

MONTGOMERY COUNTY HISTORIC PRESERVATION COMMISSION
STAFF REPORT

Address:	7307 Holly Ave., Takoma Park	Meeting Date:	8/12/2020
Resource:	Contributing Resource Takoma Park Historic District	Report Date:	8/5/2020
Applicant:	Gillian Cadwell (Richard Vitullo, Architect)	Public Notice:	7/29/2020
Review:	HAWP	Tax Credit:	No
Case Number:	37/03-20HHH	Staff:	Michael Kyne

PROPOSAL: New deck, solar panel installation, alteration of an existing accessory dwelling, construction of a new accessory dwelling, construction of a swimming pool, new hardscaping, new fencing, and grading

STAFF RECOMMENDATION

Staff recommends that the HPC **approve** the HAWP application.

ARCHITECTURAL DESCRIPTION

SIGNIFICANCE: Contributing Resource within the Takoma Park Historic District
STYLE: Craftsman
DATE: 1920s

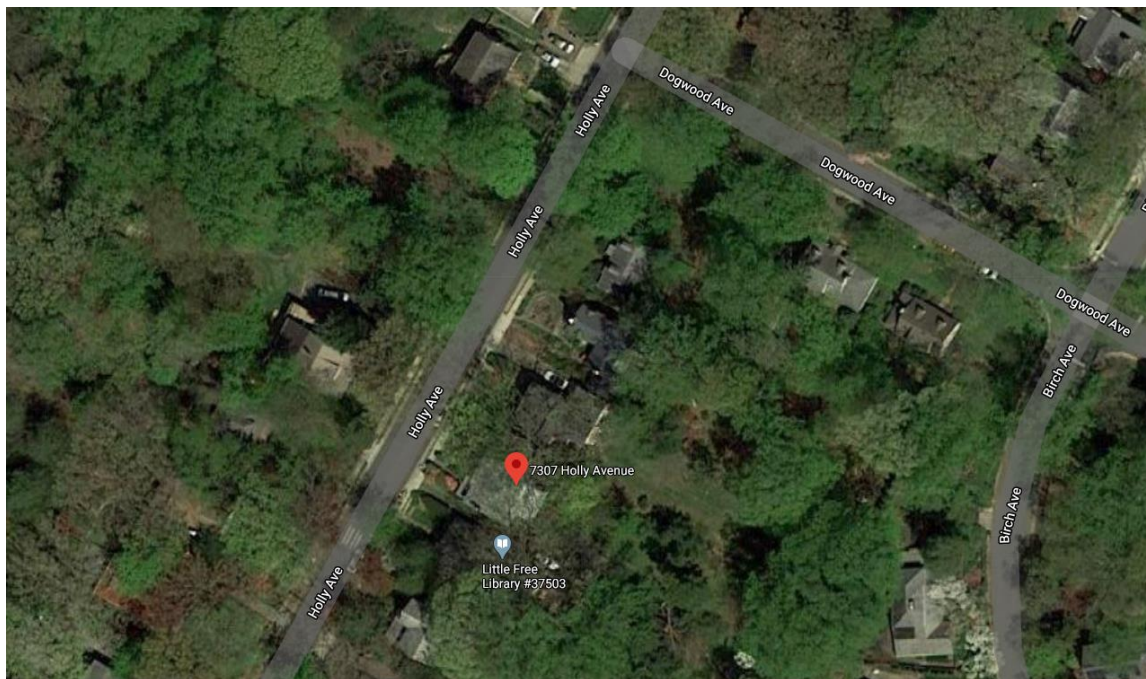


Fig. 1: Subject property.

BACKGROUND

The applicants' previously submitted an application for a new rear addition, new deck, egress, and hardscape and landscape alterations, which was approved at the February 26, 2020 HPC meeting.¹ The applicants also submitted an application for a new fence, retaining wall, and hardscape alterations, which was approved at the May 27, 2020 HPC meeting.²

The applicants appeared before the Commission for a preliminary consultation regarding the current proposal at the July 15, 2020 HPC meeting.³

PROPOSAL

The applicants propose construction of a new deck, solar panel installation, alteration of an existing accessory dwelling, construction of a new accessory dwelling, construction of a swimming pool, new hardscaping, new fencing, and grading at the subject property.

APPLICABLE GUIDELINES

When reviewing alterations and new construction within the Takoma Park Historic District several documents are to be utilized as guidelines to assist the Commission in developing their decision. These documents include the historic preservation review guidelines in the approved and adopted amendment for the *Takoma Park Historic District (Guidelines)*, *Montgomery County Code Chapter 24A (Chapter 24A)*, *Historic Preservation Commission Policy No. 20-01: ADDRESSING EMERGENCY CLIMATE MOBILIZATION THROUGH THE INSTALLATION OF ROOF-MOUNTED SOLAR PANELS (Policy No. 20-01)*, and *the Secretary of the Interior's Standards for Rehabilitation (Standards)*. The pertinent information in these documents is outlined below.

Takoma Park Historic District Guidelines

There are two very general, broad planning and design concepts which apply to all categories. These are:

- The design review emphasis will be restricted to changes that are all visible from the public right-of-way, irrespective of landscaping or vegetation (it is expected that the majority of new additions will be reviewed for their impact on the overall district), and
- The importance of assuring that additions and other changes to existing structures act to reinforce and continue existing streetscape, landscape, and building patterns rather than to impair the character of the historic district.

A majority of structures in the Takoma Park Historic District have been assessed as being "Contributing Resources." While these structures may not have the same level of architectural or historical significance as Outstanding Resources or may have lost some degree of integrity, collectively, they are the basic building blocks of the Takoma Park district. However, they are more important to the overall character of the district and the streetscape due to their size, scale, and architectural character, rather than for their

¹ Link to February 26, 2020 staff report: <https://montgomeryplanning.org/wp-content/uploads/2020/02/II.C-7307-Holly-Avenue-Takoma-Park.pdf>

² Link to May 27, 2020 staff report: <https://montgomeryplanning.org/wp-content/uploads/2020/05/I.O-7307-Holly-Avenue-Takoma-Park.pdf>

³ Link to July 15, 2020 HPC meeting audio/video transcript: http://mncppc.granicus.com/MediaPlayer.php?publish_id=90695821-cad9-11ea-93cb-0050569183fa
Link to July 15, 2020 preliminary consultation staff report: <https://montgomeryplanning.org/wp-content/uploads/2020/07/III.A-7307-Holly-Avenue-Takoma-Park.pdf>

particular architectural features.

Contributing Resources should receive a more lenient level of design review than those structures that have been classified as Outstanding. This design review should emphasize the importance of the resource to the overall streetscape and its compatibility with existing patterns rather than focusing on a close scrutiny of architectural detailing. In general, however, changes to Contributing Resources should respect the predominant architectural style of the resource.

The *Guidelines* that pertain to this project are as follows:

- All exterior alterations, including those to architectural features and details, should be generally consistent with the predominant architectural style and period of the resource and should preserve the predominant architectural features of the resource; exact replication of existing details and features is, however, not required.
- Some non-original building materials may be acceptable on a case-by-case basis; artificial siding on areas visible from the public right of way is discouraged where such materials would replace or damage original building materials that are in good condition.
- All changes and additions should respect existing environmental settings, landscaping, and patterns of open space.

Montgomery County Code; Chapter 24A-8

- (b) The commission shall instruct the director to issue a permit, or issue a permit subject to such conditions as are found to be necessary to ensure conformity with the purposes and requirements of this chapter, if it finds that:
 - (1) The proposal will not substantially alter the exterior features of an historic site or historic resource within an historic district; or
 - (2) The proposal is compatible in character and nature with the historical, archeological, architectural or cultural features of the historic site or the historic district in which an historic resource is located and would not be detrimental thereto or to the achievement of the purposes of this chapter; or
 - (3) The proposal would enhance or aid in the protection, preservation and public or private utilization of the historic site or historic resource located within an historic district in a manner compatible with the historical, archeological, architectural or cultural value of the historic site or historic district in which an historic resource is located; or
 - (4) The proposal is necessary in order that unsafe conditions or health hazards be remedied; or
 - (5) The proposal is necessary in order that the owner of the subject property not be deprived of reasonable use of the property or suffer undue hardship; or
 - (6) In balancing the interests of the public in preserving the historic site or historic resource located within an historic district, with the interests of the public from the use and benefit of the alternative proposal, the general public welfare is better served by granting the permit.

- (c) It is not the intent of this chapter to limit new construction, alteration or repairs to any 1 period or architectural style.
- (d) In the case of an application for work on an historic resource located within an historic district, the commission shall be lenient in its judgment of plans for structures of little historical or design significance or for plans involving new construction, unless such plans would seriously impair the historic or architectural value of surrounding historic resources or would impair the character of the historic district. (Ord. No. 9-4, § 1; Ord. No. 11-59.)

Historic Preservation Commission Policy No. 20-01: ADDRESSING EMERGENCY CLIMATE MOBILIZATION THROUGH THE INSTALLATION OF ROOF-MOUNTED SOLAR PANELS

On December 5, 2017, the Montgomery County Council adopted an Emergency Climate Mobilization resolution (Resolution No.: 18-974) which declared a climate emergency and charged the County Executive, Montgomery County Public Schools, and the Maryland-National Capital Park and Planning Commission to advise the Council on methods to reduce greenhouse gas emissions.

As a body established by the County Executive, it is incumbent on the Historic Preservation Commission (HPC) to undertake steps to achieve the goals of the Emergency Climate Mobilization resolution.

One method for reducing greenhouse gas emissions is to replace carbon-heavy methods of energy production, like coal and natural gas power plants, with renewable sources like wind and solar power. Current historic preservation best practice is to limit the locations solar panels may be installed to preserve the character of the building above all other considerations. Chapter 24A-8(b)(6) of County Code establishes a balancing test for approval of a HAWP where there is an apparent conflict between the desired impact on the historic resource compared to the public benefit of the proposal. Because the widespread use of solar panels, both for hot water and for electricity production, will reduce greenhouse gases in the county, it is the position of the HPC that solar panels may be installed on all roof elevations of historic sites or historic resources located within a historic district provided:

1. The identified preferred location (on the rear of the property, building additions, accessory structures, or ground-mounted arrays) is not feasible due to resource orientation or other site limitations and;
2. The roof is not either architecturally significant or a slate or tile roof unless it can be demonstrated that the solar array will be installed without damaging the historic character of the resource or historic fabric; and
3. A Historic Area Work Permit (HAWP) is required for all work referenced in this policy.

Now, THEREFORE:

WHEREAS, Historic Area Work Permit decisions are guided by the criteria in Section 24A, The Secretary of the Interior's Standards for Rehabilitation, and pertinent guidance from applicable master plan amendments and/or site or district-specific studies;

WHEREAS, The Secretary of the Interior's Standards for Rehabilitation as interpreted by the National Park Service limit the placement of rooftop solar panels under Standards 2, 9, and 10 to less conspicuous locations;

WHEREAS, the County Council has established a Climate Emergency;

WHEREAS, the Historic Preservation is a body established by the County Executive and County Council;

WHEREAS, Section 24-8(b)(6) states, “In balancing the interest of the public in preserving the historic site or historic resource located within an historic district, with the interests of the public from the use and benefit of the alternative proposal, the general public welfare is better served by granting the permit;”

WHEREAS, the widespread use of solar panels, both for hot water and for electricity production, will reduce greenhouse gases in the county, in accordance with the aims of the Emergency Climate Mobilization resolution (Resolution No.: 18-974), it shall be the policy of the Historic Preservation Commission that:

1. The preferred locations for solar panel installation(s) on a designated historic site or an historic resource located within an historic district is a) on the rear of the property, b) on non-historic building additions, c) on accessory structures, or d) in ground-mounted arrays;
2. If it is not feasible to install solar panels in one of the identified preferred locations due to resource orientation or other site limitations; and,
3. The roof is determined to be neither architecturally significant, nor a character-defining feature of the resource, nor is it a slate or tile roof, that unless it can be demonstrated that the solar array will be installed without damaging the historic character of the resource or historic fabric; then
4. The public welfare is better served by approving a Historic Area Work Permit for solar panels on all visible side or front roof slopes under Section 24A-8(b)(6).
5. A Historic Area Work Permit (HAWP) is required for all work referenced in this policy.

Secretary of the Interior’s Standards for Rehabilitation:

The Secretary of the Interior defines rehabilitation as “the act or process of making possible a compatible use for a property through repair, alterations, and additions while preserving those portions or features, which convey its historical, cultural, or architectural values.” The *Standards* are as follows:

2. The historic character of a property shall be retained and preserved. The removal of historic materials or alteration of features and spaces that characterize a property shall be avoided.
9. New additions, exterior alterations, or related new construction shall not destroy historic materials that characterize the property. The new work shall be differentiated from the old and shall be compatible with the massing, size, scale, and architectural features to protect the historic integrity of the property and its environment.
10. New additions and adjacent or related new construction shall be undertaken in such a manner that if removed in the future, the essential form and integrity of the historic property and its environment would be unimpaired.

STAFF DISCUSSION

The applicants appeared before the Commission for a preliminary consultation regarding the current proposal at the July 15, 2020 HPC meeting. At the preliminary consultation, the HPC expressed the following:

- The consensus (7 to 2) was that the proposed garage/shed conversion was appropriate.

- There were no strong objections to the proposed amount of hardscaping, due to its location at the rear and general lack of visibility from the public right-of-way; however, the majority recommended reducing the amount of hardscaping, if possible, and considering permeable paving to address possible drainage issues.
- The majority found that the property's grading will reduce the perceived scale and massing of the proposed ADU, but recommended that the footprint of ADU be reduced, if possible. The HPC recommended providing a full proposed site plan, when submitting a formal HAWP application, suggesting that this would demonstrate the relatively small size of the proposed ADU.
- Staff also suggests that perspective photographs and sightline studies be provided to accurately demonstrate the visibility of the proposed ADU.
- The majority supported the proposed solar panel installations on the addition, but not on the historic house; however, given the statements by the applicants regarding the infeasibility of the solar panels in alternative locations, staff suggests that the proposed solar panels on the historic house are consistent with the Commission's solar policy. Staff recommends that further details regarding the infeasibility of alternative locations be provided, when submitting a formal HAWP application. Additionally, a roof plan with proposed solar panel locations should be provided, as requested by the Commission.

The applicants have returned with the following revisions in response to the HPC's comments:

- The proposed hardscaping has been reduced from 920 sf to 800 sf, with a minimum of 40% to be permeable paving.
- A full site plan has been provided to demonstrate the size of the proposed ADU relative to the size of the lot. Perspective drawings have also been provided, demonstrating the minimal visibility of the ADU from oblique angles within the public right-of-way of Holly Avenue.
- A letter from the solar contractor has been provided, which details the infeasibility of installing the proposed solar panels in alternative locations, in accordance with the Commission's solar policy (*Policy No. 20-01*). Additionally, the locations of the proposed solar panels are depicted in the revised site plan.

Staff finds that the applicants have responded appropriately to the Commission's preliminary consultation comments. The proposal will not remove or alter character-defining features of the subject property or surrounding streetscape, in accordance with *Standards #2* and *#9*. In accordance with *Standard #10*, the proposed alterations can be removed in the future without impairing the essential form and integrity of the historic property and its environment.

The Commission's solar policy (*Policy No. 20-01*) is relatively new, having only been adopted at the February 26, 2020 HPC meeting. Because of this, staff cites several solar panel installation projects within the Takoma Park Historic District, which the HPC recently approved in accordance with the solar policy. These projects include the installation of 24 solar panels on the front and rear roof slopes of the historic house at 7417 Maple Avenue and the installation of 21 solar panels on the roof of the historic house (as well as 15 solar panels on the roof of a non-historic rear addition and 9 solar panels on the roof of a non-historic garage) at 240 Park Avenue. While only a few of the approved solar panels will be visible from the public right-of-way at 240 Park Avenue, all 24 approved solar panels will be highly visible from the public right-of-way at 7417 Maple Avenue, as this property is a corner lot. Both properties are Contributing Resources.

While the Commission reviews all proposals on a case-by-case basis, staff finds the proposed solar panels at the subject property entirely consistent with the approvals cited above and much less visible from the public right-of-way, as compared to the approved solar panels at 7417 Maple Avenue. The proposed solar panels are also consistent with the Commission's solar policy. With the submitted letter from the solar contractor, the applicants have demonstrated that it is infeasible to install the proposed solar panels in a preferred location. Additionally, because the historic house has non-original asphalt shingle roofing, the proposed solar panels can be installed without damaging the historic character or fabric of the resource.

After full and fair consideration of the applicant's submission staff finds the proposal as being consistent with the Criteria for Issuance in Chapter 24A-8(b) 1 and 2, having found the proposal is consistent with the *Secretary of the Interior's Standards for Rehabilitation* #2, #9 and #10, and *Takoma Park Historic District Guidelines* outlined above.

STAFF RECOMMENDATION

Staff recommends that the Commission approve the HAWP application under the Criteria for Issuance in Chapter 24A-8(b), (1), (2) & (d) having found that the proposal is consistent with the *Takoma Park Historic District Guidelines*, and therefore will not substantially alter the exterior features of the historic resource and is compatible in character with the district and the purposes of Chapter 24A;

and with the *Secretary of the Interior's Standards for Rehabilitation* #2, #9, and #10;

and with the general condition that the applicant shall present the 3 permit sets of drawings, if applicable, to Historic Preservation Commission (HPC) staff for review and stamping prior to submission for the Montgomery County Department of Permitting Services (DPS) building permits;

and with the general condition that final project design details, not specifically delineated by the Commission, shall be approved by HPC staff or brought back to the Commission as a revised HAWP application at staff's discretion;

and with the general condition that the applicant shall notify the Historic Preservation Staff if they propose to make any alterations to the approved plans. Once the work is completed the applicant will contact the staff person assigned to this application at 301-563-3400 or michael.kyne@montgomeryplanning.org to schedule a follow-up site visit.



FOR STAFF ONLY:
HAWP# 920944
DATE ASSIGNED _____

**APPLICATION FOR
HISTORIC AREA WORK PERMIT**
HISTORIC PRESERVATION COMMISSION
301.563.3400

APPLICANT:

Name: Gillian Caldwell
Address: 7307 Holly Avenue
Daytime Phone: 301-326-7802

E-mail: gillianbcaldwell@gmail.com
City: Takoma Park Zip: 20912
Tax Account No.: 01066483

AGENT/CONTACT (if applicable):

Name: Richard J. Vitullo
Address: 7016 Woodland Avenue
Daytime Phone: 301-806-6447

E-mail: rjv@vitullostudio.com
City: Takoma Park Zip: 20912
Contractor Registration No.: _____

LOCATION OF BUILDING/PREMISE: MIHP # of Historic Property _____

Is the Property Located within an Historic District? Yes/District Name Takoma Park
No/Individual Site Name _____

Is there an Historic Preservation/Land Trust/Environmental Easement on the Property? If YES, include a map of the easement, and documentation from the Easement Holder supporting this application.

Are other Planning and/or Hearing Examiner Approvals /Reviews Required as part of this Application? (Conditional Use, Variance, Record Plat, etc.?) If YES, include information on these reviews as supplemental information.

Building Number: 7307 Street: Holly Avenue
Town/City: Takoma Park Nearest Cross Street: Dogwood Avenue
Lot: Part of 23 Block: 6 Subdivision: _____ Parcel: _____

TYPE OF WORK PROPOSED: See the checklist on Page 4 to verify that all supporting items for proposed work are submitted with this application. Incomplete Applications will not be accepted for review. Check all that apply:

<input type="checkbox"/> New Construction	<input checked="" type="checkbox"/> Deck/Porch	<input checked="" type="checkbox"/> Shed/Garage/Accessory Structure
<input type="checkbox"/> Addition	<input checked="" type="checkbox"/> Fence	<input checked="" type="checkbox"/> Solar
<input checked="" type="checkbox"/> Demolition	<input checked="" type="checkbox"/> Hardscape/Landscape	<input type="checkbox"/> Tree removal/planting
<input checked="" type="checkbox"/> Grading/Excavation	<input type="checkbox"/> Roof	<input type="checkbox"/> Window/Door
		<input checked="" type="checkbox"/> Other: <u>Pool</u>

I hereby certify that I have the authority to make the foregoing application, that the application is correct and accurate and that the construction will comply with plans reviewed and approved by all necessary agencies and hereby acknowledge and accept this to be a condition for the issuance of this permit.

Richard J. Vitullo Richard Vitullo Digitally signed by Richard Vitullo
Date: 2020.07.22 10:46:02 -04'00'

7/22/2020

Signature of owner or authorized agent

Date

Description of Property: Please describe the building and surrounding environment. Include information on significant structures, landscape features, or other significant features of the property:

See attached document

Description of Work Proposed: Please give an overview of the work to be undertaken:

See attached document

Work Item 1: _____	
Description of Current Condition:	Proposed Work:

Work Item 2: _____	
Description of Current Condition:	Proposed Work:

Work Item 3: _____	
Description of Current Condition:	Proposed Work:

HISTORIC AREA WORK PERMIT CHECKLIST OF APPLICATION REQUIREMENTS

	Required Attachments						
Proposed Work	I. Written Description	2. Site Plan	3. Plans/ Elevations	4. Material Specifications	5. Photographs	6. Tree Survey	7. Property Owner Addresses
New Construction	*	*	*	*	*	*	*
Additions/ Alterations	*	*	*	*	*	*	*
Demolition	*	*	*		*		*
Deck/Porch	*	*	*	*	*	*	*
Fence/Wall	*	*	*	*	*	*	*
Driveway/ Parking Area	*	*		*	*	*	*
Grading/Excavation/ Landscaping	*	*		*	*	*	*
Tree Removal	*	*		*	*	*	*
Siding/ Roof Changes	*	*	*	*	*		*
Window/ Door Changes	*	*	*	*	*		*
Masonry Repair/ Repoint	*	*	*	*	*		*
Signs	*	*	*	*	*		*

DESCRIPTION OF ***EXISTING*** STRUCTURE,
ENVIRONMENTAL SETTING AND HISTORICAL FEATURES
AT:

7307 Holly Ave., Takoma Park, MD 20912

Main House: This is an "Contributing Resource" Craftsman house similar to Sears "Americus", built in 1921, and it is located in the Takoma Park Historic District. It is a 2-story house with a full-width front porch and a 2 story rear addition, followed by a 1 story rear addition. The house has a large wood deck on the rear as well. All additions are circa 2020.

Garage: There is a detached garage on the property, 17' x 18.3'. It has a 6.5:12 roof slope, with short overhangs at the eaves and rake. The siding is German lap siding, with 1 x 4 trim at the corners and at windows and doors. The garage door is steel (8'-0" wide x 7'-0" high).

Note: The garage appears to have two separate parts: an original part, set on a brick foundation 6'-4" wide x 18'-0" long, and this part is located 3" from the south property line; the other part is 10'-8" wide, is set on a concrete foundation and appears to be a later addition. The interior wall plates also corroborate the two separate parts as the materials change between "old" and "older".

DESCRIPTION OF THE ***PROPOSED*** PROJECT AND ITS
EFFECT ON THE HISTORIC RESOURCE:
7307 Holly Ave., Takoma Park, MD 20912

The following are the proposed building and site features being proposed for this HAWP:

- a. Shed (Former Garage):** *The current wood framed garage will be altered to create a new shed function for the structure. A newer addition, expanding the original 6'-4" wide structure to 17'-0" wide (c. unknown), will be demolished, leaving the original brick foundation upon which the new shed will be created. The original wood frame, window, siding and trim will be retained and/or salvaged and re-used. Two pairs of painted wood doors will be installed to access the shed, and a new gable roof, at the same gable orientation as the original, with asphalt shingles will be built.*
- b. Pool:** *To the rear of the new shed, in a relatively flat area of the yard, a 8'-0" wide x 40'-0" long in-ground pool will be installed. Any walls above ground, and they are minimal, will be clad in stone.*
- c. Accessory Apartment/ Structure:** *A 658 s.f. accessory apartment structure will be built at the rear of the property, placed 9'-0" from the side property line according to Mont. Co. Zoning Regulations. It will be located 82'-0" to the rear of the rear of the main house. The exterior materials will be fiber cement siding and trim, asphalt shingles (with solar panels over on southwest side), painted wood windows and door, all to match existing newer addition on main house. A pair of low concrete retaining walls at the rear of this structure will provide access to a small lower level under this structure to accommodate pool equipment and storage.
*The new structure will be barely visible from the street due to the fact that it will be mostly blocked from view by the main house, new revamped shed, and its distance from the right-of-way (175'-0").**
- d. Landscape Features:** *Adjacent to the house deck, shed, pool, and accessory building will be 800 s.f. of hardscaping, **reduced from 930 s.f. on previous HAWP application** (320 s.f. or 40%, min., of it will be permeable paving material) as well as a 4'-0" wide stone ramp (with wood railings), rising from the accessory structure up to the area at the wood deck of the main house. The 800 s.f. of hardscaping is only 6% of the total lot of 12,540 s.f.. (See permeable paving types included in this application.)
*A 4'-0" high wood lattice/screen will be placed between the pool and accessory structure (see lattice image).
There will be a large "rain garden" adjacent to the accessory building to handle hardscape runoff and drainage from the new building.**
- e. Solar Panels:** *New solar panels are being added to the southwest roof surfaces of both the existing house and the accessory building. These surfaces are the only effectively efficient roof areas available for solar*

electricity generation usage. Other areas are either pointed away from the direct solar rays or are being shaded by the large trees adjacent to this property. (See proposed site plan.)

*Per the attached letter from the solar installer, there is no way to avoid placing some panels in an **inconspicuous location on the original home**. (see site section)*

- f. Main House Deck:** *The wood deck, approved on an earlier HAWP at 17'-6" wide x 16'-0" long, is being extended to be 20'-0" wide (length is still 16'-0").*

Gillian Caldwell
Louis Spitzer
7307 Holly Ave.
Takoma Park, MD 20912

Adjoining Property Owners

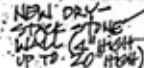
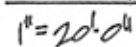
HAWP

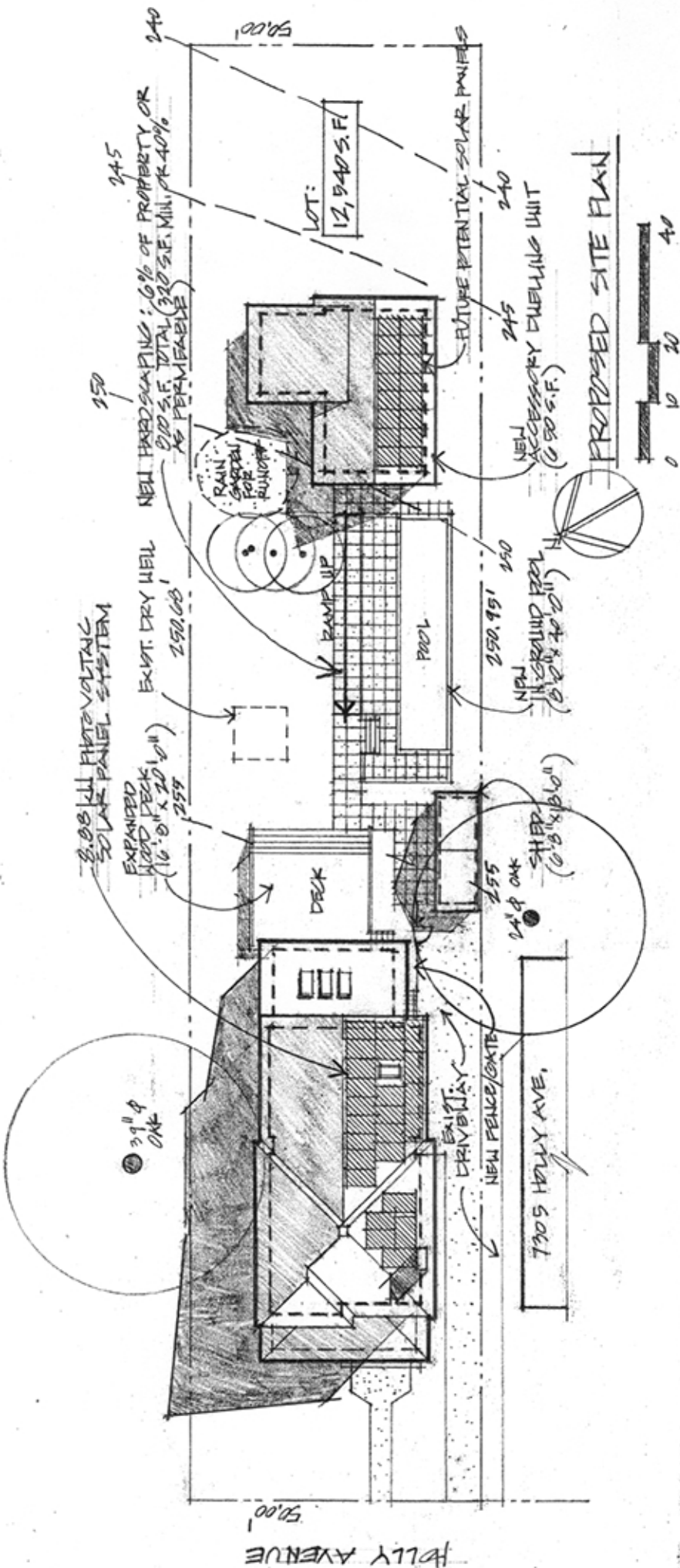
William Lefurgy
7309 Holly Ave.
Takoma Park, MD 20912

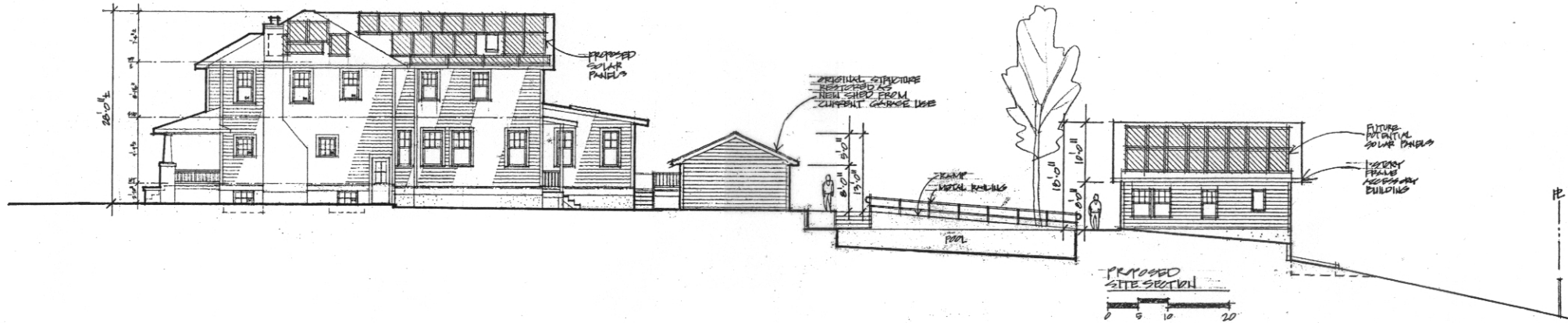
Molly Crawford
Christopher Campbell
7305 Holly Ave.
Takoma Park, MD 20912

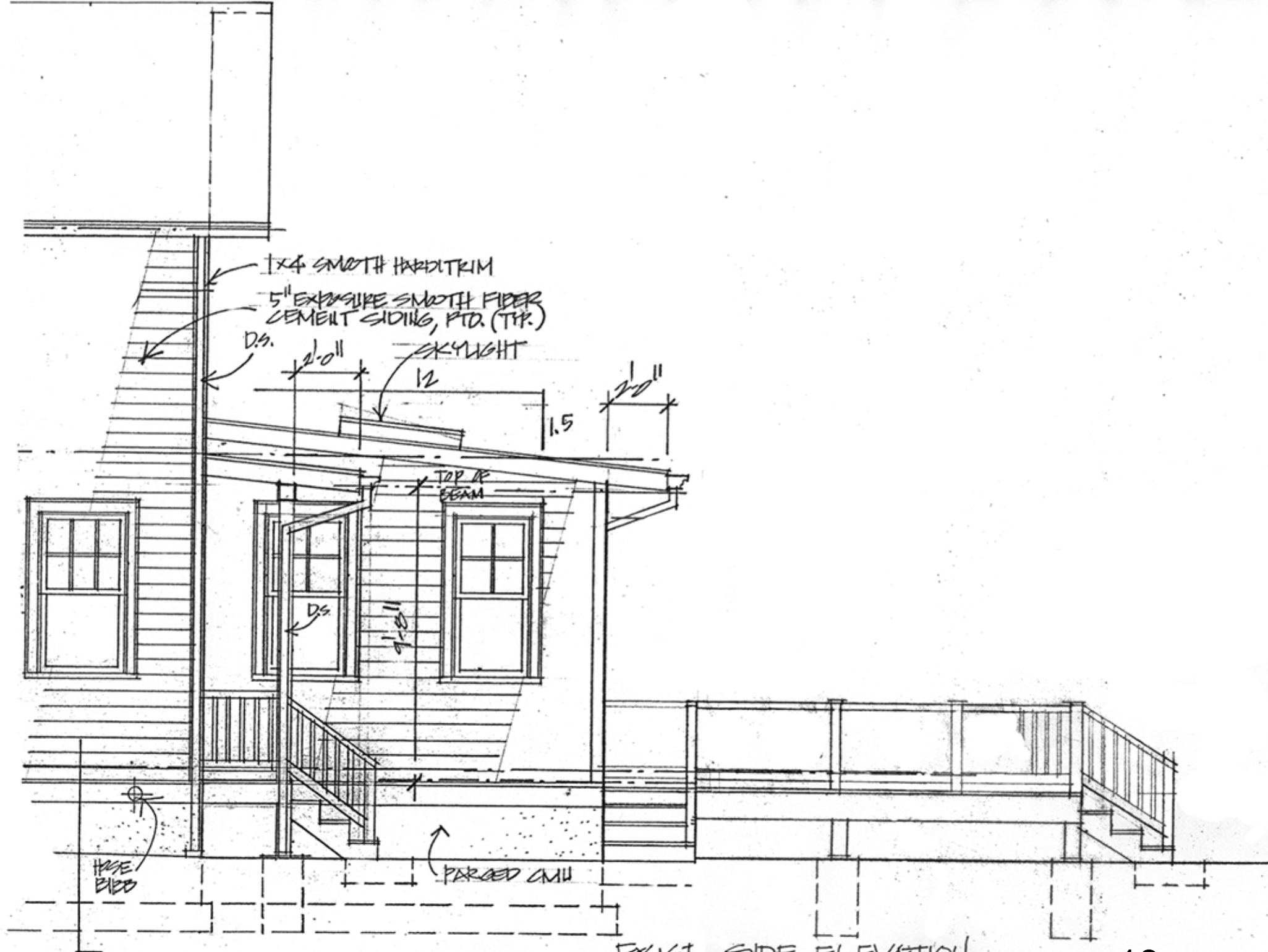
Agnes Patti
7306 Holly Ave.
Takoma Park, MD 20912

George Hinds
7304 Holly Ave.
Takoma Park, MD 20912









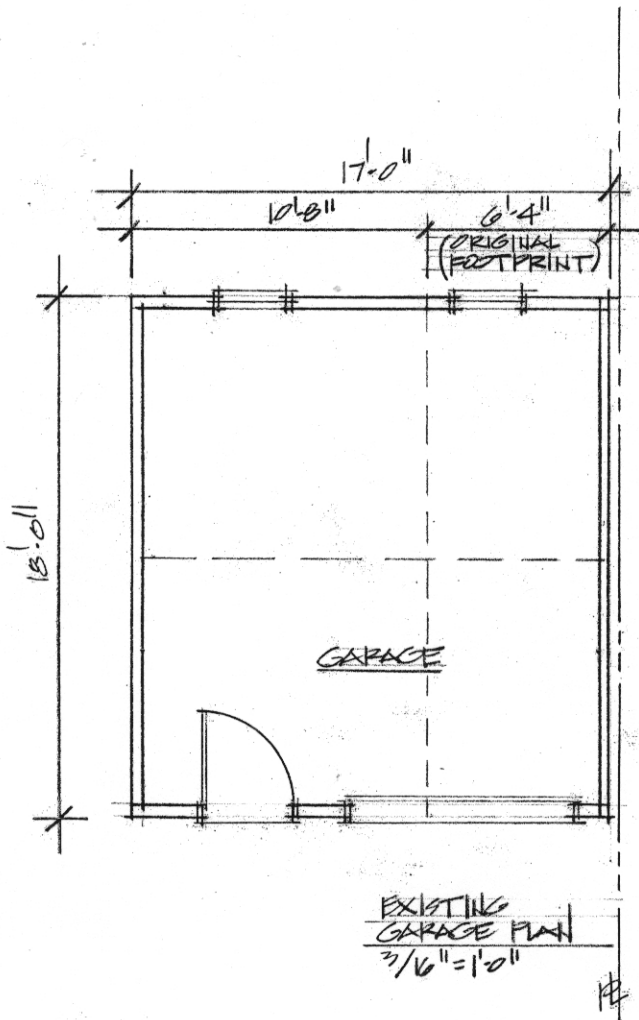
EXIST. SIDE ELEVATION
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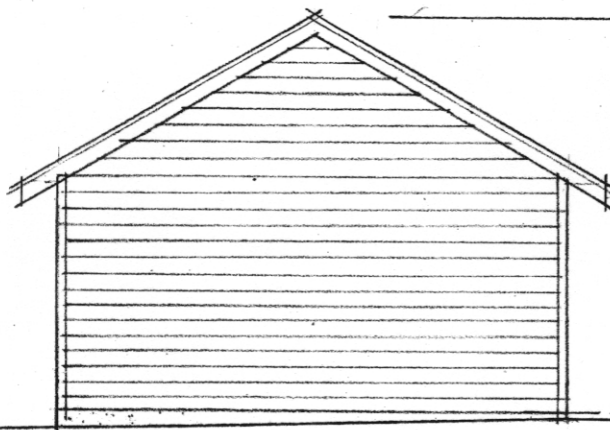




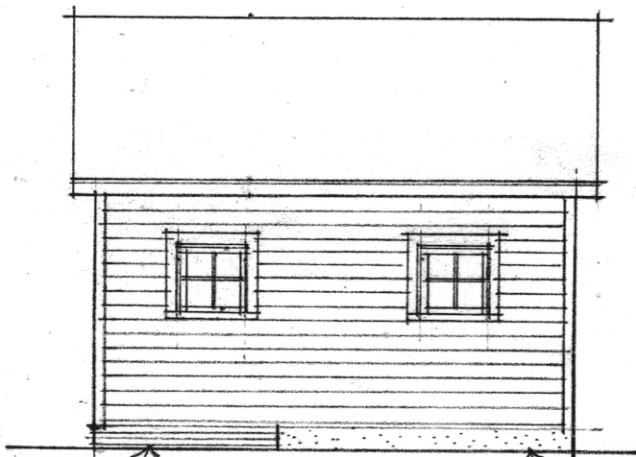








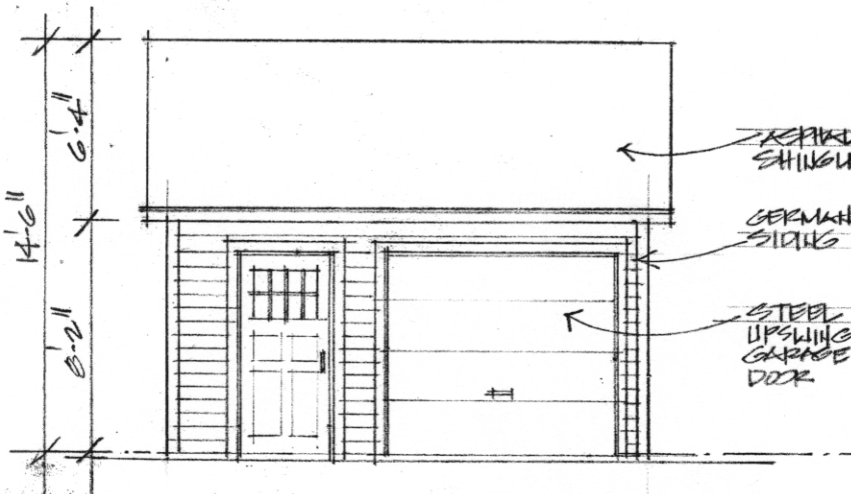
EXIST. GARAGE SIDE (TYP.)
3/16"



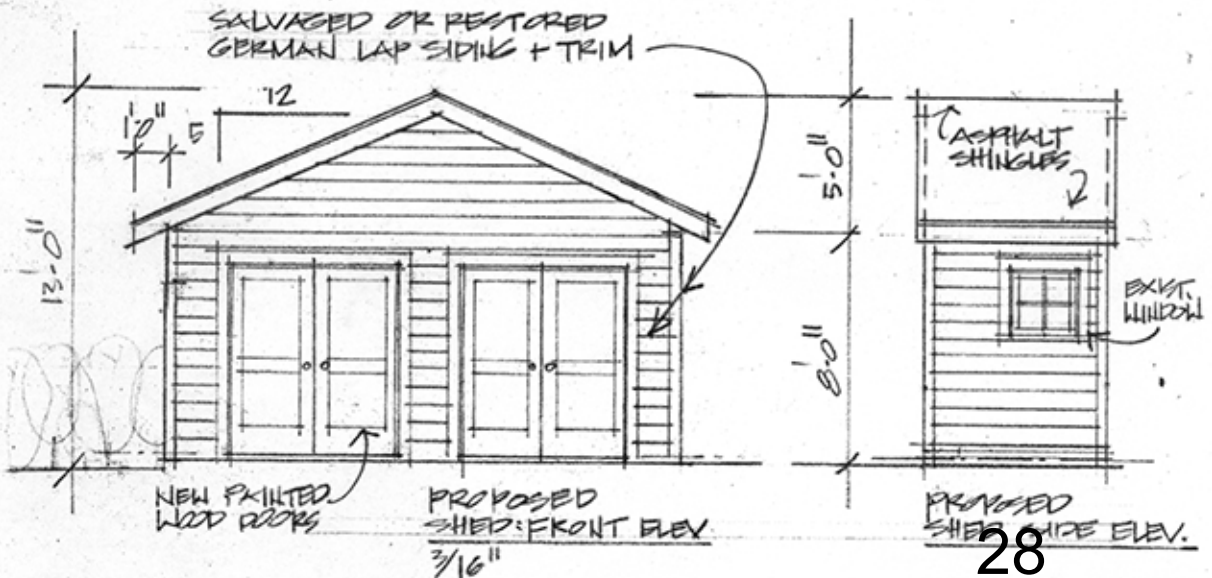
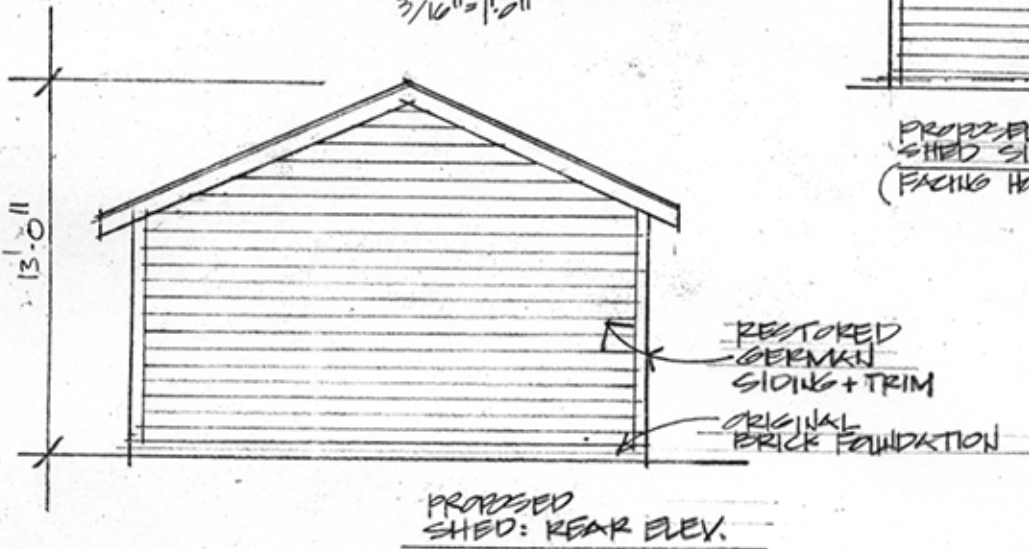
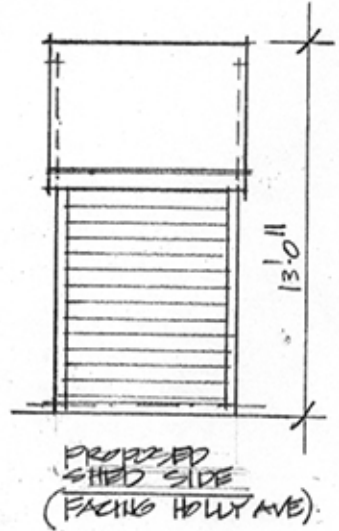
ORIGINAL
BRICK
FOUNDATION

NEWER CONCRETE
FOUNDATION

EXIST. GARAGE REAR
3/16"

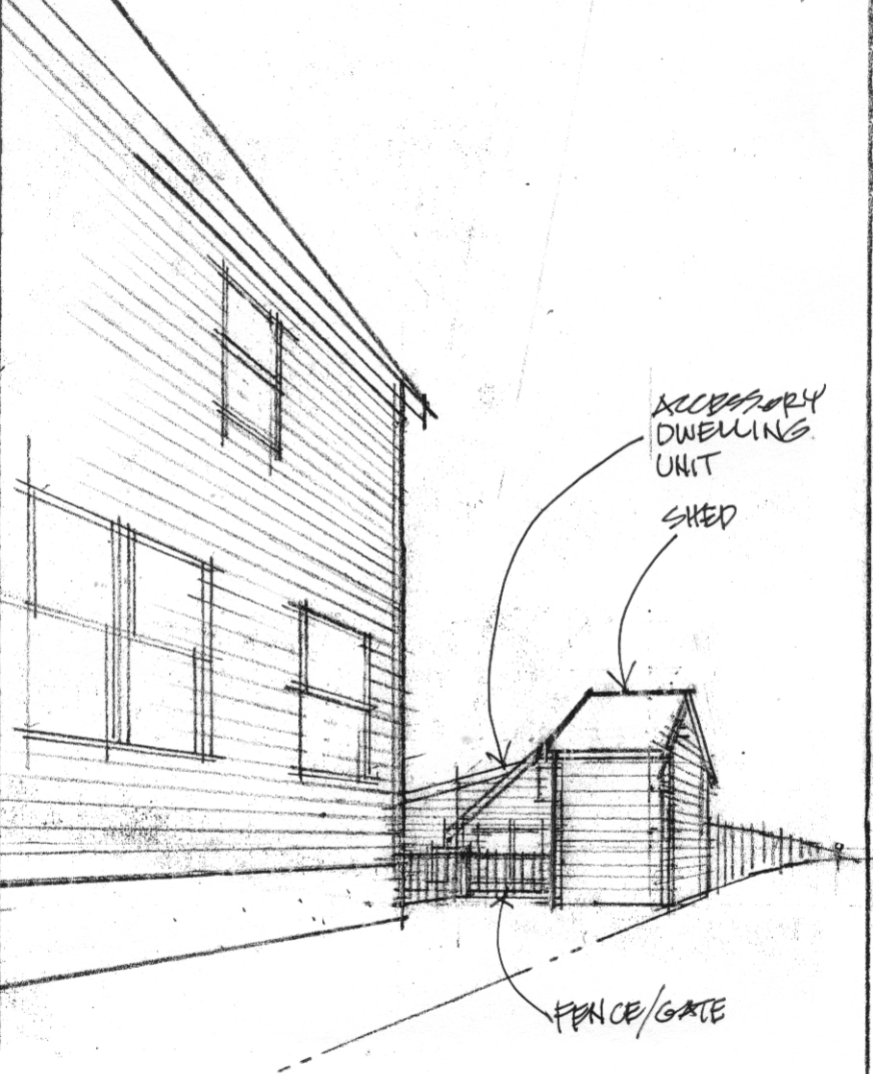


EXISTING GARAGE FRONT
3/16"



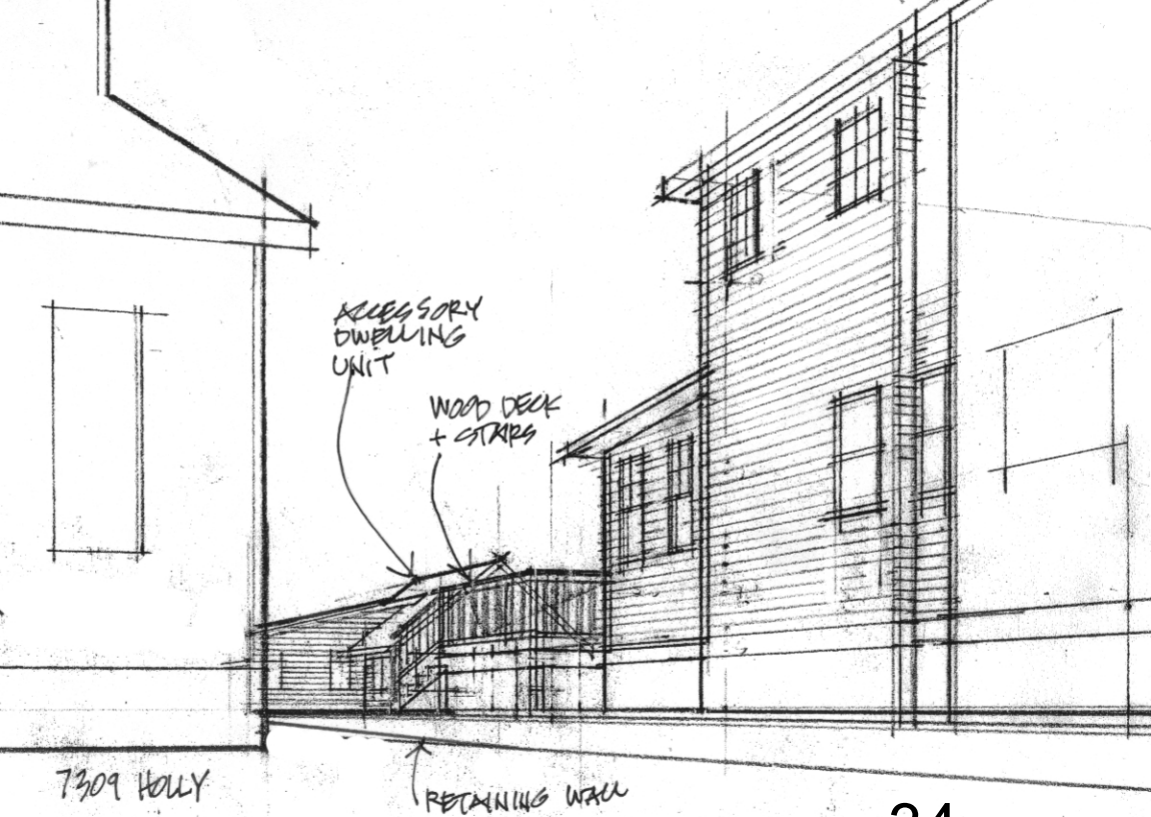




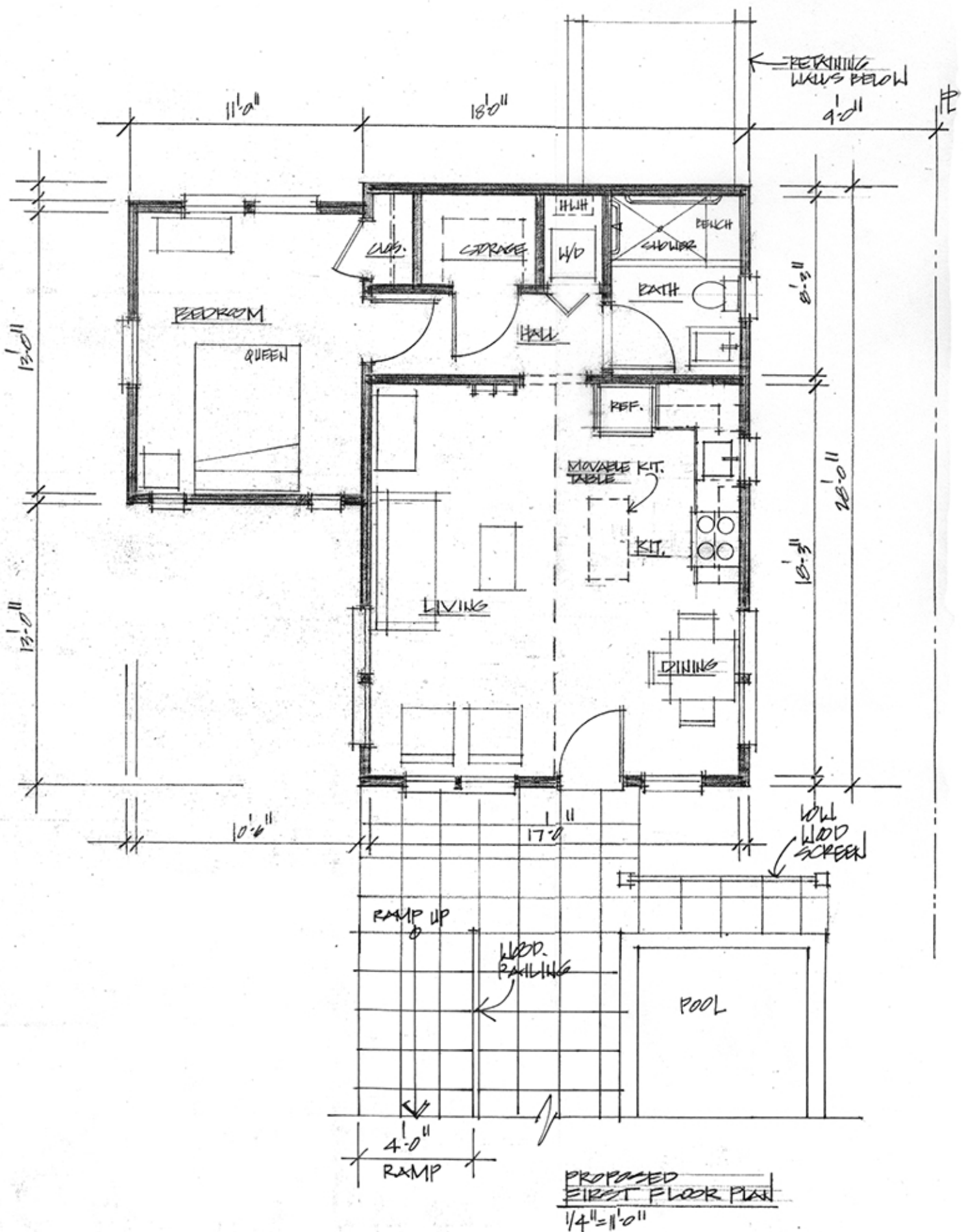


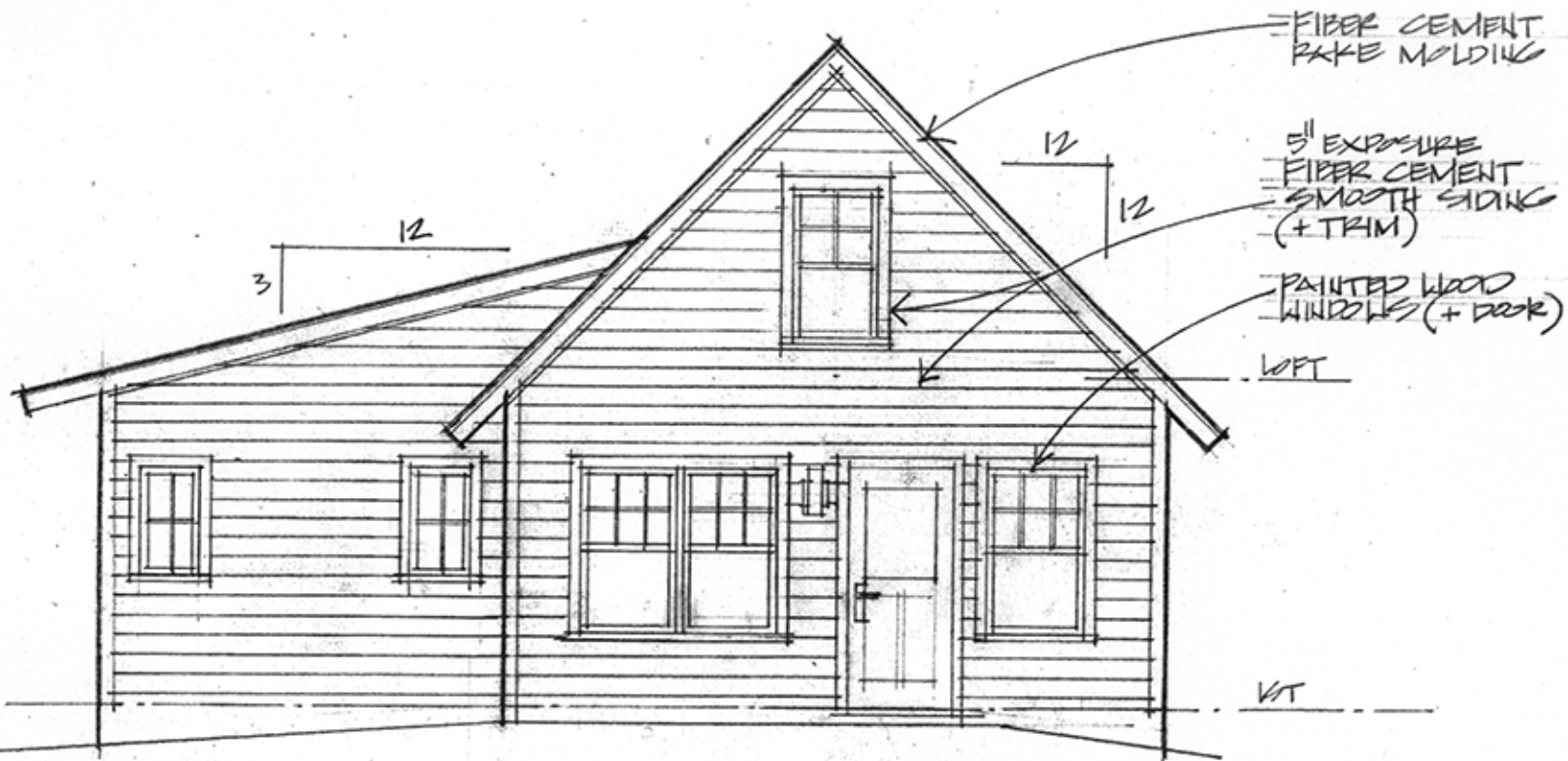




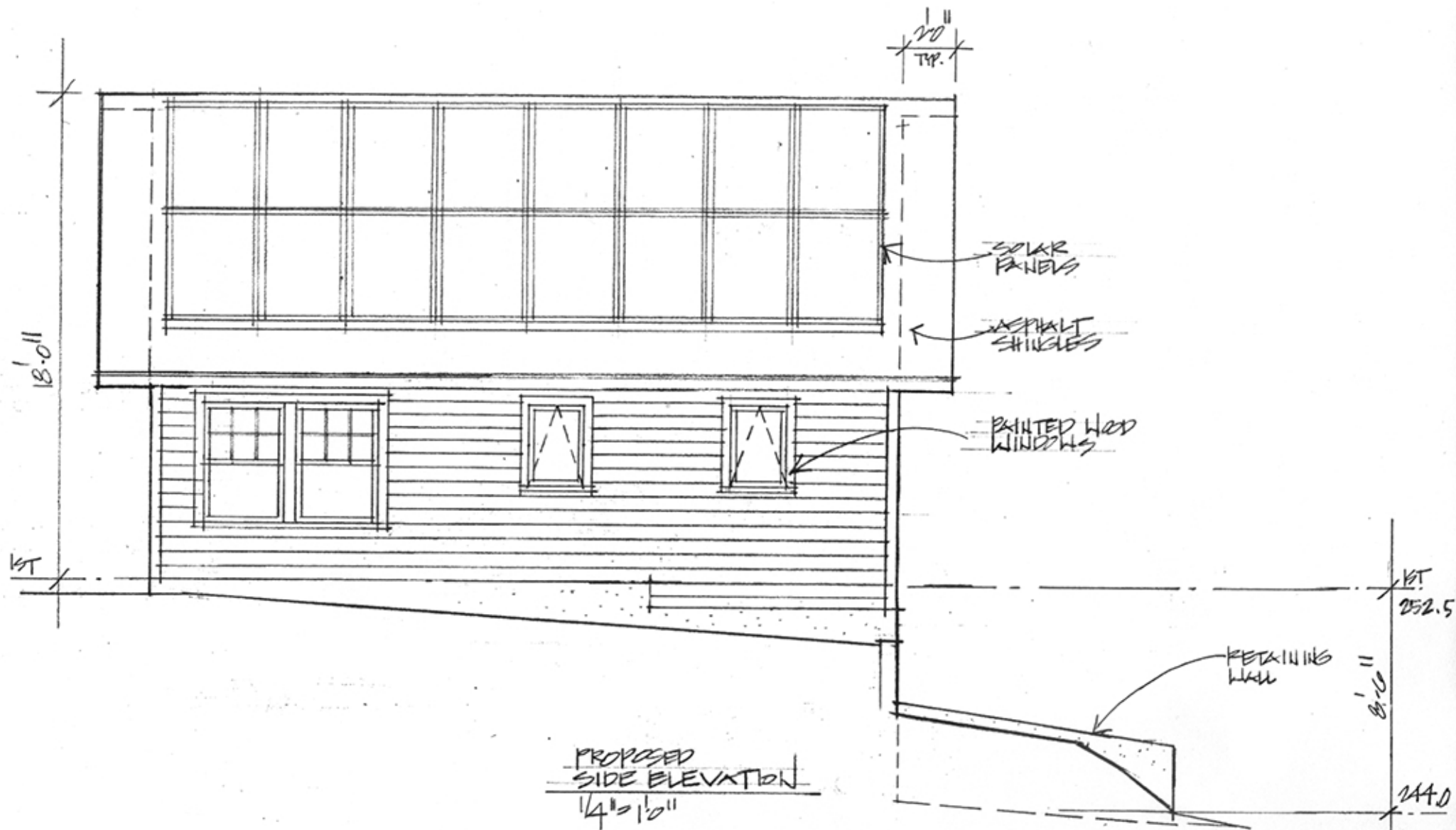


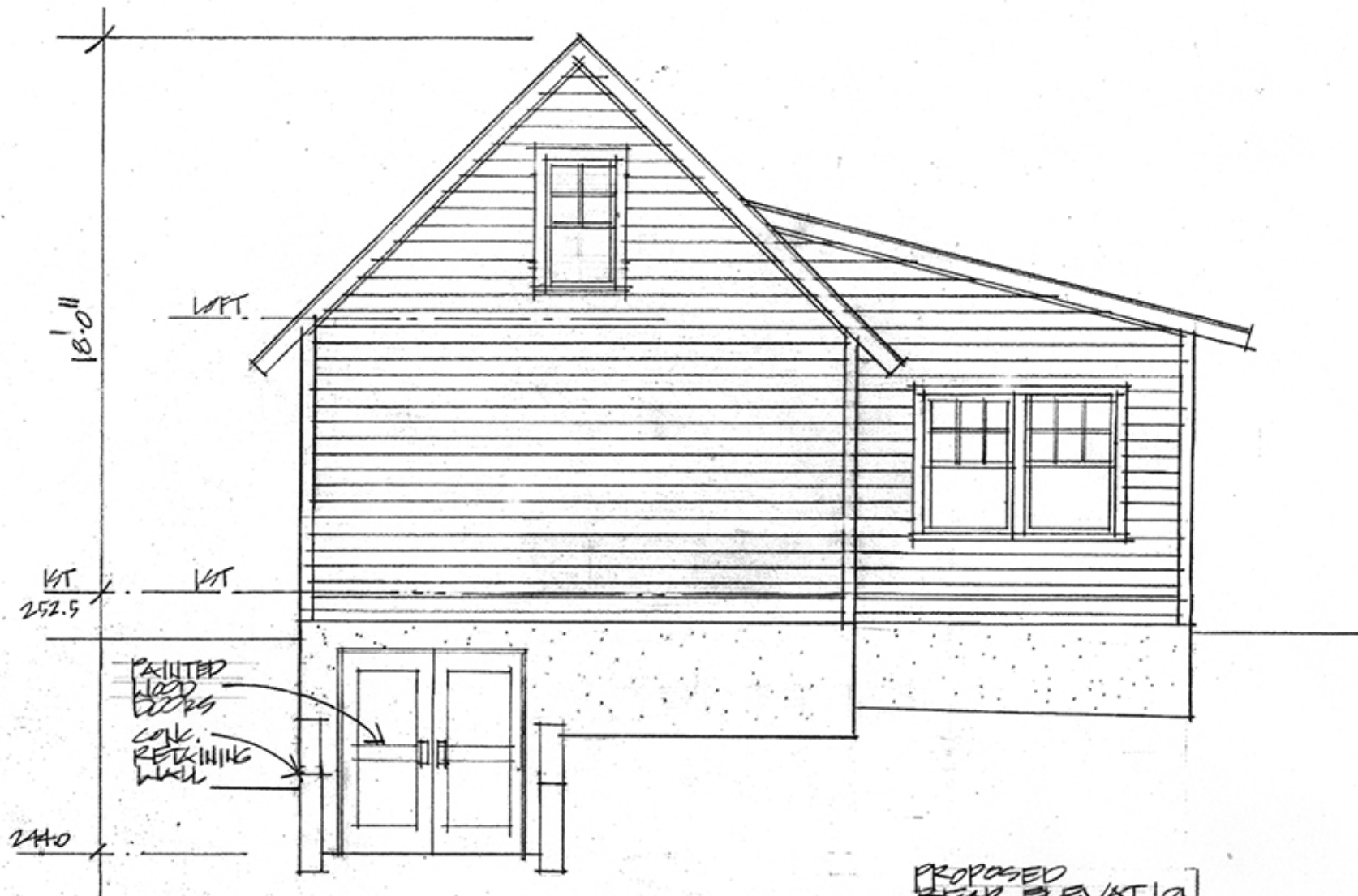
7309 HOLLY



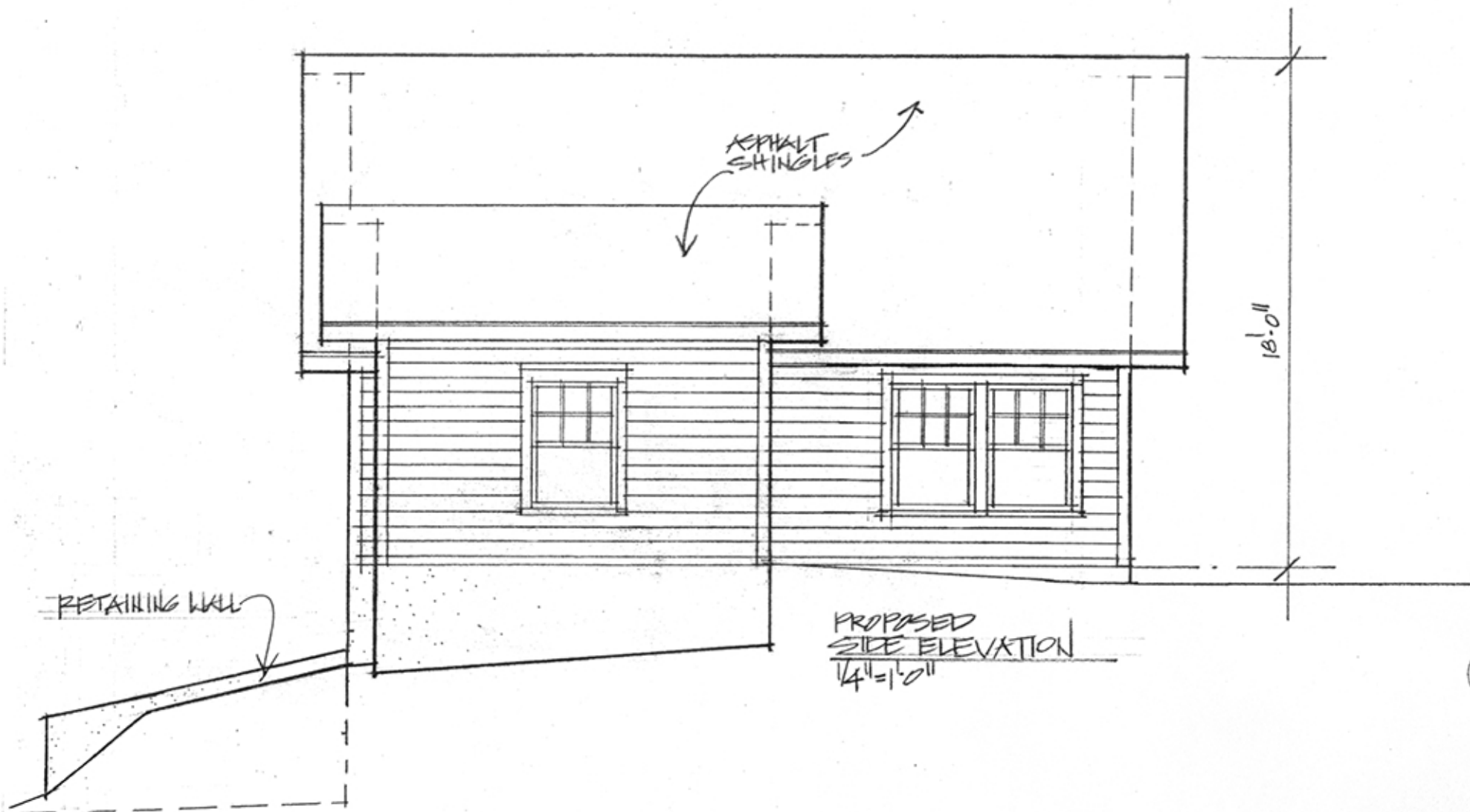


PROPOSED
FRONT ELEVATION
 $\frac{1}{4}'' = 1'-0''$

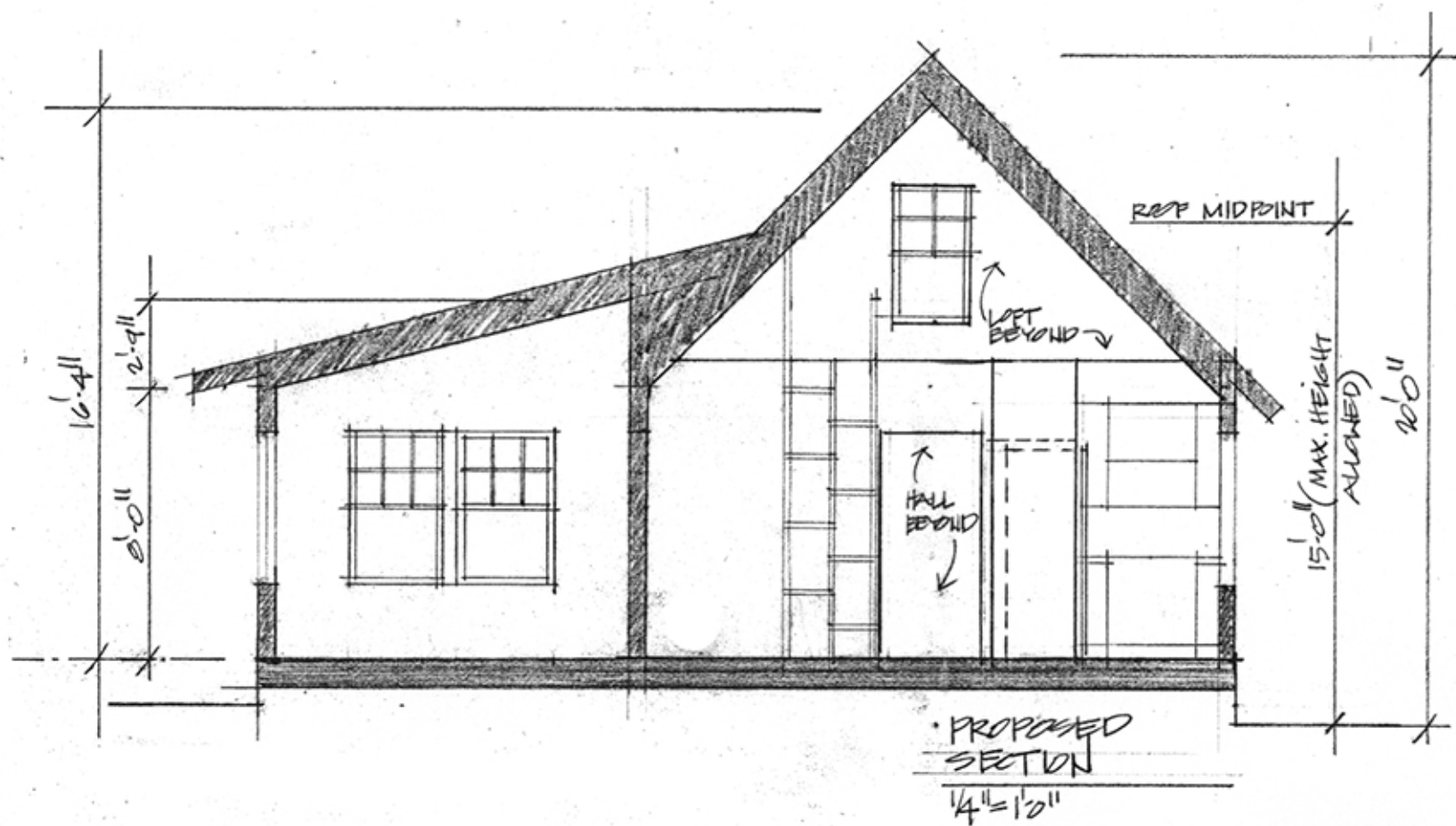




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July 21st, 2020

To Whom It May Concern

Dear Sir/Madam,

Re: Solar Panel Installation at 7307 Holly Avenue, Takoma Park, MD, 20912.

After analyzing the production reports generated for the site, we can observe the following –

- The array installed on the upper roof produces about 1000kWh more energy than the same array installed on the lower roof which is quite a significant difference.
- We also have system losses (shading + other mechanical losses) of 28% on the lower roof as opposed to 14% on the upper roof.
- We will be able to offset 23% (2653kWh) of your bill in case we install these panels on the upper roof & only 14% (1634kWh) in case we go with the lower roof.

This data means that we would have to install almost 10 panels on the lower roof to make it equivalent to the production of the 5 on the upper roof.

There is also no way to expand the panels on the addition as the maximum space constraints have been reached. The only other option would be to install panels on the other side of the addition which falls on the North direction. These panels would experience the same issues as those faced by the panels on the lower roof – namely low production, more panels & larger roof area required & would also increase the overall cost of the system.

Hence it makes practical & financial sense to install these panels on the upper roof. We urge you to consider this data & kindly approve our design so that we can make the most efficient use of the PV system.

Sincerely,



Omkar Bhandakkar

NABCEP Certified Solar Engineer: PVA-051820-027466

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