



ADDENDUM #2

May 24, 2024

TO: ALL POTENTIAL SUBMITTERS

FROM: RON VENTURELLA, BUNCOMBE COUNTY PROCUREMENT MANAGER

SUBJECT: ADDENDUM #1 FOR IFB RENEWABLE ENERGY PROCUREMENT & INSTALLATION FOR FIRE DEPARTMENTS

The following changes, revisions, additions, and/or clarifications to the plans and/or specifications are hereby made a part of the original documents.

Addendum # 2

The following clarifications are hereby made a part of the original documents:

Please review attached structural letters. Most stations passed without issue, the following stations have minor issues and here is how we would like you to handle this in your bids:

Reynolds VFD - Review Structural Engineering letter and revise your layout so that no modules are over the first apparatus bay as advised. This should only involve moving a few modules and they should be able to stay on the same roof plane.

Black Mountain 19 White Pine Drive - Ensure layouts are such that solar panels are not installed on/over the roof members supporting the air handling unit and hot water heater. We don't know these locations exactly, but please include in your bid a modest and reasonable layout adjustment to accommodate this need.

Swannanoa 510 Bee Tree - Ensure layout are such that solar panels are installed only in areas of the roof that do not support new HVAC equipment installed as part of the recent HVAC upgrades. We don't know these locations exactly, but please include in your bid a modest and reasonable layout adjustment to accommodate this need.

Woodfin - Revise your layouts so the solar panels are not installed on the apparatus bay roof within 15 feet of the two-story roof. This should just involve moving the apparatus bay array south by 10-12 feet.

Attached: Structural engineer letters (12 pages)

END OF ADDENDUM #2

IFB RENEWABLE ENERGY PROCUREMENT & INSTALLATION FOR FIRE DEPARTMENTS



May 24, 2024

Mr. Jeremiah LeRoy
Buncombe County
200 College Street, 4th Floor
Asheville, NC 28801

Via: jeremiah.leroy@buncombecounty.org

Re: Black Mountain FD, 106 Montreat Road, Black Mountain, NC 28711
Buncombe Fire Stations Solar - Roof Structural Investigations
NV5 Project No. 2024403.00

Dear Mr. LeRoy

As arranged, NV5 Engineers & Consultants (NV5) visited the above noted site on May 6th, 2024. The purpose of our visit was to review the structural framing systems and condition of the subject building for the purpose of evaluating its ability to safely support the proposed rooftop solar panel assemblies specified by Pisgah Energy. The proposed solar assemblies are depicted in a Heliscope document for this building provided by Pisgah Energy and dated March 27th, 2024.

We were not provided with the original structural drawings for this building. The existing structure consists of a 1-story high apparatus bay building with a flat roof. The apparatus bay is a pre-engineered building. An inspection of the existing roof framing (where visible) did not indicate any distress or deterioration of the supporting structure. The fire chief on site had indicated that Plymovent, an Exhaust removal system, had been added to the building since the original construction of the building and has been hung from the roof framing. It is our professional opinion that the building structure is in good condition. The proposed panels on the apparatus bay roof are assumed to be supported by ballasted racks and weighs approximately 7 pounds per square foot.

For the apparatus bay, the existing structural framing was evaluated based on Section 402.3 of the 2018 *NCSBC Existing Building Code*. Calculations show that the proposed loading condition does not increase design gravity load by more than 10%. When this is the case, the existing gravity load-carrying members are not required to be strengthened, supplemented, replaced, or altered.

This report represents our professional opinion based on the areas observed at the time of the inspection. Based on the assessments noted above, it is our professional opinion that the proposed solar panel assemblies may be installed without any modifications to the existing structural system in the area shown on the Helioscope provided by Pisgah Energy

We appreciate the chance to assist with this. Please let me know if you have any further questions.

Sincerely,

Nicholas Skarbek, PE
Building Structures Project Engineer





May 24, 2024

Mr. Jeremiah LeRoy
Buncombe County
200 College Street, 4th Floor
Asheville, NC 28801

Via: jeremiah.leroy@buncombecounty.org

Re: Black Mountain Fire Station 4-2, 19 White Pine Drive, Black Mountain, NC 28711
Buncombe Fire Stations Solar - Roof Structural Investigations
NV5 Project No. 2024403.00

Dear Mr. LeRoy

As arranged, NV5 Engineers & Consultants (NV5) visited the above noted site on May 6th, 2024. The purpose of our visit was to review the structural framing systems and condition of the subject building for the purpose of evaluating its ability to safely support the proposed rooftop solar panel assemblies specified by Pisgah Energy. The proposed solar assemblies are depicted in a Helioscope document for this building provided by Pisgah Energy and dated March 27th, 2024.

We were not provided with the original structural drawings for this building. The existing structure consists of a 1-story flat roof building with an apparatus bay and a day room and dorm area. The entire building is a pre-engineered building. An inspection of the existing roof framing (where visible) did not indicate any distress or deterioration of the supporting structure. An air handling unit and hot water heater that is not original to the building has been hung from the roof framing above the ceiling space in the day room dorm area of the building in the area where solar panel are anticipated. It is our professional opinion that the building structure is in good condition. The proposed panels on the apparatus bay roof are assumed to be supported by ballasted racks, and weight approximately 7 pounds per square foot.

For the roof above the day room and dorm rooms, the existing structural framing was evaluated based on Section 402.3 of the *2018 NCSBC Existing Building Code*. Calculations show that the proposed loading condition does not increase design gravity load by more than 10% except in the areas where the air handling unit and hot water heater has been added. When design loads are not increased by more than 10%, the existing gravity load-carrying members are not required to be strengthened, supplemented, replaced, or altered.

This report represents our professional opinion based on the areas observed at the time of the inspection. Based on the assessments noted above, it is our professional opinion that the proposed solar panel assemblies may be installed without any modifications to the existing structural system in the area shown on the Helioscope provided by Pisgah Energy, except in the area where the air handling unit and hot water heater has been hung from the roof framing. **We recommend solar panels not be installed on the roof members supporting the air handling unit and hot water heater.**

We appreciate the chance to assist with this. Please let me know if you have any further questions.

Sincerely,

Nicholas Skarbek, PE
Building Structures Project Engineer





May 24, 2024

Mr. Jeremiah LeRoy
Buncombe County
200 College Street, 4th Floor
Asheville, NC 28801

Via: jeremiah.leroy@buncombecounty.org

Re: Leicester VFD, 1563 Alexander Rd, Leicester, NC 28748
Buncombe Fire Stations Solar - Roof Structural Investigations
NV5 Project No. 2024403.00

Dear Mr. LeRoy

As arranged, NV5 Engineers & Consultants (NV5) visited the above noted site on May 7th, 2024. The purpose of our visit was to review the structural framing systems and condition of the subject building for the purpose of evaluating its ability to safely support the proposed rooftop solar panel assemblies specified by Pisgah Energy. The proposed solar assemblies are depicted in a Helioscope document for this building provided by Pisgah and dated March 27th, 2024.

We were not provided with the original structural drawings for this building, The existing structure consists of a 1-story high apparatus bay with a flat roof. The apparatus bay building consists of open web steel joists, joist girders, structural steel columns and masonry load bearing walls. An inspection of the existing roof framing (where visible) did not indicate any distress or deterioration of the supporting structure. It is our professional opinion that the building structure is in good condition. The proposed panels are direct mount to the roof structure with an assumed weight of 3 pounds per square foot.

For the roof above the day room and dorm rooms the Existing structural framing was evaluated based on Section 402.3 of the *2018 NCSBC Existing Building Code*. Calculations show that the proposed loading condition does not increase design gravity load by more than 10%. When this is the case, the existing gravity load-carrying members are not required to be strengthened, supplemented, replaced, or altered.

This report represents our professional opinion based on the areas observed at the time of the inspection. Based on the assessments noted above, it is our professional opinion that the proposed solar panel assemblies may be installed without any modifications to the existing structural system in the area shown on the Helioscope provided by Pisgah Energy.

We appreciate the chance to assist with this. Please let me know if you have any further questions.

Sincerely,

Nicholas Skarbek, PE
Building Structures Project Engineer





May 24, 2024

Mr. Jeremiah LeRoy
Buncombe County
200 College Street, 4th Floor
Asheville, NC 28801

Via: jeremiah.leroy@buncombecounty.org

Re: Reynolds VFD, 235 Charlotte Hwy, Asheville, NC, 28803
Buncombe Fire Stations Solar - Roof Structural Investigations
NV5 Project No. 2024403.00

Dear Mr. LeRoy

As arranged, NV5 Engineers & Consultants (NV5) visited the above noted site on May 6th, 2024. The purpose of our visit was to review the structural framing systems and condition of the subject building for the purpose of evaluating its ability to safely support the proposed rooftop solar panel assemblies specified by Pisgah Energy. The proposed solar assemblies are depicted in a Helioscope document for this building provided by Pisgah and dated March 27th, 2024.

We were not provided with the complete set of original structural drawings for this building. However, a foundation plan was provided while NV5 was on site. The existing structure consists of two 1-story high, apparatus bay areas with a sloped roof, and a 2-story lobby area, day room, and dorm area building between the two apparatus bays. The entire building is a pre-engineered building. An inspection of the existing roof framing (where visible) did not indicate any distress or deterioration of the supporting structure. The fire chief on site had indicated that Plymovent, an exhaust removal system, and heaters had been added to the building since the original construction of the building and has been hung from the roof framing. It is our professional opinion that the building structure is in good condition. The proposed panels are direct mount to the roof structure with an assumed weight of 3 pounds per square foot.

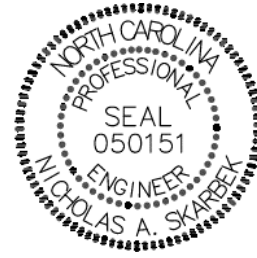
For the roof above the day room and dorm rooms on the second floor and the apparatus bay, the existing roof framing was evaluated based on Section 402.3 of the *2018 NCSBC Existing Building Code*. Calculations show that the proposed loading condition does not increase design gravity load by more than 10%, except in the first bay apparatus bay next to the two-story section of the building due to snow drift loading. In areas where the proposed loading does not increase the design gravity load by 10% or more, the existing gravity load-carrying members are not required to be strengthened, supplemented, replaced, or altered.

This report represents our professional opinion based on the areas observed at the time of the inspection. Based on the assessments noted above, it is our professional opinion that the proposed solar panel assemblies may be installed without any modifications to the existing structural system in the area shown on the Helioscope provided by Pisgah Energy, except for on the roof of the first apparatus bay next to the two-story section of the building. **Due to the weight of snow drifting, We recommend not installing solar panel on this section of the roof. We recommend solar panels not be installed on the roof above the first apparatus bay next to the two-story section of the building.**

We appreciate the chance to assist with this. Please let me know if you have any further questions.

Sincerely,

Nicholas Skarbek, PE
Building Structures Project Engineer





May 24, 2024

Mr. Jeremiah LeRoy
Buncombe County
200 College Street, 4th Floor
Asheville, NC 28801

Via: jeremiah.leroy@buncombecounty.org

Re: Skyland FD, 9 Miller Road, Skyland, NC 28776
Buncombe Fire Stations Solar - Roof Structural Investigations
NV5 Project No. 2024403.00

Dear Mr. LeRoy

As arranged, NV5 Engineers & Consultants (NV5) visited the above noted site on May 7th, 2024. The purpose of our visit was to review the structural framing systems and condition of the subject building for the purpose of evaluating its ability to safely support the proposed rooftop solar panel assemblies specified by Pisgah Energy. The proposed solar assemblies are depicted in a Helioscope document for this building provided by Pisgah and dated March 27th, 2024.

We were not provided with the complete set of original structural drawings for this building. The existing structure consists of a 1-story high, apparatus bay areas with a sloped roof. The apparatus bay is a pre-engineered building. An inspection of the existing roof framing (where visible) did not indicate any distress or deterioration of the supporting structure. It is our professional opinion that the building structure is in good condition. The proposed panels are direct mount to the roof structure with an assumed weight of 3 pounds per square foot.

For the apparatus bay, the existing roof framing was evaluated based on Section 402.3 of the *2018 NCSBC Existing Building Code*. Calculations show that the proposed loading condition does not increase design gravity load by more than 10%. When this is the case, the existing gravity load-carrying members are not required to be strengthened, supplemented, replaced, or altered.

This report represents our professional opinion based on the areas observed at the time of the inspection. Based on the assessments noted above, it is our professional opinion that the proposed solar panel assemblies may be installed without any modifications to the existing structural system in the area shown on the Helioscope provided by Pisgah Energy.

We appreciate the chance to assist with this. Please let me know if you have any further questions.

Sincerely,

Nicholas Skarbek, PE
Building Structures Project Engineer





May 24, 2024

Mr. Jeremiah LeRoy
Buncombe County
200 College Street, 4th Floor
Asheville, NC 28801

Via: jeremiah.leroy@buncombecounty.org

Re: Swannanoa Fire Department-Main Station, 103 South Ave, Swannanoa, NC 28778
Buncombe Fire Stations Solar - Roof Structural Investigations
NV5 Project No. 2024403.00

Dear Mr. LeRoy

As arranged, NV5 Engineers & Consultants (NV5) visited the above noted site on May, 6th, 2024. The purpose of our visit was to review the structural framing systems and condition of the subject building for the purpose of evaluating its ability to safely support the proposed rooftop solar panel assemblies specified by Pisgah Energy. The proposed solar assemblies are depicted in a Heliscope document for this building provided by Pisgah and dated March 27th, 2024.

We were not provided with the original structural drawings for this building, The existing structure consists of a 1-story apparatus bay south of the main building with a sloped roof. The apparatus bay building consists of dimensional lumber wood trusses and dimensional lumber load bearing walls. An inspection of the existing roof framing (where visible) did not indicate any distress or deterioration of the supporting structure. It is our professional opinion that the building structure is in good condition. The proposed panels are direct mount to the roof structure with an assumed weight of 3 pounds per square foot.

For the apparatus bay roof, the structural framing was evaluated based on Section 402.3 of the *2018 NCSBC Existing Building Code*. Calculations show that the proposed loading condition does not increase design gravity load by more than 10%. When this is the case, the existing gravity load-carrying members are not required to be strengthened, supplemented, replaced, or altered.

This report represents our professional opinion based on the areas observed at the time of the inspection. Based on the assessments noted above, it is our professional opinion that the proposed solar panel assemblies may be installed without any modifications to the existing structural system in the area shown on the Helioscope provided by Pisgah Energy.

We appreciate the chance to assist with this. Please let me know if you have any further questions.

Sincerely,

Nicholas Skarbek, PE
Building Structures Project Engineer





May 24, 2024

Mr. Jeremiah LeRoy
Buncombe County
200 College Street, 4th Floor
Asheville, NC 28801

Via: jeremiah.leroy@buncombecounty.org

Re: Swannanoa Fire Rescue – Bee Tree Sub Station, 510 Bee Tree Road, Swannanoa, NC 28778
Buncombe Fire Stations Solar - Roof Structural Investigations
NV5 Project No. 2024403.00

Dear Mr. LeRoy

As arranged, NV5 Engineers & Consultants (NV5) visited the above noted site on May 6th, 2024. The purpose of our visit was to review the structural framing systems and condition of the subject building for the purpose of evaluating its ability to safely support the proposed rooftop solar panel assemblies specified by Pisgah Energy. The proposed solar assemblies are depicted in a Heliscope document for this building provided by Pisgah and dated March, 27th, 2024.

We were not provided with the original structural drawings for this building, The existing structure consists of a 1-story main building with a day room, dorm area and lobby area with a sloped roof consisting of cold form metal framing trusses and load bearing walls. The existing roof framing was largely not accessible or visible in the building with the ladders available on site. The proposed panels are direct mount to the roof structure with an assumed weight of 3 pounds per square foot.

For the main building roof, the structural framing was evaluated based on Section 402.3 of the *2018 NCSBC Existing Building Code*. Calculations show that the proposed loading condition does not increase design gravity load by more than 10% If the solar panels is the only equipment adding design load to the roof. However, during the site visit our we learned that the main building recently underwent a HVAC upgrade. When design load is not increased by more than 10% the existing gravity load-carrying members are not required to be strengthened, supplemented, replaced, or altered.

This report represents our professional opinion based on the areas observed at the time of the inspection. Based on the assessments noted above, it is our professional opinion that the proposed solar panel assemblies may be installed without any modifications to the existing structural system in the area shown on the Helioscope provided by Pisgah Energy. **We recommend installing solar panels only in areas of the roof that does not support new HVAC equipment apart of the recent HVAC upgrades.**

We appreciate the chance to assist with this. Please let me know if you have any further questions.

Sincerely,

Nicholas Skarbek, PE
Building Structures Project Engineer





May 24, 2024

Mr. Jeremiah LeRoy
Buncombe County
200 College Street, 4th Floor
Asheville, NC 28801

Via: jeremiah.leroy@buncombecounty.org

Re: Upper Hominy Fire and Rescue, 1795 Pisgah Hwy, Candler, NC 28715
Buncombe Fire Stations Solar - Roof Structural Investigations
NV5 Project No. 2024403.00

Dear Mr. LeRoy

As arranged, NV5 Engineers & Consultants (NV5) visited the above noted site on May 7th, 2024. The purpose of our visit was to review the structural framing systems and condition of the subject building for the purpose of evaluating its ability to safely support the proposed rooftop solar panel assemblies specified by Pisgah Energy. The proposed solar assemblies are depicted in a Helioscope document for this building provided by Pisgah and dated March 27th, 2024.

We were not provided with the complete set of original structural drawings for this building. However, a foundation plan was provided by the fire chief while NV5 was on site. The existing structure consists of two 1-story high, apparatus bay areas with a sloped roof, and a 2-story lobby area, day room, and dorm area building. The entire building is a pre-engineered building. An inspection of the existing roof framing (where visible) did not indicate any distress or deterioration of the supporting structure. It is our professional opinion that the building structure is in good condition. The proposed panels are direct mount to the roof structure with an assumed weight of 3 pounds per square foot.

For the apparatus bay, the existing roof framing was evaluated based on Section 402.3 of the *2018 NCSBC Existing Building Code*. Calculations show that the proposed loading condition does not increase design gravity load by more than 10%. When this is the case, the existing gravity load-carrying members are not required to be strengthened, supplemented, replaced, or altered.

This report represents our professional opinion based on the areas observed at the time of the inspection. Based on the assessments noted above, it is our professional opinion that the proposed solar panel assemblies may be installed without any modifications to the existing structural system in the area shown on the Helioscope provided by Pisgah Energy.

We appreciate the chance to assist with this. Please let me know if you have any further questions.

Sincerely,

Nicholas Skarbek, PE
Building Structures Project Engineer





May 24, 2024

Mr. Jeremiah LeRoy
Buncombe County
200 College Street, 4th Floor
Asheville, NC 28801

Via: jeremiah.leroy@buncombecounty.org

Re: West Buncombe FVD Station 5, 549 Old County Home Rd, Asheville, NC 28806
Buncombe Fire Stations Solar - Roof Structural Investigations
NV5 Project No. 2024403.00

Dear Mr. LeRoy

As arranged, NV5 Engineers & Consultants (NV5) visited the above noted site on May 7th, 2024. The purpose of our visit was to review the structural framing systems and condition of the subject building for the purpose of evaluating its ability to safely support the proposed rooftop solar panel assemblies specified by Pisgah Energy. The proposed solar assemblies are depicted in a Helioscope document for this building provided by Pisgah and dated March 27th, 2024.

We were not provided with the complete set of original structural drawings for this building. The existing structure consists of two 1-story high, apparatus bay areas with a sloped roof, and a 2-story lobby area, day room, and dorm area building. The apparatus bay is a pre-engineered building. An inspection of the existing roof framing (where visible) did not indicate any distress or deterioration of the supporting structure. The fire chief on site had indicated that a large fan has been hung from the existing roof framing and snow clips had been added to the roof on the north side of the building since the original construction. It is our professional opinion that the building structure is in good condition. The proposed panels are direct mount to the roof structure with an assumed weight of 3 pounds per square foot.

For the apparatus bay, the existing structural framing was evaluated based on Section 402.3 of the 2018 *NCSBC Existing Building Code*. Calculations show that the proposed loading condition does not increase design gravity load by more than 10%. When this is the case, the existing gravity load-carrying members are not required to be strengthened, supplemented, replaced, or altered.

This report represents our professional opinion based on the areas observed at the time of the inspection. Based on the assessments noted above, it is our professional opinion that the proposed solar panel assemblies may be installed without any modifications to the existing structural system in the area shown on the Helioscope provided by Pisgah Energy.

We appreciate the chance to assist with this. Please let me know if you have any further questions.

Sincerely,

Nicholas Skarbek, PE
Building Structures Project Engineer





May 24, 2024

Mr. Jeremiah LeRoy
Buncombe County
200 College Street, 4th Floor
Asheville, NC 28801

Via: jeremiah.leroy@buncombecounty.org

Re: Woodfin VFD Station 20, 20 New Street, Asheville, NC 28804
Buncombe Fire Stations Solar - Roof Structural Investigations
NV5 Project No. 2024403.00

Dear Mr. LeRoy

As arranged, NV5 Engineers & Consultants (NV5) visited the above noted site on May 7th, 2024. The purpose of our visit was to review the structural framing systems and condition of the subject building for the purpose of evaluating its ability to safely support the proposed rooftop solar panel assemblies specified by Pisgah Energy. The proposed solar assemblies are depicted in a Heliscope document for this building provided by Pisgah and dated March 27th, 2024.

We were not provided with the complete set of original structural drawings for this building. The existing structure consists of two 1-story high, apparatus bay areas with a flat roof, and a 2-story lobby area, day room, and dorm area building with a sloped roof. The entire building is a pre-engineered building. An inspection of the existing roof framing (where visible) did not indicate any distress or deterioration of the supporting structure. It is our professional opinion that the building structure is in good condition. The proposed panels are direct mount to the roof structure with an assumed weight of 3 pounds per square foot.

For the apparatus bay, the existing structural framing was evaluated based on Section 402.3 of the *2018 NCSBC Existing Building Code*. Calculations show that the proposed loading condition does not increase design gravity load by more than 10%, except in the low roof areas within 15 feet of the two-story roof. When this is the case, the existing gravity load-carrying members are not required to be strengthened, supplemented, replaced, or altered.

This report represents our professional opinion based on the areas observed at the time of the inspection. Based on the assessments noted above, it is our professional opinion that the proposed solar panel assemblies may be installed without any modifications to the existing structural system in the area shown on the Heliscope provided by Pisgah Energy, except for areas within 15 feet of the two-story roof. **Due to snow drift weight concerns, we recommend solar panels not be installed on the apparatus bay roof within 15 feet of the two story roof.**

We appreciate the chance to assist with this. Please let me know if you have any further questions.

Sincerely,

Nicholas Skarbek, PE
Building Structures Project Engineer

