10 WENDELLER

Prepared by Civil Environmental Consultants LLC

HydroCAD® 10.00-25 s/n 09048 © 2019 HydroCAD Software Solutions LLC

10 wendeller existing site

NRCC 24-hr D 25-Year Rainfall=6.19"

Printed 5/28/2019

Page 12

Hydrograph for Subcatchment 1S: 10 Wendeller -Existing Site

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	12.75	4.29	0.65	0.02
0.25	0.02	0.00	0.00	13.00	4.43	0.71	0.02
0.50	0.04	0.00	0.00	13.25	4.55	0.76	0.01
0.75	0.07	0.00	0.00	13.50	4.64	0.81	0.01
1.00	0.09	0.00	0.00	13.75	4.73	0.85	0.01
1.25	0.11	0.00	0.00	14.00	4.80	0.88	0.01
1.50	0.14	0.00	0.00	14.25	4.87	0.92	0.01
1.75	0.16	0.00	0.00	14.50	4.94	0.95	0.01
2.00	0.19	0.00	0.00	14.75	5.00	0.98	0.01
2.25	0.21	0.00	0.00	15.00	5.05	1.01	0.01
2.50	0.24	0.00	0.00	15.25	5.10	1.03	0.01
2.75	0.26	0.00	0.00	15.50	5.15	1.06	0.01
3.00	0.29	0.00	0.00	15.75	5.20	1.08	0.01
3.25	0.32	0.00	0.00	16.00	5.25	1.11	0.01
3.50	0.34	0.00	0.00	16.25	5.29	1.13	0.01
3.75	0.37	0.00	0.00	16.50	5.33	1.15	0.01
4.00	0.40	0.00	0.00	16.75	5.37	1.17	0.01
4.25	0.43	0.00	0.00	17.00	5.41	1.19	0.01
4.50	0.46	0.00	0.00	17.25	5.45	1.21	0.01
4.75	0.49	0.00	0.00	17.50	5.49	1.23	0.01
5.00	0.51	0.00	0.00	17.75	5.52	1.25	0.01
5.25	0.54	0.00	0.00	18.00	5.55	1.27	0.01
5.50	0.58	0.00	0.00	18.25	5.58	1.28	0.00
5.75	0.61	0.00	0.00	18.50	5.61	1.30	0.00
6.00	0.64	0.00	0.00	18.75	5.65	1.32	0.00
6.25	0.67	0.00	0.00	19.00	5.68	1.33	0.00
6.50	0.70	0.00	0.00	19.25	5.70	1.35	0.00
6.75	0.74	0.00	0.00	19.50	5.73	1.37	0.00
7.00	0.78	0.00	0.00	19.75	5.76	1.38	0.00
7.25	0.82	0.00	0.00	20.00	5.79	1.40	0.00
7.50	0.86	0.00	0.00	20.25	5.82	1.41	0.00
7.75	0.90	0.00	0.00	20.50	5.85	1.43	0.00
8.00	0.94	0.00	0.00	20.75	5.87	1.45	0.00
8.25	0.99	0.00	0.00	21.00	5.90	1.46	0.00
8.50	1.04	0.00	0.00	21.25	5.93	1.48	0.00
8.75	1.09	0.00	0.00	21.50	5.95	1.49	0.00
9.00	1.14	0.00	0.00	21.75	5.98	1.51	0.00
9.25	1.19	0.00	0.00	22.00	6.00	1.52	0.00
9.50	1.25	0.00	0.00	22.25	6.03	1.53	0.00
9.75	1.32	0.00	0.00	22.50	6.05	1.55	0.00
10.00	1.39	0.00	0.00	22.75	6.08	1.56	0.00
10.25	1.46	0.00	0.00	23.00	6.10	1.58	0.00
10.50	1.55	0.00	0.00	23.25	6.12	1.59	0.00
10.75	1.64	0.00	0.00	23.50	6.15	1.60	0.00
11.00	1.76	0.00	0.00	23.75	6.17	1.62	0.00
11.25	1.90	0.01	0.00	24.00	6.19	1.63	0.00
11.50	2.07	0.02	0.00				
11.75	2.34	0.06	0.01				
12.00	2.97	0.19	0.05				
12.25	3.85	0.47	0.06				
12.50	4.12	0.58	0.03				

3890-10 WENDELLER

Prepared by Civil Environmental Consultants LLC

HydroCAD® 10.00-25 s/n 09048 © 2019 HydroCAD Software Solutions LLC

10 wendeller existing site
NRCC 24-hr D 100-Year Rainfall=8.83"

Printed 5/28/2019

Page 13

Time span=0.00-24.00 hrs, dt=0.05 hrs, 481 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: 10 Wendeller -Existing Runoff Area=3,090 sf 29.45% Impervious Runoff Depth>3.36"
Tc=6.0 min UI Adjusted CN=55 Runoff=0.25 cfs 0.020 af

Total Runoff Area = 0.071 ac Runoff Volume = 0.020 af Average Runoff Depth = 3.36"
70.55% Pervious = 0.050 ac 29.45% Impervious = 0.021 ac

3890-10 WENDELLER

Prepared by Civil Environmental Consultants LLC
HydroCAD® 10.00-25 s/n 09048 © 2019 HydroCAD Software Solutions LLC

10 wendeller existing site
NRCC 24-hr D 100-Year Rainfall=8.83"
Printed 5/28/2019
Page 14

Summary for Subcatchment 1S: 10 Wendeller -Existing Site

Runoff = 0.25 cfs @ 12.13 hrs, Volume= 0.020 af, Depth> 3.36"

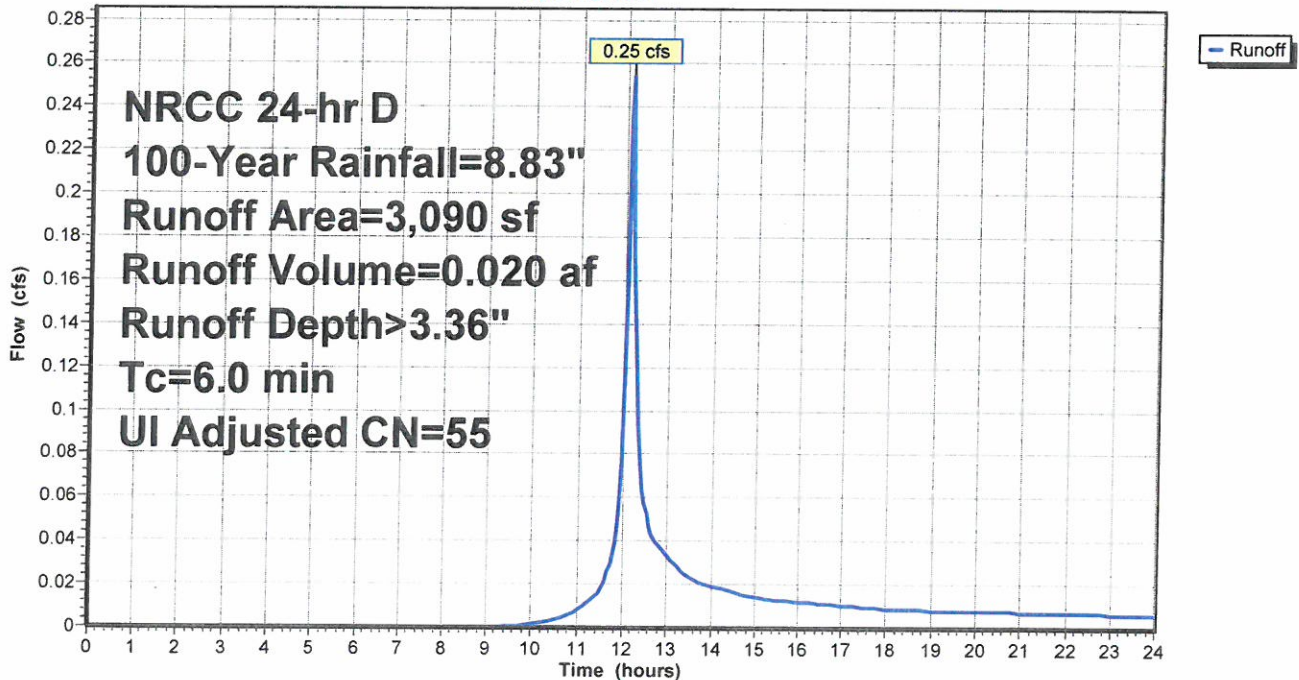
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
NRCC 24-hr D 100-Year Rainfall=8.83"

Area (sf)	CN	Adj	Description
750	98		Roofs, HSG A
160	98		Unconnected pavement, HSG A
2,180	39		>75% Grass cover, Good, HSG A
3,090	56	55	Weighted Average, UI Adjusted
2,180			70.55% Pervious Area
910			29.45% Impervious Area
160			17.58% Unconnected

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

Subcatchment 1S: 10 Wendeller -Existing Site

Hydrograph



3890-10 WENDELLER

Prepared by Civil Environmental Consultants LLC

HydroCAD® 10.00-25 s/n 09048 © 2019 HydroCAD Software Solutions LLC

10 wendeller existing site

NRCC 24-hr D 100-Year Rainfall=8.83"

Printed 5/28/2019

Page 15

Hydrograph for Subcatchment 1S: 10 Wendeller -Existing Site

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	12.75	6.12	1.59	0.04
0.25	0.03	0.00	0.00	13.00	6.32	1.71	0.03
0.50	0.06	0.00	0.00	13.25	6.49	1.80	0.03
0.75	0.10	0.00	0.00	13.50	6.62	1.89	0.02
1.00	0.13	0.00	0.00	13.75	6.74	1.96	0.02
1.25	0.16	0.00	0.00	14.00	6.85	2.03	0.02
1.50	0.20	0.00	0.00	14.25	6.95	2.09	0.02
1.75	0.23	0.00	0.00	14.50	7.05	2.15	0.02
2.00	0.27	0.00	0.00	14.75	7.13	2.21	0.02
2.25	0.30	0.00	0.00	15.00	7.21	2.26	0.01
2.50	0.34	0.00	0.00	15.25	7.28	2.30	0.01
2.75	0.38	0.00	0.00	15.50	7.35	2.35	0.01
3.00	0.41	0.00	0.00	15.75	7.42	2.39	0.01
3.25	0.45	0.00	0.00	16.00	7.48	2.44	0.01
3.50	0.49	0.00	0.00	16.25	7.55	2.48	0.01
3.75	0.53	0.00	0.00	16.50	7.61	2.52	0.01
4.00	0.57	0.00	0.00	16.75	7.67	2.56	0.01
4.25	0.61	0.00	0.00	17.00	7.72	2.60	0.01
4.50	0.65	0.00	0.00	17.25	7.77	2.63	0.01
4.75	0.69	0.00	0.00	17.50	7.83	2.67	0.01
5.00	0.73	0.00	0.00	17.75	7.87	2.70	0.01
5.25	0.78	0.00	0.00	18.00	7.92	2.73	0.01
5.50	0.82	0.00	0.00	18.25	7.97	2.76	0.01
5.75	0.86	0.00	0.00	18.50	8.01	2.79	0.01
6.00	0.91	0.00	0.00	18.75	8.05	2.82	0.01
6.25	0.96	0.00	0.00	19.00	8.10	2.85	0.01
6.50	1.00	0.00	0.00	19.25	8.14	2.88	0.01
6.75	1.06	0.00	0.00	19.50	8.18	2.91	0.01
7.00	1.11	0.00	0.00	19.75	8.22	2.94	0.01
7.25	1.16	0.00	0.00	20.00	8.26	2.96	0.01
7.50	1.22	0.00	0.00	20.25	8.30	2.99	0.01
7.75	1.28	0.00	0.00	20.50	8.34	3.02	0.01
8.00	1.35	0.00	0.00	20.75	8.38	3.05	0.01
8.25	1.41	0.00	0.00	21.00	8.42	3.07	0.01
8.50	1.48	0.00	0.00	21.25	8.45	3.10	0.01
8.75	1.55	0.00	0.00	21.50	8.49	3.13	0.01
9.00	1.62	0.00	0.00	21.75	8.53	3.15	0.01
9.25	1.70	0.00	0.00	22.00	8.56	3.18	0.01
9.50	1.78	0.00	0.00	22.25	8.60	3.20	0.01
9.75	1.88	0.01	0.00	22.50	8.63	3.23	0.01
10.00	1.98	0.01	0.00	22.75	8.67	3.25	0.01
10.25	2.09	0.02	0.00	23.00	8.70	3.27	0.01
10.50	2.21	0.04	0.00	23.25	8.73	3.30	0.01
10.75	2.34	0.06	0.01	23.50	8.77	3.32	0.01
11.00	2.51	0.08	0.01	23.75	8.80	3.34	0.01
11.25	2.71	0.13	0.01	24.00	8.83	3.37	0.01
11.50	2.96	0.18	0.02				
11.75	3.34	0.29	0.03				
12.00	4.23	0.62	0.11				
12.25	5.49	1.24	0.12				
12.50	5.87	1.44	0.06				

3890-10 WENDELLER

Prepared by Civil Environmental Consultants LLC

HydroCAD® 10.00-25 s/n 09048 © 2019 HydroCAD Software Solutions LLC

10 wendeller existing site
NRCC 24-hr D Custom Rainfall=1.00"

Printed 5/28/2019

Page 16

Time span=0.00-24.00 hrs, dt=0.05 hrs, 481 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: 10 Wendeller -Existing Runoff Area=3,090 sf 29.45% Impervious Runoff Depth=0.00"
Tc=6.0 min UI Adjusted CN=55 Runoff=0.00 cfs 0.000 af

Total Runoff Area = 0.071 ac Runoff Volume = 0.000 af Average Runoff Depth = 0.00"
70.55% Pervious = 0.050 ac 29.45% Impervious = 0.021 ac

3890-10 WENDELLER

Prepared by Civil Environmental Consultants LLC

HydroCAD® 10.00-25 s/n 09048 © 2019 HydroCAD Software Solutions LLC

10 wendeller existing site
NRCC 24-hr D Custom Rainfall=1.00"

Printed 5/28/2019

Page 17

Summary for Subcatchment 1S: 10 Wendeller -Existing Site

[45] Hint: Runoff=Zero

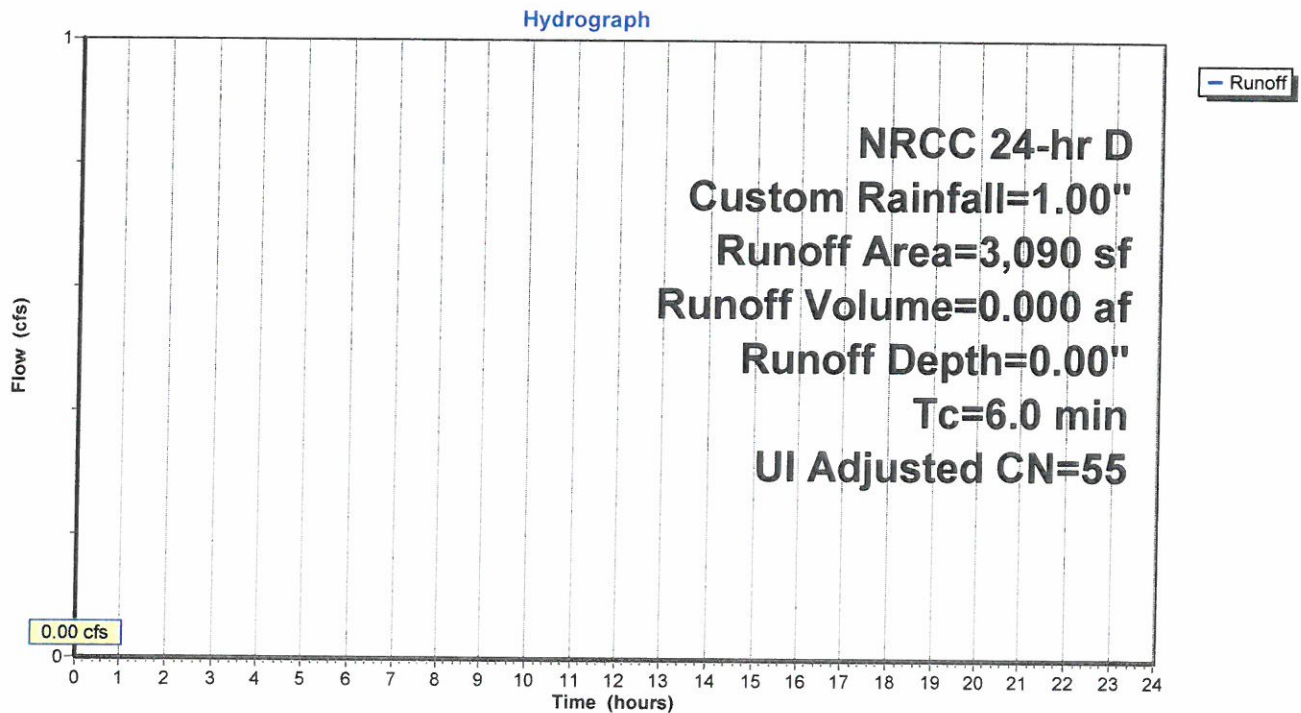
Runoff = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af, Depth= 0.00"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
NRCC 24-hr D Custom Rainfall=1.00"

Area (sf)	CN	Adj	Description
750	98		Roofs, HSG A
160	98		Unconnected pavement, HSG A
2,180	39		>75% Grass cover, Good, HSG A
3,090	56	55	Weighted Average, UI Adjusted
2,180			70.55% Pervious Area
910			29.45% Impervious Area
160			17.58% Unconnected

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

Subcatchment 1S: 10 Wendeller -Existing Site



3890-10 WENDELLER

Prepared by Civil Environmental Consultants LLC

HydroCAD® 10.00-25 s/n 09048 © 2019 HydroCAD Software Solutions LLC

10 wendeller existing site

NRCC 24-hr D Custom Rainfall=1.00"

Printed 5/28/2019

Page 18

Hydrograph for Subcatchment 1S: 10 Wendeller -Existing Site

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	12.75	0.69	0.00	0.00
0.25	0.00	0.00	0.00	13.00	0.72	0.00	0.00
0.50	0.01	0.00	0.00	13.25	0.73	0.00	0.00
0.75	0.01	0.00	0.00	13.50	0.75	0.00	0.00
1.00	0.01	0.00	0.00	13.75	0.76	0.00	0.00
1.25	0.02	0.00	0.00	14.00	0.78	0.00	0.00
1.50	0.02	0.00	0.00	14.25	0.79	0.00	0.00
1.75	0.03	0.00	0.00	14.50	0.80	0.00	0.00
2.00	0.03	0.00	0.00	14.75	0.81	0.00	0.00
2.25	0.03	0.00	0.00	15.00	0.82	0.00	0.00
2.50	0.04	0.00	0.00	15.25	0.82	0.00	0.00
2.75	0.04	0.00	0.00	15.50	0.83	0.00	0.00
3.00	0.05	0.00	0.00	15.75	0.84	0.00	0.00
3.25	0.05	0.00	0.00	16.00	0.85	0.00	0.00
3.50	0.06	0.00	0.00	16.25	0.85	0.00	0.00
3.75	0.06	0.00	0.00	16.50	0.86	0.00	0.00
4.00	0.06	0.00	0.00	16.75	0.87	0.00	0.00
4.25	0.07	0.00	0.00	17.00	0.87	0.00	0.00
4.50	0.07	0.00	0.00	17.25	0.88	0.00	0.00
4.75	0.08	0.00	0.00	17.50	0.89	0.00	0.00
5.00	0.08	0.00	0.00	17.75	0.89	0.00	0.00
5.25	0.09	0.00	0.00	18.00	0.90	0.00	0.00
5.50	0.09	0.00	0.00	18.25	0.90	0.00	0.00
5.75	0.10	0.00	0.00	18.50	0.91	0.00	0.00
6.00	0.10	0.00	0.00	18.75	0.91	0.00	0.00
6.25	0.11	0.00	0.00	19.00	0.92	0.00	0.00
6.50	0.11	0.00	0.00	19.25	0.92	0.00	0.00
6.75	0.12	0.00	0.00	19.50	0.93	0.00	0.00
7.00	0.13	0.00	0.00	19.75	0.93	0.00	0.00
7.25	0.13	0.00	0.00	20.00	0.94	0.00	0.00
7.50	0.14	0.00	0.00	20.25	0.94	0.00	0.00
7.75	0.15	0.00	0.00	20.50	0.94	0.00	0.00
8.00	0.15	0.00	0.00	20.75	0.95	0.00	0.00
8.25	0.16	0.00	0.00	21.00	0.95	0.00	0.00
8.50	0.17	0.00	0.00	21.25	0.96	0.00	0.00
8.75	0.18	0.00	0.00	21.50	0.96	0.00	0.00
9.00	0.18	0.00	0.00	21.75	0.97	0.00	0.00
9.25	0.19	0.00	0.00	22.00	0.97	0.00	0.00
9.50	0.20	0.00	0.00	22.25	0.97	0.00	0.00
9.75	0.21	0.00	0.00	22.50	0.98	0.00	0.00
10.00	0.22	0.00	0.00	22.75	0.98	0.00	0.00
10.25	0.24	0.00	0.00	23.00	0.99	0.00	0.00
10.50	0.25	0.00	0.00	23.25	0.99	0.00	0.00
10.75	0.27	0.00	0.00	23.50	0.99	0.00	0.00
11.00	0.28	0.00	0.00	23.75	1.00	0.00	0.00
11.25	0.31	0.00	0.00	24.00	1.00	0.00	0.00
11.50	0.33	0.00	0.00				
11.75	0.38	0.00	0.00				
12.00	0.48	0.00	0.00				
12.25	0.62	0.00	0.00				
12.50	0.66	0.00	0.00				

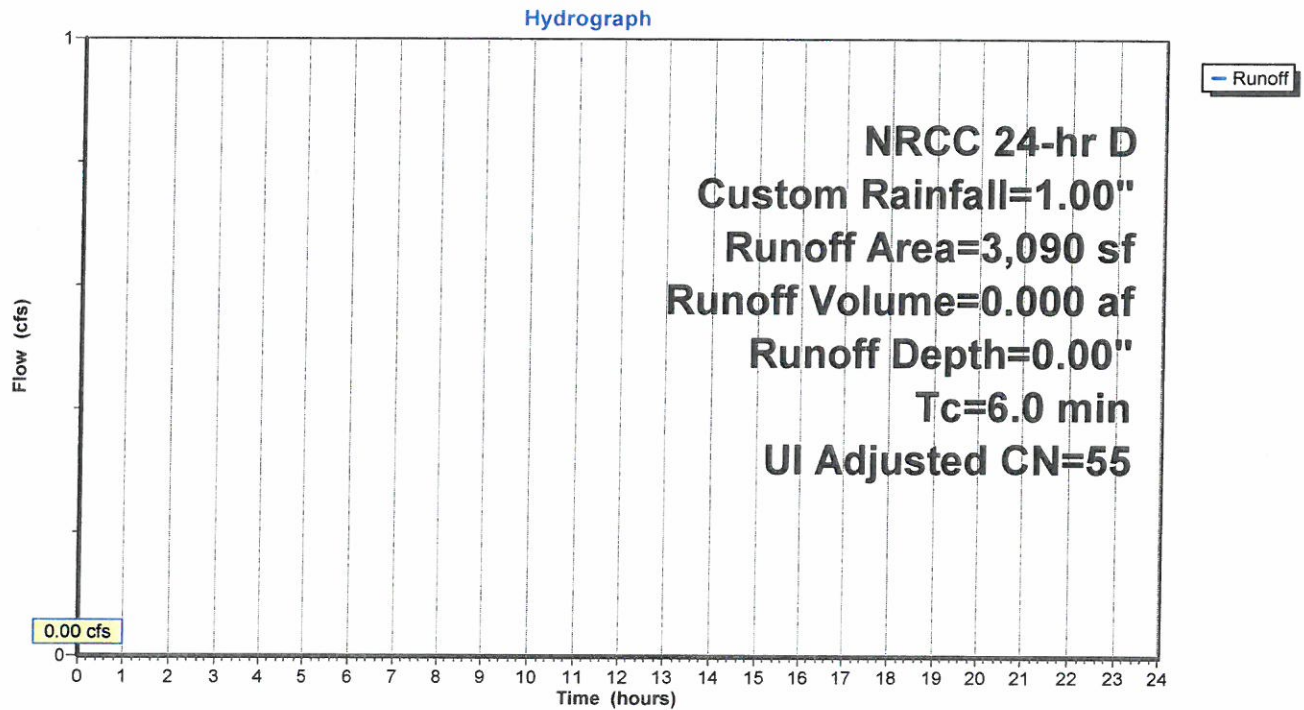
3890-10 WENDELLER

Prepared by Civil Environmental Consultants LLC
HydroCAD® 10.00-25 s/n 09048 © 2019 HydroCAD Software Solutions LLC

NRCC 24-hr D Custom Rainfall=1.00"

Printed 5/28/2019

Subcatchment 1S: 10 Wendeller -Existing Site



3890-10 WENDELLER

NRCC 24-hr D Custom Rainfall=1.00"

Prepared by Civil Environmental Consultants LLC

Printed 5/28/2019

HydroCAD® 10.00-25 s/n 09048 © 2019 HydroCAD Software Solutions LLC

Summary for Subcatchment 1S: 10 Wendeller -Existing Site

[45] Hint: Runoff=Zero

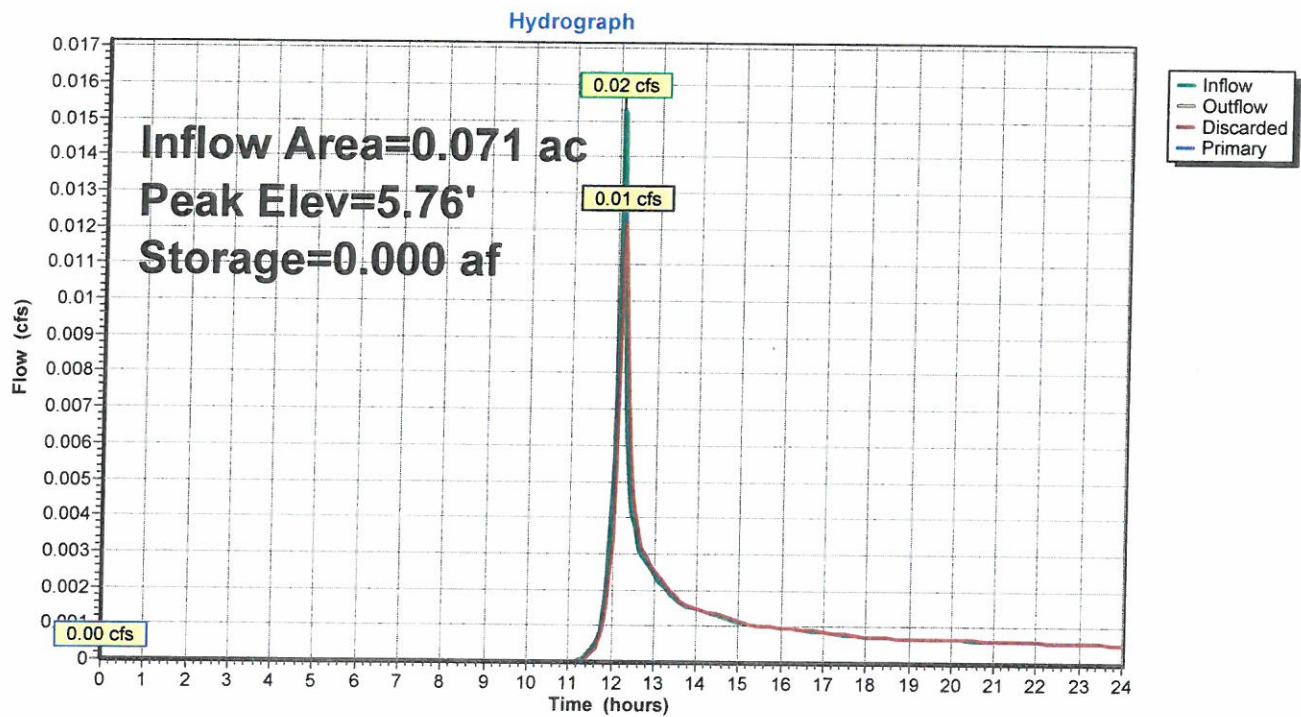
Runoff = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af, Depth= 0.00"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
NRCC 24-hr D Custom Rainfall=1.00"

Area (sf)	CN	Adj	Description
750	98		Roofs, HSG A
160	98		Unconnected pavement, HSG A
2,180	39		>75% Grass cover, Good, HSG A
3,090	56	55	Weighted Average, UI Adjusted
2,180			70.55% Pervious Area
910			29.45% Impervious Area
160			17.58% Unconnected

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

Pond 2P: Infiltration- 1000 gal drywell



3890-10 WENDELLER

Prepared by Civil Environmental Consultants LLC

HydroCAD® 10.00-25 s/n 09048 © 2019 HydroCAD Software Solutions LLC

NRCC 24-hr D Custom Rainfall=1.00"

Printed 5/28/2019

Pond 2P: Infiltration- 1000 gal drywell - Chamber Wizard Field A

Chamber Model = Shea Dry Well 1000gal (Shea Jumbo Rectagular Dry Well)

Inside= 62.0"W x 30.0"H => 12.86 sf x 10.00'L = 128.6 cf

Outside= 68.0"W x 34.0"H => 15.80 sf x 10.50'L = 165.9 cf

68.0" Wide + 36.0" Spacing = 104.0" C-C Row Spacing

1 Chambers/Row x 10.50' Long = 10.50' Row Length +18.0" End Stone x 2 = 13.50' Base Length

2 Rows x 68.0" Wide + 36.0" Spacing x 1 + 18.0" Side Stone x 2 = 17.33' Base Width

24.0" Base + 34.0" Chamber Height = 4.83' Field Height

2 Chambers x 128.6 cf = 257.2 cf Chamber Storage

2 Chambers x 165.9 cf = 331.8 cf Displacement

1,130.3 cf Field - 331.8 cf Chambers = 798.4 cf Stone x 30.0% Voids = 239.5 cf Stone Storage

Chamber Storage + Stone Storage = 496.7 cf = 0.011 af

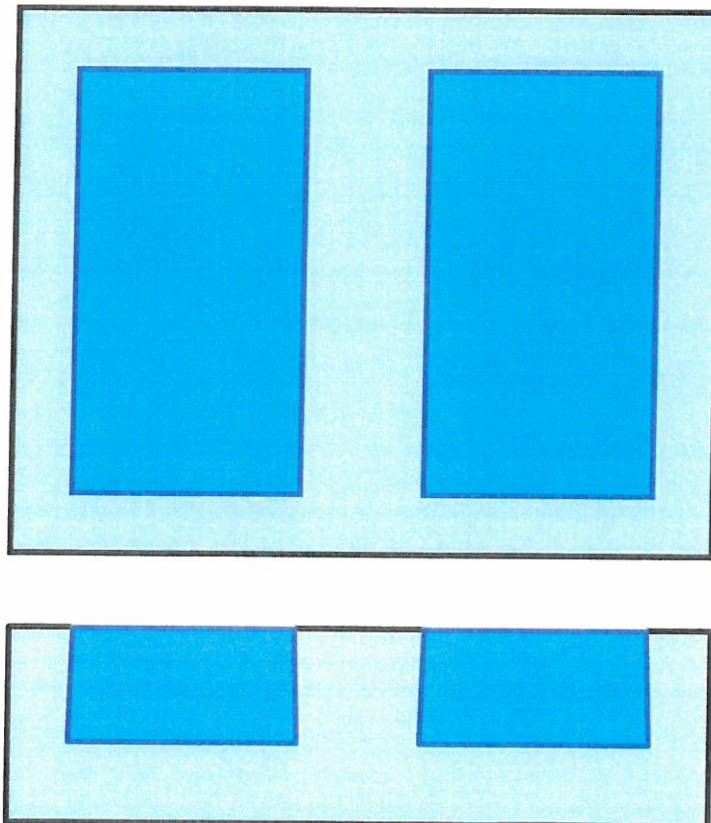
Overall Storage Efficiency = 43.9%

Overall System Size = 13.50' x 17.33' x 4.83'

2 Chambers

41.9 cy Field

29.6 cy Stone



3890-10 WENDELLER

NRCC 24-hr D Custom Rainfall=1.00"

Prepared by Civil Environmental Consultants LLC

Printed 5/28/2019

HydroCAD® 10.00-25 s/n 09048 © 2019 HydroCAD Software Solutions LLC

Summary for Pond 2P: Infiltration- 1000 gal drywell

Inflow Area = 0.071 ac, 81.65% Impervious, Inflow Depth > 0.22" for Custom event
 Inflow = 0.02 cfs @ 12.14 hrs, Volume= 0.001 af
 Outflow = 0.01 cfs @ 12.20 hrs, Volume= 0.001 af, Atten= 20%, Lag= 3.3 min
 Discarded = 0.01 cfs @ 12.20 hrs, Volume= 0.001 af
 Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
 Peak Elev= 5.76' @ 12.20 hrs Surf.Area= 0.005 ac Storage= 0.000 af

Plug-Flow detention time= 4.3 min calculated for 0.001 af (100% of inflow)
 Center-of-Mass det. time= 3.0 min (924.4 - 921.3)

Volume	Invert	Avail.Storage	Storage Description
#1A	5.71'	0.005 af	17.33'W x 13.50'L x 4.83'H Field A 0.026 af Overall - 0.008 af Embedded = 0.018 af x 30.0% Voids
#2A	7.71'	0.006 af	Shea Dry Well 1000gal x 2 Inside #1 Inside= 62.0"W x 30.0"H => 12.86 sf x 10.00'L = 128.6 cf Outside= 68.0"W x 34.0"H => 15.80 sf x 10.50'L = 165.9 cf 2 Chambers in 2 Rows
		0.011 af	Total Available Storage

Storage Group A created with Chamber Wizard

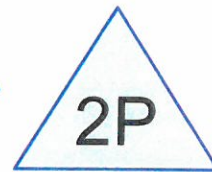
Device	Routing	Invert	Outlet Devices
#1	Discarded	5.71'	2.410 in/hr Exfiltration over Surface area
#2	Primary	9.29'	6.0" Round Culvert L= 34.0' Ke= 0.500 Inlet / Outlet Invert= 9.29' / 6.54' S= 0.0809 ' /' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.20 sf

Discarded OutFlow Max=0.01 cfs @ 12.20 hrs HW=5.75' (Free Discharge)
 ↳1=Exfiltration (Exfiltration Controls 0.01 cfs)

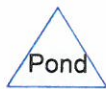
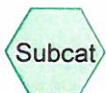
Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=5.71' (Free Discharge)
 ↳2=Culvert (Controls 0.00 cfs)



10 Wendeller- Proposed Site



Infiltration- 1000 gal drywell



3890-10 WENDELLERPrepared by Civil Environmental Consultants LLC
HydroCAD® 10.00-25 s/n 09048 © 2019 HydroCAD Software Solutions LLC**Area Listing (selected nodes)**

Area (acres)	CN	Description (subcatchment-numbers)
0.013	39	>75% Grass cover, Good, HSG A (3S)
0.000	98	Paved parking, HSG A (3S)
0.057	98	Roofs, HSG A (3S)
0.071	87	TOTAL AREA

3890-10 WENDELLER

Prepared by Civil Environmental Consultants LLC
HydroCAD® 10.00-25 s/n 09048 © 2019 HydroCAD Software Solutions LLC

Soil Listing (selected nodes)

Area (acres)	Soil Group	Subcatchment Numbers
0.071	HSG A	3S
0.000	HSG B	
0.000	HSG C	
0.000	HSG D	
0.000	Other	
0.071		TOTAL AREA

3890-10 WENDELLER

Prepared by Civil Environmental Consultants LLC

Printed 5/28/2019

HydroCAD® 10.00-25 s/n 09048 © 2019 HydroCAD Software Solutions LLC

Page 4

Pipe Listing (selected nodes)

Line#	Node Number	In-Invert (feet)	Out-Invert (feet)	Length (feet)	Slope (ft/ft)	n	Diam/Width (inches)	Height (inches)	Inside-Fill (inches)
1	2P	9.29	6.54	34.0	0.0809	0.010	6.0	0.0	0.0

3890-10 WENDELLER

Prepared by Civil Environmental Consultants LLC

HydroCAD® 10.00-25 s/n 09048 © 2019 HydroCAD Software Solutions LLC

10 wendeller PROPOSED site
NRCC 24-hr D 2-Year Rainfall=3.26"

Printed 5/28/2019

Page 5

Time span=0.00-24.00 hrs, dt=0.05 hrs, 481 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 3S: 10 Wendeller- Proposed Runoff Area=3,090 sf 81.65% Impervious Runoff Depth>1.97"
Tc=6.0 min CN=87 Runoff=0.15 cfs 0.012 af

Pond 2P: Infiltration- 1000 gal drywell Peak Elev=7.90' Storage=0.004 af Inflow=0.15 cfs 0.012 af
Discarded=0.01 cfs 0.012 af Primary=0.00 cfs 0.000 af Outflow=0.01 cfs 0.012 af

Total Runoff Area = 0.071 ac Runoff Volume = 0.012 af Average Runoff Depth = 1.97"
18.35% Pervious = 0.013 ac 81.65% Impervious = 0.058 ac

3890-10 WENDELLER

Prepared by Civil Environmental Consultants LLC

HydroCAD® 10.00-25 s/n 09048 © 2019 HydroCAD Software Solutions LLC

10 wendeller PROPOSED site
NRCC 24-hr D 2-Year Rainfall=3.26"

Printed 5/28/2019

Page 6

Summary for Subcatchment 3S: 10 Wendeller- Proposed Site

Runoff = 0.15 cfs @ 12.13 hrs, Volume= 0.012 af, Depth> 1.97"

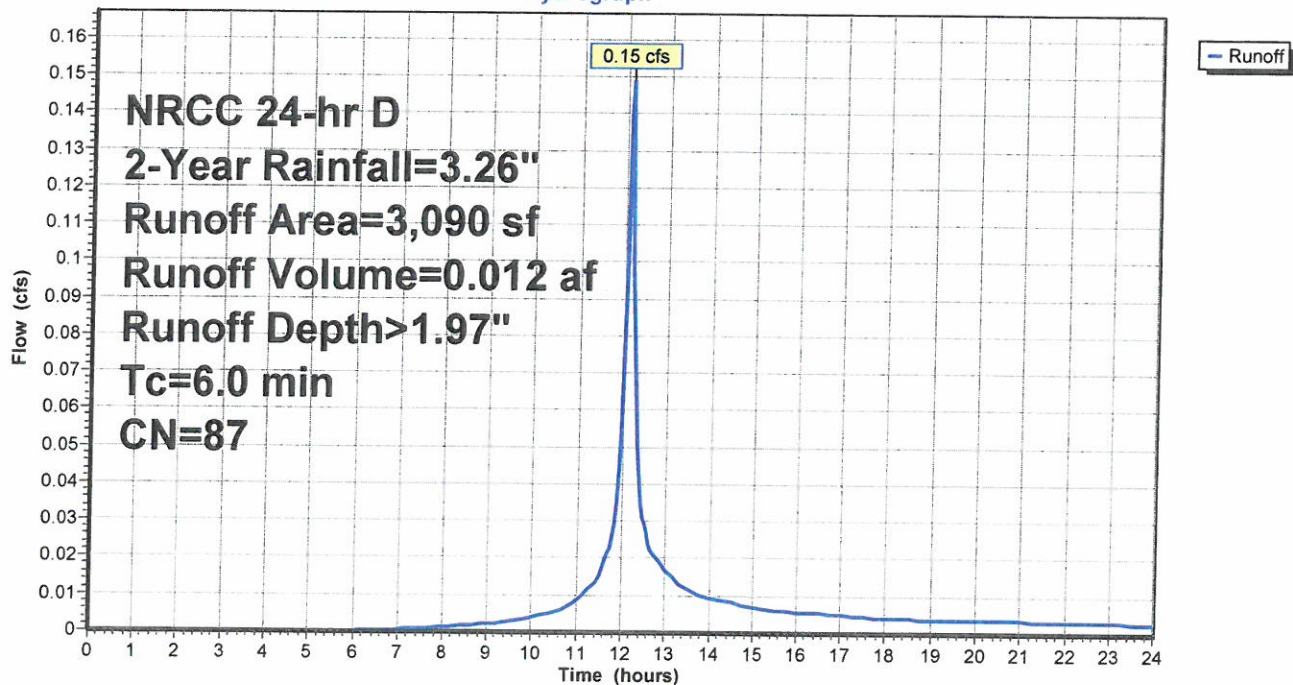
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
NRCC 24-hr D 2-Year Rainfall=3.26"

Area (sf)	CN	Description
2,503	98	Roofs, HSG A
20	98	Paved parking, HSG A
567	39	>75% Grass cover, Good, HSG A
3,090	87	Weighted Average
567		18.35% Pervious Area
2,523		81.65% Impervious Area

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

Subcatchment 3S: 10 Wendeller- Proposed Site

Hydrograph



3890-10 WENDELLER

Prepared by Civil Environmental Consultants LLC

HydroCAD® 10.00-25 s/n 09048 © 2019 HydroCAD Software Solutions LLC

10 wendeller PROPOSED site
NRCC 24-hr D 2-Year Rainfall=3.26"

Printed 5/28/2019

Page 7

Hydrograph for Subcatchment 3S: 10 Wendeller- Proposed Site

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	12.75	2.26	1.11	0.02
0.25	0.01	0.00	0.00	13.00	2.33	1.17	0.02
0.50	0.02	0.00	0.00	13.25	2.39	1.22	0.01
0.75	0.04	0.00	0.00	13.50	2.45	1.27	0.01
1.00	0.05	0.00	0.00	13.75	2.49	1.30	0.01
1.25	0.06	0.00	0.00	14.00	2.53	1.34	0.01
1.50	0.07	0.00	0.00	14.25	2.57	1.37	0.01
1.75	0.09	0.00	0.00	14.50	2.60	1.40	0.01
2.00	0.10	0.00	0.00	14.75	2.63	1.42	0.01
2.25	0.11	0.00	0.00	15.00	2.66	1.45	0.01
2.50	0.12	0.00	0.00	15.25	2.69	1.47	0.01
2.75	0.14	0.00	0.00	15.50	2.71	1.49	0.01
3.00	0.15	0.00	0.00	15.75	2.74	1.51	0.01
3.25	0.17	0.00	0.00	16.00	2.76	1.53	0.01
3.50	0.18	0.00	0.00	16.25	2.79	1.55	0.01
3.75	0.20	0.00	0.00	16.50	2.81	1.57	0.01
4.00	0.21	0.00	0.00	16.75	2.83	1.59	0.01
4.25	0.23	0.00	0.00	17.00	2.85	1.61	0.01
4.50	0.24	0.00	0.00	17.25	2.87	1.63	0.00
4.75	0.26	0.00	0.00	17.50	2.89	1.64	0.00
5.00	0.27	0.00	0.00	17.75	2.91	1.66	0.00
5.25	0.29	0.00	0.00	18.00	2.92	1.67	0.00
5.50	0.30	0.00	0.00	18.25	2.94	1.69	0.00
5.75	0.32	0.00	0.00	18.50	2.96	1.70	0.00
6.00	0.34	0.00	0.00	18.75	2.97	1.72	0.00
6.25	0.35	0.00	0.00	19.00	2.99	1.73	0.00
6.50	0.37	0.00	0.00	19.25	3.00	1.74	0.00
6.75	0.39	0.01	0.00	19.50	3.02	1.76	0.00
7.00	0.41	0.01	0.00	19.75	3.03	1.77	0.00
7.25	0.43	0.01	0.00	20.00	3.05	1.78	0.00
7.50	0.45	0.01	0.00	20.25	3.06	1.80	0.00
7.75	0.47	0.02	0.00	20.50	3.08	1.81	0.00
8.00	0.50	0.02	0.00	20.75	3.09	1.82	0.00
8.25	0.52	0.03	0.00	21.00	3.11	1.83	0.00
8.50	0.55	0.04	0.00	21.25	3.12	1.85	0.00
8.75	0.57	0.04	0.00	21.50	3.14	1.86	0.00
9.00	0.60	0.05	0.00	21.75	3.15	1.87	0.00
9.25	0.63	0.06	0.00	22.00	3.16	1.88	0.00
9.50	0.66	0.07	0.00	22.25	3.17	1.89	0.00
9.75	0.69	0.08	0.00	22.50	3.19	1.90	0.00
10.00	0.73	0.10	0.00	22.75	3.20	1.92	0.00
10.25	0.77	0.11	0.00	23.00	3.21	1.93	0.00
10.50	0.81	0.13	0.01	23.25	3.22	1.94	0.00
10.75	0.87	0.16	0.01	23.50	3.24	1.95	0.00
11.00	0.93	0.19	0.01	23.75	3.25	1.96	0.00
11.25	1.00	0.22	0.01	24.00	3.26	1.97	0.00
11.50	1.09	0.28	0.01				
11.75	1.23	0.36	0.02				
12.00	1.56	0.58	0.08				
12.25	2.03	0.93	0.07				
12.50	2.17	1.04	0.03				

3890-10 WENDELLER

Prepared by Civil Environmental Consultants LLC

HydroCAD® 10.00-25 s/n 09048 © 2019 HydroCAD Software Solutions LLC

10 wendeller PROPOSED site
NRCC 24-hr D 2-Year Rainfall=3.26"

Printed 5/28/2019

Page 8

Summary for Pond 2P: Infiltration- 1000 gal drywell

Inflow Area = 0.071 ac, 81.65% Impervious, Inflow Depth > 1.97" for 2-Year event
 Inflow = 0.15 cfs @ 12.13 hrs, Volume= 0.012 af
 Outflow = 0.01 cfs @ 11.45 hrs, Volume= 0.012 af, Atten= 91%, Lag= 0.0 min
 Discarded = 0.01 cfs @ 11.45 hrs, Volume= 0.012 af
 Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
 Peak Elev= 7.90' @ 13.36 hrs Surf.Area= 0.005 ac Storage= 0.004 af

Plug-Flow detention time= 99.8 min calculated for 0.012 af (100% of inflow)
 Center-of-Mass det. time= 98.9 min (936.8 - 837.9)

Volume	Invert	Avail.Storage	Storage Description
#1A	5.71'	0.005 af	17.33'W x 13.50'L x 4.83'H Field A 0.026 af Overall - 0.008 af Embedded = 0.018 af x 30.0% Voids
#2A	7.71'	0.006 af	Shea Dry Well 1000gal x 2 Inside #1 Inside= 62.0"W x 30.0"H => 12.86 sf x 10.00'L = 128.6 cf Outside= 68.0"W x 34.0"H => 15.80 sf x 10.50'L = 165.9 cf 2 Chambers in 2 Rows
		0.011 af	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Discarded	5.71'	2.410 in/hr Exfiltration over Surface area
#2	Primary	9.29'	6.0" Round Culvert L= 34.0' Ke= 0.500 Inlet / Outlet Invert= 9.29' / 6.54' S= 0.0809 '/ Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.20 sf

Discarded OutFlow Max=0.01 cfs @ 11.45 hrs HW=5.76' (Free Discharge)
 ↑1=Exfiltration (Exfiltration Controls 0.01 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=5.71' (Free Discharge)
 ↑2=Culvert (Controls 0.00 cfs)

3890-10 WENDELLER

Prepared by Civil Environmental Consultants LLC

HydroCAD® 10.00-25 s/n 09048 © 2019 HydroCAD Software Solutions LLC

10 wendeller PROPOSED site
NRCC 24-hr D 2-Year Rainfall=3.26"

Printed 5/28/2019

Page 9

Pond 2P: Infiltration- 1000 gal drywell - Chamber Wizard Field A

Chamber Model = Shea Dry Well 1000gal (Shea Jumbo Rectagular Dry Well)

Inside= 62.0"W x 30.0"H => 12.86 sf x 10.00'L = 128.6 cf

Outside= 68.0"W x 34.0"H => 15.80 sf x 10.50'L = 165.9 cf

68.0" Wide + 36.0" Spacing = 104.0" C-C Row Spacing

1 Chambers/Row x 10.50' Long = 10.50' Row Length +18.0" End Stone x 2 = 13.50' Base Length

2 Rows x 68.0" Wide + 36.0" Spacing x 1 + 18.0" Side Stone x 2 = 17.33' Base Width

24.0" Base + 34.0" Chamber Height = 4.83' Field Height

2 Chambers x 128.6 cf = 257.2 cf Chamber Storage

2 Chambers x 165.9 cf = 331.8 cf Displacement

1,130.3 cf Field - 331.8 cf Chambers = 798.4 cf Stone x 30.0% Voids = 239.5 cf Stone Storage

Chamber Storage + Stone Storage = 496.7 cf = 0.011 af

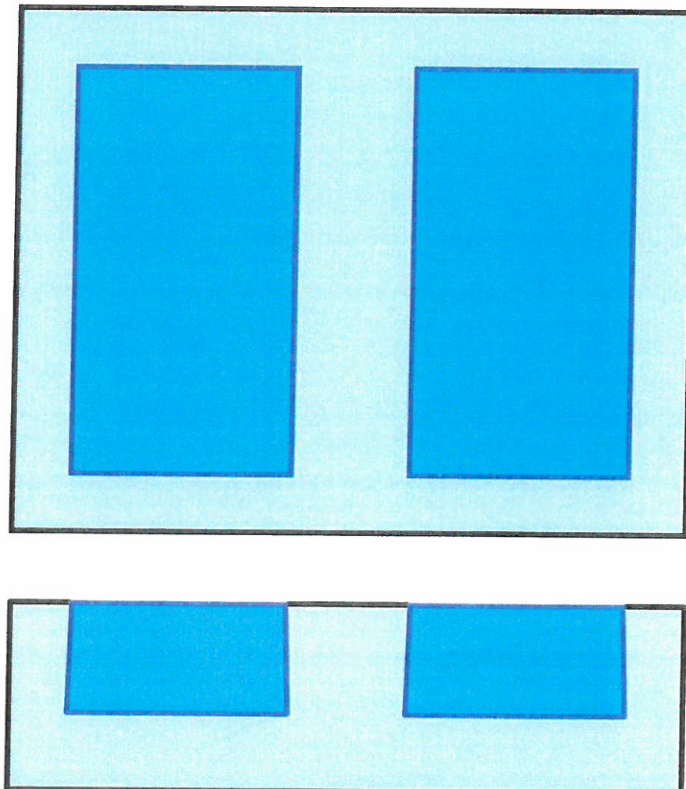
Overall Storage Efficiency = 43.9%

Overall System Size = 13.50' x 17.33' x 4.83'

2 Chambers

41.9 cy Field

29.6 cy Stone



3890-10 WENDELLER

Prepared by Civil Environmental Consultants LLC

HydroCAD® 10.00-25 s/n 09048 © 2019 HydroCAD Software Solutions LLC

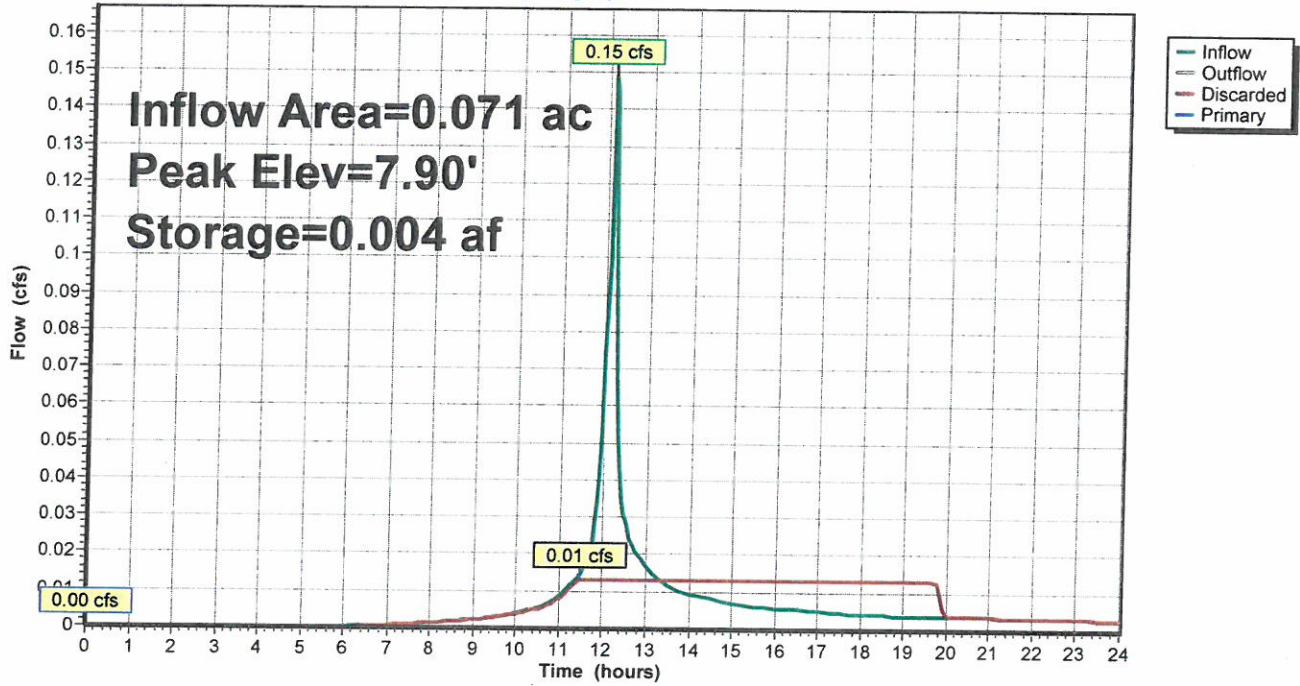
10 wendeller PROPOSED site
NRCC 24-hr D 2-Year Rainfall=3.26"

Printed 5/28/2019

Page 10

Pond 2P: Infiltration- 1000 gal drywell

Hydrograph



3890-10 WENDELLER

Prepared by Civil Environmental Consultants LLC

HydroCAD® 10.00-25 s/n 09048 © 2019 HydroCAD Software Solutions LLC

10 wendeller PROPOSED site
NRCC 24-hr D 2-Year Rainfall=3.26"

Printed 5/28/2019

Page 11

Hydrograph for Pond 2P: Infiltration- 1000 gal drywell

Time (hours)	Inflow (cfs)	Storage (acre-feet)	Elevation (feet)	Outflow (cfs)	Discarded (cfs)	Primary (cfs)
0.00	0.00	0.000	5.71	0.00	0.00	0.00
0.50	0.00	0.000	5.71	0.00	0.00	0.00
1.00	0.00	0.000	5.71	0.00	0.00	0.00
1.50	0.00	0.000	5.71	0.00	0.00	0.00
2.00	0.00	0.000	5.71	0.00	0.00	0.00
2.50	0.00	0.000	5.71	0.00	0.00	0.00
3.00	0.00	0.000	5.71	0.00	0.00	0.00
3.50	0.00	0.000	5.71	0.00	0.00	0.00
4.00	0.00	0.000	5.71	0.00	0.00	0.00
4.50	0.00	0.000	5.71	0.00	0.00	0.00
5.00	0.00	0.000	5.71	0.00	0.00	0.00
5.50	0.00	0.000	5.71	0.00	0.00	0.00
6.00	0.00	0.000	5.71	0.00	0.00	0.00
6.50	0.00	0.000	5.71	0.00	0.00	0.00
7.00	0.00	0.000	5.71	0.00	0.00	0.00
7.50	0.00	0.000	5.71	0.00	0.00	0.00
8.00	0.00	0.000	5.72	0.00	0.00	0.00
8.50	0.00	0.000	5.72	0.00	0.00	0.00
9.00	0.00	0.000	5.72	0.00	0.00	0.00
9.50	0.00	0.000	5.72	0.00	0.00	0.00
10.00	0.00	0.000	5.72	0.00	0.00	0.00
10.50	0.01	0.000	5.73	0.01	0.01	0.00
11.00	0.01	0.000	5.74	0.01	0.01	0.00
11.50	0.01	0.000	5.76	0.01	0.01	0.00
12.00	0.08	0.001	6.21	0.01	0.01	0.00
12.50	0.03	0.003	7.77	0.01	0.01	0.00
13.00	0.02	0.004	7.88	0.01	0.01	0.00
13.50	0.01	0.004	7.89	0.01	0.01	0.00
14.00	0.01	0.004	7.86	0.01	0.01	0.00
14.50	0.01	0.004	7.81	0.01	0.01	0.00
15.00	0.01	0.003	7.74	0.01	0.01	0.00
15.50	0.01	0.003	7.59	0.01	0.01	0.00
16.00	0.01	0.003	7.41	0.01	0.01	0.00
16.50	0.01	0.002	7.22	0.01	0.01	0.00
17.00	0.01	0.002	7.02	0.01	0.01	0.00
17.50	0.00	0.002	6.81	0.01	0.01	0.00
18.00	0.00	0.001	6.59	0.01	0.01	0.00
18.50	0.00	0.001	6.36	0.01	0.01	0.00
19.00	0.00	0.001	6.13	0.01	0.01	0.00
19.50	0.00	0.000	5.90	0.01	0.01	0.00
20.00	0.00	0.000	5.73	0.00	0.00	0.00
20.50	0.00	0.000	5.72	0.00	0.00	0.00
21.00	0.00	0.000	5.72	0.00	0.00	0.00
21.50	0.00	0.000	5.72	0.00	0.00	0.00
22.00	0.00	0.000	5.72	0.00	0.00	0.00
22.50	0.00	0.000	5.72	0.00	0.00	0.00
23.00	0.00	0.000	5.72	0.00	0.00	0.00
23.50	0.00	0.000	5.72	0.00	0.00	0.00
24.00	0.00	0.000	5.72	0.00	0.00	0.00

3890-10 WENDELLER

Prepared by Civil Environmental Consultants LLC

HydroCAD® 10.00-25 s/n 09048 © 2019 HydroCAD Software Solutions LLC

10 wendeller PROPOSED site
NRCC 24-hr D 10-Year Rainfall=4.90"

Printed 5/28/2019

Page 12

Time span=0.00-24.00 hrs, dt=0.05 hrs, 481 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 3S: 10 Wendeller- Proposed Runoff Area=3,090 sf 81.65% Impervious Runoff Depth>3.47"
Tc=6.0 min CN=87 Runoff=0.26 cfs 0.021 af

Pond 2P: Infiltration- 1000 gal drywell Peak Elev=9.34' Storage=0.008 af Inflow=0.26 cfs 0.021 af
Discarded=0.01 cfs 0.017 af Primary=0.01 cfs 0.001 af Outflow=0.02 cfs 0.017 af

Total Runoff Area = 0.071 ac Runoff Volume = 0.021 af Average Runoff Depth = 3.47"
18.35% Pervious = 0.013 ac 81.65% Impervious = 0.058 ac

3890-10 WENDELLER

Prepared by Civil Environmental Consultants LLC

HydroCAD® 10.00-25 s/n 09048 © 2019 HydroCAD Software Solutions LLC

10 wendeller PROPOSED site
NRCC 24-hr D 10-Year Rainfall=4.90"

Printed 5/28/2019

Page 13

Summary for Subcatchment 3S: 10 Wendeller- Proposed Site

Runoff = 0.26 cfs @ 12.13 hrs, Volume= 0.021 af, Depth> 3.47"

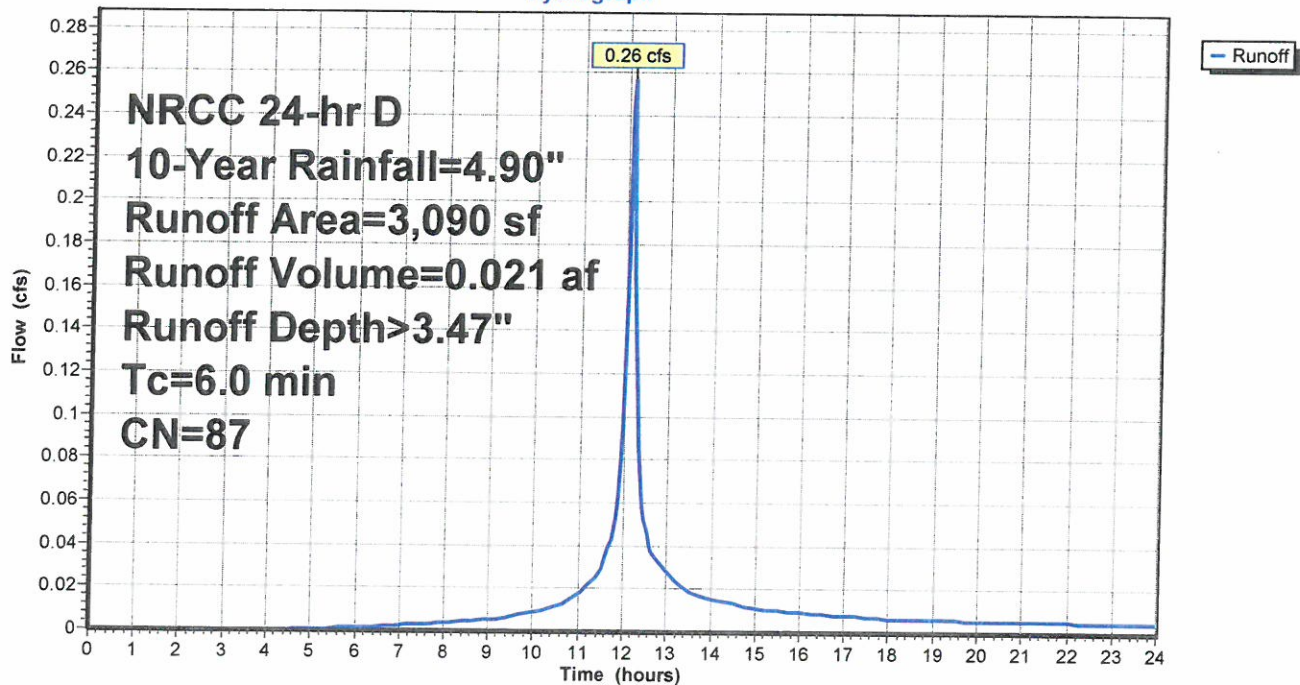
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
NRCC 24-hr D 10-Year Rainfall=4.90"

Area (sf)	CN	Description
2,503	98	Roofs, HSG A
20	98	Paved parking, HSG A
567	39	>75% Grass cover, Good, HSG A
3,090	87	Weighted Average
567		18.35% Pervious Area
2,523		81.65% Impervious Area

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

Subcatchment 3S: 10 Wendeller- Proposed Site

Hydrograph



3890-10 WENDELLER

Prepared by Civil Environmental Consultants LLC

HydroCAD® 10.00-25 s/n 09048 © 2019 HydroCAD Software Solutions LLC

10 wendeller PROPOSED site
NRCC 24-hr D 10-Year Rainfall=4.90"

Printed 5/28/2019

Page 14

Hydrograph for Subcatchment 3S: 10 Wendeller- Proposed Site

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	12.75	3.39	2.09	0.03
0.25	0.02	0.00	0.00	13.00	3.51	2.19	0.03
0.50	0.04	0.00	0.00	13.25	3.60	2.27	0.02
0.75	0.05	0.00	0.00	13.50	3.68	2.34	0.02
1.00	0.07	0.00	0.00	13.75	3.74	2.40	0.02
1.25	0.09	0.00	0.00	14.00	3.80	2.46	0.02
1.50	0.11	0.00	0.00	14.25	3.86	2.51	0.01
1.75	0.13	0.00	0.00	14.50	3.91	2.55	0.01
2.00	0.15	0.00	0.00	14.75	3.96	2.60	0.01
2.25	0.17	0.00	0.00	15.00	4.00	2.64	0.01
2.50	0.19	0.00	0.00	15.25	4.04	2.67	0.01
2.75	0.21	0.00	0.00	15.50	4.08	2.71	0.01
3.00	0.23	0.00	0.00	15.75	4.12	2.74	0.01
3.25	0.25	0.00	0.00	16.00	4.15	2.78	0.01
3.50	0.27	0.00	0.00	16.25	4.19	2.81	0.01
3.75	0.29	0.00	0.00	16.50	4.22	2.84	0.01
4.00	0.32	0.00	0.00	16.75	4.25	2.87	0.01
4.25	0.34	0.00	0.00	17.00	4.28	2.90	0.01
4.50	0.36	0.00	0.00	17.25	4.31	2.93	0.01
4.75	0.38	0.00	0.00	17.50	4.34	2.95	0.01
5.00	0.41	0.01	0.00	17.75	4.37	2.98	0.01
5.25	0.43	0.01	0.00	18.00	4.40	3.00	0.01
5.50	0.46	0.01	0.00	18.25	4.42	3.02	0.01
5.75	0.48	0.02	0.00	18.50	4.44	3.05	0.01
6.00	0.50	0.02	0.00	18.75	4.47	3.07	0.01
6.25	0.53	0.03	0.00	19.00	4.49	3.09	0.01
6.50	0.56	0.04	0.00	19.25	4.52	3.11	0.01
6.75	0.59	0.05	0.00	19.50	4.54	3.14	0.01
7.00	0.62	0.06	0.00	19.75	4.56	3.16	0.01
7.25	0.65	0.07	0.00	20.00	4.58	3.18	0.01
7.50	0.68	0.08	0.00	20.25	4.61	3.20	0.01
7.75	0.71	0.09	0.00	20.50	4.63	3.22	0.01
8.00	0.75	0.10	0.00	20.75	4.65	3.24	0.01
8.25	0.78	0.12	0.00	21.00	4.67	3.26	0.01
8.50	0.82	0.14	0.00	21.25	4.69	3.28	0.01
8.75	0.86	0.15	0.01	21.50	4.71	3.30	0.01
9.00	0.90	0.17	0.01	21.75	4.73	3.32	0.01
9.25	0.94	0.19	0.01	22.00	4.75	3.33	0.01
9.50	0.99	0.22	0.01	22.25	4.77	3.35	0.01
9.75	1.04	0.25	0.01	22.50	4.79	3.37	0.01
10.00	1.10	0.28	0.01	22.75	4.81	3.39	0.01
10.25	1.16	0.31	0.01	23.00	4.83	3.41	0.00
10.50	1.22	0.35	0.01	23.25	4.85	3.42	0.00
10.75	1.30	0.40	0.01	23.50	4.86	3.44	0.00
11.00	1.39	0.46	0.02	23.75	4.88	3.46	0.00
11.25	1.51	0.54	0.02	24.00	4.90	3.47	0.00
11.50	1.64	0.64	0.03				
11.75	1.85	0.79	0.04				
12.00	2.35	1.18	0.13				
12.25	3.05	1.78	0.11				
12.50	3.26	1.97	0.05				

3890-10 WENDELLER

Prepared by Civil Environmental Consultants LLC

HydroCAD® 10.00-25 s/n 09048 © 2019 HydroCAD Software Solutions LLC

10 wendeller PROPOSED site
NRCC 24-hr D 10-Year Rainfall=4.90"

Printed 5/28/2019

Page 15

Summary for Pond 2P: Infiltration- 1000 gal drywell

Inflow Area = 0.071 ac, 81.65% Impervious, Inflow Depth > 3.47" for 10-Year event
 Inflow = 0.26 cfs @ 12.13 hrs, Volume= 0.021 af
 Outflow = 0.02 cfs @ 13.44 hrs, Volume= 0.017 af, Atten= 92%, Lag= 79.0 min
 Discarded = 0.01 cfs @ 10.75 hrs, Volume= 0.017 af
 Primary = 0.01 cfs @ 13.44 hrs, Volume= 0.001 af

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
 Peak Elev= 9.34' @ 13.44 hrs Surf.Area= 0.005 ac Storage= 0.008 af

Plug-Flow detention time= 234.9 min calculated for 0.017 af (83% of inflow)
 Center-of-Mass det. time= 154.3 min (971.4 - 817.0)

Volume	Invert	Avail.Storage	Storage Description
#1A	5.71'	0.005 af	17.33'W x 13.50'L x 4.83'H Field A 0.026 af Overall - 0.008 af Embedded = 0.018 af x 30.0% Voids
#2A	7.71'	0.006 af	Shea Dry Well 1000gal x 2 Inside #1 Inside= 62.0"W x 30.0"H => 12.86 sf x 10.00'L = 128.6 cf Outside= 68.0"W x 34.0"H => 15.80 sf x 10.50'L = 165.9 cf 2 Chambers in 2 Rows
		0.011 af	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Discarded	5.71'	2.410 in/hr Exfiltration over Surface area
#2	Primary	9.29'	6.0" Round Culvert L= 34.0' Ke= 0.500 Inlet / Outlet Invert= 9.29' / 6.54' S= 0.0809 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.20 sf

Discarded OutFlow Max=0.01 cfs @ 10.75 hrs HW=5.76' (Free Discharge)
 ↑1=Exfiltration (Exfiltration Controls 0.01 cfs)

Primary OutFlow Max=0.01 cfs @ 13.44 hrs HW=9.34' (Free Discharge)
 ↑2=Culvert (Inlet Controls 0.01 cfs @ 0.73 fps)

3890-10 WENDELLER

Prepared by Civil Environmental Consultants LLC

HydroCAD® 10.00-25 s/n 09048 © 2019 HydroCAD Software Solutions LLC

10 wendeller PROPOSED site
NRCC 24-hr D 10-Year Rainfall=4.90"

Printed 5/28/2019

Page 16

Pond 2P: Infiltration- 1000 gal drywell - Chamber Wizard Field A

Chamber Model = Shea Dry Well 1000gal (Shea Jumbo Rectangular Dry Well)

Inside= 62.0"W x 30.0"H => 12.86 sf x 10.00'L = 128.6 cf

Outside= 68.0"W x 34.0"H => 15.80 sf x 10.50'L = 165.9 cf

68.0" Wide + 36.0" Spacing = 104.0" C-C Row Spacing

1 Chambers/Row x 10.50' Long = 10.50' Row Length +18.0" End Stone x 2 = 13.50' Base Length

2 Rows x 68.0" Wide + 36.0" Spacing x 1 + 18.0" Side Stone x 2 = 17.33' Base Width

24.0" Base + 34.0" Chamber Height = 4.83' Field Height

2 Chambers x 128.6 cf = 257.2 cf Chamber Storage

2 Chambers x 165.9 cf = 331.8 cf Displacement

1,130.3 cf Field - 331.8 cf Chambers = 798.4 cf Stone x 30.0% Voids = 239.5 cf Stone Storage

Chamber Storage + Stone Storage = 496.7 cf = 0.011 af

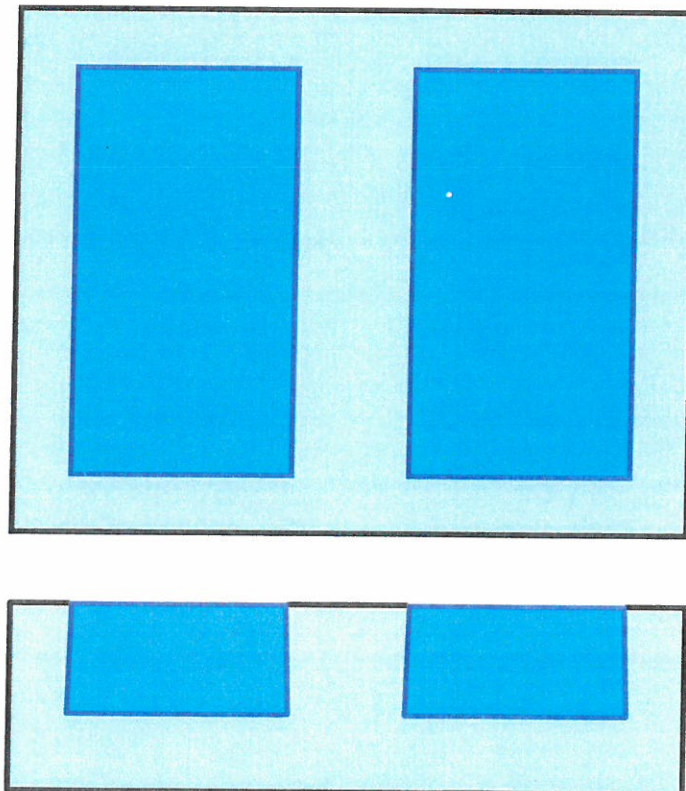
Overall Storage Efficiency = 43.9%

Overall System Size = 13.50' x 17.33' x 4.83'

2 Chambers

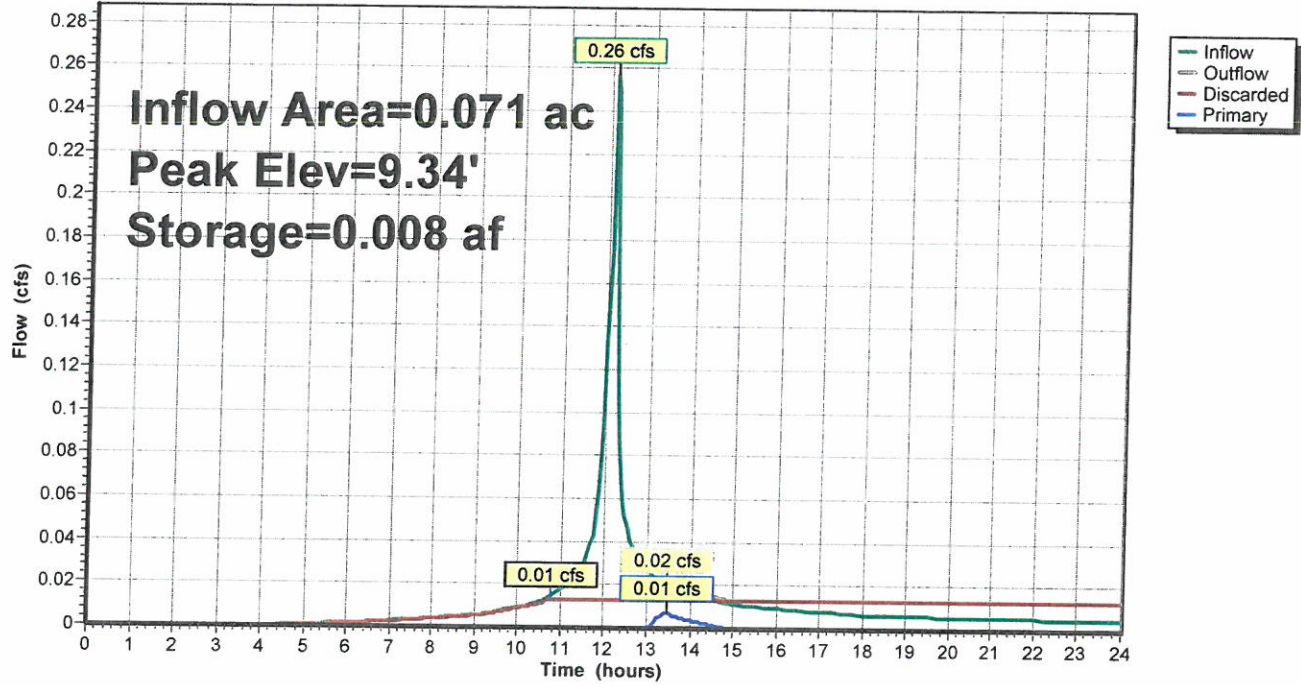
41.9 cy Field

29.6 cy Stone



Pond 2P: Infiltration- 1000 gal drywell

Hydrograph



3890-10 WENDELLER

Prepared by Civil Environmental Consultants LLC

HydroCAD® 10.00-25 s/n 09048 © 2019 HydroCAD Software Solutions LLC

10 wendeller PROPOSED site
NRCC 24-hr D 10-Year Rainfall=4.90"

Printed 5/28/2019

Page 18

Hydrograph for Pond 2P: Infiltration- 1000 gal drywell

Time (hours)	Inflow (cfs)	Storage (acre-feet)	Elevation (feet)	Outflow (cfs)	Discarded (cfs)	Primary (cfs)
0.00	0.00	0.000	5.71	0.00	0.00	0.00
0.50	0.00	0.000	5.71	0.00	0.00	0.00
1.00	0.00	0.000	5.71	0.00	0.00	0.00
1.50	0.00	0.000	5.71	0.00	0.00	0.00
2.00	0.00	0.000	5.71	0.00	0.00	0.00
2.50	0.00	0.000	5.71	0.00	0.00	0.00
3.00	0.00	0.000	5.71	0.00	0.00	0.00
3.50	0.00	0.000	5.71	0.00	0.00	0.00
4.00	0.00	0.000	5.71	0.00	0.00	0.00
4.50	0.00	0.000	5.71	0.00	0.00	0.00
5.00	0.00	0.000	5.71	0.00	0.00	0.00
5.50	0.00	0.000	5.71	0.00	0.00	0.00
6.00	0.00	0.000	5.72	0.00	0.00	0.00
6.50	0.00	0.000	5.72	0.00	0.00	0.00
7.00	0.00	0.000	5.72	0.00	0.00	0.00
7.50	0.00	0.000	5.72	0.00	0.00	0.00
8.00	0.00	0.000	5.72	0.00	0.00	0.00
8.50	0.00	0.000	5.73	0.00	0.00	0.00
9.00	0.01	0.000	5.73	0.01	0.01	0.00
9.50	0.01	0.000	5.74	0.01	0.01	0.00
10.00	0.01	0.000	5.74	0.01	0.01	0.00
10.50	0.01	0.000	5.75	0.01	0.01	0.00
11.00	0.02	0.000	5.80	0.01	0.01	0.00
11.50	0.03	0.001	6.04	0.01	0.01	0.00
12.00	0.13	0.002	7.15	0.01	0.01	0.00
12.50	0.05	0.007	8.96	0.01	0.01	0.00
13.00	0.03	0.008	9.25	0.01	0.01	0.00
13.50	0.02	0.008	9.34	0.02	0.01	0.01
14.00	0.02	0.008	9.32	0.02	0.01	0.00
14.50	0.01	0.008	9.30	0.01	0.01	0.00
15.00	0.01	0.008	9.28	0.01	0.01	0.00
15.50	0.01	0.008	9.25	0.01	0.01	0.00
16.00	0.01	0.008	9.21	0.01	0.01	0.00
16.50	0.01	0.008	9.16	0.01	0.01	0.00
17.00	0.01	0.008	9.10	0.01	0.01	0.00
17.50	0.01	0.007	9.03	0.01	0.01	0.00
18.00	0.01	0.007	8.95	0.01	0.01	0.00
18.50	0.01	0.007	8.87	0.01	0.01	0.00
19.00	0.01	0.007	8.78	0.01	0.01	0.00
19.50	0.01	0.006	8.69	0.01	0.01	0.00
20.00	0.01	0.006	8.60	0.01	0.01	0.00
20.50	0.01	0.006	8.51	0.01	0.01	0.00
21.00	0.01	0.005	8.41	0.01	0.01	0.00
21.50	0.01	0.005	8.32	0.01	0.01	0.00
22.00	0.01	0.005	8.22	0.01	0.01	0.00
22.50	0.01	0.005	8.12	0.01	0.01	0.00
23.00	0.00	0.004	8.01	0.01	0.01	0.00
23.50	0.00	0.004	7.91	0.01	0.01	0.00
24.00	0.00	0.004	7.80	0.01	0.01	0.00

3890-10 WENDELLER

Prepared by Civil Environmental Consultants LLC

HydroCAD® 10.00-25 s/n 09048 © 2019 HydroCAD Software Solutions LLC

10 wendeller PROPOSED site
NRCC 24-hr D 25-Year Rainfall=6.19"

Printed 5/28/2019

Page 19

Time span=0.00-24.00 hrs, dt=0.05 hrs, 481 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 3S: 10 Wendeller- Proposed Runoff Area=3,090 sf 81.65% Impervious Runoff Depth>4.69"
Tc=6.0 min CN=87 Runoff=0.34 cfs 0.028 af

Pond 2P: Infiltration- 1000 gal drywell Peak Elev=9.49' Storage=0.009 af Inflow=0.34 cfs 0.028 af
Discarded=0.01 cfs 0.018 af Primary=0.11 cfs 0.005 af Outflow=0.12 cfs 0.023 af

Total Runoff Area = 0.071 ac Runoff Volume = 0.028 af Average Runoff Depth = 4.69"
18.35% Pervious = 0.013 ac 81.65% Impervious = 0.058 ac

3890-10 WENDELLER

Prepared by Civil Environmental Consultants LLC

HydroCAD® 10.00-25 s/n 09048 © 2019 HydroCAD Software Solutions LLC

10 wendeller PROPOSED site
NRCC 24-hr D 25-Year Rainfall=6.19"

Printed 5/28/2019

Page 20

Summary for Subcatchment 3S: 10 Wendeller- Proposed Site

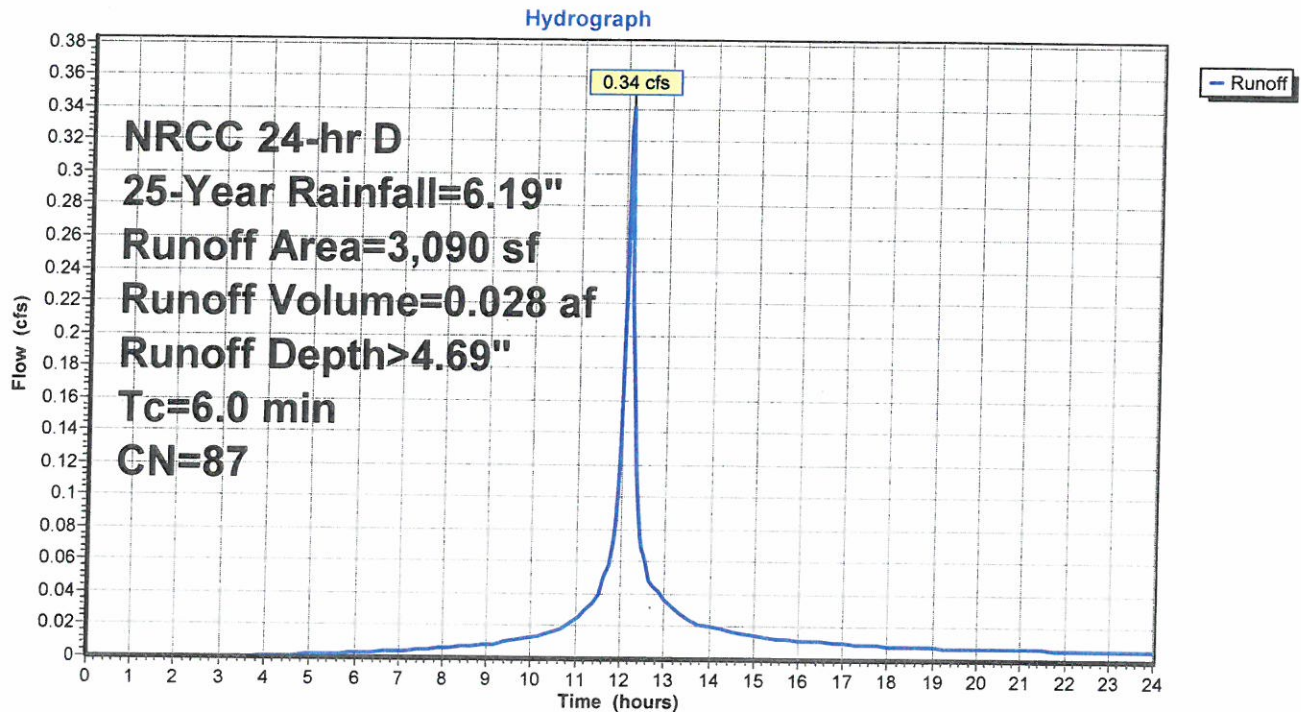
Runoff = 0.34 cfs @ 12.13 hrs, Volume= 0.028 af, Depth> 4.69"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
NRCC 24-hr D 25-Year Rainfall=6.19"

Area (sf)	CN	Description
2,503	98	Roofs, HSG A
20	98	Paved parking, HSG A
567	39	>75% Grass cover, Good, HSG A
3,090	87	Weighted Average
567		18.35% Pervious Area
2,523		81.65% Impervious Area

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

Subcatchment 3S: 10 Wendeller- Proposed Site



3890-10 WENDELLER

Prepared by Civil Environmental Consultants LLC

HydroCAD® 10.00-25 s/n 09048 © 2019 HydroCAD Software Solutions LLC

10 wendeller PROPOSED site
NRCC 24-hr D 25-Year Rainfall=6.19"

Printed 5/28/2019

Page 21

Hydrograph for Subcatchment 3S: 10 Wendeller- Proposed Site

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	12.75	4.29	2.90	0.04
0.25	0.02	0.00	0.00	13.00	4.43	3.04	0.04
0.50	0.04	0.00	0.00	13.25	4.55	3.14	0.03
0.75	0.07	0.00	0.00	13.50	4.64	3.23	0.03
1.00	0.09	0.00	0.00	13.75	4.73	3.31	0.02
1.25	0.11	0.00	0.00	14.00	4.80	3.38	0.02
1.50	0.14	0.00	0.00	14.25	4.87	3.45	0.02
1.75	0.16	0.00	0.00	14.50	4.94	3.51	0.02
2.00	0.19	0.00	0.00	14.75	5.00	3.57	0.02
2.25	0.21	0.00	0.00	15.00	5.05	3.62	0.01
2.50	0.24	0.00	0.00	15.25	5.10	3.67	0.01
2.75	0.26	0.00	0.00	15.50	5.15	3.71	0.01
3.00	0.29	0.00	0.00	15.75	5.20	3.76	0.01
3.25	0.32	0.00	0.00	16.00	5.25	3.80	0.01
3.50	0.34	0.00	0.00	16.25	5.29	3.84	0.01
3.75	0.37	0.00	0.00	16.50	5.33	3.88	0.01
4.00	0.40	0.01	0.00	16.75	5.37	3.92	0.01
4.25	0.43	0.01	0.00	17.00	5.41	3.96	0.01
4.50	0.46	0.01	0.00	17.25	5.45	3.99	0.01
4.75	0.49	0.02	0.00	17.50	5.49	4.03	0.01
5.00	0.51	0.03	0.00	17.75	5.52	4.06	0.01
5.25	0.54	0.03	0.00	18.00	5.55	4.09	0.01
5.50	0.58	0.04	0.00	18.25	5.58	4.12	0.01
5.75	0.61	0.05	0.00	18.50	5.61	4.15	0.01
6.00	0.64	0.06	0.00	18.75	5.65	4.18	0.01
6.25	0.67	0.07	0.00	19.00	5.68	4.21	0.01
6.50	0.70	0.09	0.00	19.25	5.70	4.24	0.01
6.75	0.74	0.10	0.00	19.50	5.73	4.26	0.01
7.00	0.78	0.12	0.00	19.75	5.76	4.29	0.01
7.25	0.82	0.13	0.00	20.00	5.79	4.32	0.01
7.50	0.86	0.15	0.01	20.25	5.82	4.34	0.01
7.75	0.90	0.17	0.01	20.50	5.85	4.37	0.01
8.00	0.94	0.19	0.01	20.75	5.87	4.40	0.01
8.25	0.99	0.22	0.01	21.00	5.90	4.42	0.01
8.50	1.04	0.24	0.01	21.25	5.93	4.45	0.01
8.75	1.09	0.27	0.01	21.50	5.95	4.47	0.01
9.00	1.14	0.30	0.01	21.75	5.98	4.50	0.01
9.25	1.19	0.33	0.01	22.00	6.00	4.52	0.01
9.50	1.25	0.37	0.01	22.25	6.03	4.54	0.01
9.75	1.32	0.41	0.01	22.50	6.05	4.57	0.01
10.00	1.39	0.46	0.01	22.75	6.08	4.59	0.01
10.25	1.46	0.51	0.01	23.00	6.10	4.61	0.01
10.50	1.55	0.57	0.02	23.25	6.12	4.63	0.01
10.75	1.64	0.64	0.02	23.50	6.15	4.66	0.01
11.00	1.76	0.72	0.02	23.75	6.17	4.68	0.01
11.25	1.90	0.83	0.03	24.00	6.19	4.70	0.01
11.50	2.07	0.96	0.04				
11.75	2.34	1.18	0.06				
12.00	2.97	1.71	0.18				
12.25	3.85	2.50	0.15				
12.50	4.12	2.74	0.06				

3890-10 WENDELLER

Prepared by Civil Environmental Consultants LLC

HydroCAD® 10.00-25 s/n 09048 © 2019 HydroCAD Software Solutions LLC

10 wendeller PROPOSED site
NRCC 24-hr D 25-Year Rainfall=6.19"

Printed 5/28/2019

Page 22

Summary for Pond 2P: Infiltration- 1000 gal drywell

Inflow Area = 0.071 ac, 81.65% Impervious, Inflow Depth > 4.69" for 25-Year event
 Inflow = 0.34 cfs @ 12.13 hrs, Volume= 0.028 af
 Outflow = 0.12 cfs @ 12.31 hrs, Volume= 0.023 af, Atten= 65%, Lag= 11.0 min
 Discarded = 0.01 cfs @ 10.00 hrs, Volume= 0.018 af
 Primary = 0.11 cfs @ 12.31 hrs, Volume= 0.005 af

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
 Peak Elev= 9.49' @ 12.31 hrs Surf.Area= 0.005 ac Storage= 0.009 af

Plug-Flow detention time= 182.8 min calculated for 0.023 af (82% of inflow)
 Center-of-Mass det. time= 99.7 min (905.9 - 806.2)

Volume	Invert	Avail.Storage	Storage Description
#1A	5.71'	0.005 af	17.33'W x 13.50'L x 4.83'H Field A 0.026 af Overall - 0.008 af Embedded = 0.018 af x 30.0% Voids
#2A	7.71'	0.006 af	Shea Dry Well 1000gal x 2 Inside #1 Inside= 62.0"W x 30.0"H => 12.86 sf x 10.00'L = 128.6 cf Outside= 68.0"W x 34.0"H => 15.80 sf x 10.50'L = 165.9 cf 2 Chambers in 2 Rows
		0.011 af	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Discarded	5.71'	2.410 in/hr Exfiltration over Surface area
#2	Primary	9.29'	6.0" Round Culvert L= 34.0' Ke= 0.500 Inlet / Outlet Invert= 9.29' / 6.54' S= 0.0809 ' /' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.20 sf

Discarded OutFlow Max=0.01 cfs @ 10.00 hrs HW=5.76' (Free Discharge)
 ↑1=Exfiltration (Exfiltration Controls 0.01 cfs)

Primary OutFlow Max=0.10 cfs @ 12.31 hrs HW=9.48' (Free Discharge)
 ↑2=Culvert (Inlet Controls 0.10 cfs @ 1.49 fps)

3890-10 WENDELLER

Prepared by Civil Environmental Consultants LLC

HydroCAD® 10.00-25 s/n 09048 © 2019 HydroCAD Software Solutions LLC

10 wendeller PROPOSED site
NRCC 24-hr D 25-Year Rainfall=6.19"

Printed 5/28/2019

Page 23

Pond 2P: Infiltration- 1000 gal drywell - Chamber Wizard Field A

Chamber Model = Shea Dry Well 1000gal (Shea Jumbo Rectagular Dry Well)

Inside= 62.0"W x 30.0"H => 12.86 sf x 10.00'L = 128.6 cf

Outside= 68.0"W x 34.0"H => 15.80 sf x 10.50'L = 165.9 cf

68.0" Wide + 36.0" Spacing = 104.0" C-C Row Spacing

1 Chambers/Row x 10.50' Long = 10.50' Row Length +18.0" End Stone x 2 = 13.50' Base Length

2 Rows x 68.0" Wide + 36.0" Spacing x 1 + 18.0" Side Stone x 2 = 17.33' Base Width

24.0" Base + 34.0" Chamber Height = 4.83' Field Height

2 Chambers x 128.6 cf = 257.2 cf Chamber Storage

2 Chambers x 165.9 cf = 331.8 cf Displacement

1,130.3 cf Field - 331.8 cf Chambers = 798.4 cf Stone x 30.0% Voids = 239.5 cf Stone Storage

Chamber Storage + Stone Storage = 496.7 cf = 0.011 af

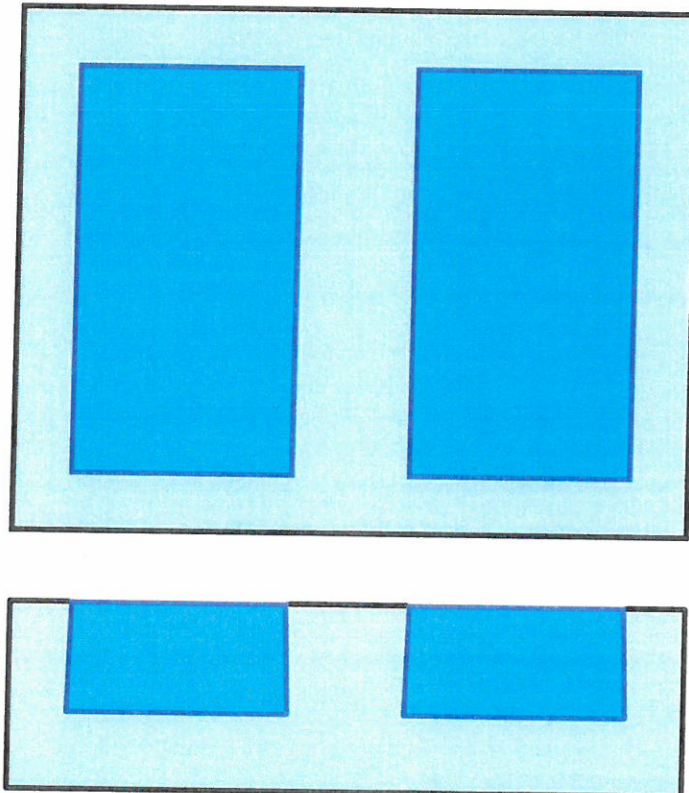
Overall Storage Efficiency = 43.9%

Overall System Size = 13.50' x 17.33' x 4.83'

2 Chambers

41.9 cy Field

29.6 cy Stone



3890-10 WENDELLER

Prepared by Civil Environmental Consultants LLC

HydroCAD® 10.00-25 s/n 09048 © 2019 HydroCAD Software Solutions LLC

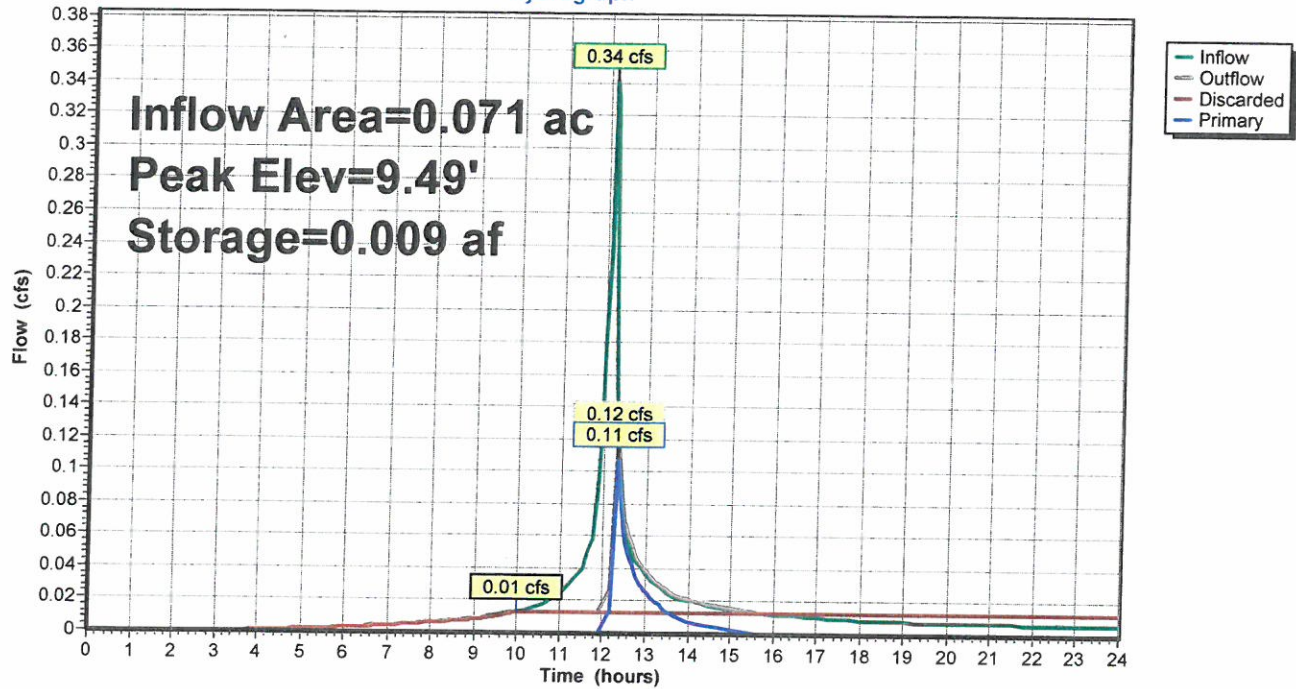
10 wendeller PROPOSED site
NRCC 24-hr D 25-Year Rainfall=6.19"

Printed 5/28/2019

Page 24

Pond 2P: Infiltration- 1000 gal drywell

Hydrograph



3890-10 WENDELLER

Prepared by Civil Environmental Consultants LLC

HydroCAD® 10.00-25 s/n 09048 © 2019 HydroCAD Software Solutions LLC

10 wendeller PROPOSED site
NRCC 24-hr D 25-Year Rainfall=6.19"

Printed 5/28/2019

Page 25

Hydrograph for Pond 2P: Infiltration- 1000 gal drywell

Time (hours)	Inflow (cfs)	Storage (acre-feet)	Elevation (feet)	Outflow (cfs)	Discarded (cfs)	Primary (cfs)
0.00	0.00	0.000	5.71	0.00	0.00	0.00
0.50	0.00	0.000	5.71	0.00	0.00	0.00
1.00	0.00	0.000	5.71	0.00	0.00	0.00
1.50	0.00	0.000	5.71	0.00	0.00	0.00
2.00	0.00	0.000	5.71	0.00	0.00	0.00
2.50	0.00	0.000	5.71	0.00	0.00	0.00
3.00	0.00	0.000	5.71	0.00	0.00	0.00
3.50	0.00	0.000	5.71	0.00	0.00	0.00
4.00	0.00	0.000	5.71	0.00	0.00	0.00
4.50	0.00	0.000	5.71	0.00	0.00	0.00
5.00	0.00	0.000	5.72	0.00	0.00	0.00
5.50	0.00	0.000	5.72	0.00	0.00	0.00
6.00	0.00	0.000	5.72	0.00	0.00	0.00
6.50	0.00	0.000	5.72	0.00	0.00	0.00
7.00	0.00	0.000	5.73	0.00	0.00	0.00
7.50	0.01	0.000	5.73	0.01	0.01	0.00
8.00	0.01	0.000	5.73	0.01	0.01	0.00
8.50	0.01	0.000	5.74	0.01	0.01	0.00
9.00	0.01	0.000	5.74	0.01	0.01	0.00
9.50	0.01	0.000	5.75	0.01	0.01	0.00
10.00	0.01	0.000	5.76	0.01	0.01	0.00
10.50	0.02	0.000	5.81	0.01	0.01	0.00
11.00	0.02	0.000	5.99	0.01	0.01	0.00
11.50	0.04	0.001	6.48	0.01	0.01	0.00
12.00	0.18	0.004	7.91	0.01	0.01	0.00
12.50	0.06	0.009	9.43	0.07	0.01	0.06
13.00	0.04	0.009	9.38	0.04	0.01	0.03
13.50	0.03	0.008	9.35	0.03	0.01	0.01
14.00	0.02	0.008	9.34	0.02	0.01	0.01
14.50	0.02	0.008	9.33	0.02	0.01	0.01
15.00	0.01	0.008	9.31	0.02	0.01	0.00
15.50	0.01	0.008	9.30	0.01	0.01	0.00
16.00	0.01	0.008	9.29	0.01	0.01	0.00
16.50	0.01	0.008	9.27	0.01	0.01	0.00
17.00	0.01	0.008	9.25	0.01	0.01	0.00
17.50	0.01	0.008	9.21	0.01	0.01	0.00
18.00	0.01	0.008	9.16	0.01	0.01	0.00
18.50	0.01	0.008	9.10	0.01	0.01	0.00
19.00	0.01	0.007	9.04	0.01	0.01	0.00
19.50	0.01	0.007	8.97	0.01	0.01	0.00
20.00	0.01	0.007	8.90	0.01	0.01	0.00
20.50	0.01	0.007	8.83	0.01	0.01	0.00
21.00	0.01	0.007	8.76	0.01	0.01	0.00
21.50	0.01	0.006	8.68	0.01	0.01	0.00
22.00	0.01	0.006	8.60	0.01	0.01	0.00
22.50	0.01	0.006	8.52	0.01	0.01	0.00
23.00	0.01	0.006	8.44	0.01	0.01	0.00
23.50	0.01	0.005	8.35	0.01	0.01	0.00
24.00	0.01	0.005	8.26	0.01	0.01	0.00

3890-10 WENDELLER

Prepared by Civil Environmental Consultants LLC

HydroCAD® 10.00-25 s/n 09048 © 2019 HydroCAD Software Solutions LLC

10 wendeller PROPOSED site
NRCC 24-hr D 100-Year Rainfall=8.83"

Printed 5/28/2019

Page 26

Time span=0.00-24.00 hrs, dt=0.05 hrs, 481 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 3S: 10 Wendeller- Proposed Runoff Area=3,090 sf 81.65% Impervious Runoff Depth>7.25"
Tc=6.0 min CN=87 Runoff=0.51 cfs 0.043 af

Pond 2P: Infiltration- 1000 gal drywell Peak Elev=9.78' Storage=0.010 af Inflow=0.51 cfs 0.043 af
Discarded=0.01 cfs 0.020 af Primary=0.47 cfs 0.016 af Outflow=0.48 cfs 0.036 af

Total Runoff Area = 0.071 ac Runoff Volume = 0.043 af Average Runoff Depth = 7.25"
18.35% Pervious = 0.013 ac 81.65% Impervious = 0.058 ac

3890-10 WENDELLER

Prepared by Civil Environmental Consultants LLC

HydroCAD® 10.00-25 s/n 09048 © 2019 HydroCAD Software Solutions LLC

10 wendeller PROPOSED site
NRCC 24-hr D 100-Year Rainfall=8.83"

Printed 5/28/2019

Page 27

Summary for Subcatchment 3S: 10 Wendeller- Proposed Site

Runoff = 0.51 cfs @ 12.13 hrs, Volume= 0.043 af, Depth> 7.25"

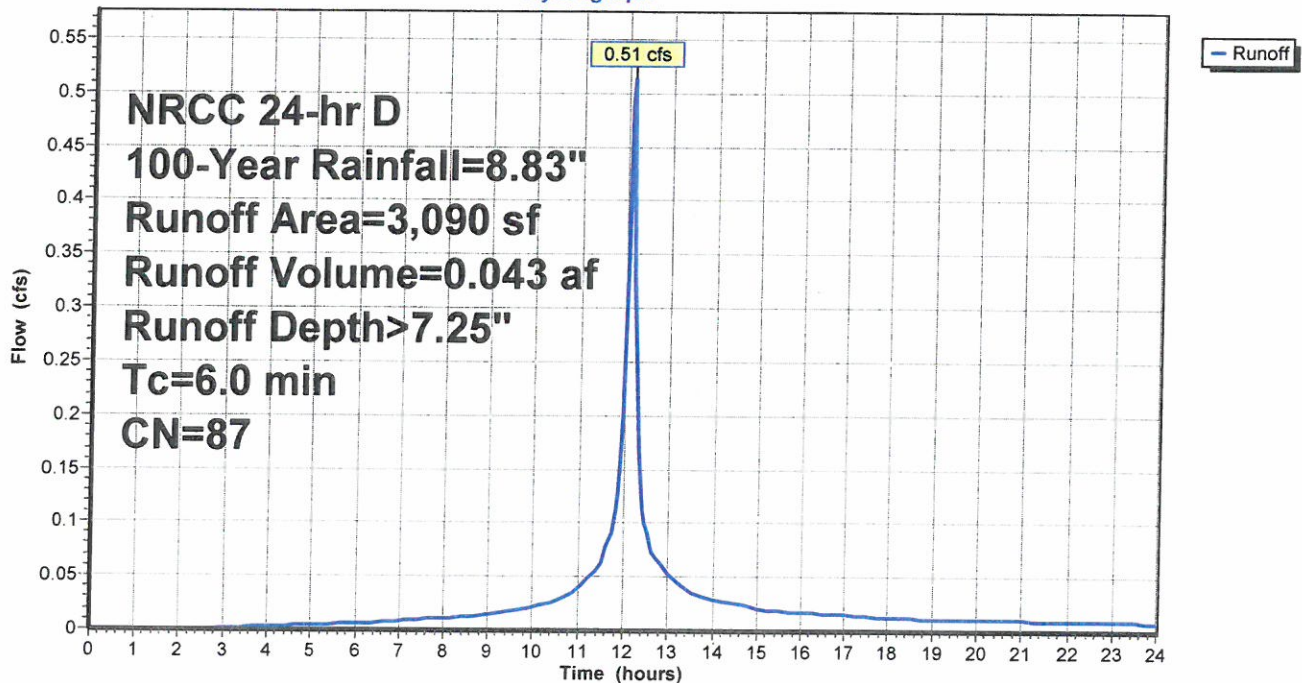
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
NRCC 24-hr D 100-Year Rainfall=8.83"

Area (sf)	CN	Description
2,503	98	Roofs, HSG A
20	98	Paved parking, HSG A
567	39	>75% Grass cover, Good, HSG A
3,090	87	Weighted Average
567		18.35% Pervious Area
2,523		81.65% Impervious Area

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

Subcatchment 3S: 10 Wendeller- Proposed Site

Hydrograph



3890-10 WENDELLER

Prepared by Civil Environmental Consultants LLC

HydroCAD® 10.00-25 s/n 09048 © 2019 HydroCAD Software Solutions LLC

10 wendeller PROPOSED site

NRCC 24-hr D 100-Year Rainfall=8.83"

Printed 5/28/2019

Page 28

Hydrograph for Subcatchment 3S: 10 Wendeller- Proposed Site

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	12.75	6.12	4.63	0.07
0.25	0.03	0.00	0.00	13.00	6.32	4.83	0.05
0.50	0.06	0.00	0.00	13.25	6.49	4.98	0.04
0.75	0.10	0.00	0.00	13.50	6.62	5.12	0.04
1.00	0.13	0.00	0.00	13.75	6.74	5.23	0.03
1.25	0.16	0.00	0.00	14.00	6.85	5.33	0.03
1.50	0.20	0.00	0.00	14.25	6.95	5.43	0.03
1.75	0.23	0.00	0.00	14.50	7.05	5.52	0.03
2.00	0.27	0.00	0.00	14.75	7.13	5.61	0.02
2.25	0.30	0.00	0.00	15.00	7.21	5.68	0.02
2.50	0.34	0.00	0.00	15.25	7.28	5.75	0.02
2.75	0.38	0.00	0.00	15.50	7.35	5.82	0.02
3.00	0.41	0.01	0.00	15.75	7.42	5.88	0.02
3.25	0.45	0.01	0.00	16.00	7.48	5.95	0.02
3.50	0.49	0.02	0.00	16.25	7.55	6.01	0.02
3.75	0.53	0.03	0.00	16.50	7.61	6.07	0.02
4.00	0.57	0.04	0.00	16.75	7.67	6.12	0.02
4.25	0.61	0.05	0.00	17.00	7.72	6.18	0.02
4.50	0.65	0.07	0.00	17.25	7.77	6.23	0.01
4.75	0.69	0.08	0.00	17.50	7.83	6.28	0.01
5.00	0.73	0.10	0.00	17.75	7.87	6.33	0.01
5.25	0.78	0.12	0.01	18.00	7.92	6.37	0.01
5.50	0.82	0.14	0.01	18.25	7.97	6.42	0.01
5.75	0.86	0.16	0.01	18.50	8.01	6.46	0.01
6.00	0.91	0.18	0.01	18.75	8.05	6.50	0.01
6.25	0.96	0.20	0.01	19.00	8.10	6.54	0.01
6.50	1.00	0.23	0.01	19.25	8.14	6.58	0.01
6.75	1.06	0.25	0.01	19.50	8.18	6.62	0.01
7.00	1.11	0.28	0.01	19.75	8.22	6.66	0.01
7.25	1.16	0.32	0.01	20.00	8.26	6.70	0.01
7.50	1.22	0.35	0.01	20.25	8.30	6.74	0.01
7.75	1.28	0.39	0.01	20.50	8.34	6.78	0.01
8.00	1.35	0.43	0.01	20.75	8.38	6.82	0.01
8.25	1.41	0.47	0.01	21.00	8.42	6.86	0.01
8.50	1.48	0.52	0.01	21.25	8.45	6.89	0.01
8.75	1.55	0.57	0.01	21.50	8.49	6.93	0.01
9.00	1.62	0.62	0.01	21.75	8.53	6.96	0.01
9.25	1.70	0.68	0.02	22.00	8.56	7.00	0.01
9.50	1.78	0.74	0.02	22.25	8.60	7.03	0.01
9.75	1.88	0.81	0.02	22.50	8.63	7.07	0.01
10.00	1.98	0.89	0.02	22.75	8.67	7.10	0.01
10.25	2.09	0.98	0.02	23.00	8.70	7.13	0.01
10.50	2.21	1.07	0.03	23.25	8.73	7.17	0.01
10.75	2.34	1.18	0.03	23.50	8.77	7.20	0.01
11.00	2.51	1.32	0.04	23.75	8.80	7.23	0.01
11.25	2.71	1.49	0.05	24.00	8.83	7.26	0.01
11.50	2.96	1.70	0.06				
11.75	3.34	2.04	0.10				
12.00	4.23	2.85	0.28				
12.25	5.49	4.03	0.22				
12.50	5.87	4.39	0.10				

3890-10 WENDELLER

Prepared by Civil Environmental Consultants LLC

HydroCAD® 10.00-25 s/n 09048 © 2019 HydroCAD Software Solutions LLC

10 wendeller PROPOSED site
NRCC 24-hr D 100-Year Rainfall=8.83"

Printed 5/28/2019

Page 29

Summary for Pond 2P: Infiltration- 1000 gal drywell

Inflow Area = 0.071 ac, 81.65% Impervious, Inflow Depth > 7.25" for 100-Year event
 Inflow = 0.51 cfs @ 12.13 hrs, Volume= 0.043 af
 Outflow = 0.48 cfs @ 12.16 hrs, Volume= 0.036 af, Atten= 7%, Lag= 1.7 min
 Discarded = 0.01 cfs @ 8.55 hrs, Volume= 0.020 af
 Primary = 0.47 cfs @ 12.16 hrs, Volume= 0.016 af

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
 Peak Elev= 9.78' @ 12.16 hrs Surf.Area= 0.005 ac Storage= 0.010 af

Plug-Flow detention time= 124.3 min calculated for 0.036 af (83% of inflow)
 Center-of-Mass det. time= 45.3 min (836.6 - 791.2)

Volume	Invert	Avail.Storage	Storage Description
#1A	5.71'	0.005 af	17.33'W x 13.50'L x 4.83'H Field A 0.026 af Overall - 0.008 af Embedded = 0.018 af x 30.0% Voids
#2A	7.71'	0.006 af	Shea Dry Well 1000gal x 2 Inside #1 Inside= 62.0"W x 30.0"H => 12.86 sf x 10.00'L = 128.6 cf Outside= 68.0"W x 34.0"H => 15.80 sf x 10.50'L = 165.9 cf 2 Chambers in 2 Rows
		0.011 af	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Discarded	5.71'	2.410 in/hr Exfiltration over Surface area
#2	Primary	9.29'	6.0" Round Culvert L= 34.0' Ke= 0.500 Inlet / Outlet Invert= 9.29' / 6.54' S= 0.0809 ' / Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.20 sf

Discarded OutFlow Max=0.01 cfs @ 8.55 hrs HW=5.76' (Free Discharge)
 ↑1=Exfiltration (Exfiltration Controls 0.01 cfs)

Primary OutFlow Max=0.46 cfs @ 12.16 hrs HW=9.77' (Free Discharge)
 ↑2=Culvert (Inlet Controls 0.46 cfs @ 2.37 fps)

3890-10 WENDELLER

Prepared by Civil Environmental Consultants LLC

HydroCAD® 10.00-25 s/n 09048 © 2019 HydroCAD Software Solutions LLC

10 wendeller PROPOSED site
NRCC 24-hr D 100-Year Rainfall=8.83"

Printed 5/28/2019

Page 30

Pond 2P: Infiltration- 1000 gal drywell - Chamber Wizard Field A

Chamber Model = Shea Dry Well 1000gal (Shea Jumbo Rectangular Dry Well)

Inside= 62.0"W x 30.0"H => 12.86 sf x 10.00'L = 128.6 cf

Outside= 68.0"W x 34.0"H => 15.80 sf x 10.50'L = 165.9 cf

68.0" Wide + 36.0" Spacing = 104.0" C-C Row Spacing

1 Chambers/Row x 10.50' Long = 10.50' Row Length +18.0" End Stone x 2 = 13.50' Base Length

2 Rows x 68.0" Wide + 36.0" Spacing x 1 + 18.0" Side Stone x 2 = 17.33' Base Width

24.0" Base + 34.0" Chamber Height = 4.83' Field Height

2 Chambers x 128.6 cf = 257.2 cf Chamber Storage

2 Chambers x 165.9 cf = 331.8 cf Displacement

1,130.3 cf Field - 331.8 cf Chambers = 798.4 cf Stone x 30.0% Voids = 239.5 cf Stone Storage

Chamber Storage + Stone Storage = 496.7 cf = 0.011 af

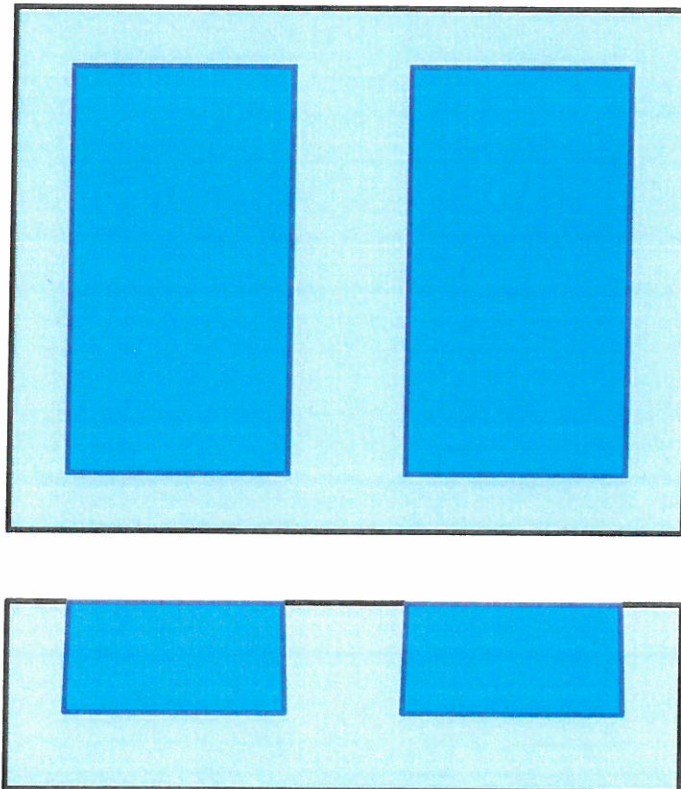
Overall Storage Efficiency = 43.9%

Overall System Size = 13.50' x 17.33' x 4.83'

2 Chambers

41.9 cy Field

29.6 cy Stone



3890-10 WENDELLER

Prepared by Civil Environmental Consultants LLC

HydroCAD® 10.00-25 s/n 09048 © 2019 HydroCAD Software Solutions LLC

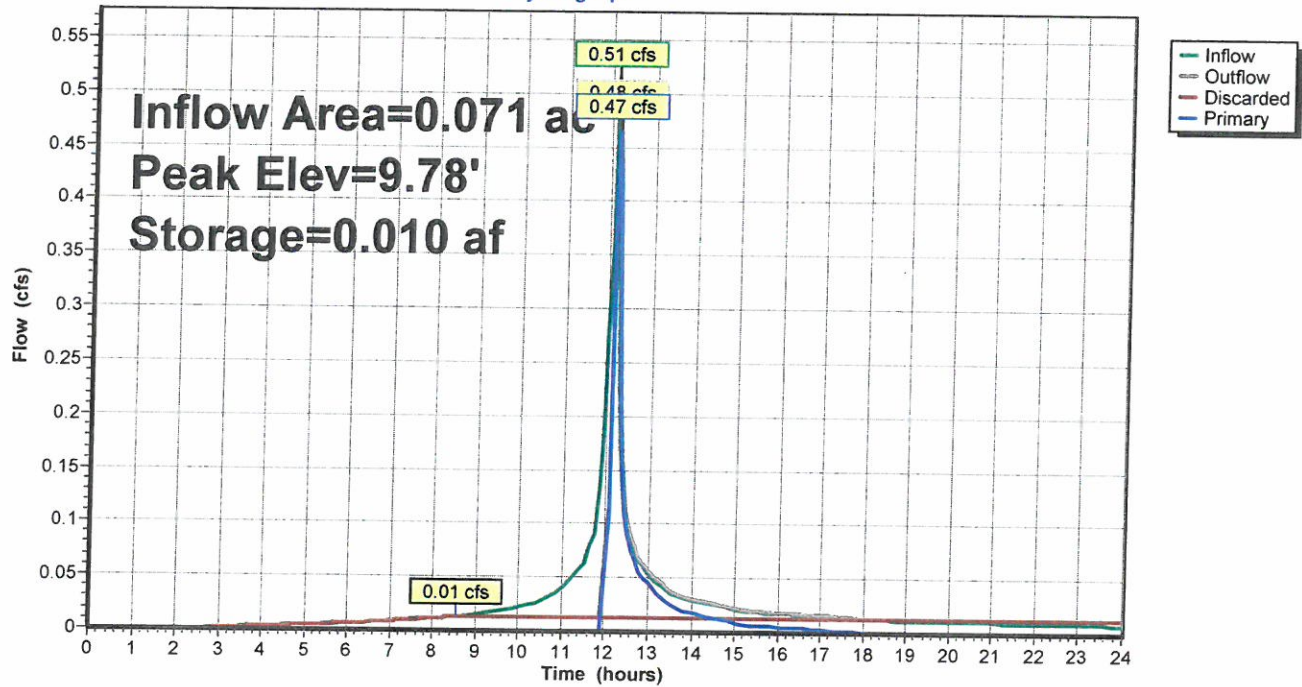
10 wendeller PROPOSED site
NRCC 24-hr D 100-Year Rainfall=8.83"

Printed 5/28/2019

Page 31

Pond 2P: Infiltration- 1000 gal drywell

Hydrograph



3890-10 WENDELLER

Prepared by Civil Environmental Consultants LLC

HydroCAD® 10.00-25 s/n 09048 © 2019 HydroCAD Software Solutions LLC

10 wendeller PROPOSED site
NRCC 24-hr D 100-Year Rainfall=8.83"

Printed 5/28/2019

Page 32

Hydrograph for Pond 2P: Infiltration- 1000 gal drywell

Time (hours)	Inflow (cfs)	Storage (acre-feet)	Elevation (feet)	Outflow (cfs)	Discarded (cfs)	Primary (cfs)
0.00	0.00	0.000	5.71	0.00	0.00	0.00
0.50	0.00	0.000	5.71	0.00	0.00	0.00
1.00	0.00	0.000	5.71	0.00	0.00	0.00
1.50	0.00	0.000	5.71	0.00	0.00	0.00
2.00	0.00	0.000	5.71	0.00	0.00	0.00
2.50	0.00	0.000	5.71	0.00	0.00	0.00
3.00	0.00	0.000	5.71	0.00	0.00	0.00
3.50	0.00	0.000	5.72	0.00	0.00	0.00
4.00	0.00	0.000	5.72	0.00	0.00	0.00
4.50	0.00	0.000	5.72	0.00	0.00	0.00
5.00	0.00	0.000	5.73	0.00	0.00	0.00
5.50	0.01	0.000	5.73	0.01	0.01	0.00
6.00	0.01	0.000	5.73	0.01	0.01	0.00
6.50	0.01	0.000	5.74	0.01	0.01	0.00
7.00	0.01	0.000	5.74	0.01	0.01	0.00
7.50	0.01	0.000	5.75	0.01	0.01	0.00
8.00	0.01	0.000	5.75	0.01	0.01	0.00
8.50	0.01	0.000	5.76	0.01	0.01	0.00
9.00	0.01	0.000	5.78	0.01	0.01	0.00
9.50	0.02	0.000	5.87	0.01	0.01	0.00
10.00	0.02	0.001	6.06	0.01	0.01	0.00
10.50	0.03	0.001	6.36	0.01	0.01	0.00
11.00	0.04	0.002	6.88	0.01	0.01	0.00
11.50	0.06	0.003	7.78	0.01	0.01	0.00
12.00	0.28	0.008	9.16	0.01	0.01	0.00
12.50	0.10	0.009	9.47	0.10	0.01	0.09
13.00	0.05	0.009	9.41	0.06	0.01	0.04
13.50	0.04	0.009	9.38	0.04	0.01	0.03
14.00	0.03	0.008	9.36	0.03	0.01	0.02
14.50	0.03	0.008	9.35	0.03	0.01	0.01
15.00	0.02	0.008	9.34	0.02	0.01	0.01
15.50	0.02	0.008	9.33	0.02	0.01	0.01
16.00	0.02	0.008	9.33	0.02	0.01	0.01
16.50	0.02	0.008	9.32	0.02	0.01	0.00
17.00	0.02	0.008	9.31	0.02	0.01	0.00
17.50	0.01	0.008	9.30	0.01	0.01	0.00
18.00	0.01	0.008	9.29	0.01	0.01	0.00
18.50	0.01	0.008	9.28	0.01	0.01	0.00
19.00	0.01	0.008	9.27	0.01	0.01	0.00
19.50	0.01	0.008	9.25	0.01	0.01	0.00
20.00	0.01	0.008	9.23	0.01	0.01	0.00
20.50	0.01	0.008	9.21	0.01	0.01	0.00
21.00	0.01	0.008	9.18	0.01	0.01	0.00
21.50	0.01	0.008	9.15	0.01	0.01	0.00
22.00	0.01	0.008	9.11	0.01	0.01	0.00
22.50	0.01	0.008	9.06	0.01	0.01	0.00
23.00	0.01	0.007	9.02	0.01	0.01	0.00
23.50	0.01	0.007	8.97	0.01	0.01	0.00
24.00	0.01	0.007	8.91	0.01	0.01	0.00

3890-10 WENDELLER

Prepared by Civil Environmental Consultants LLC

HydroCAD® 10.00-25 s/n 09048 © 2019 HydroCAD Software Solutions LLC

10 wendeller PROPOSED site
NRCC 24-hr D Custom Rainfall=1.00"

Printed 5/28/2019

Page 33

Time span=0.00-24.00 hrs, dt=0.05 hrs, 481 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 3S: 10 Wendeller- Proposed Runoff Area=3,090 sf 81.65% Impervious Runoff Depth>0.22"
Tc=6.0 min CN=87 Runoff=0.02 cfs 0.001 af

Pond 2P: Infiltration- 1000 gal drywell Peak Elev=5.76' Storage=0.000 af Inflow=0.02 cfs 0.001 af
Discarded=0.01 cfs 0.001 af Primary=0.00 cfs 0.000 af Outflow=0.01 cfs 0.001 af

Total Runoff Area = 0.071 ac Runoff Volume = 0.001 af Average Runoff Depth = 0.22"
18.35% Pervious = 0.013 ac 81.65% Impervious = 0.058 ac

3890-10 WENDELLER

Prepared by Civil Environmental Consultants LLC

HydroCAD® 10.00-25 s/n 09048 © 2019 HydroCAD Software Solutions LLC

10 wendeller PROPOSED site
NRCC 24-hr D Custom Rainfall=1.00"

Printed 5/28/2019

Page 34

Summary for Subcatchment 3S: 10 Wendeller- Proposed Site

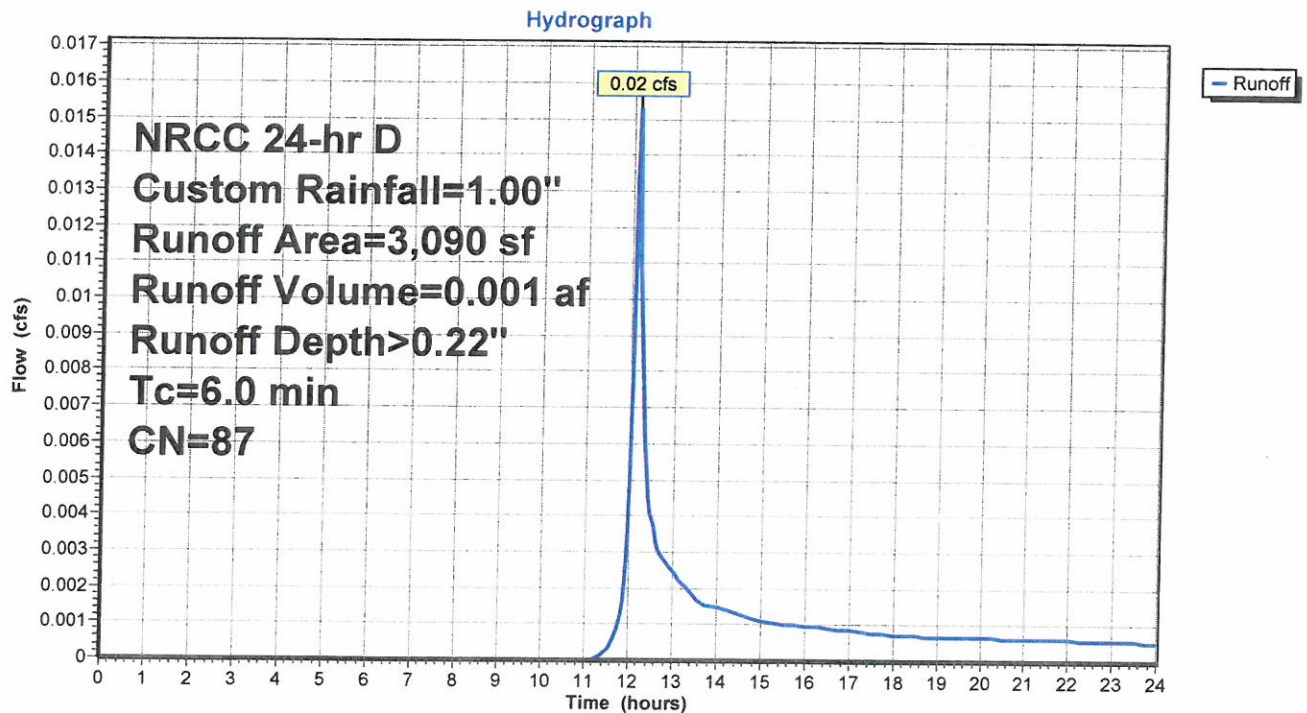
Runoff = 0.02 cfs @ 12.14 hrs, Volume= 0.001 af, Depth> 0.22"

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
NRCC 24-hr D Custom Rainfall=1.00"

Area (sf)	CN	Description
2,503	98	Roofs, HSG A
20	98	Paved parking, HSG A
567	39	>75% Grass cover, Good, HSG A
3,090	87	Weighted Average
567		18.35% Pervious Area
2,523		81.65% Impervious Area

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

Subcatchment 3S: 10 Wendeller- Proposed Site



3890-10 WENDELLER

Prepared by Civil Environmental Consultants LLC

HydroCAD® 10.00-25 s/n 09048 © 2019 HydroCAD Software Solutions LLC

10 wendeller PROPOSED site
NRCC 24-hr D Custom Rainfall=1.00"

Printed 5/28/2019

Page 35

Hydrograph for Subcatchment 3S: 10 Wendeller- Proposed Site

Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)	Time (hours)	Precip. (inches)	Excess (inches)	Runoff (cfs)
0.00	0.00	0.00	0.00	12.75	0.69	0.08	0.00
0.25	0.00	0.00	0.00	13.00	0.72	0.09	0.00
0.50	0.01	0.00	0.00	13.25	0.73	0.10	0.00
0.75	0.01	0.00	0.00	13.50	0.75	0.10	0.00
1.00	0.01	0.00	0.00	13.75	0.76	0.11	0.00
1.25	0.02	0.00	0.00	14.00	0.78	0.12	0.00
1.50	0.02	0.00	0.00	14.25	0.79	0.12	0.00
1.75	0.03	0.00	0.00	14.50	0.80	0.12	0.00
2.00	0.03	0.00	0.00	14.75	0.81	0.13	0.00
2.25	0.03	0.00	0.00	15.00	0.82	0.13	0.00
2.50	0.04	0.00	0.00	15.25	0.82	0.14	0.00
2.75	0.04	0.00	0.00	15.50	0.83	0.14	0.00
3.00	0.05	0.00	0.00	15.75	0.84	0.14	0.00
3.25	0.05	0.00	0.00	16.00	0.85	0.15	0.00
3.50	0.06	0.00	0.00	16.25	0.85	0.15	0.00
3.75	0.06	0.00	0.00	16.50	0.86	0.15	0.00
4.00	0.06	0.00	0.00	16.75	0.87	0.16	0.00
4.25	0.07	0.00	0.00	17.00	0.87	0.16	0.00
4.50	0.07	0.00	0.00	17.25	0.88	0.16	0.00
4.75	0.08	0.00	0.00	17.50	0.89	0.17	0.00
5.00	0.08	0.00	0.00	17.75	0.89	0.17	0.00
5.25	0.09	0.00	0.00	18.00	0.90	0.17	0.00
5.50	0.09	0.00	0.00	18.25	0.90	0.17	0.00
5.75	0.10	0.00	0.00	18.50	0.91	0.18	0.00
6.00	0.10	0.00	0.00	18.75	0.91	0.18	0.00
6.25	0.11	0.00	0.00	19.00	0.92	0.18	0.00
6.50	0.11	0.00	0.00	19.25	0.92	0.18	0.00
6.75	0.12	0.00	0.00	19.50	0.93	0.19	0.00
7.00	0.13	0.00	0.00	19.75	0.93	0.19	0.00
7.25	0.13	0.00	0.00	20.00	0.94	0.19	0.00
7.50	0.14	0.00	0.00	20.25	0.94	0.19	0.00
7.75	0.15	0.00	0.00	20.50	0.94	0.19	0.00
8.00	0.15	0.00	0.00	20.75	0.95	0.20	0.00
8.25	0.16	0.00	0.00	21.00	0.95	0.20	0.00
8.50	0.17	0.00	0.00	21.25	0.96	0.20	0.00
8.75	0.18	0.00	0.00	21.50	0.96	0.20	0.00
9.00	0.18	0.00	0.00	21.75	0.97	0.21	0.00
9.25	0.19	0.00	0.00	22.00	0.97	0.21	0.00
9.50	0.20	0.00	0.00	22.25	0.97	0.21	0.00
9.75	0.21	0.00	0.00	22.50	0.98	0.21	0.00
10.00	0.22	0.00	0.00	22.75	0.98	0.21	0.00
10.25	0.24	0.00	0.00	23.00	0.99	0.22	0.00
10.50	0.25	0.00	0.00	23.25	0.99	0.22	0.00
10.75	0.27	0.00	0.00	23.50	0.99	0.22	0.00
11.00	0.28	0.00	0.00	23.75	1.00	0.22	0.00
11.25	0.31	0.00	0.00	24.00	1.00	0.22	0.00
11.50	0.33	0.00	0.00				
11.75	0.38	0.00	0.00				
12.00	0.48	0.02	0.01				
12.25	0.62	0.06	0.01				
12.50	0.66	0.07	0.00				

3890-10 WENDELLER

Prepared by Civil Environmental Consultants LLC

HydroCAD® 10.00-25 s/n 09048 © 2019 HydroCAD Software Solutions LLC

10 wendeller PROPOSED site
NRCC 24-hr D Custom Rainfall=1.00"

Printed 5/28/2019

Page 36

Summary for Pond 2P: Infiltration- 1000 gal drywell

Inflow Area = 0.071 ac, 81.65% Impervious, Inflow Depth > 0.22" for Custom event
 Inflow = 0.02 cfs @ 12.14 hrs, Volume= 0.001 af
 Outflow = 0.01 cfs @ 12.20 hrs, Volume= 0.001 af, Atten= 20%, Lag= 3.3 min
 Discarded = 0.01 cfs @ 12.20 hrs, Volume= 0.001 af
 Primary = 0.00 cfs @ 0.00 hrs, Volume= 0.000 af

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
 Peak Elev= 5.76' @ 12.20 hrs Surf.Area= 0.005 ac Storage= 0.000 af

Plug-Flow detention time= 4.3 min calculated for 0.001 af (100% of inflow)
 Center-of-Mass det. time= 3.0 min (924.4 - 921.3)

Volume	Invert	Avail.Storage	Storage Description
#1A	5.71'	0.005 af	17.33'W x 13.50'L x 4.83'H Field A 0.026 af Overall - 0.008 af Embedded = 0.018 af x 30.0% Voids
#2A	7.71'	0.006 af	Shea Dry Well 1000gal x 2 Inside #1 Inside= 62.0"W x 30.0"H => 12.86 sf x 10.00'L = 128.6 cf Outside= 68.0"W x 34.0"H => 15.80 sf x 10.50'L = 165.9 cf 2 Chambers in 2 Rows
		0.011 af	Total Available Storage

Storage Group A created with Chamber Wizard

Device	Routing	Invert	Outlet Devices
#1	Discarded	5.71'	2.410 in/hr Exfiltration over Surface area
#2	Primary	9.29'	6.0" Round Culvert L= 34.0' Ke= 0.500 Inlet / Outlet Invert= 9.29' / 6.54' S= 0.0809 '/' Cc= 0.900 n= 0.010 PVC, smooth interior, Flow Area= 0.20 sf

Discarded OutFlow Max=0.01 cfs @ 12.20 hrs HW=5.75' (Free Discharge)
 ↑1=Exfiltration (Exfiltration Controls 0.01 cfs)

Primary OutFlow Max=0.00 cfs @ 0.00 hrs HW=5.71' (Free Discharge)
 ↑2=Culvert (Controls 0.00 cfs)

3890-10 WENDELLER

Prepared by Civil Environmental Consultants LLC

HydroCAD® 10.00-25 s/n 09048 © 2019 HydroCAD Software Solutions LLC

10 wendeller PROPOSED site
NRCC 24-hr D Custom Rainfall=1.00"

Printed 5/28/2019

Page 37

Pond 2P: Infiltration- 1000 gal drywell - Chamber Wizard Field A

Chamber Model = Shea Dry Well 1000gal (Shea Jumbo Rectangular Dry Well)

Inside= 62.0"W x 30.0"H => 12.86 sf x 10.00'L = 128.6 cf

Outside= 68.0"W x 34.0"H => 15.80 sf x 10.50'L = 165.9 cf

68.0" Wide + 36.0" Spacing = 104.0" C-C Row Spacing

1 Chambers/Row x 10.50' Long = 10.50' Row Length +18.0" End Stone x 2 = 13.50' Base Length

2 Rows x 68.0" Wide + 36.0" Spacing x 1 + 18.0" Side Stone x 2 = 17.33' Base Width

24.0" Base + 34.0" Chamber Height = 4.83' Field Height

2 Chambers x 128.6 cf = 257.2 cf Chamber Storage

2 Chambers x 165.9 cf = 331.8 cf Displacement

1,130.3 cf Field - 331.8 cf Chambers = 798.4 cf Stone x 30.0% Voids = 239.5 cf Stone Storage

Chamber Storage + Stone Storage = 496.7 cf = 0.011 af

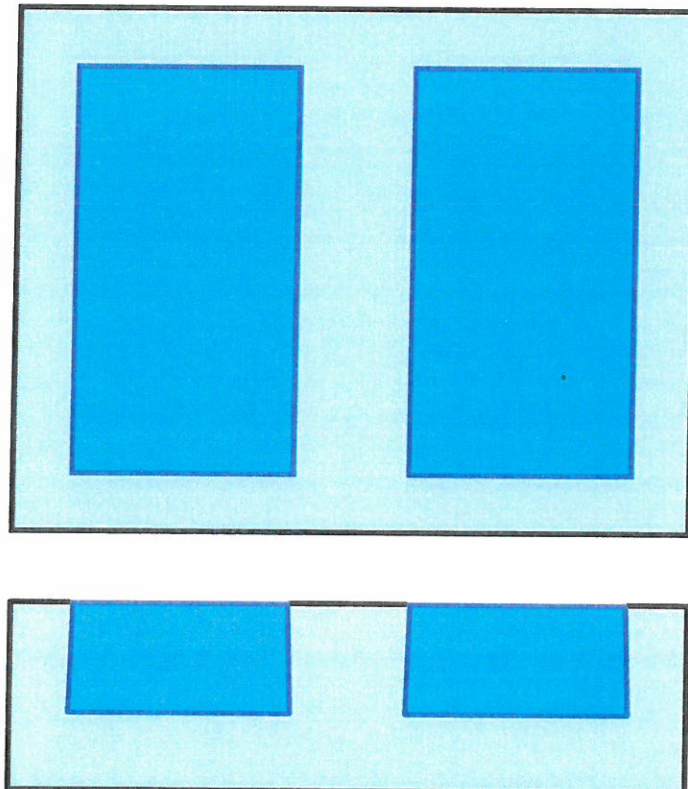
Overall Storage Efficiency = 43.9%

Overall System Size = 13.50' x 17.33' x 4.83'

2 Chambers

41.9 cy Field

29.6 cy Stone



3890-10 WENDELLER

Prepared by Civil Environmental Consultants LLC

HydroCAD® 10.00-25 s/n 09048 © 2019 HydroCAD Software Solutions LLC

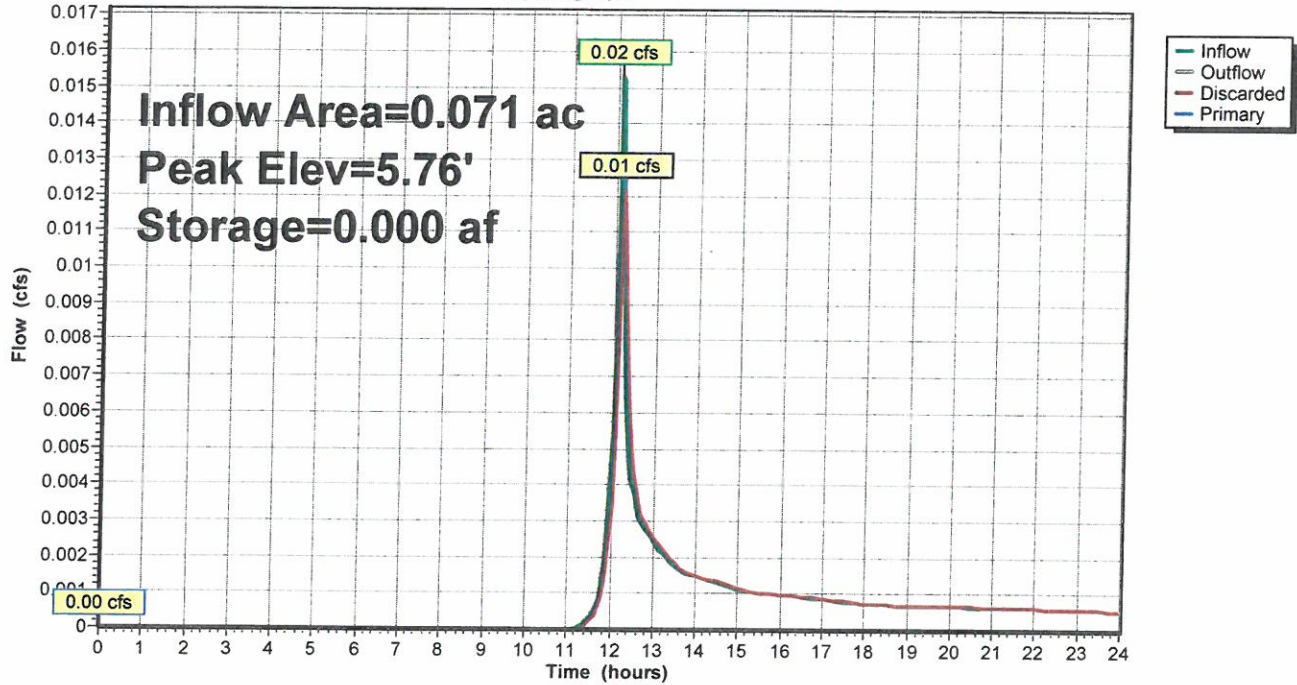
10 wendeller PROPOSED site
NRCC 24-hr D Custom Rainfall=1.00"

Printed 5/28/2019

Page 38

Pond 2P: Infiltration- 1000 gal drywell

Hydrograph



3890-10 WENDELLER

Prepared by Civil Environmental Consultants LLC

HydroCAD® 10.00-25 s/n 09048 © 2019 HydroCAD Software Solutions LLC

10 wendeller PROPOSED site
NRCC 24-hr D Custom Rainfall=1.00"

Printed 5/28/2019

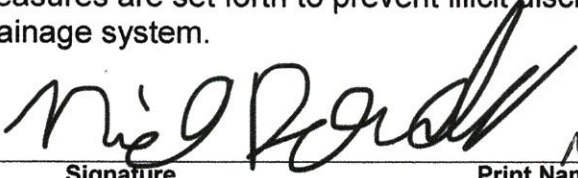
Page 39

Hydrograph for Pond 2P: Infiltration- 1000 gal drywell

Time (hours)	Inflow (cfs)	Storage (acre-feet)	Elevation (feet)	Outflow (cfs)	Discarded (cfs)	Primary (cfs)
0.00	0.00	0.000	5.71	0.00	0.00	0.00
0.50	0.00	0.000	5.71	0.00	0.00	0.00
1.00	0.00	0.000	5.71	0.00	0.00	0.00
1.50	0.00	0.000	5.71	0.00	0.00	0.00
2.00	0.00	0.000	5.71	0.00	0.00	0.00
2.50	0.00	0.000	5.71	0.00	0.00	0.00
3.00	0.00	0.000	5.71	0.00	0.00	0.00
3.50	0.00	0.000	5.71	0.00	0.00	0.00
4.00	0.00	0.000	5.71	0.00	0.00	0.00
4.50	0.00	0.000	5.71	0.00	0.00	0.00
5.00	0.00	0.000	5.71	0.00	0.00	0.00
5.50	0.00	0.000	5.71	0.00	0.00	0.00
6.00	0.00	0.000	5.71	0.00	0.00	0.00
6.50	0.00	0.000	5.71	0.00	0.00	0.00
7.00	0.00	0.000	5.71	0.00	0.00	0.00
7.50	0.00	0.000	5.71	0.00	0.00	0.00
8.00	0.00	0.000	5.71	0.00	0.00	0.00
8.50	0.00	0.000	5.71	0.00	0.00	0.00
9.00	0.00	0.000	5.71	0.00	0.00	0.00
9.50	0.00	0.000	5.71	0.00	0.00	0.00
10.00	0.00	0.000	5.71	0.00	0.00	0.00
10.50	0.00	0.000	5.71	0.00	0.00	0.00
11.00	0.00	0.000	5.71	0.00	0.00	0.00
11.50	0.00	0.000	5.71	0.00	0.00	0.00
12.00	0.01	0.000	5.72	0.00	0.00	0.00
12.50	0.00	0.000	5.73	0.00	0.00	0.00
13.00	0.00	0.000	5.72	0.00	0.00	0.00
13.50	0.00	0.000	5.72	0.00	0.00	0.00
14.00	0.00	0.000	5.72	0.00	0.00	0.00
14.50	0.00	0.000	5.71	0.00	0.00	0.00
15.00	0.00	0.000	5.71	0.00	0.00	0.00
15.50	0.00	0.000	5.71	0.00	0.00	0.00
16.00	0.00	0.000	5.71	0.00	0.00	0.00
16.50	0.00	0.000	5.71	0.00	0.00	0.00
17.00	0.00	0.000	5.71	0.00	0.00	0.00
17.50	0.00	0.000	5.71	0.00	0.00	0.00
18.00	0.00	0.000	5.71	0.00	0.00	0.00
18.50	0.00	0.000	5.71	0.00	0.00	0.00
19.00	0.00	0.000	5.71	0.00	0.00	0.00
19.50	0.00	0.000	5.71	0.00	0.00	0.00
20.00	0.00	0.000	5.71	0.00	0.00	0.00
20.50	0.00	0.000	5.71	0.00	0.00	0.00
21.00	0.00	0.000	5.71	0.00	0.00	0.00
21.50	0.00	0.000	5.71	0.00	0.00	0.00
22.00	0.00	0.000	5.71	0.00	0.00	0.00
22.50	0.00	0.000	5.71	0.00	0.00	0.00
23.00	0.00	0.000	5.71	0.00	0.00	0.00
23.50	0.00	0.000	5.71	0.00	0.00	0.00
24.00	0.00	0.000	5.71	0.00	0.00	0.00

ILLICIT DISCHARGE COMPLIANCE STATEMENT

I verify that no illicit discharges exist from the 10 Wendeller Street South Boston MA residential building. Through the implementation of the Operation and Maintenance Plan, measures are set forth to prevent illicit discharges from entering the stormwater management drainage system.



NIALL DOWDELL

9-16-19

Signature

Print Name

Date

Title

Company

Signature

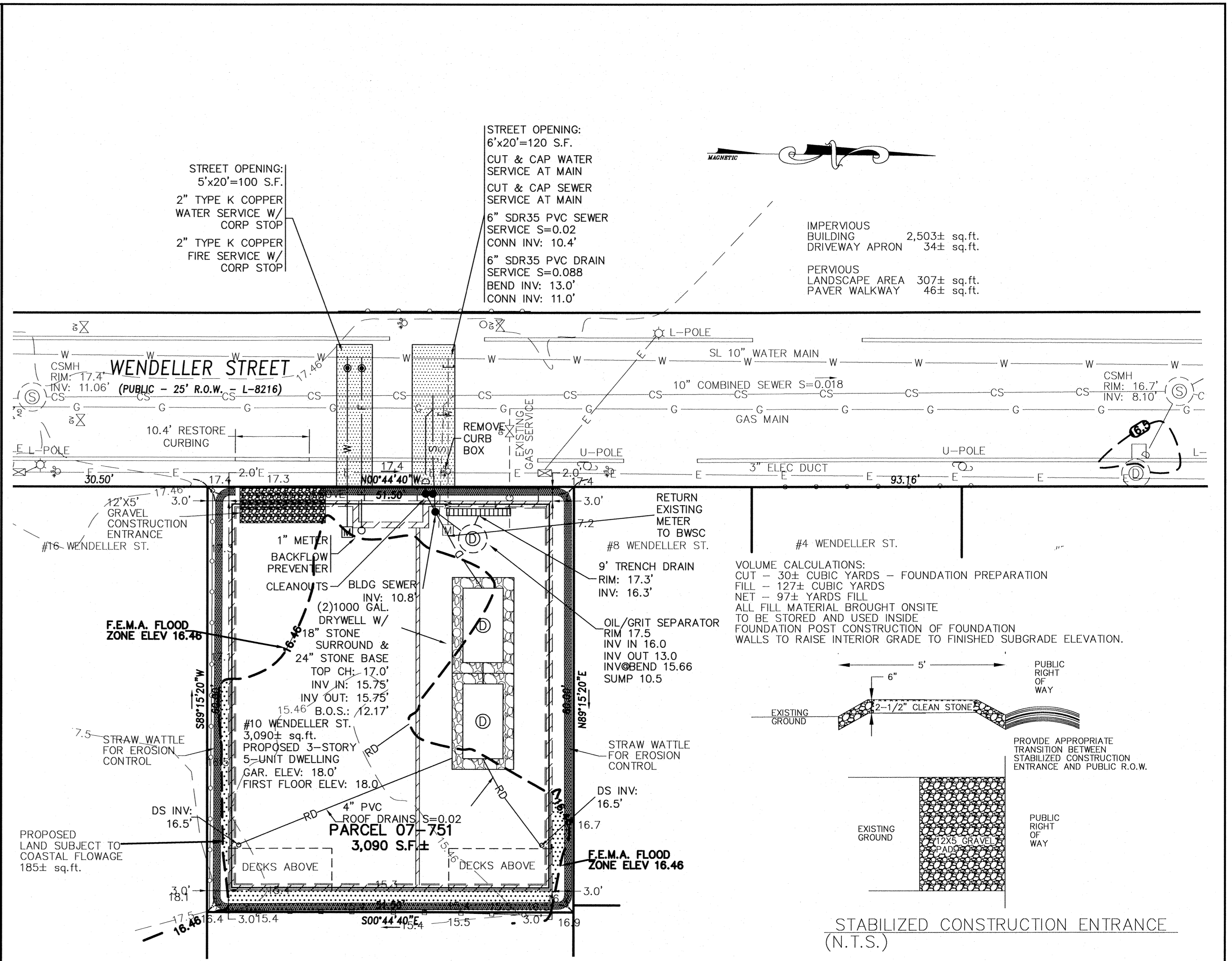
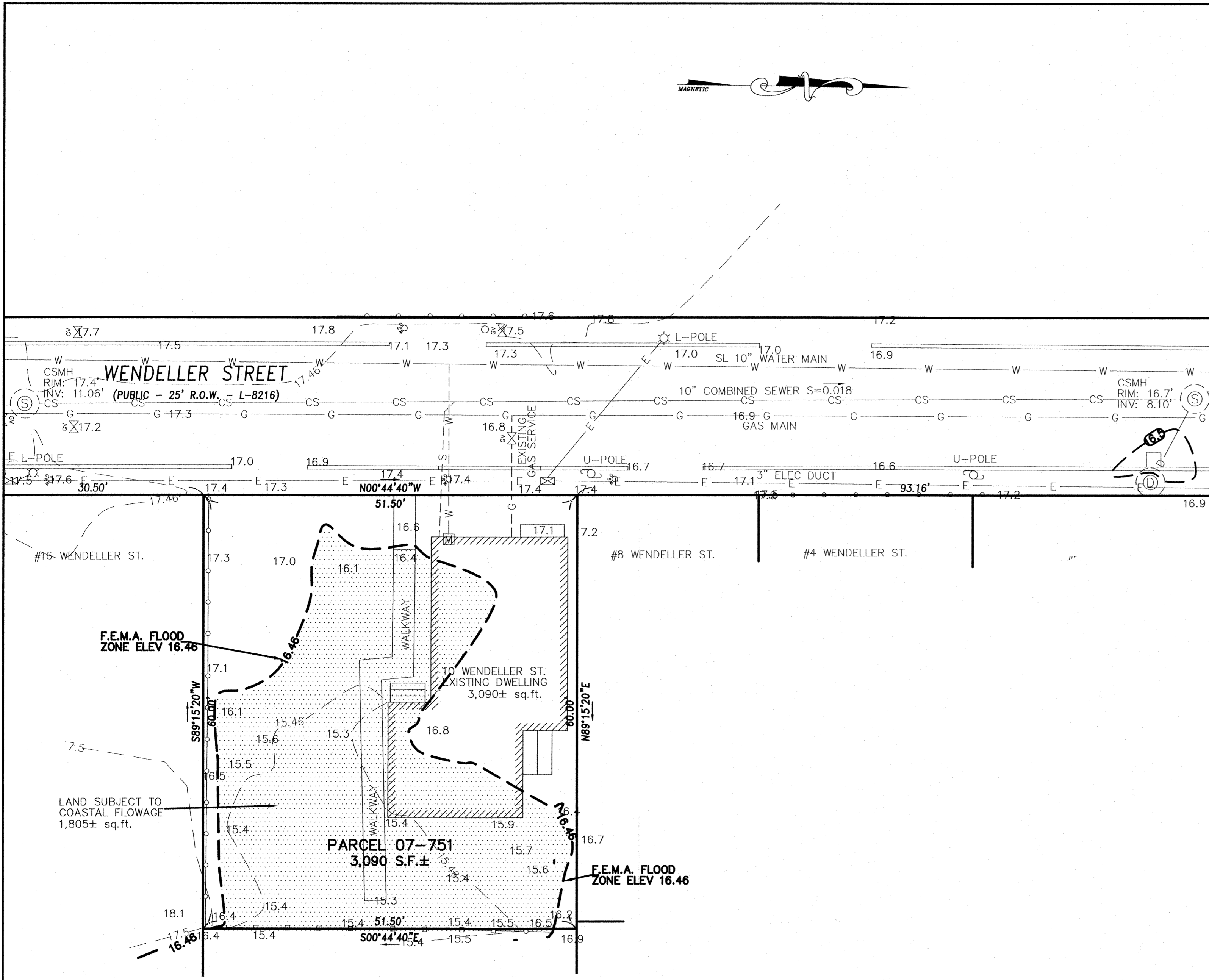
Print Name

Date

Title

Company

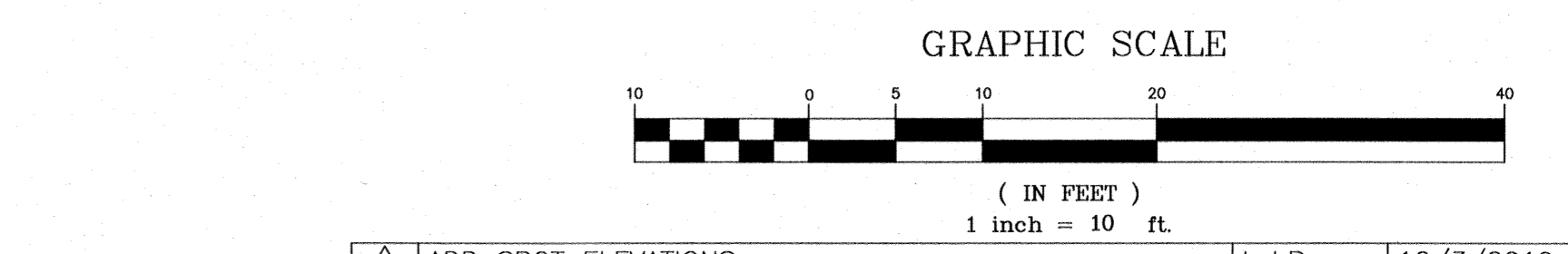
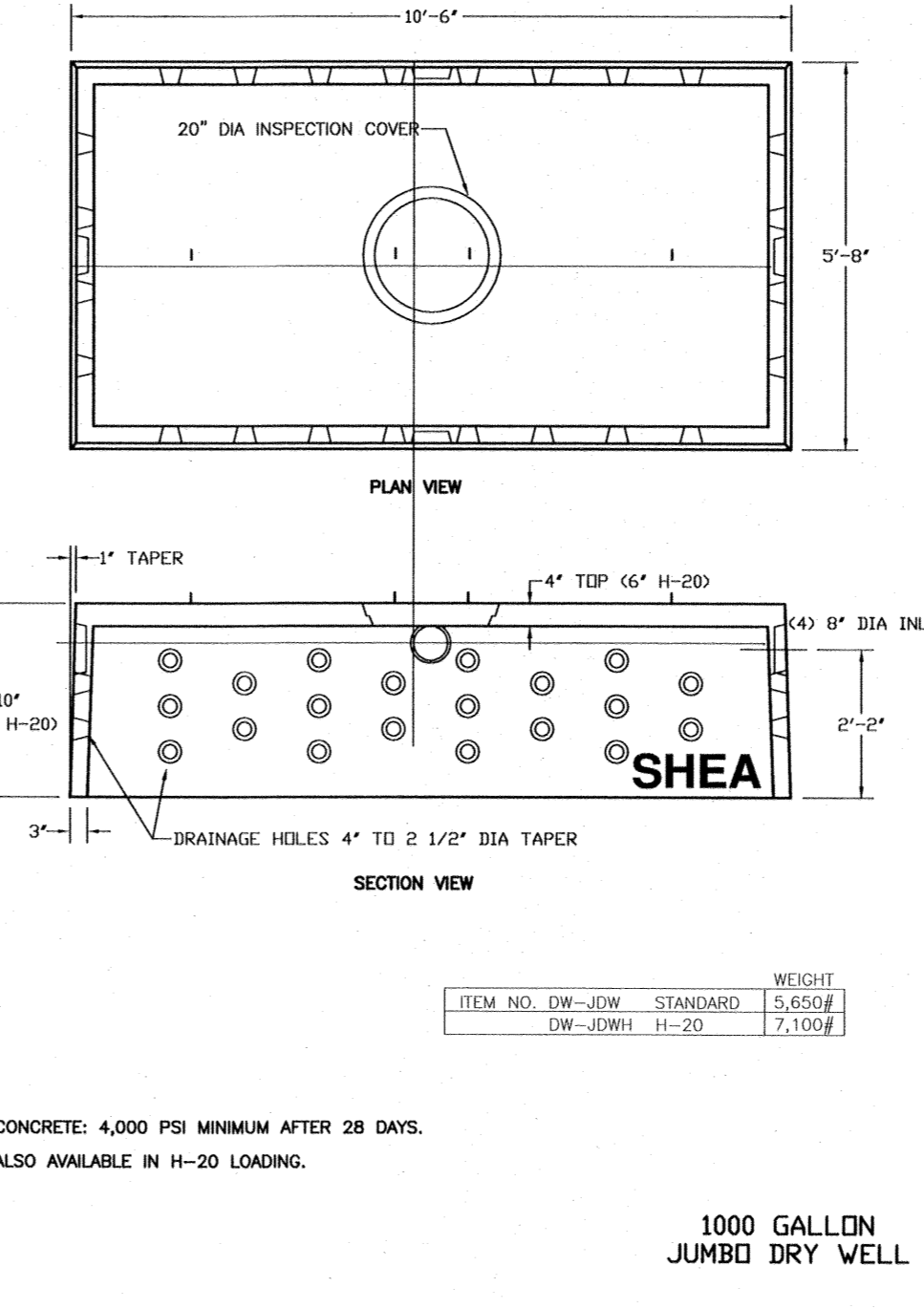
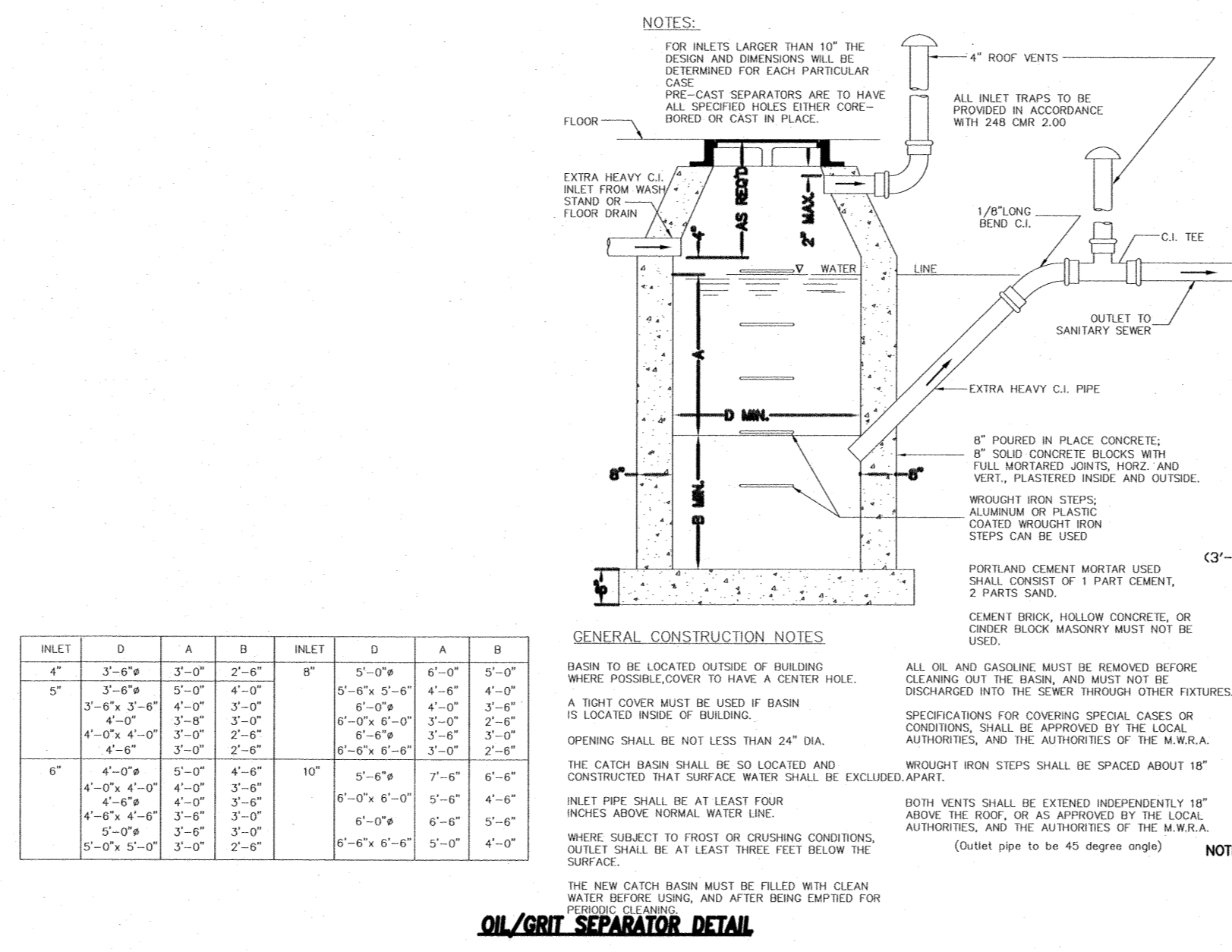
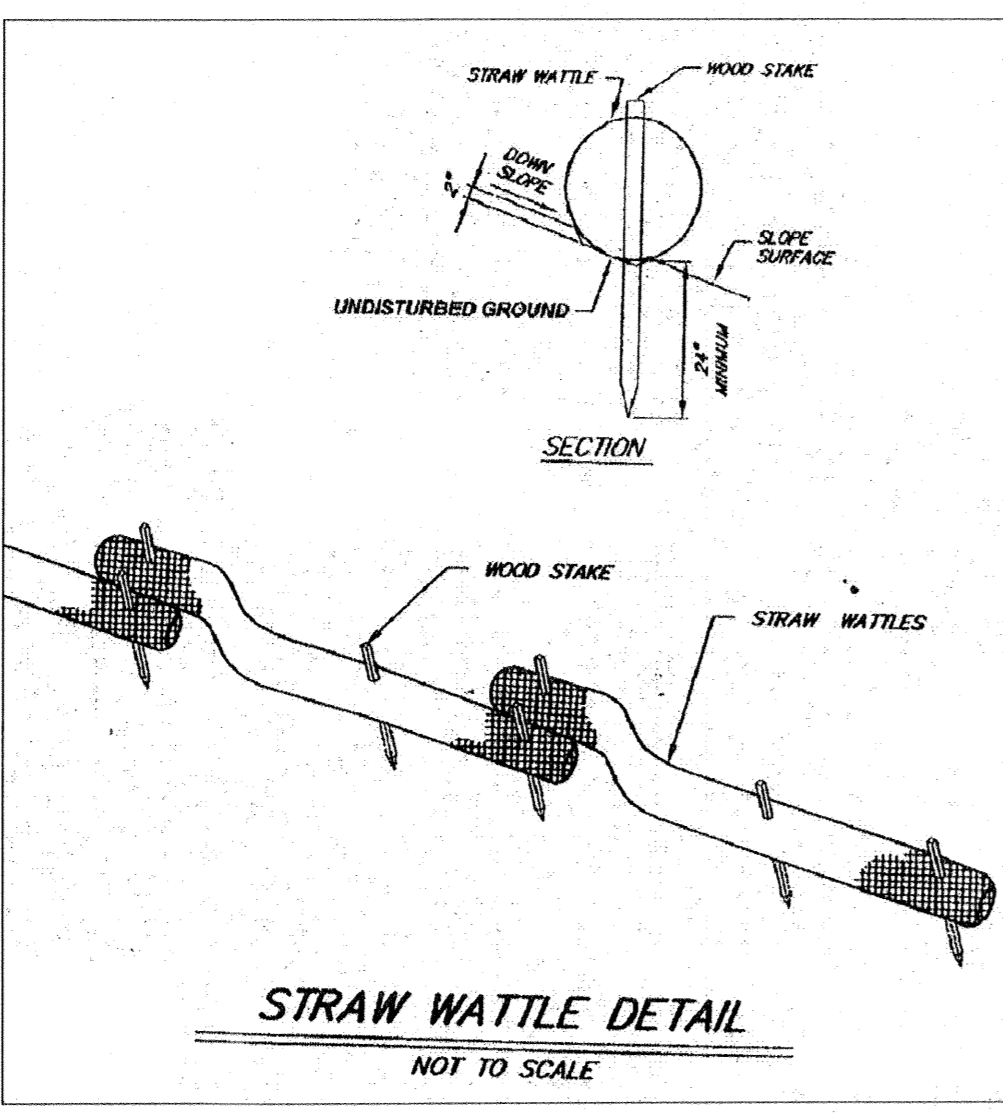
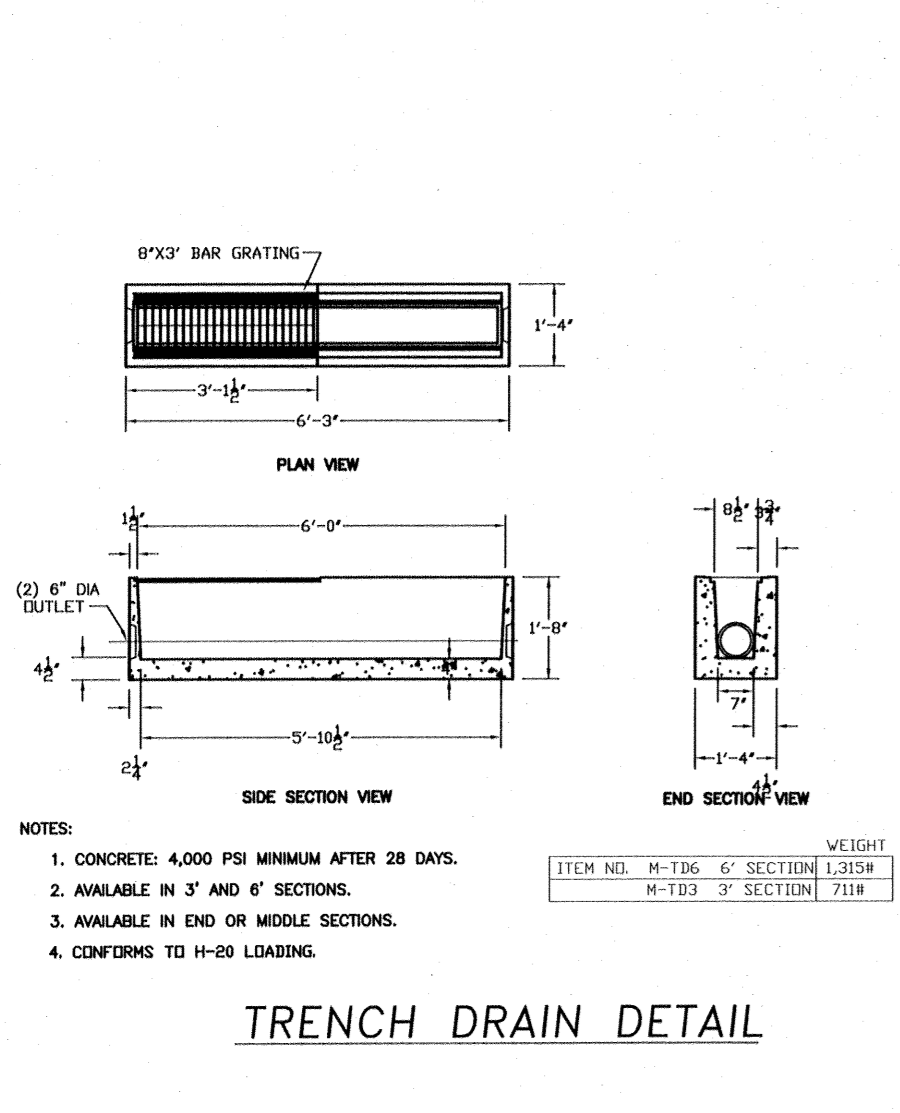
Note: This certification must be signed before stormwater is conveyed to the proposed stormwater drainage system in accordance with Standard 10 of the Massachusetts Stormwater Management Standards.



EXISTING SITE
SCALE: 1"=10'

NAVD88 ELEVATION ADJUSTMENT
TO BOSTON CITY BASE = 6.46'
NAVD88 ELEV. 0 = CITY OF BOSTON BASE ELEV. 6.46'

PROPOSED SITE
SCALE: 1"=10'

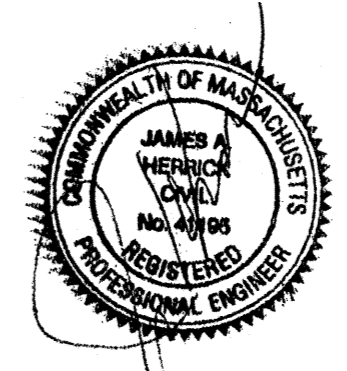


ADD SPOT ELEVATIONS	L.J.B.	10/3/2019
REVISE IMPERVIOUS AND PERVIOUS AREAS	L.J.B.	9/20/2019
REVISE BUILDING FOOTPRINT OTHER MINOR REVISIONS	L.J.B.	9/4/2019
REVISIONS PER CONCOM REQUIREMENTS	L.J.B.	5/28/2019

CONSERVATION PLAN
10 WENDELLER STREET
SOUTH BOSTON, MA
FOR
MALCOLM BARBER

CIVIL ENVIRONMENTAL CONSULTANTS
8 OAK STREET PEABODY, MA 01960 978-531-1191

SHEET NO: 1 OF 1	DATE: 5/7/2019	JOB: 3890
DRAWN BY: L.J.B.		





LOCUS: N.T.S.



STREET VIEW 1

PROPOSED 3-STORY, 5-UNIT BUILDING W/ 7-CAR GARAGE 10 WENDELLER STREET, SOUTH BOSTON, MA

OWNER:
BAKER COURT, LLC
29 CARROLLS LANE
QUINCY, MA 02169
TEL: 617-590-3578

PROJECT ARCHITECT:
TIM JOHNSON ARCHITECT, LLC
190 OLD COLONY AVENUE
BOSTON, MA 02127
TEL: 617-464-4363

PROPOSED 3-STORY, 5-UNIT
BUILDING W/ 7-CAR GARAGE
10 WENDELLER STREET
SOUTH BOSTON, MA 02127

8/1/19					
<u>BOSTON ZONING CODE REVIEW</u>					
1.) Parcels 750 & 751 are located within zoning district L-.5 (H-1).					
Combined lots: 3,090 sf.					
2.) The proposed 5-unit residential building contains 6,298.0 FAR sf of floor area.					
3.) The type of uses allowed in L districts include multi-family dwellings and accessory parking.					
4.) Article 13 Dimensional Regulations: (any dwelling, note 5)					
	Item	Zone	Req'd/Allowed	New 5-unit bldg.	Remarks
✓	a.) Lot size min.	H-1	5,000 sf	3,090 sf	Note 5
✓	b.) Lot area min./add'l unit	H-1	1,000 sf/add'l unit	10,000 sf lot	Note 1
	c.) Lot width min.	H-1	50 ft	51.50 ft	
✓	d.) Floor to area ratio	L-.5	0.5	2	Note 6
✓	e.) Height of building max.	L-.5	2-1/2 st/35 ft	3 st/33'-7" ft	
✓	f.) Usable open space/D.U.	H-1	400 sf/D.U.,	<100 sf/D.U.	
	g.) Front yard min. depth	"	20 ft/Modal yard	Modal yard or 0.5 ft	Note 2
	h.) Side yard min. depth	"	None	3.0' (Lt) & 3.0' (Rt)	Note 3
✓	i.) Rear yard min. depth	"	10 ft	3.0 ft	Note 4
	j.) Parapet setback	H-1	N/A	N/A	N/A
	k.) Off-street parking	Art. 23	1 sp/D.U. or 5 sp.	7 spaces	With an FAR 0.5
✓/ DENOTES ZONING RELIEF REQUIRED.					
Note 1: 5,000 sf (1st unit) + 5,000 (2, 3, 4, & 5 units) = 10,000 sf lot area min.					
Note 2: Section 18-2, conformity w/existing building alignment.					
Note 3: Section 19-4, side yards in H districts.					
Note 4: Sections 20-4 & 20-8, rear yards of certain shallow lots.					
Note 5: Section 13-4, dwellings in non-residential districts.					
Note 6: 6,298 sf ÷ 3,090 sf lot = 2.0 FAR					

PROJECT INFO:

Address: 10 Wendeller Street, South Boston, MA
 Exist. Occupancy: Single Family/ Vacant Land
 Proposed Occupancy: R-2, Multi-Family
 S-2, Garage Parking

Lot: 3,090 SF
 Parcel: 750 & 751
 District: L-5
 Ward: 07

SCHEDULE OF DRAWINGS

- A00 PROJECT INFORMATION
- C01 ARCHITECTURAL SITE PLAN
- C02 EXISTING CONDITIONS SITE PLAN
- V01 PERSPECTIVE VIEWS
- V02 PERSPECTIVE VIEWS
- A01 FOUNDATION PLAN
- A02 GROUND FLOOR PLAN
- A03 SECOND FLOOR PLAN
- A04 THIRD FLOOR PLAN
- A05 ROOF PLAN
- A06 1-1 BUILDING SECTION
- A07 2-2 BUILDING SECTION
- A08 WEST (STREET) ELEVATION
- A09 EAST (REAR) ELEVATION
- A10 NORTH ELEVATION
- A11 SOUTH ELEVATION
- A12 SCHEDULES
- A13 WALL/ FLOOR TYPES
- A14 WALL/FLOOR TYPES

Net Square Footage*			
Level	GSF	Net SF*	FAR SF
G	2,475.0 sf	1,318.0 sf	1,446.0 sf
2	2,426.0 sf	2,316.0 sf	2,426.0 sf
3	2,426.0 sf	2,375.0 sf	2,426.0 sf
Totals	7,327.0 sf	6,009.0 sf	6,298.0 sf

*NET square footage is measured to ext. face of walls and dimising walls and excludes basement, storage, laundry and mechanical areas.

REVISIONS	
△ 08/17/19	△
△ 08/26/19	△
△	△

Tim Johnson Architect, LLC

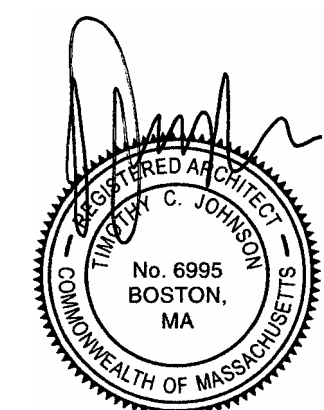


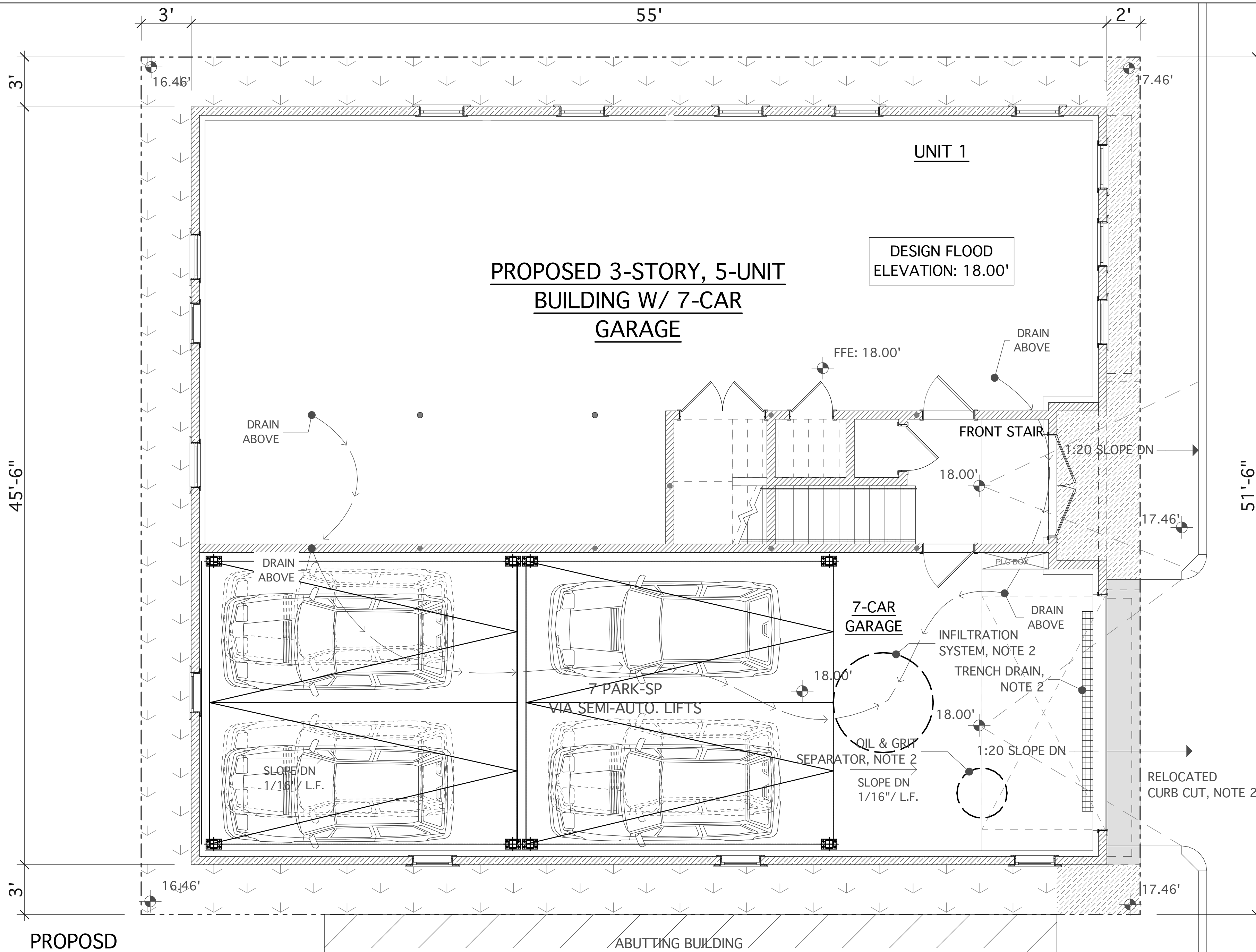
PERMIT SET

PROJECT INFORMATION

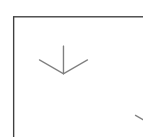
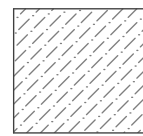

DATE: 08/02/19 SC: N. T. S.

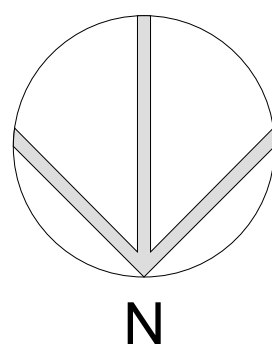
A00





**PROPOSED
SITE SURFACES:**

-  RED FESCUE GRASS
-  PERVIOUS SURFACE
-  IMPERVIOUS SURFACE



SITE PLAN

LOT: 3,090 sq ft
 0 2' 4' 8'

NOTE: NAVD 88 ELEVATION ADJUSTMENT TO
 BOSTON CITY BASE = 16.46'
 NAVD 88 ELEVATION 10 = 16.46' BOSTON BASE

WENDELLER ST.

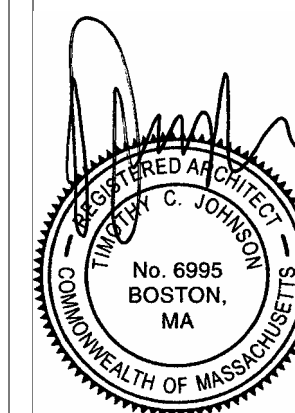
REVISIONS	
△ 08/17/19	△
△ 08/26/19	△
Tim Johnson Architect, LLC	



PERMIT SET

ARCHITECTURAL
SITE PLAN

DATE: 08/02/19 SC: 1/4" = 1'-0"

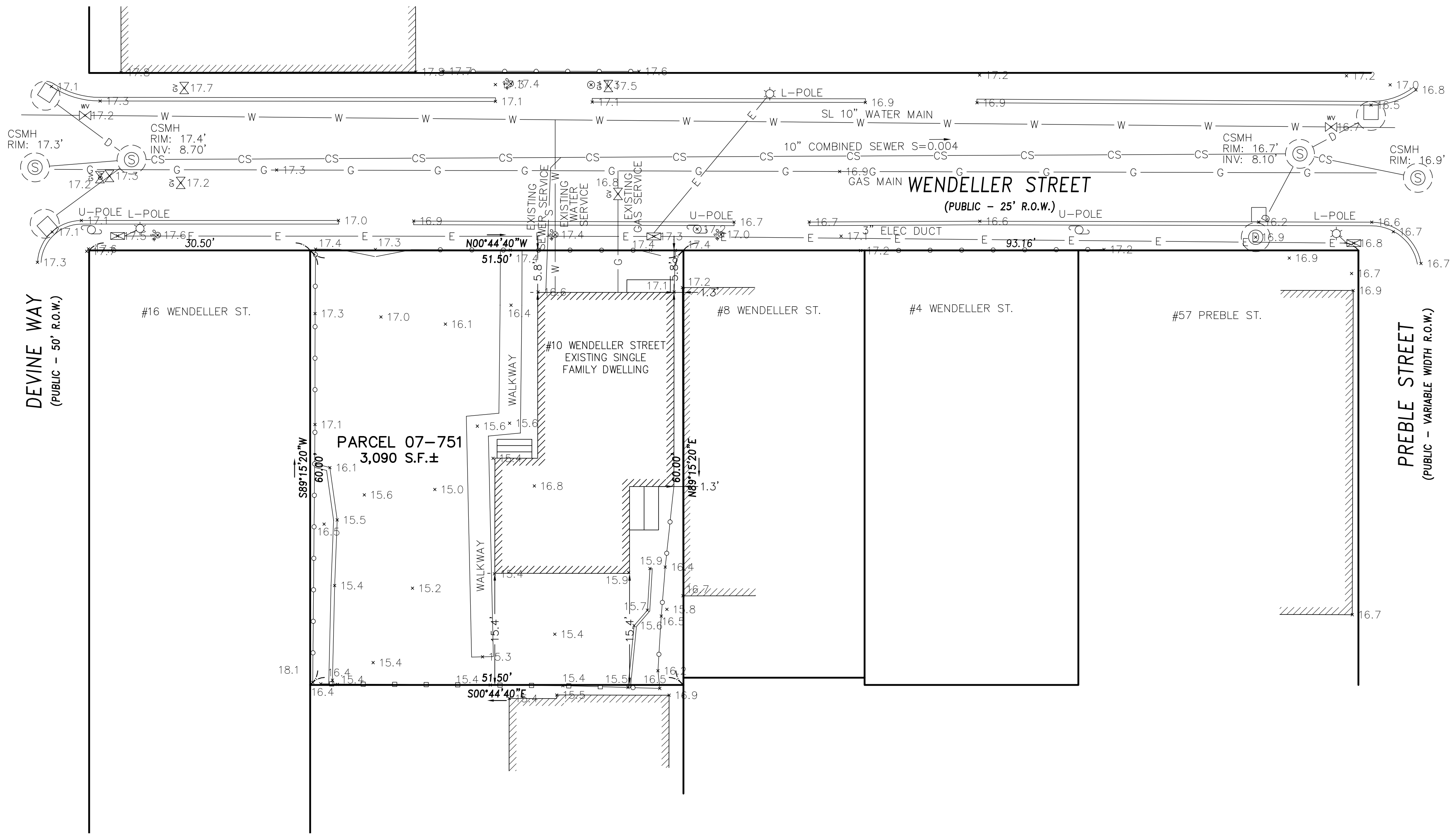


C01

OWNER:
 BAKER COURT, LLC
 29 CARROLLS LANE
 QUINCY, MA 02169
 TEL: 617-590-3578


PROJECT ARCHITECT:
 TIM JOHNSON ARCHITECT, LLC
 190 OLD COLONY AVENUE
 BOSTON, MA 02127
 TEL: 617-464-4363

PROPOSED 3-STORY, 5-UNIT
 BUILDING W/ 7-CAR GARAGE
 10 WENDELLER STREET
 SOUTH BOSTON, MA 02127



EXISTING CONDITIONS SITE PLAN
 10 WENDELLER STREET
 SOUTH BOSTON, MA
 FOR
 MALCOLM BARBER
 CIVIL ENVIRONMENTAL CONSULTANTS
 8 OAK STREET PEABODY, MA 01960 978-531-1191

SHEET NO: 1 OF 1
 DATE: 11/8/2017 JOB: 3890
 DRAWN BY: C.R.L.

<p>OWNER: BAKER COURT, LLC 29 CARROLLS LANE QUINCY, MA 02169 TEL: 617-590-3578</p> <p>PROJECT ARCHITECT: TIM JOHNSON ARCHITECT, LLC 190 OLD COLONY AVENUE BOSTON, MA 02127 TEL: 617-464-4363</p>	<p>PROPOSED 3-STORY, 5-UNIT BUILDING W/ 7-CAR GARAGE 10 WENDELLER STREET SOUTH BOSTON, MA 02127</p>						
<p>REVISIONS</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%;">△ 08/17/19</td> <td style="width: 50%;">△</td> </tr> <tr> <td>△ 08/26/19</td> <td>△</td> </tr> <tr> <td>△</td> <td>△</td> </tr> </table> <p style="text-align: center;">Tim Johnson Architect, LLC</p>		△ 08/17/19	△	△ 08/26/19	△	△	△
△ 08/17/19	△						
△ 08/26/19	△						
△	△						
							
<p>PERMIT SET</p> <p>EXISTING CONDITIONS SITE PLAN</p>							
<p>DATE: 08/02/19 SC: N. T. S.</p>							
C02							



STREET VIEW 1

OWNER:
BAKER COURT, LLC
29 CARROLLS LANE
QUINCY, MA 02169
TEL: 617-590-3578

PROJECT ARCHITECT:
TIM JOHNSON ARCHITECT, LLC
190 OLD COLONY AVENUE
BOSTON, MA 02127
TEL: 617-464-4363

PROPOSED 3-STORY, 5-UNIT
BUILDING W/ 7-CAR GARAGE
10 WENDELLER STREET
SOUTH BOSTON, MA 02127

REVISIONS

△ 08/17/19	△
△ 08/26/19	△
△	△

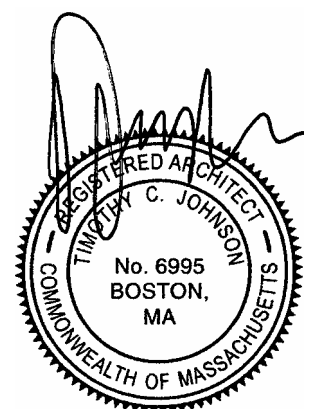
Tim Johnson Architect, LLC



PERMIT SET

PERSPECTIVE
VIEWS

DATE: 08/02/19 SC: N. T. S.



V01



STREET VIEW 2

OWNER:
 BAKER COURT, LLC
 29 CARROLLS LANE
 QUINCY, MA 02169
 TEL: 617-590-3578

PROJECT ARCHITECT:
 TIM JOHNSON ARCHITECT, LLC
 190 OLD COLONY AVENUE
 BOSTON, MA 02127
 TEL: 617-464-4363

PROPOSED 3-STORY, 5-UNIT
 BUILDING W/ 7-CAR GARAGE
 10 WENDELLER STREET
 SOUTH BOSTON, MA 02127

REVISIONS	
△ 08/17/19	△
△ 08/26/19	△
△	△

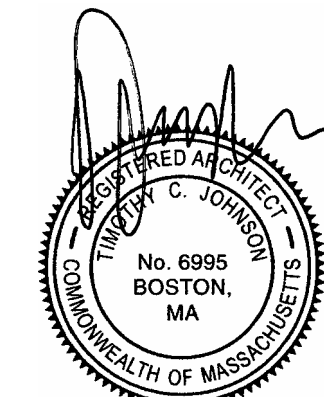
Tim Johnson Architect, LLC



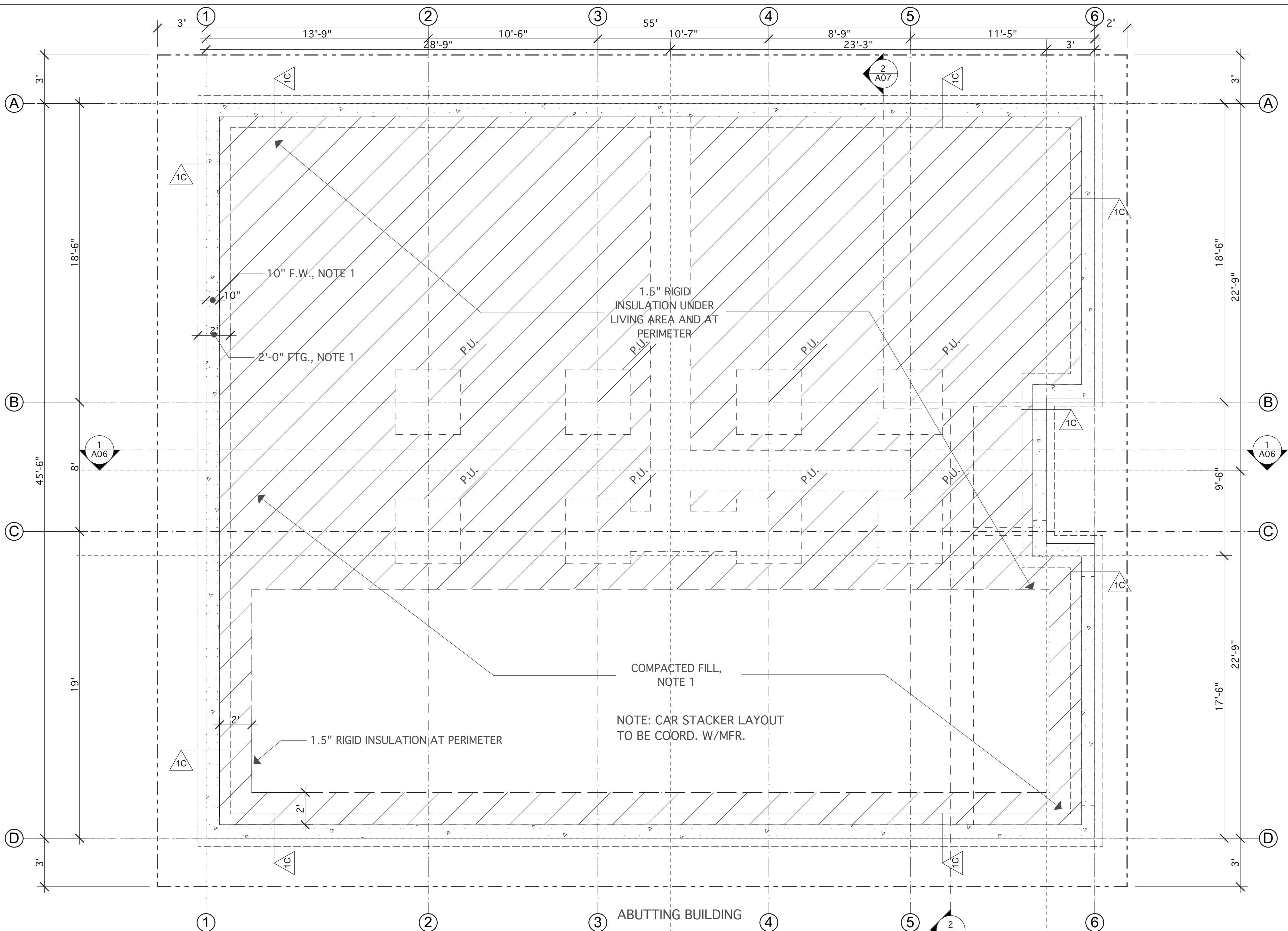
PERMIT SET

PERSPECTIVE
 VIEWS

DATE: 08/02/19 SC: N. T. S.



V02

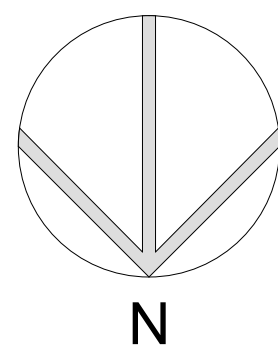


- GENERAL NOTES:**
- 1.) SEE STRUCTURAL DRAWINGS.
 - 2.) SEE CE OR PLS DRAWINGS.
 - 3.) SEE LARCH DRAWINGS.
 - 4.) SEE MEP DRAWINGS.
 - 5.) 36"H RAILING AT NOSING.
 - 6.) 42"H RAILING w/4"Ø MAX. OPNGS.
 - 7.) 36"H RAILING w/4"Ø MAX. OPNGS.
 - 8.) RAILING PER 521CMR 24.5.
 - 9.) DNSPOUT LOCATIONS COORDINATED W/ CIVIL ENGINEER'S DWGS.
 - 10.) VENT TO EXTERIOR
 - 11.) EGRESS WINDOW PER IBC SEC. 1030

- LEGEND**
- NON-RATED WALLS
 - 1-HR FIRE-RATED WALLS
 - 2-HR FIRE-RATED WALLS
 - EXISTING WALLS
 - EXISTING BRICK WALLS

- P.A. POST ABOVE
- P.B. POST BELOW
- (EX) EXISTING
- (R) RELOCATE
- (N) NEW
- B.W. BEARING WALL
- B.L. BEARING LINE
- L.C. LALLY COLUMN
- JOIST DIRECTION TO BE VERIFIED BY GC
- WALL TYPE

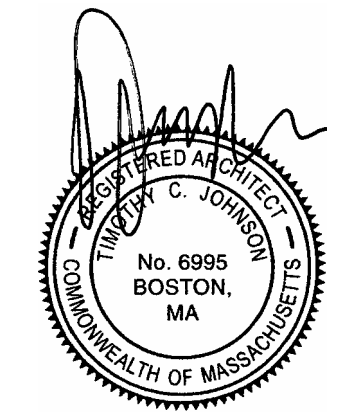
- MULTIPLE STATION SMOKE DETECTOR, PHOTOELECTRIC SENSOR, INTERCONNECTED w/9 V. BATT. BACK-UP
- CARBON MONOXIDE DETECTOR PHOTOELECTRIC SENSOR, INTERCONNECTED w/9 V. BATT. BACK-UP
- EXHAUST FAN TO EXTERIOR
- MULTIPLE STATION HEAT DETECTOR, THERMAL SENSOR, INTERCONNECTED w/9 V. BATT. BACK-UP
- EMERGENCY LIGHTING UNIT INTERCONNECTED w/NICAD BATT. BACK-UP

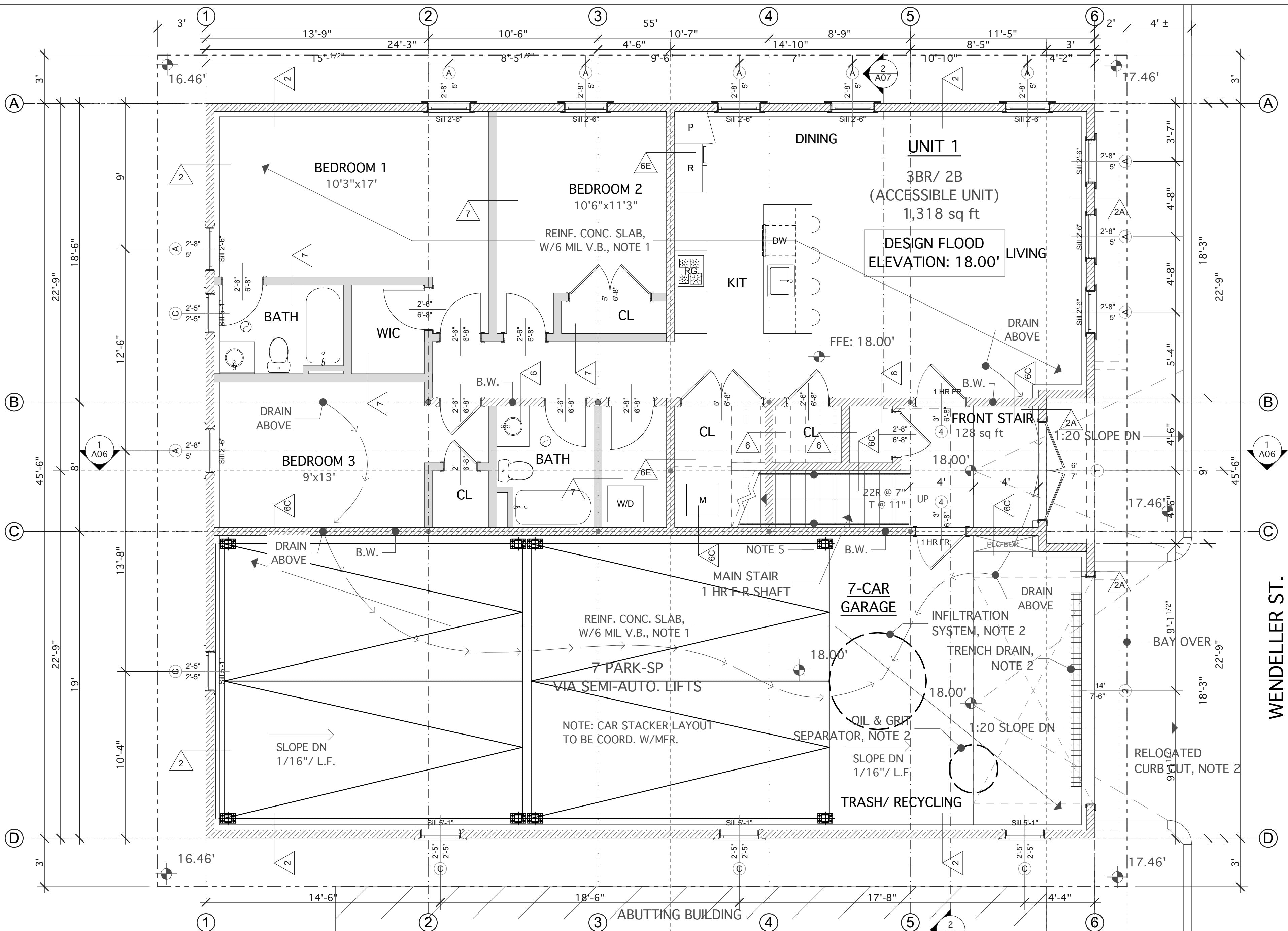


FOUNDATION PLAN



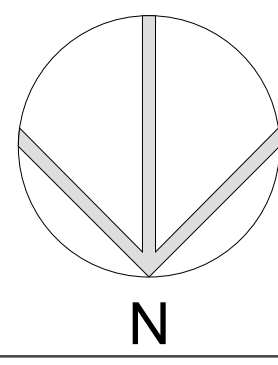
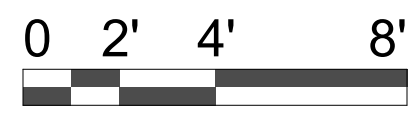
<p>OWNER: BAKER COURT, LLC 29 CARROLLS LANE QUINCY, MA 02169 TEL: 617-590-3578</p> <p>PROJECT ARCHITECT: TIM JOHNSON ARCHITECT, LLC 190 OLD COLONY AVENUE BOSTON, MA 02127 TEL: 617-464-4363</p>	<p style="text-align: center;">PROPOSED 3-STORY, 5-UNIT BUILDING W/ 7-CAR GARAGE 10 WENDELLER STREET SOUTH BOSTON, MA 02127</p>						
<p style="text-align: center;">REVISIONS</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 60%;">A 08/17/19</td> <td style="width: 40%;">A</td> </tr> <tr> <td>A 08/26/19</td> <td>A</td> </tr> <tr> <td>A</td> <td>A</td> </tr> </table> <p style="text-align: center;">Tim Johnson Architect, LLC</p>		A 08/17/19	A	A 08/26/19	A	A	A
A 08/17/19	A						
A 08/26/19	A						
A	A						
<p>PERMIT SET</p>							
<p>FOUNDATION PLAN</p>							
<p>DATE: 08/02/19 SC: 1/4" = 1'-0"</p>							
<p style="font-size: 2em; font-weight: bold;">A01</p>							





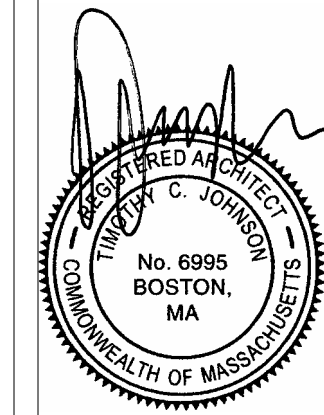
GROUND FLOOR PLAN

2,475 sq ft OCC: 12 PPL



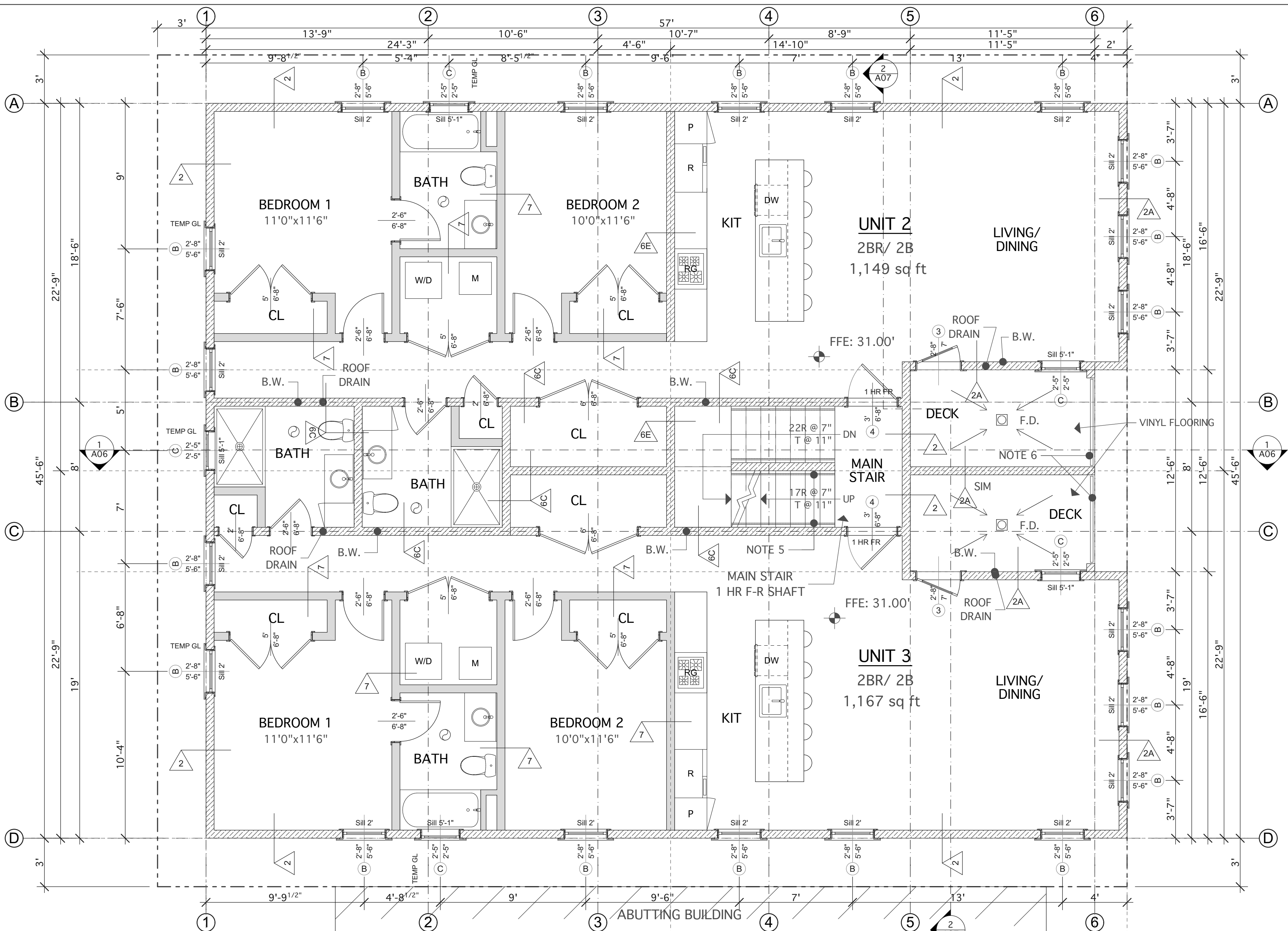
- GENERAL NOTES:**
- 1.) SEE STRUCTURAL DRAWINGS.
 - 2.) SEE CE OR PLS DRAWINGS.
 - 3.) SEE LARCH DRAWINGS.
 - 4.) SEE MEP DRAWINGS.
 - 5.) 36" H RAILING AT NOSING.
 - 6.) 42" H RAILING W/4" Ø MAX. OPNGS.
 - 7.) 36" H RAILING W/4" Ø MAX. OPNGS.
 - 8.) RAILING PER 521CMR 24.5.
 - 9.) DNSPOUT LOCATIONS COORDINATED W/ CIVIL ENGINEER'S DWGS.
 - 10.) VENT TO EXTERIOR
 - 11.) EGRESS WINDOW PER IBC SEC. 1030

- LEGEND**
- NON-RATED WALLS
 - 1-HR FIRE-RATED WALLS
 - 2-HR FIRE-RATED WALLS
 - EXISTING WALLS
 - EXISTING BRICK WALLS
 - P.A. POST ABOVE
 - P.B. POST BELOW
 - (EX) EXISTING
 - (R) RELOCATE
 - (N) NEW
 - B.W. BEARING WALL
 - B.L. BEARING LINE
 - L.C. LALLY COLUMN
 - JOIST DIRECTION TO BE VERIFIED BY GC
 - WALL TYPE
 - MULTIPLE STATION SMOKE DETECTOR, PHOTOELECTRIC SENSOR, INTERCONNECTED w/9 V. BATT. BACK-UP
 - CARBON MONOXIDE DETECTOR PHOTOELECTRIC SENSOR, INTERCONNECTED w/9 V. BATT. BACK-UP
 - EXHAUST FAN TO EXTERIOR
 - MULTIPLE STATION HEAT DETECTOR, THERMAL SENSOR, INTERCONNECTED w/9 V. BATT. BACK-UP
 - EMERGENCY LIGHTING UNIT INTERCONNECTED w/9 V. BATT. BACK-UP



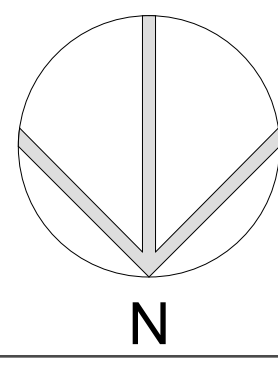
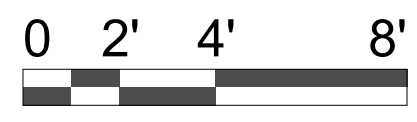
WENDELLER ST.

OWNER: BAKER COURT, LLC 29 CARROLLS LANE QUINCY, MA 02169 TEL: 617-590-3578	PROJECT ARCHITECT: TIM JOHNSON ARCHITECT, LLC 190 OLD COLONY AVENUE BOSTON, MA 02127 TEL: 617-464-4363						
PROPOSED 3-STORY, 5-UNIT BUILDING W/ 7-CAR GARAGE 10 WENDELLER STREET SOUTH BOSTON, MA 02127							
<p>REVISIONS</p> <table border="1"> <tr> <td>08/17/19</td> <td>△</td> </tr> <tr> <td>08/26/19</td> <td>△</td> </tr> <tr> <td></td> <td>△</td> </tr> </table> <p>Tim Johnson Architect, LLC</p>		08/17/19	△	08/26/19	△		△
08/17/19	△						
08/26/19	△						
	△						
<p>PERMIT SET</p> <p>GROUND FLOOR PLAN</p>							
<p>DATE: 08/02/19 SC: 1/4" = 1'-0"</p> <h1 style="text-align: center;">A02</h1>							



SECOND FLOOR PLAN

2,426 sq ft OCC: 12 PPL

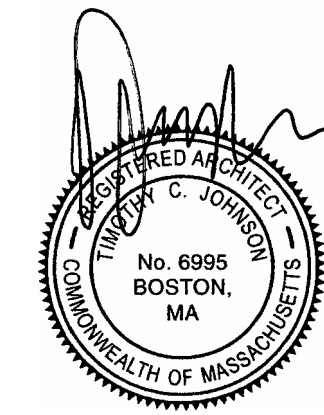


- GENERAL NOTES:**
- SEE STRUCTURAL DRAWINGS.
 - SEE CE OR PLS DRAWINGS.
 - SEE LARCH DRAWINGS.
 - SEE MEP DRAWINGS.
 - 36" RAILING AT NOSING.
 - 42" RAILING W/4" MAX. OPNGS.
 - 36" RAILING W/4" MAX. OPNGS.
 - RAILING PER 521CMR 24.5.
 - DNSPOUT LOCATIONS COORDINATED W/ CIVIL ENGINEER'S DWGS.
 - VENT TO EXTERIOR
 - EGRESS WINDOW PER IBC SEC. 1030

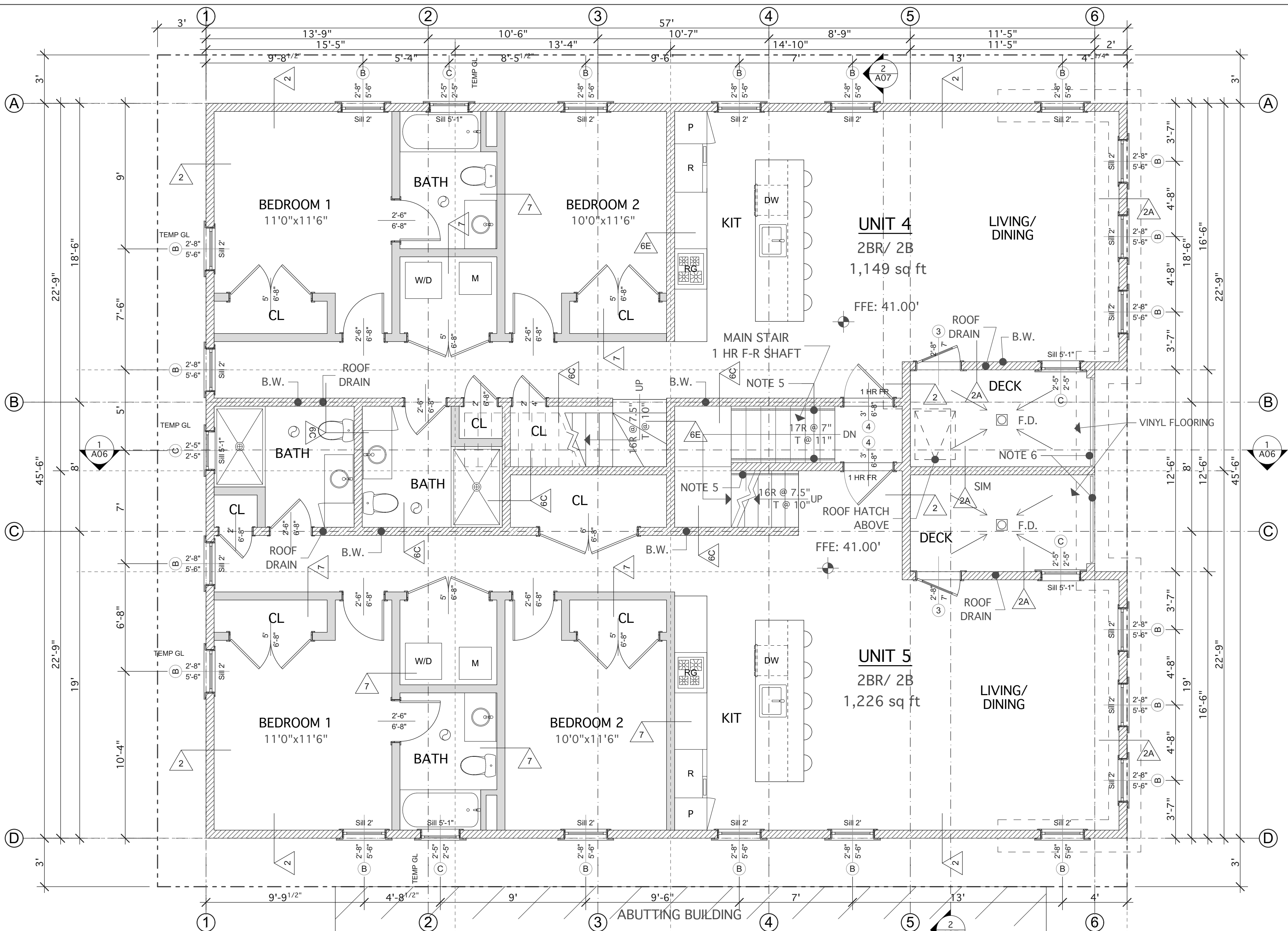
- LEGEND**
- NON-RATED WALLS
 - 1-HR FIRE-RATED WALLS
 - 2-HR FIRE-RATED WALLS
 - EXISTING WALLS
 - EXISTING BRICK WALLS

- P.A. POST ABOVE
- P.B. POST BELOW
- (EX) EXISTING
- (R) RELOCATE
- (N) NEW
- B.W. BEARING WALL
- B.L. BEARING LINE
- L.C. LALLY COLUMN
- JOIST DIRECTION TO BE VERIFIED BY GC
- WALL TYPE

- MULTIPLE STATION SMOKE DETECTOR, PHOTOELECTRIC SENSOR, INTERCONNECTED w/9 V. BATT. BACK-UP
- CARBON MONOXIDE DETECTOR, PHOTOELECTRIC SENSOR, INTERCONNECTED w/9 V. BATT. BACK-UP
- EXHAUST FAN TO EXTERIOR
- MULTIPLE STATION HEAT DETECTOR, THERMAL SENSOR, INTERCONNECTED w/9 V. BATT. BACK-UP
- EMERGENCY LIGHTING UNIT INTERCONNECTED w/NCAD BATT. BACK-UP

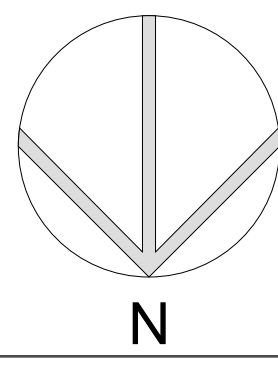
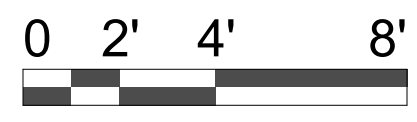


OWNER: BAKER COURT, LLC 29 CARROLLS LANE QUINCY, MA 02169 TEL: 617-590-3578		PROJECT ARCHITECT: TIM JOHNSON ARCHITECT, LLC 190 OLD COLONY AVENUE BOSTON, MA 02127 TEL: 617-464-4363	
PROPOSED 3-STORY, 5-UNIT BUILDING W/ 7-CAR GARAGE 10 WENDELLER STREET SOUTH BOSTON, MA 02127			
REVISIONS 08/17/19 08/26/19			
Tim Johnson Architect, LLC			
PERMIT SET			
SECOND FLOOR PLAN			
DATE: 08/02/19 SC: 1/4" = 1'-0"			
A03			



THIRD FLOOR PLAN

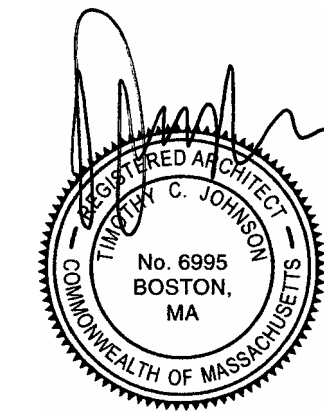
2,426 sq ft OCC: 12 PPL



- GENERAL NOTES:**
- SEE STRUCTURAL DRAWINGS.
 - SEE CE OR PLS DRAWINGS.
 - SEE LARCH DRAWINGS.
 - SEE MEP DRAWINGS.
 - 36" H RAILING AT NOSING.
 - 42" H RAILING w/4" MAX. OPNGS.
 - 36" H RAILING w/4" MAX. OPNGS.
 - RAILING PER 521CMR 24.5.
 - DNSPOUT LOCATIONS COORDINATED W/ CIVIL ENGINEER'S DWGS.
 - VENT TO EXTERIOR
 - EGRESS WINDOW PER IBC SEC. 1030

- LEGEND**
- NON-RATED WALLS
 - 1-HR FIRE-RATED WALLS
 - 2-HR FIRE-RATED WALLS
 - EXISTING WALLS
 - EXISTING BRICK WALLS
 - P.A. POST ABOVE
 - P.B. POST BELOW
 - (EX) EXISTING
 - (R) RELOCATE
 - (N) NEW
 - B.W. BEARING WALL
 - B.L. BEARING LINE
 - L.C. LALLY COLUMN
 - JOIST DIRECTION TO BE VERIFIED BY GC
 - WALL TYPE

- MULTIPLE STATION SMOKE DETECTOR, PHOTOELECTRIC SENSOR, INTERCONNECTED w/9 V. BATT. BACK-UP
- CARBON MONOXIDE DETECTOR PHOTOELECTRIC SENSOR, INTERCONNECTED w/9 V. BATT. BACK-UP
- EXHAUST FAN TO EXTERIOR
- MULTIPLE STATION HEAT DETECTOR, THERMAL SENSOR, INTERCONNECTED w/9 V. BATT. BACK-UP
- EMERGENCY LIGHTING UNIT INTERCONNECTED w/NCAD BATT. BACK-UP



OWNER:
BAKER COURT, LLC
29 CARROLLS LANE
QUINCY, MA 02169
TEL: 617-590-3578

PROJECT ARCHITECT:
TIM JOHNSON ARCHITECT, LLC
190 OLD COLONY AVENUE
BOSTON, MA 02127
TEL: 617-464-4363

PROPOSED 3-STORY, 5-UNIT BUILDING W/ 7-CAR GARAGE
10 WENDELLER STREET
SOUTH BOSTON, MA 02127

REVISIONS

08/17/19	
08/26/19	

Tim Johnson Architect, LLC

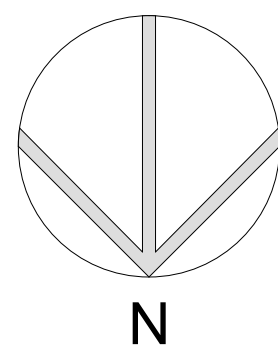
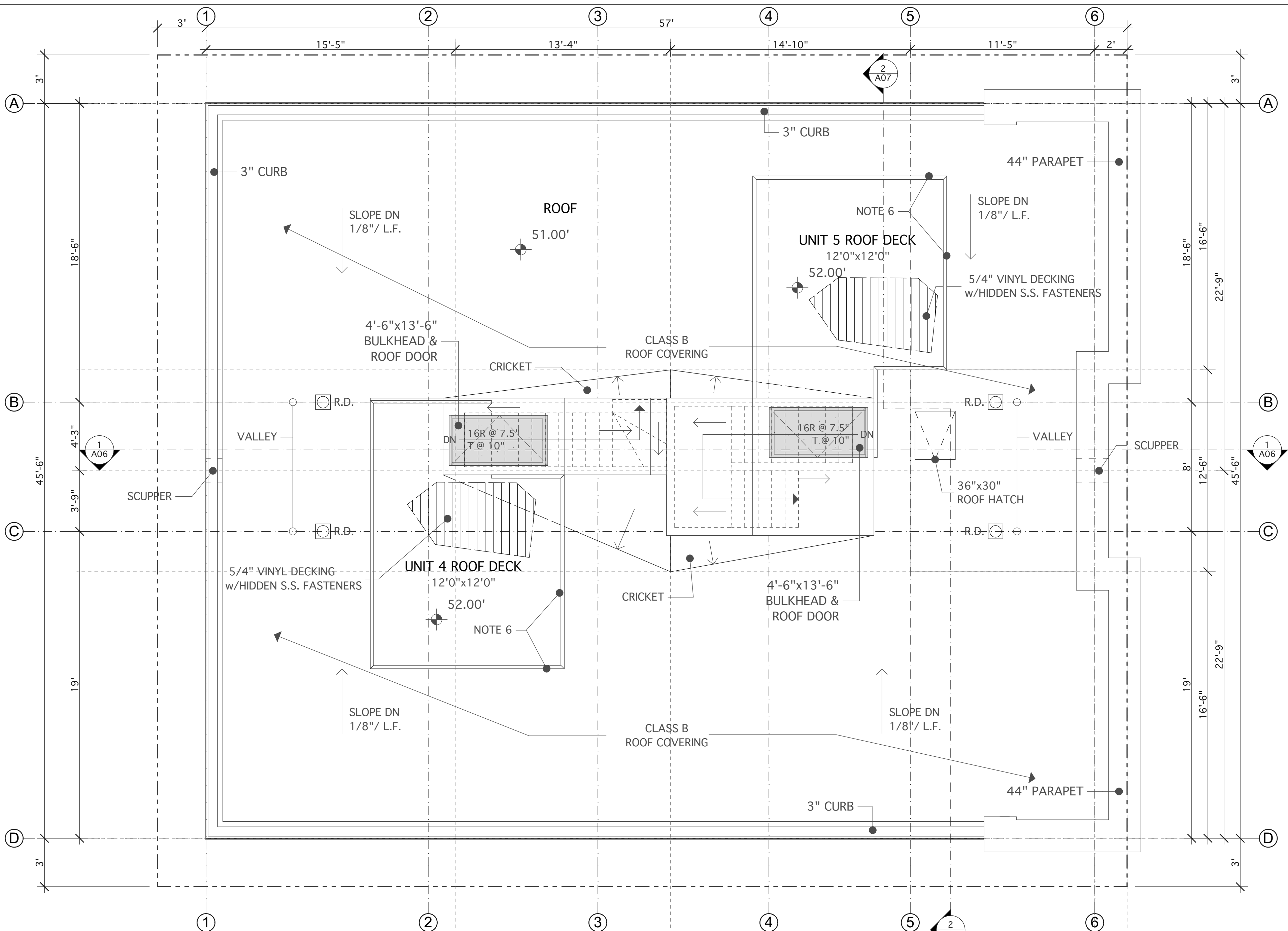
TIM JOHNSON ARCHITECT, LLC

PERMIT SET

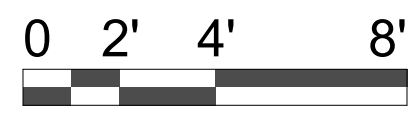
THIRD FLOOR PLAN

DATE: 08/02/19 SC: 1/4" = 1'-0"

A04



ROOF PLAN



- GENERAL NOTES:**
- 1.) SEE STRUCTURAL DRAWINGS.
 - 2.) SEE CE OR PLS DRAWINGS.
 - 3.) SEE LARCH DRAWINGS.
 - 4.) SEE MEP DRAWINGS.
 - 5.) 36" H RAILING AT NOSING.
 - 6.) 42" H RAILING w/4" Ø MAX. OPNGS.
 - 7.) 36" H RAILING w/4" Ø MAX. OPNGS.
 - 8.) RAILING PER 521CMR 24.5.
 - 9.) DNSPOUT LOCATIONS COORDINATED W/ CIVIL ENGINEER'S DWGS.
 - 10.) VENT TO EXTERIOR
 - 11.) EGRESS WINDOW PER IBC SEC. 1030

LEGEND

- | | | |
|-----------------------|--------------------------------------|--|
| NON-RATED WALLS | P.A. POST ABOVE | MULTIPLE STATION SMOKE DETECTOR, PHOTOELECTRIC SENSOR, INTERCONNECTED w/9 V. BATT. BACK-UP |
| 1-HR FIRE-RATED WALLS | P.B. POST BELOW | CARBON MONOXIDE DETECTOR PHOTOELECTRIC SENSOR, INTERCONNECTED w/9 V. BATT. BACK-UP |
| 2-HR FIRE-RATED WALLS | (EX) EXISTING | EXHAUST FAN TO EXTERIOR |
| EXISTING WALLS | (R) RELOCATE | MULTIPLE STATION HEAT DETECTOR, THERMAL SENSOR, INTERCONNECTED w/9 V. BATT. BACK-UP |
| EXISTING BRICK WALLS | (N) NEW | EMERGENCY LIGHTING UNIT INTERCONNECTED w/NICAD BATT. BACK-UP |
| | B.W. BEARING WALL | |
| | B.L. BEARING LINE | |
| | L.C. LALLY COLUMN | |
| | JOIST DIRECTION TO BE VERIFIED BY GC | |
| | WALL TYPE | |

REVISIONS

△ 08/17/19	△
△ 08/26/19	△
△	△

Tim Johnson Architect, LLC



PERMIT SET

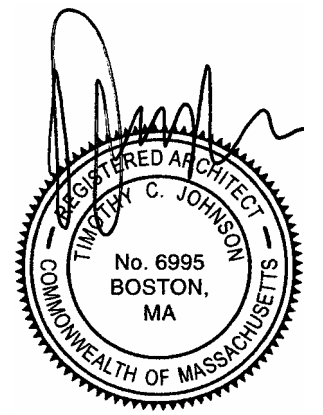
ROOF PLAN

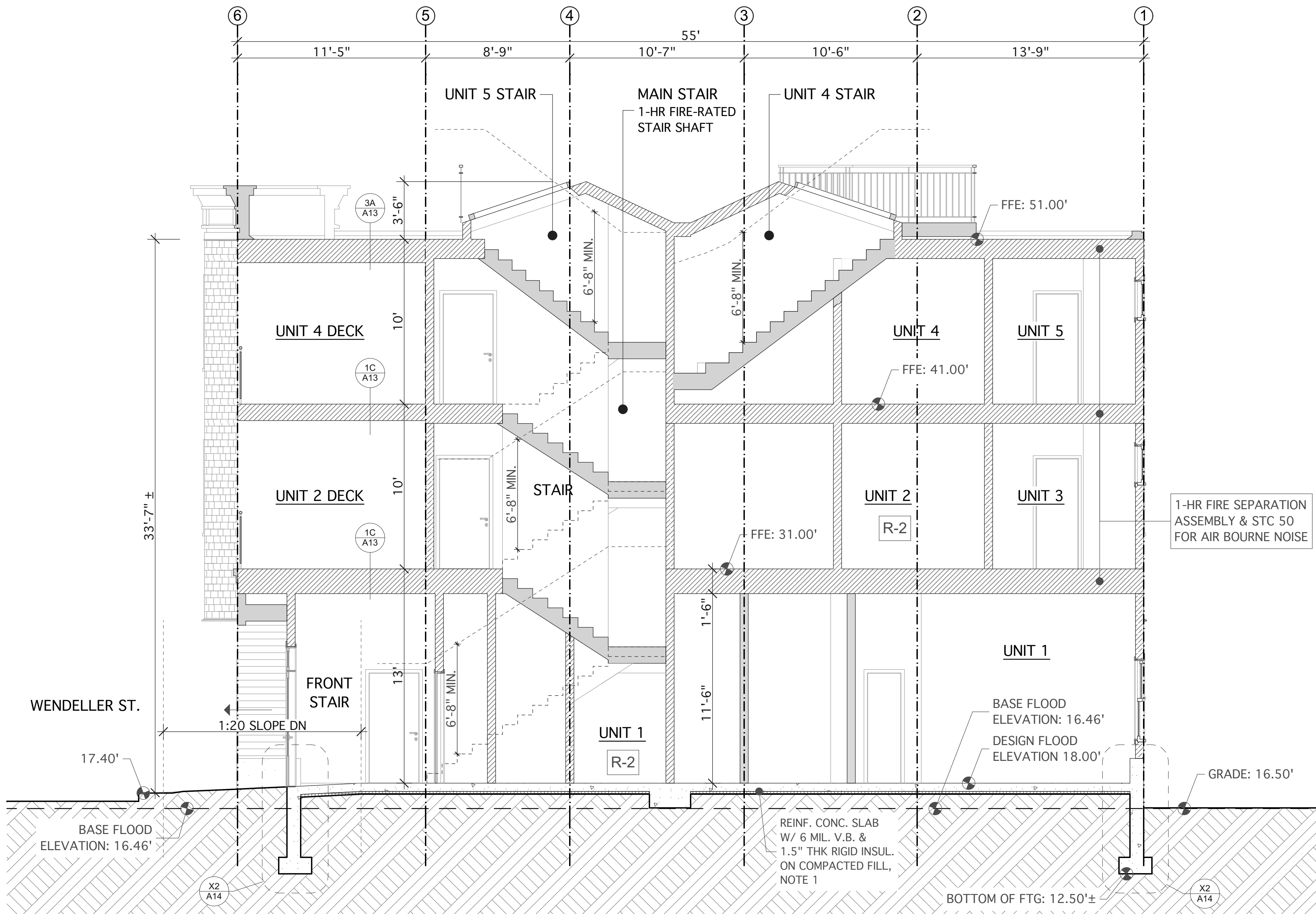
DATE: 08/02/19 SC: 1/4" = 1'-0"

A05

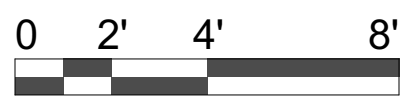
OWNER:
BAKER COURT, LLC
29 CARROLLS LANE
QUINCY, MA 02169
TEL: 617-590-3578

PROJECT ARCHITECT:
TIM JOHNSON ARCHITECT, LLC
190 OLD COLONY AVENUE
BOSTON, MA 02127
TEL: 617-464-4363



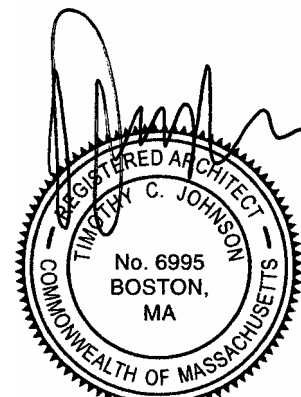


1-1 BUILDING SECTION

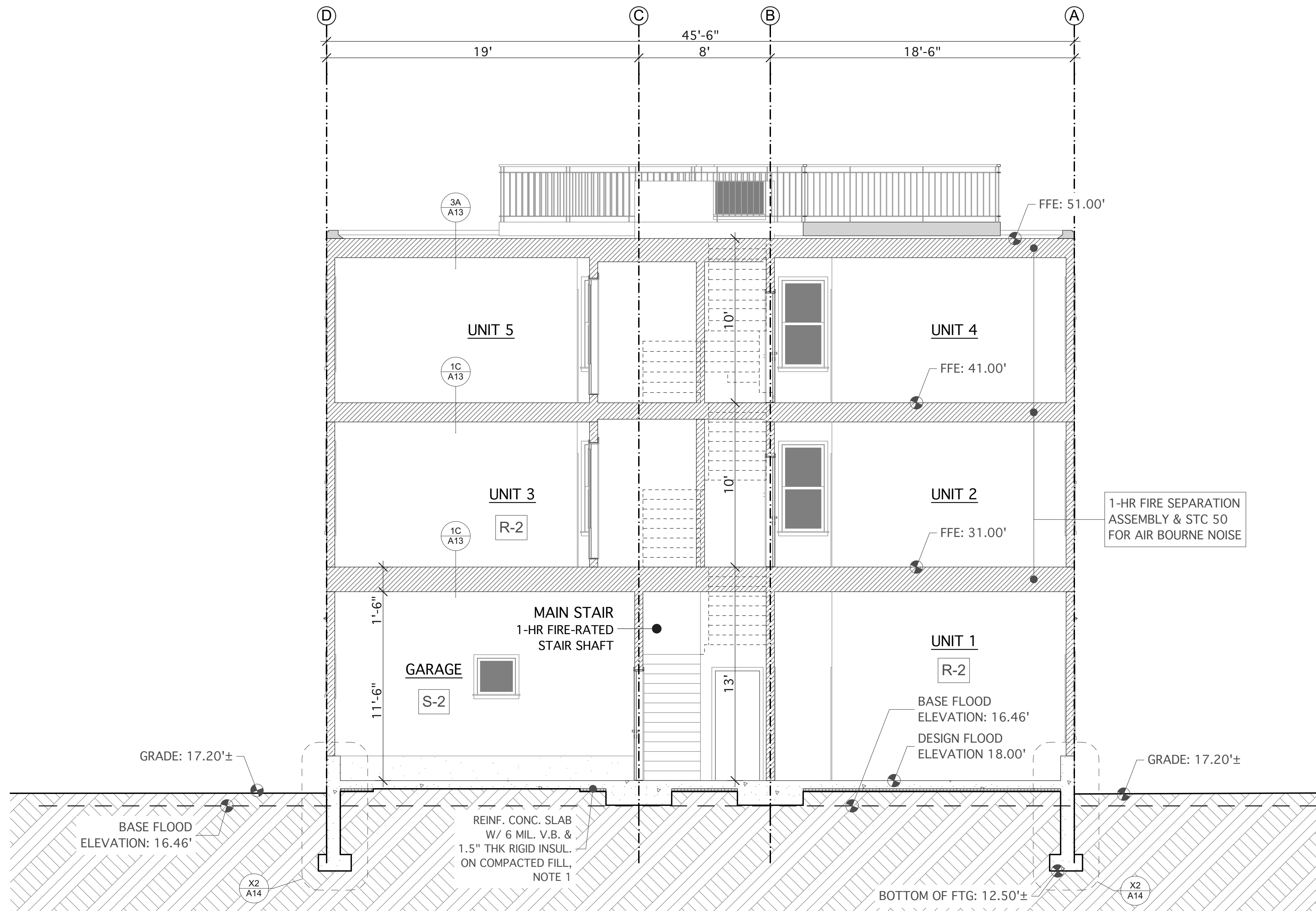


- GENERAL NOTES:**
- 1.) SEE STRUCTURAL DRAWINGS.
 - 2.) SEE CE OR PLS DRAWINGS.
 - 3.) SEE LARCH DRAWINGS.
 - 4.) SEE MEP DRAWINGS.
 - 5.) 36"H RAILING AT NOSING.
 - 6.) 42"H RAILING W/4"Ø MAX. OPNGS.
 - 7.) 36"H RAILING W/4"Ø MAX. OPNGS.
 - 8.) RAILING PER 521CMR 24.5.
 - 9.) DNSPOUT LOCATIONS COORDINATED W/ CIVIL ENGINEER'S DWGS.
 - 10.) VENT TO EXTERIOR
 - 11.) EGRESS WINDOW PER IBC SEC. 1030

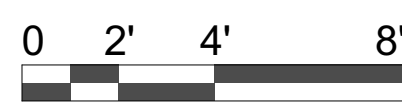
- LEGEND**
- NON-RATED WALLS
 - 1-HR FIRE-RATED WALLS
 - 2-HR FIRE-RATED WALLS
 - EXISTING WALLS
 - EXISTING BRICK WALLS
 - FLOOR ASSEMBLY TYPE
 - P.A. POST ABOVE
 - P.B. POST BELOW
 - (EX) EXISTING
 - (R) RELOCATE
 - (N) NEW
 - B.W. BEARING WALL
 - B.L. BEARING LINE
 - L.C. LALLY COLUMN
 - JOIST DIRECTION TO BE VERIFIED BY GC



OWNER: BAKER COURT, LLC 29 CARROLLS LANE QUINCY, MA 02169 TEL: 617-590-3578	PROJECT ARCHITECT: TIM JOHNSON ARCHITECT, LLC 190 OLD COLONY AVENUE BOSTON, MA 02127 TEL: 617-464-4363
PROPOSED 3-STORY, 5-UNIT BUILDING W/ 7-CAR GARAGE 10 WENDELLER STREET SOUTH BOSTON, MA 02127	
REVISIONS	
08/17/19	
08/26/19	
Tim Johnson Architect, LLC	
PERMIT SET	
1-1 BUILDING SECTION	
DATE: 08/02/19 SC: 1/4" = 1'-0"	
A06	



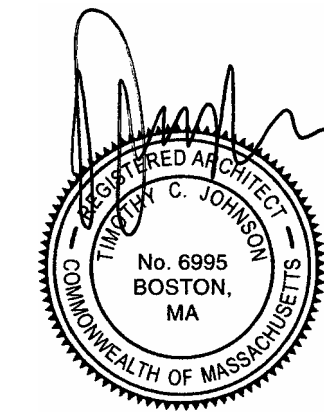
2-2 BUILDING SECTION



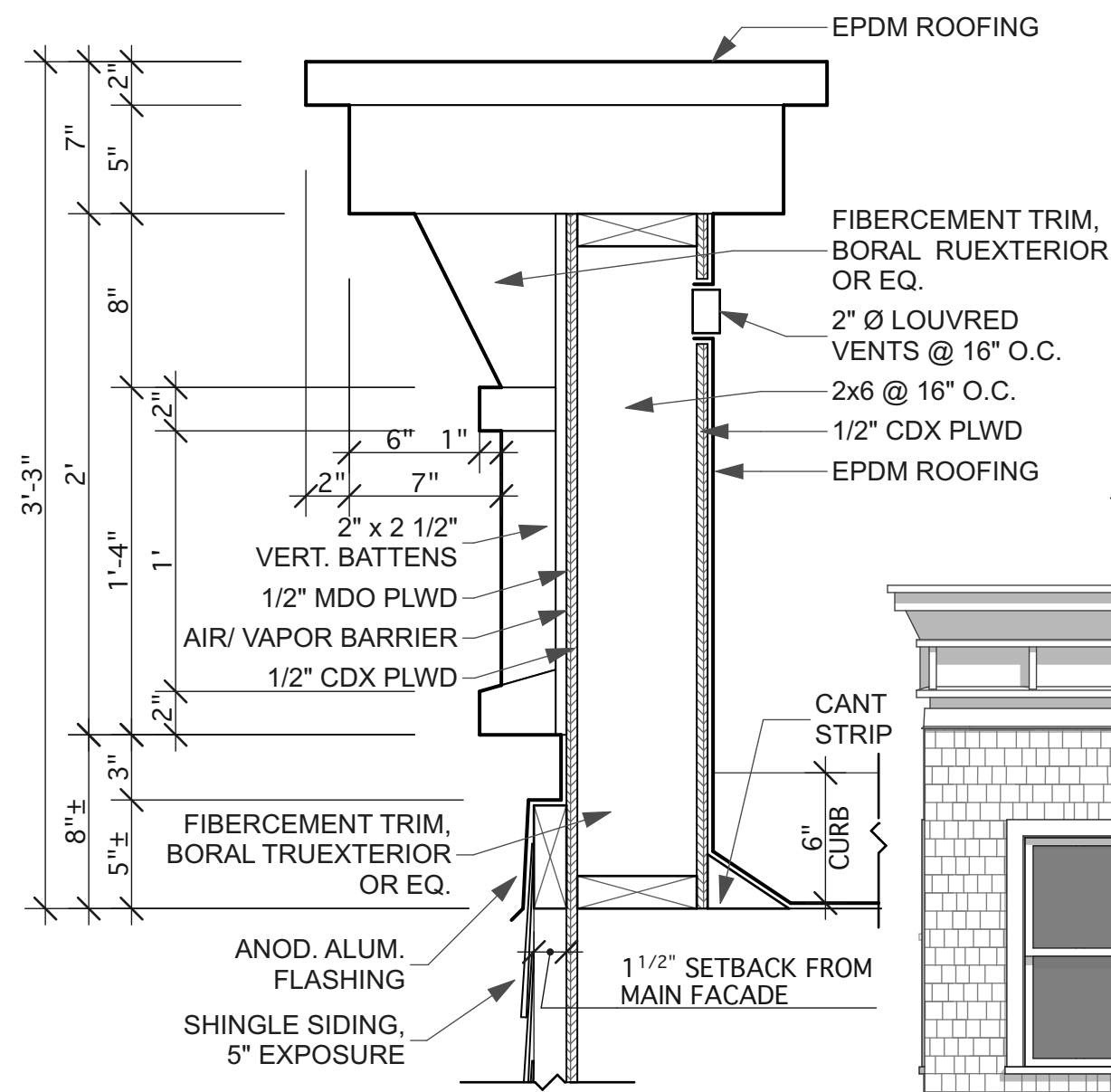
- GENERAL NOTES:**
- 1.) SEE STRUCTURAL DRAWINGS.
 - 2.) SEE CE OR PLS DRAWINGS.
 - 3.) SEE LARCH DRAWINGS.
 - 4.) SEE MEP DRAWINGS.
 - 5.) 36"H RAILING AT NOSING.
 - 6.) 42"H RAILING w/ 4" MAX. OPNGS.
 - 7.) 36"H RAILING w/ 4" MAX. OPNGS.
 - 8.) RAILING PER 521CMR 24.5.
 - 9.) DNSPOUT LOCATIONS COORDINATED W/ CIVIL ENGINEER'S DWGS.
 - 10.) VENT TO EXTERIOR
 - 11.) EGRESS WINDOW PER IBC SEC. 1030

LEGEND

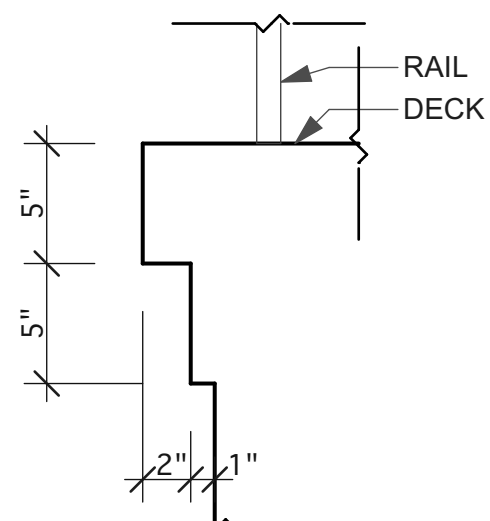
[Symbol]	NON-RATED WALLS	P.A.	POST ABOVE
[Symbol]	1-HR FIRE-RATED WALLS	P.B.	POST BELOW
[Symbol]	2-HR FIRE-RATED WALLS	(EX)	EXISTING
[Symbol]	EXISTING WALLS	(R)	RELOCATE
[Symbol]	EXISTING BRICK WALLS	(N)	NEW
[Symbol]	FLOOR ASSEMBLY TYPE	B.W.	BEARING WALL
		B.L.	BEARING LINE
		L.C.	LALLY COLUMN
			JOIST DIRECTION TO BE VERIFIED BY GC



OWNER: BAKER COURT, LLC 29 CARROLLS LANE QUINCY, MA 02169 TEL: 617-590-3578	PROJECT ARCHITECT: TIM JOHNSON ARCHITECT, LLC 190 OLD COLONY AVENUE BOSTON, MA 02127 TEL: 617-464-4363
PROPOSED 3-STORY, 5-UNIT BUILDING W/ 7-CAR GARAGE 10 WENDELLER STREET SOUTH BOSTON, MA 02127	
REVISIONS Δ 08/17/19 Δ Δ 08/26/19 Δ Δ Tim Johnson Architect, LLC	
PERMIT SET	
2-2 BUILDING SECTION	
DATE: 08/02/19 SC: 1/4" = 1'-0"	
A07	



A MAIN CORNICE DETAIL
SCALE: 1 1/2" = 1'-0"



B CORNICE @ FRONT ENTRY
SCALE: 1 1/2" = 1'-0"

ANOD. ALUM. DOOR FRAME W/ TINTED GLASS PANELS

FIBERGLASS DOOR & FRAME



WEST (STREET) ELEVATION



OWNER:
BAKER COURT, LLC
29 CARROLLS LANE
QUINCY, MA 02169
TEL: 617-590-3578

PROJECT ARCHITECT:
TIM JOHNSON ARCHITECT, LLC
190 OLD COLONY AVENUE
BOSTON, MA 02127
TEL: 617-464-4363

PROPOSED 3-STORY, 5-UNIT
BUILDING W/ 7-CAR GARAGE
10 WENDELLER STREET
SOUTH BOSTON, MA 02127

REVISIONS	
△ 08/17/19	△
△ 08/26/19	△
△	△

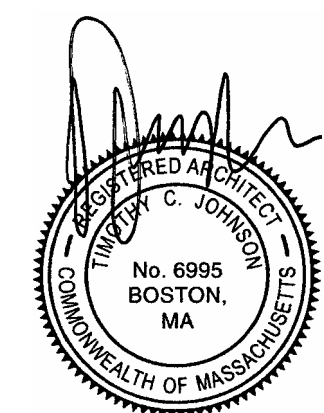
Tim Johnson Architect, LLC



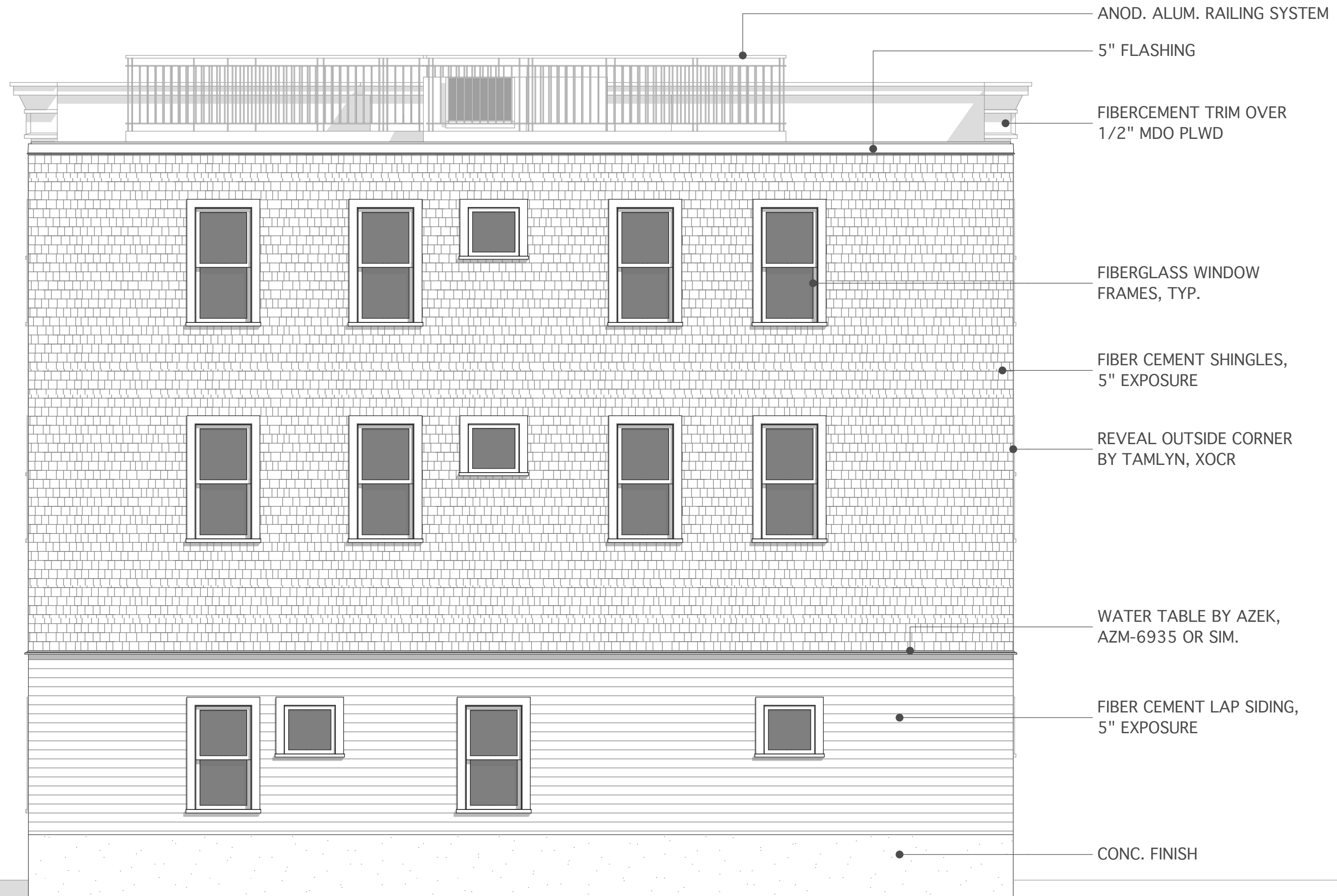
PERMIT SET

WEST (STREET)
ELEVATION

DATE: 08/02/19 SC: 1/4" = 1'-0"



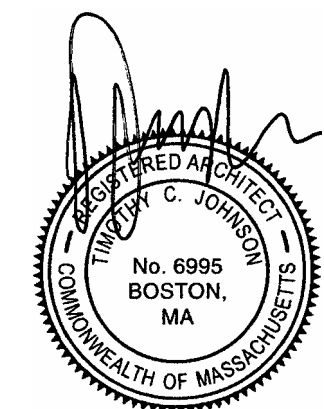
A08

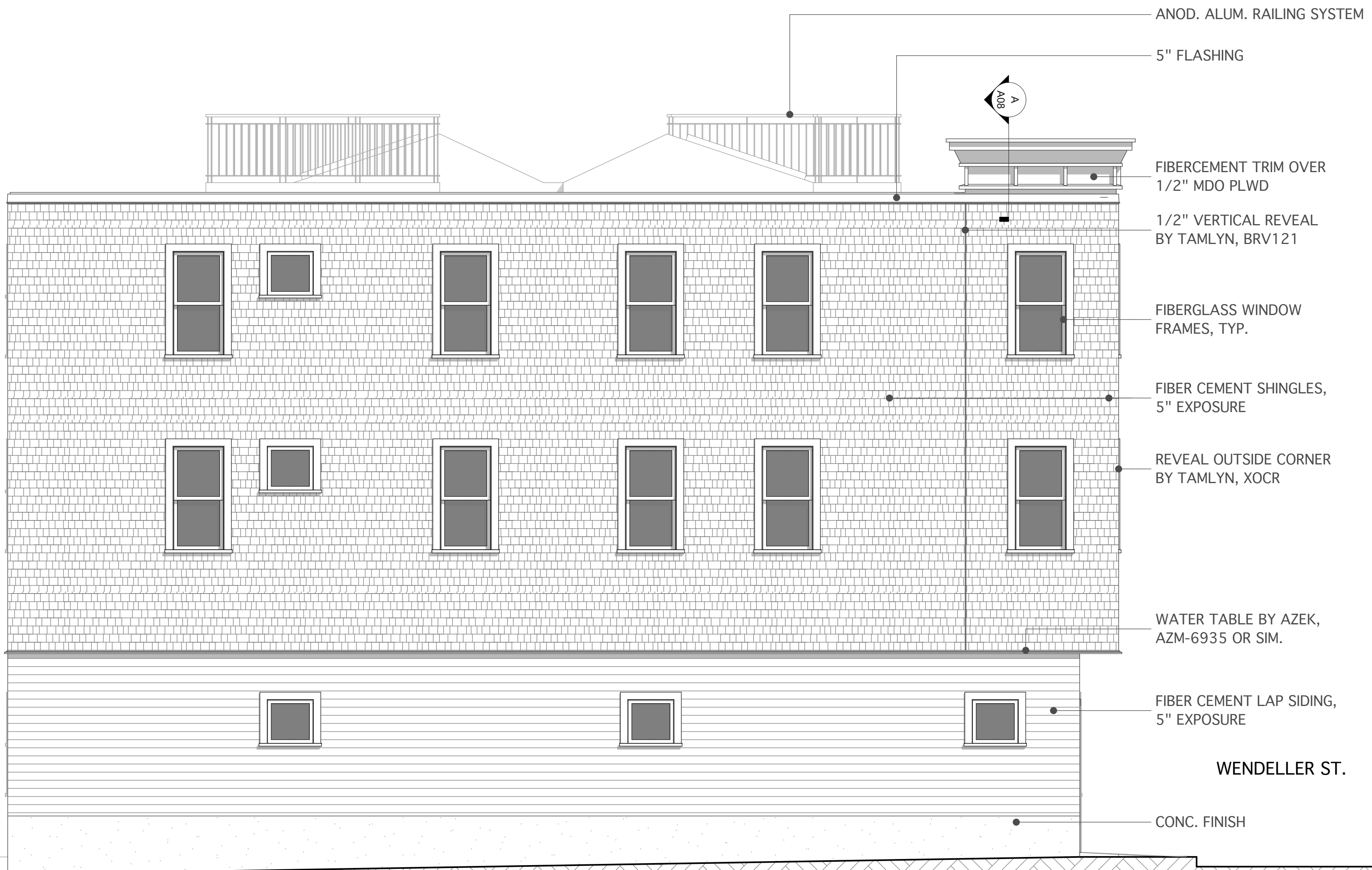


EAST (REAR) ELEVATION



OWNER: BAKER COURT, LLC 29 CARROLLS LANE QUINCY, MA 02169 TEL: 617-590-3578		PROJECT ARCHITECT: TIM JOHNSON ARCHITECT, LLC 190 OLD COLONY AVENUE BOSTON, MA 02127 TEL: 617-464-4363	
PROPOSED 3-STORY, 5-UNIT BUILDING W/ 7-CAR GARAGE 10 WENDELLER STREET SOUTH BOSTON, MA 02127			
REVISIONS			
△ 08/17/19	△	△	
△ 08/26/19	△	△	
△	△	△	
Tim Johnson Architect, LLC			
PERMIT SET			
EAST (REAR) ELEVATION			
DATE: 08/02/19		SC: 1/4" = 1'-0"	
A09			





OWNER:
 BAKER COURT, LLC
 29 CARROLLS LANE
 QUINCY, MA 02169
 TEL: 617-590-3578

PROJECT ARCHITECT:
 TIM JOHNSON ARCHITECT, LLC
 190 OLD COLONY AVENUE
 BOSTON, MA 02127
 TEL: 617-464-4363

PROPOSED 3-STORY, 5-UNIT
 BUILDING W/ 7-CAR GARAGE
 10 WENDELLER STREET
 SOUTH BOSTON, MA 02127

REVISIONS	
△ 08/17/19	△
△ 08/26/19	△
△	△

Tim Johnson Architect, LLC



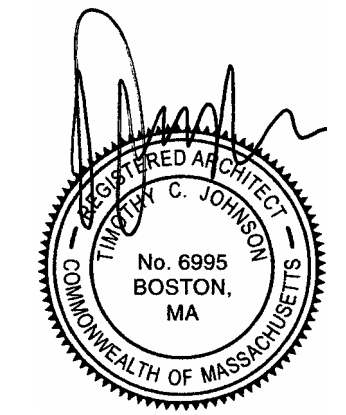
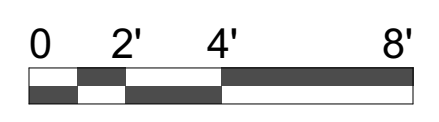
PERMIT SET

NORTH ELEVATION

DATE: 08/02/19 SC: 1/4" = 1'-0"

A10

NORTH ELEVATION



ANOD. ALUM. RAILING SYSTEM

5" FLASHING

FIBERCEMENT TRIM OVER
1/2" MDO PLWD

1/2" VERTICAL REVEAL
BY TAMLYN, BRV121

FIBERGLASS WINDOW
FRAMES, TYP.

FIBER CEMENT SHINGLES,
5" EXPOSURE

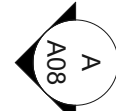
REVEAL OUTSIDE CORNER
BY TAMLYN, XOCR

WATER TABLE BY AZEK,
AZM-6935 OR SIM.

FIBER CEMENT LAP SIDING,
5" EXPOSURE

WENDELLER ST.

CONC. FINISH



SOUTH ELEVATION



OWNER:
BAKER COURT, LLC
29 CARROLLS LANE
QUINCY, MA 02169
TEL: 617-590-3578

PROJECT ARCHITECT:
TIM JOHNSON ARCHITECT, LLC
190 OLD COLONY AVENUE
BOSTON, MA 02127
TEL: 617-464-4363

PROPOSED 3-STORY, 5-UNIT
BUILDING W/ 7-CAR GARAGE
10 WENDELLER STREET
SOUTH BOSTON, MA 02127

REVISIONS	
△ 08/17/19	△
△ 08/26/19	△
△	△

Tim Johnson Architect, LLC



PERMIT SET

SOUTH ELEVATION

DATE: 08/02/19 SC: 1/4" = 1'-0"

A11

WINDOW SCHEDULE											Page 1 of 1
Job Name: 10 Wendeller Street											
Date: 07/10/19											
*REVISED:											
*REV.	Symbol	Qty.	Manufacturer	Product No.	Type	Nominal Sizes		Rough Openings		Window	Remarks
	A	10			DH	2'-8"	5'-0"			Low-E	Fiberglass Window Frames Windows w/ 1x5 Trim, Screens
	B	40			DH	2'-8"	5'-6"			Low-E	Fiberglass Window Frames Windows w/ 1x5 Trim, Screens, Tempered (4 of 40)
	C	15			AWNING	2'-5"	2'-5"			Low-E	Fiberglass Window Frames Windows w/ 1x5 Trim, Screens, Tempered (6 of 15)
TOTAL		65									

DOOR SCHEDULE											Page 1 of 1	
Job Name: 10 Wendeller Street												
Date: 07/10/19												
*REVISED:												
*REV.	LOCATION	DOOR	Nominal Sizes		Rough Openings		FRAME	MANUFACTURER		MISC.	Remarks	
	Symbol	Qty.	Type	Width	Height	Width	Height	Jamb	Treshld.	Company	Product No.	Hdwre.
	1	1	K, T	6'-0"	7'-0"				X			
	2	1	S	14'-0"	7'-6"							
	3	4	K	2'-8"	7'-0"				X			
	4	6	B	3'-0"	6'-8"				X			
HARDWARE SCHEDULE			MISC. SCHEDULE				DOOR SCHEDULE				NOTES:	
L-1	Cylinder lockset, passage lock		T-1	Clr. oak, beveled edges				A	Panel door			
L-2	Cylinder lockset, privacy lock		T-2	White marble, beveled edges				B	Flush door			
L-3	Dummy trim		T-3	Clr. anod. alum., beveled edges				C	Louvre door			
L-4	Mortise-type entry lockset		T-4	Std. alum.sill,adjust. hardwd. thrhd.				D	Patio door			
L-5	Bored-type entry lockset							E	French door			
L-6	Deadbolt cylinder		W-1	Weatherstrip, bulb-type				F	Sliding door			
C-1	Heavy-duty closer		J-1	Solid dimension board, stain grade				G	Bi-fold door			
C-2	Standard-duty closer		J-2	Finger-jointed board, paint grade				H	Pocket door			
H-1	Plain bearing hinges, 3-butts		J-3	Split-wood frame				J	Sidelights			
H-2	Ball bearing hinges, 3-butts		J-4	Hollow metal frame				S	Special			
								K	1/2 Lite Door			
								T	Transom			

OWNER:
BAKER COURT, LLC
29 CARROLLS LANE
QUINCY, MA 02169
TEL: 617-590-3578

PROJECT ARCHITECT:
TIM JOHNSON ARCHITECT, LLC
190 OLD COLONY AVENUE
BOSTON, MA 02127
TEL: 617-464-4363

PROPOSED 3-STORY, 5-UNIT
BUILDING W/ 7-CAR GARAGE
10 WENDELLER STREET
SOUTH BOSTON, MA 02127

REVISIONS	
△ 08/17/19	△
△ 08/26/19	△
△	△

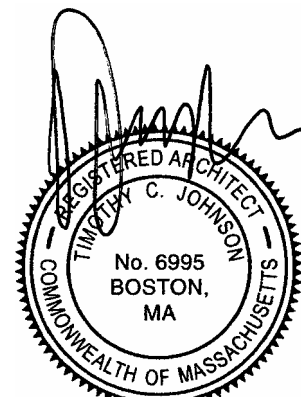
Tim Johnson Architect, LLC



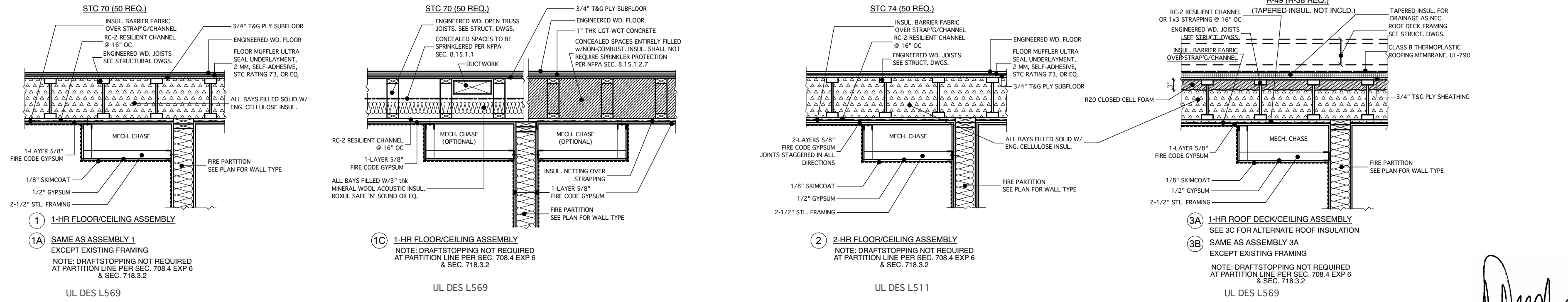
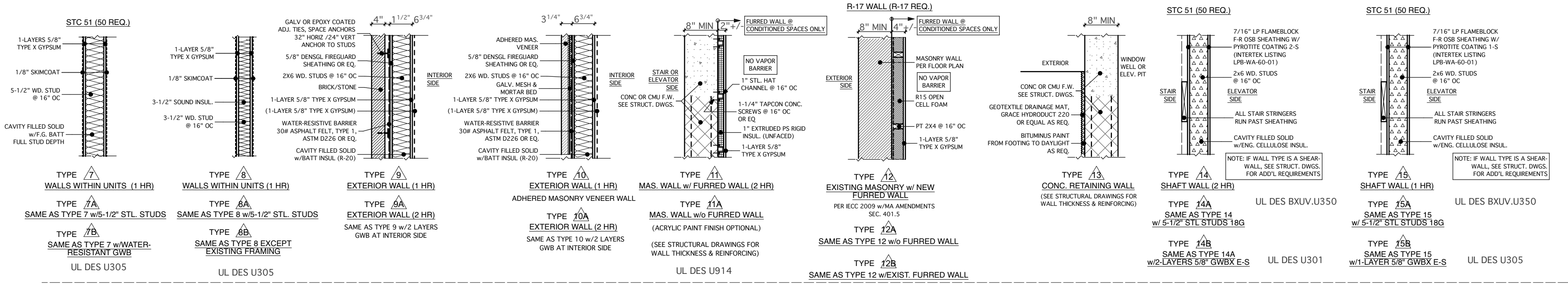
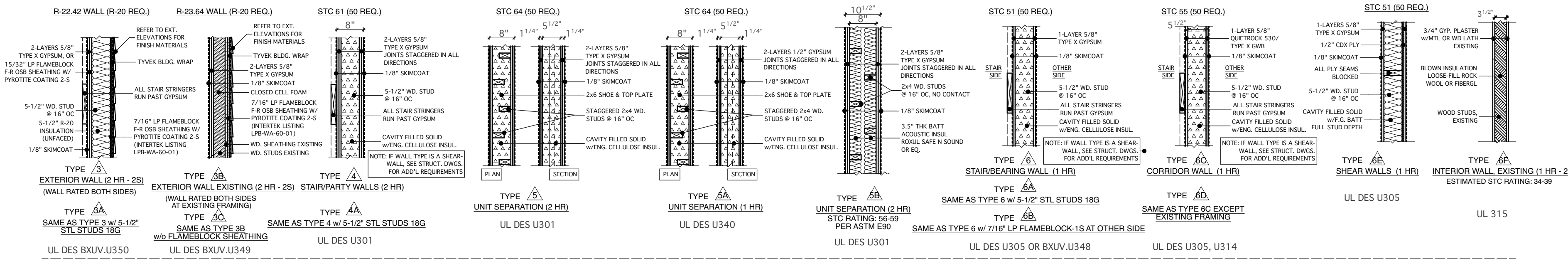
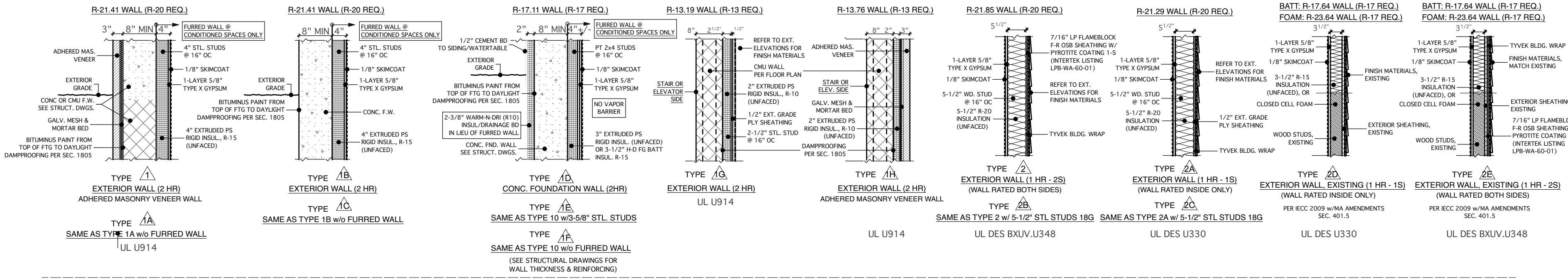
PERMIT SET

SCHEDULES

DATE: 08/02/19 SC: N. T. S.



A12



OWNER:
 BAKER COURT, LLC
 29 CARROLLS LANE
 QUINCY, MA 02169
 TEL: 617-590-3578

PROJECT ARCHITECT:
 TIM JOHNSON ARCHITECT, LLC
 190 OLD COLONY AVENUE
 BOSTON, MA 02127
 TEL: 617-464-4363

PROPOSED 3-STORY, 5-UNIT
 BUILDING W/ 7-CAR GARAGE
 10 WENDELLER STREET
 SOUTH BOSTON, MA 02127

REVISIONS		
08/17/19		
08/26/19		

Tim Johnson Architect, LLC

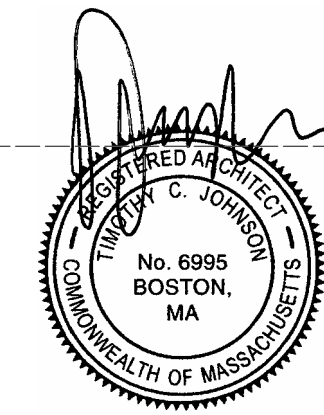
TIM JOHNSON ARCHITECT, LLC

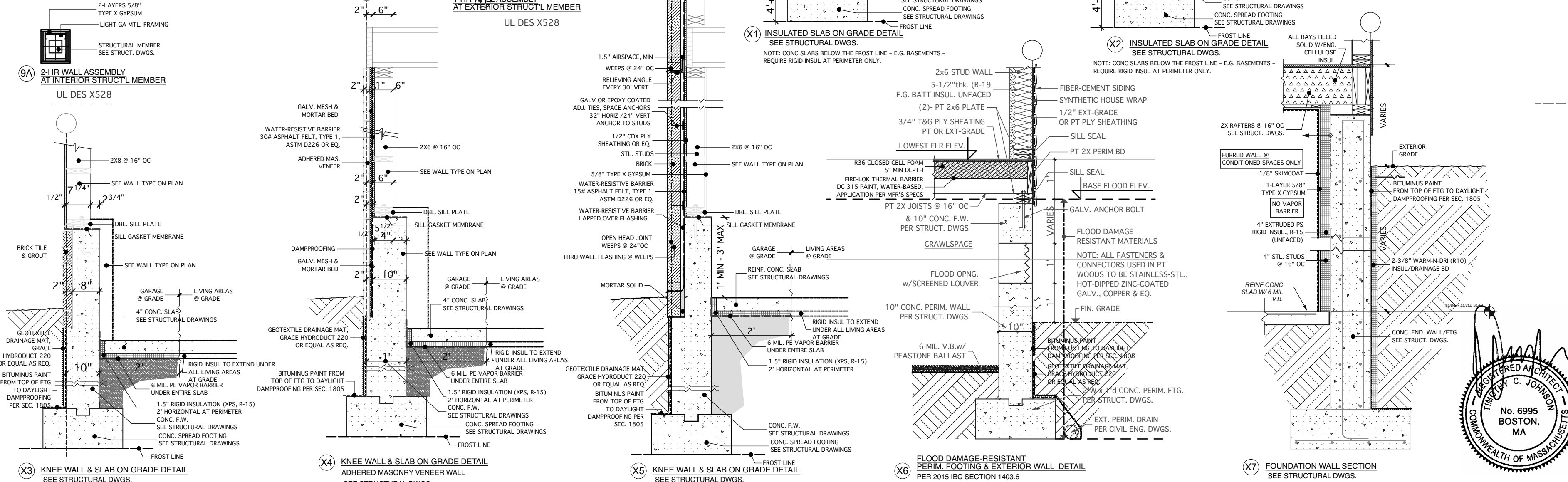
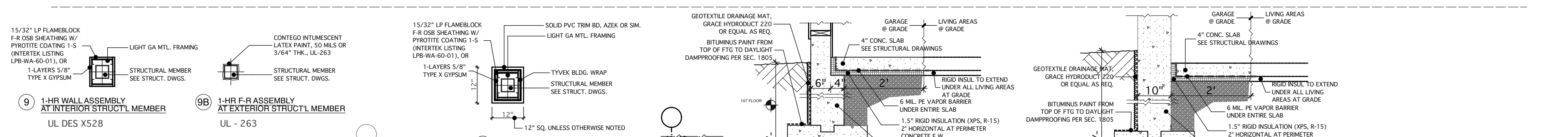
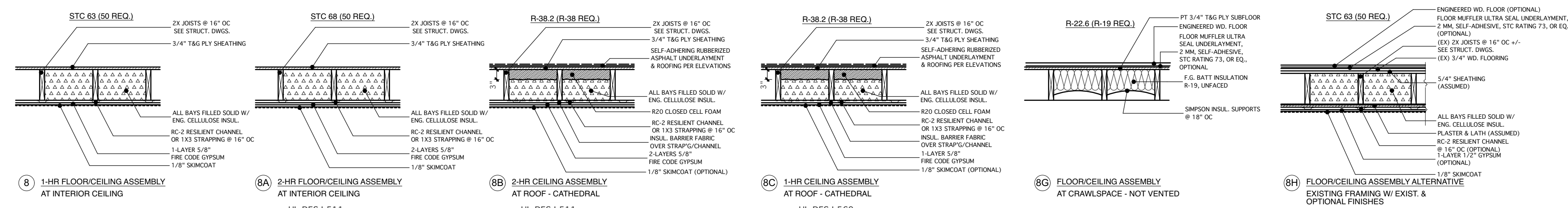
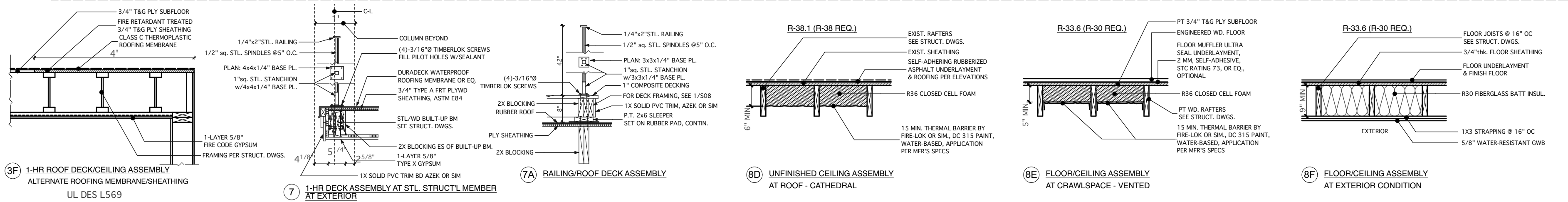
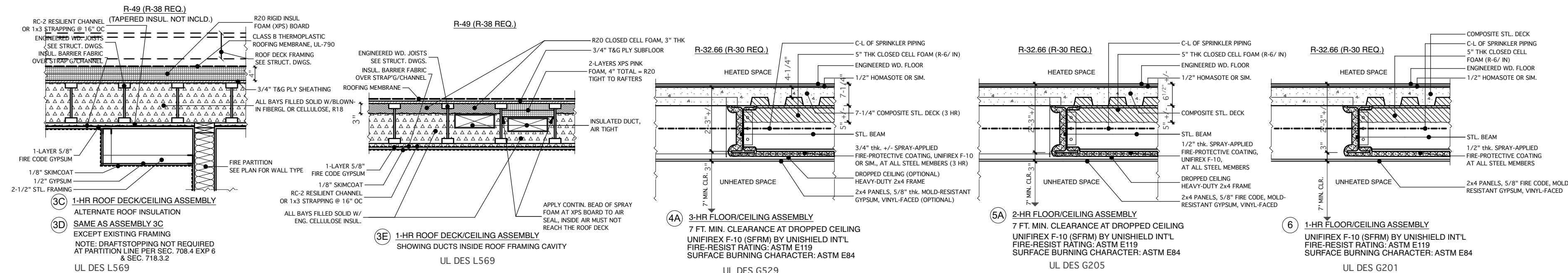
PERMIT SET

WALL/ FLOOR TYPES

DATE: 08/02/19 SC: N. T. S.

A13





OWNER:
BAKER COURT, LLC
29 CARROLLS LANE
QUINCY, MA 02169
TEL: 617-590-3578

PROJECT ARCHITECT:
TIM JOHNSON ARCHITECT, LLC
190 OLD COLONY AVENUE
BOSTON, MA 02127
TEL: 617-464-4363

PROPOSED 3-STORY, 5-UNIT BUILDING W/ 7-CAR GARAGE
10 WENDELLER STREET
SOUTH BOSTON, MA 02127

REVISIONS

08/17/19	△
08/26/19	△

Tim Johnson Architect, LLC

TIM JOHNSON ARCHITECT, LLC

PERMIT SET

WALL/FLOOR TYPES

DATE: 08/02/19 SC: N. T. S.

A14

REGISTERED ARCHITECT
TIMOTHY C. JOHNSON
No. 6995
BOSTON, MA
COMMONWEALTH OF MASSACHUSETTS