NexTower Development Group, LLC

Proposal To:

Levy County Board of County Commissioners

CEDAR KEY WTP TOWER
EQUIPMENT SHELTER PLATFORM

April 19. 2021

Summary

- NexTower Development Group, LLC and Levy County Board of County Commissioners entered into an Antenna Site License Agreement (6-4-19) and executed an Amendment to that Agreement (4-3-20) (Exhibit "A") for tower space on a tower on the mainland before entering Cedar Key on State Road 24.

- The County and NexTower agreed that NexTower would provide up to $30,000.00 for a 2-way radio equipment shelter platform under the assumption the County would provide NexTower with the shelter's equipment specifications.

- NexTower completed the construction of the new tower on 6-24-20.

- Because NexTower received no equipment specifications on the used equipment shelter, we had our engineers design a platform that would accommodate the anticipated weight and size of the structure. The initial low bid on the platform structural engineering, construction drawings and construction of the platform (excluding permitting) was $118,818.00. (Exhibit "B")

- Later the County changed their equipment shelter specifications to accommodate their existing legacy 2-way radio system and a planned P-25 2-way radio system. This increased the size and weight considerably. In addition, due to cost of material increase due to Covid-19, the re-engineered and priced platform all-in is now $259,165.00. (Exhibit "C") Note we are re-bidding this today because bid was received 1-27-21)

- NexTower has had the new platform design, per the County's latest specifications, structurally designed, PE construction drawings prepared, and labor priced (Exhibit "D").

- NexTower proposed to take the total new platform price (all-in) and deduct the $30,000.00 originally agreed to amount paid by NexTower.

- The balance will be paid upfront by NexTower and repaid by the County through a scheduled rent increase spread over the course of the Antenna Site License Agreement in a manner chosen by the County per NexTower's pricing matrix attached. (Exhibit "F")

- Once given a Notice to Proceed and any Amendments to the Antenna Site License Agreement necessary to facilitate this agreement, NexTower will produce purchase orders necessary to commence the project.

- We anticipate approximately 6-8 weeks for materials to ship, 3-4 weeks for permit approval by Levy County (run concurrently), and approximately 2-3 weeks for the completion of construction and the platform being ready for the County to install the shelter on the platform. Construction timing may be changed due to acclimate weather conditions. The projected ready date for the County is 7-15-21.

- Note that this pricing does not include permitting and installation of any County electrical, installation of shelter or installation of a generator.

EXHIBIT "A"

Antenna Site License Agreement and Amendment One to ASL

ANTENNA SITE LICENSE AGREEMENT

THIS ANTENNA SITE LICENSE AGREEMENT ("Agreement") is made this 4th day of June, 2019, between **NexTower Development Group, L.L.C.,** a Delaware Limited Liability Company ("Licensor"), and **Levy County**, a political subdivision of the State of Florida ("Licensee").

WITNESS:

A. Licensor holds a leasehold interest in a certain parcel of property located at 10050 SW CR347, Cedar Key, Florida, more specifically described in **Exhibit "A"**, attached hereto and incorporated herein by this reference (the "Site").

B. Licensor will own, operate and manage a communications tower to be erected on the Site (the "Tower").

C. Licensee desires to obtain a license to install equipment on the Tower for use by Licensee for the purpose of a communications facility and to use certain designated space on the Site.

NOW THEREFORE the parties agree as follows:

1. Tower Use License: Licensor hereby licenses to Licensee, space on the Tower at the antenna location shown on **Exhibit "B"**, attached hereto and incorporated herein by this reference, to install and operate the equipment specifically described on **Schedule "B-1"**, attached hereto and incorporated herein by this reference. Licensee shall use the space exclusively for its communications operations as permitted by this Agreement, including only those frequencies listed on **Schedule "B-1"**, and shall not maintain or permit any nuisance or unsafe conditions on the Site or the Tower.

*[ ] This license shall include the use by Licensee of a portion of the equipment building on the Site as more particularly shown on **Exhibit "B"**.*

*[X] As part of this License, Licensor shall permit Licensee to pour (1) 10'x25' concrete pad at location on the Site shown on **Exhibit "B"** for the placement of a LP generator and a 250 gallon squat LP tank with integral manual shutoff valve, and to place an unmanned equipment shelter on such pad or place outdoor equipment cabinets.*

2. Term of License: The initial term of this Agreement shall commence on earlier of the date that Licensee begins installing its equipment on the Site, or thirty (30) days after Licensor notifies Licensee that construction of the Tower is complete (the "Commencement Date") and shall expire ten (10) years from the Commencement Date. Once the actual Commencement Date is determined, Licensee and Licensor will confirm such date in writing. Notwithstanding anything else to the contrary herein, Licensor will be required to complete construction of the Tower on the Site by September 1, 2019. In the event that construction of the Tower is not complete by September 1, 2019, the license fee for the Tower will be reduced by One Thousand One Hundred Fifty and 00/100 Dollars ($1,150.00) per month for every month delay in the completion of

construction of the Tower. In the event that delay of completion of construction continues until February 1, 2020, Licensee will have the option to continue this Agreement with the monthly license fee reduction or terminate this Agreement with no further obligations. If any delay in the construction of the Tower beyond September 1, 2019, is due to circumstances beyond the control or responsibility of Licensor, the provisions related to reduction in the license fee due to delay and related to Licensee's ability to terminate will not apply.

(a) In the event Licensor leases tower space to a second tenant having same rent amount as Licensee or is a cell carrier, the Term of License shall be revised from ten (10) years to (5) years from the Commencement Date. Such change shall be memorialized and executed by Licensor and Licensee in a First Amendment to Antenna Site License Agreement as shown on Exhibit "D".

3. Extension of Term: This Agreement shall automatically be extended for four (4) successive periods of five (5) years each thereafter, without notice, unless Licensee shall have given the Licensor written notice of termination at least one hundred twenty (120) days prior to the expiration of the then current term. All references to the term of this Agreement shall include the term as it is extended as provided herein. Termination may not occur during the first term.

(a) In the event Licensor leases tower space to a second tenant having the same rent as Licensee or is a cell carrier per Paragraph 2(a), the Extension of Term shall be revised from four (4) successive periods of five (5) years to five (5) successive periods of five (5) years from the Commencement Date. Such change shall be memorialized and executed by Licensor and Licensee in a First Amendment to Antenna Site License Agreement as shown on Exhibit "D".

4. License Fee: For the rights herein granted by Licensor to Licensee in this Agreement, Licensee shall pay as an annual license fee, in monthly installments, the amounts shown on **Exhibit "C"**, attached hereto and incorporated herein by this reference, together with any applicable State, County or local sales or use taxes. License fees shall be paid monthly in advance, to the remittance address listed in Section 23, on or before the first day of each calendar month during the term of this Agreement. In the event the first or last month of the term shall commence or end on a date other than the first or last day of a calendar month, whichever is applicable, the fee shall be apportioned. In the event the Tower construction has not been completed by the Commencement Date, Licensee shall not be obligated to pay license fees until such time as the Tower has been sufficiently completed so as to permit Licensee to operate its communication facility. In addition, in the event the Tower construction has not been completed by the Commencement Date, the license fee will be reduced as provided in Section 2 of this Agreement. Any interest on a late payment shall be calculated, invoiced, and due in accordance with the provisions of sections 218.70 through 218.79, Fla. Stat., the Florida Local Government Prompt Payment Act.

5. Installation of Licensee's Equipment: All installation, construction, removal, relocation or maintenance of Licensee's equipment shall be commenced only after Licensor has approved all plans and specifications in writing, which approval shall not be unreasonably withheld, conditioned or delayed, and Licensee shall comply with all of Licensor's reasonable requirements. Only the equipment described on **Schedule "B-1"** may be installed, and Licensor shall not be obligated to approve any installation, which, when considered with all other equipment installed on the Tower will cause the permitted wind load for the Tower to be exceeded. Licensor shall install Licensee's equipment on the Tower at no charge to Licensee, provided that all of Licensee's equipment is on the Site at time of mobilization of Licensor's general contractor. If Licensee's equipment is not on the Site at time of Licensor's general contractor mobilization, then all such installation work shall be performed by Licensee at its sole cost and expense in good and workmanlike manner,

free from faults and defects, and in compliance with all legal requirements utilizing only first class materials and supplies. Notwithstanding anything to the contrary in this Agreement, Licensee may add to, alter or otherwise modify its ground-based equipment without Licensor's consent as long as such actions do not increase or extend beyond the boundaries of the portion of the Site being licensed to Licensee pursuant to this Agreement. Whichever party performs the installation of Licensee's equipment shall be solely responsible for construction means, methods, techniques, sequences and procedure, and for coordinating all activities related to the installation work, and such installation work shall not interfere with the uninterrupted use of the Tower or the Site by other licensees. If interference with other licensees is caused by Licensee's installation work and cannot be reduced to levels reasonably acceptable to Licensor, then Licensee shall immediately cease all installation work and operations of Licensee's equipment upon receipt of written notice from Licensor, and Licensor shall have the right to terminate this Agreement by giving Licensee ten (10) days prior written notice, unless such interference is satisfactorily reduced within such period. NO WARRANTY OR REPRESENTATION, EXPRESS OR IMPLIED, IS MADE BY LICENSOR WITH RESPECT TO THE SUITABILITY OF THE TOWER AND THE SITE FOR LICENSEE'S OPERATIONS AND INTENDED USE THEREOF.

6. Licensor's Maintenance: Licensor shall operate the Tower and make all necessary repairs and replacements at its expense, and in a timely manner, as well as any maintenance and alterations required by any governmental authority having jurisdiction over the Tower, unless the required repairs, replacements or alterations are solely required for the Licensee's communication equipment located on the Tower (or the Site), in which event Licensee shall make all necessary repairs, replacements and alterations as required at its expense.

7. Licensee's Maintenance: Licensee shall maintain its antenna and transmitting and other equipment in a good state of repair and operating condition, all in accordance with good engineering practices and applicable governmental rules and regulations. All maintenance work shall be performed in accordance with the requirements for installation work placed on Licensee in Section 5 above and all contractors who work on the Tower shall be subject to Licensor's prior written approval, not be unreasonably withheld, conditioned or delayed. If circumstances occur, or threaten to occur, from which Licensor may reasonably conclude that damage is likely to result to the property of Licensee, Licensor or the property of any other person, or that substantial threat to life will exist before agents of Licensee can be advised and respond, the Licensor, with prior notice to Licensee, may repair or maintain, any or all equipment and/or lines or Licensee and take any other action which in Licensor's reasonable discretion may appear necessary with respect to the property of Licensee, without any liability on the part of Licensor for any damage that such action may cause.

8. Access: Licensee shall have free access to the Tower, the Site and equipment building or cabinets for the purpose of installing its equipment and for the purpose of maintenance and repair, 24 hours a day, 7 days a week. Licensor shall have a right of access, at all reasonable times, for examination, inspection, emergency repair or replacement of any of Licensee's equipment as provided for in this Agreement; provided, however, and notwithstanding anything to the contrary in this Agreement, Licensor will provide Licensee as much telephonic notice as reasonably practicable under the circumstances before taking any such actions, and Licensee will have the right to have an employee or other representative present during any such actions.

9. Interference: Prior to installation of its equipment, Licensee shall cause its engineers to verify by frequency search that its signal will not interfere with the radiating or receiving facilities of others already

using the Tower at the time of Licensee's installation. Thereafter, Licensee will conduct its activities in accordance with sound electronic and engineering practices and will cooperate with other licensees so as to prevent interference. In the event interference is encountered, which is caused by Licensee's activities, then Licensee will, at its sole cost and expense, take all steps necessary to promptly correct and eliminate such interference. If the Licensee cannot mitigate or eliminate the cause of the interference within forty-eight (48) hours after receipt of written notice from Licensor, then Licensor may file a complaint with the FCC (currently the FCC's Enforcement Bureau, Spectrum Enforcement Division), or if the other licensee whose operations are the subject of the interference holds a priority position in relationship to Licensee for protection from interference (if any such user exists in any agreement between Licensor and such other user) then, upon the request of such other licensee consistent with Licensor's contractual obligations to such other licensee, Licensor may turn off or power down Licensee's interfering equipment and Licensee will be allowed to power up or use such equipment only during off-peak hours specified by Licensor in order to test whether such interference continues or has been satisfactorily eliminated or during times of emergency that imminently threatens the public health or safety. If Licensee does not correct the condition causing interference within forty-eight (48) hours after receipt of written notice of the interference from Licensor, then Licensor may turn off the electrical power to Licensee's equipment until the condition causing interference is corrected, or until Licensee establishes to Licensor's satisfaction that Licensee's equipment is not the cause of the interference. Notwithstanding anything in this Section 9 to the contrary, if the FCC rules and regulations deem Licensee a governmental user, then Licensee shall be afforded all rights and protections of a governmental user, pursuant to such FCC rules and regulations. Upon determination by Licensor that any other licensee, whose equipment has been installed on the Tower subsequent to Licensee's installation, is causing interference with Licensee's radio frequency activities, Licensor will use its best efforts to cause the other Licensee to promptly correct the condition causing the interference, including turning off electrical power to the licensee's equipment suspected of causing the interference. Interference shall be deemed to be any interference which violates the terms and conditions of transmitter licenses, and/or rules and regulations of the Federal Communications Commission, or as defined in the provisions of the recommended practices of the Electronics Industries Association then in effect.

10. Utilities: Licensee shall be responsible for furnishing and paying for all electricity and other utilities required by Licensee for the operation of its equipment. Licensee, at its sole expense, shall pay for the cost of a separate electricity meter. Licensor agrees to use reasonable efforts in assisting Licensee to acquire necessary utility service, including, without limitation, optical fiber facilities. Licensor will provide a master utility panel with electrical capacity to accommodate Licensee's equipment requirements.

11. Taxes: The parties acknowledge that Licensee, as a Florida local government, is not subject to any sales, use or other taxes. In the event Licensee becomes subject to taxes, Licensee shall pay all taxes properly imposed upon, or properly assessed with respect to Licensee's equipment.

12. Liens: Licensee shall not permit any mechanic's, materialman's or other liens to stand against the Site or the Tower for any labor or material furnished to the Licensee in connection with work of any character performed on the Site or the Tower by or at the direction of Licensee. In the event that any notice of lien shall be filed or given, Licensee shall promptly cause the same to be released, discharged or bonded over at Licensee's sole cost and expense.

13. Licensee's Liability: Subject to the limitations and provisions contained in section 768.28,

Fla. Stat., Licensee shall be liable for any damage to the Tower or to any equipment located on the Tower arising out of or in connection with Licensee's negligent use of the Tower and Site and caused by the negligence or willful or intentional misconduct of its agents or employees.

14. Licensor's Liability: Licensor shall not be liable to Licensee or to any other person for loss or damage, regardless of cause, other than Licensor's negligence or willful or intentional misconduct. In no event shall either party be liable the other party for consequential damages, including lost revenues, under any circumstances.

15. Insurance:

(a) Licensee shall at all times during the term, at Licensee's sole expense, maintain Workers Compensation insurance, in accordance with the legal requirements of the State in which the Site is located, covering all workers or employees of Licensee. Licensee shall maintain in full force and effect a commercial general liability insurance policy including premises/operations, completed operations, broad form property damage and bodily and personal injury, including death against claims caused by or occurring in conjunction with the operation of Licensee's business. The commercial general liability policy and a certificate evidencing such coverage shall be issued by an insurance company qualified to do business in the State in which the Site is located, providing, in the aggregate, a minimum protection of not less than One Million Dollars ($1,000,000) combined single limit

(b) Licensor shall maintain in full force and effect a commercial general liability insurance policy including premises/operations, completed operations, broad form property damage and bodily and personal injury, including death against claims caused by or occurring in conjunction with the operation of Licensor's business. Licensee shall be named as an additional insured on the policy and a certificate evidencing such coverage shall be issued by an insurance company qualified to do business in the State in which the Site is located, providing, in the aggregate, a minimum protection of not less than One Million Dollars ($1,000,000.00) combined single limit. Such certificate shall provide for not less than thirty (30) days prior written notice to Licensee of any proposed cancellation.

16. Damage or Destruction: If the Tower shall, with or without the fault of Licensor, by any cause, be totally or partially destroyed or damaged so as to prevent use by Licensee of its space on the Tower, or a temporary facility provided by Licensor, for a period in excess of one hundred eighty (180) days, Licensee may terminate this Agreement on written notice to Licensor, and upon such termination neither party shall have any further liability to the other. License fees shall be abated for any period during which Licensee shall be unable to transmit or receive its signal because of the unavailability of the Tower or of a temporary facility provided by Licensor. Licensee shall have full risk of loss from any and all causes for all of its equipment located on the Tower or the equipment building, or on the Site.

17. Eminent Domain: If the Site, Tower, or equipment building, or any portion thereof in which Licensee's equipment is located, is taken by eminent domain, this License shall expire and the license fee shall be apportioned to the date when the property is taken. Neither party shall be subject to any claims, actions or legal proceedings by the other party as a result of the taking by eminent domain.

18. Default:

(a) Should Licensee fail to pay any license fees or any other amounts due Licensor hereunder within ten (10) days after receiving written notice of such failure from Licensor, or fail to cure any breach of any other provision of this Agreement after thirty (30) days written notice and demand, Licensor may terminate this Agreement immediately, without further notice, and require Licensee to remove or cause to be removed all of Licensee's equipment. Provided however, where any such non-monetary default cannot reasonably be cured within said period, Licensee shall not be deemed to be in default under this Agreement if Licensee commences to cure such default within said period and thereafter diligently pursues cure to completion. Licensee shall, in such event, remain liable for any and all costs incurred for removal of Licensee's antenna, transmission lines and associated equipment from the Tower and for removal of associated structures from the Site. Licensor shall not be liable for any damage to such equipment during its removal. Licensor shall further be entitled to such other remedies as may be available pursuant to applicable law.

(b) Should Licensor fail to cure any breach of any other provision of this Agreement after thirty (30) days written notice and demand, Licensee may terminate this Agreement immediately. Provided however, where any such default cannot reasonably be cured within said period, Licensor shall not be deemed to be in default under this Agreement if Licensor commences to cure such default within said period and thereafter diligently pursues cure to completion. Licensee shall further be entitled to such other remedies as may be available pursuant to applicable law.

19. Surrender by Licensee: Upon expiration or termination of this Agreement, Licensee, at its own cost and expense, shall completely remove or cause to be removed, all structures, including antenna and associated mounting brackets and transmission equipment, concrete foundations to a depth of one foot (1') below grade, fences and other associated structures, and restore the Tower and Site to their original condition, ordinary wear and tear excepted. If the time for removal causes Licensee to remain on the Site and Tower after the termination or expiration of this Agreement, Licensee shall pay license fees at the then existing monthly pro-rated basis, until such time as the removal of property and fixtures has been completed.

20. Assignment: Licensee shall not assign or sublease this Agreement or any interest therein, and shall not encumber, hypothecate or otherwise give as security, this Agreement without the prior written consent of Licensor, which consent shall not be unreasonably withheld, conditioned or delayed. Notwithstanding the foregoing, Licensee may assign this License to a parent corporation or any of its subsidiaries or affiliates, or to any party that merges or consolidates with Licensee or its parent, or any party that purchases or otherwise acquires a majority of Licensee's ownership interest or assets in the FCC market in which the Site is located, on written notice to Licensor. Any sublease, license or assignment of this Agreement that is entered into by Licensor or Licensee shall be subject to the provisions of this Agreement. Additionally, Licensee may, upon notice to Licensor, mortgage, or grant a security interest in this Agreement and the Licensee's facilities and may assign this Agreement and the Licensee's facilities to any such mortgages or holders of security interests including their successor and assigns (hereinafter collectively referred to as "Secured Parties"). In such event, Licensor shall execute such consent to leasehold financing as may reasonably be required by Secured Parties. Licensor agrees to notify Licensee and Licensee's Secured Parties simultaneously of any default by Licensee and to give Secured Parties the same right to cure any default as Licensee except that the cure period or any Secured Party shall not be less than ten (10) days after the receipt of the default notice. Licensee may also assign this Agreement without the consent of Licensor to any entity which acquires Licensee's or its affiliate's communication license. If a termination, disaffirmance or rejection of the Agreement pursuant to any laws (including any bankruptcy or insolvency laws) by Licensee shall occur, or if Licensor shall terminate this

Agreement for any reason, Licensor will give to the Secured Parties prompt notice thereof and Licensor will give the Secured Parties the right to enter upon the land during a thirty (30) day period commencing upon the Secured Party's receipt of such notice for the purpose of removing Licensee's facilities, or any portion thereof. Licensor acknowledges that the Secured Parties shall be third-party beneficiaries of this Agreement.

21. Subordination: This Agreement is subject to and subordinate at all times to the lien of existing and future mortgages on the Site, provided that the holder of such mortgage will not, for so long as Licensee shall not be in default under this Agreement disturb the peaceful quiet enjoyment of the Site by Licensee. No instrument shall be necessary to effectuate this subordination, but Licensee agrees to execute and deliver such further reasonable instruments subordinating this Agreement to the lien of all such mortgages as may be requested from time to time. In the event the Site is currently encumbered by a mortgage, or similar instrument, Licensor shall use its best efforts to assist Licensee in obtaining a Non-Disturbance instrument in a form reasonably acceptable to Licensee.

22. Estoppels: Within twenty (20) days after written request, either party shall deliver to the other party, or to any mortgagee or prospective purchaser of Licensor's interest, a certificate stating that: (i) Licensee has entered into occupancy of the Tower and Site in accordance with the provisions of this Agreement; (ii) this Agreement is in full force and effect; (iii) Licensor or Licensee, as the case may be, has performed the covenants, agreements or conditions required of such party, if such be the case (and if such not be the case, then the other party shall list those covenants, agreements or conditions not so performed), and any other information reasonably requested by the requesting party or such mortgagee.

23. Notice: All notices hereunder must be in writing and shall be deemed valid, if sent by certified mail return receipt requested, or if sent by a nationally recognized courier providing proof of service, addressed as follows, or sent to any other address that the party to be notified may have designated to the sender by like notice:

Notices and Remittances to Licensor:
NexTower Development Group, L.L.C.
Attn: David H. Boeff
4210 NW 37th Street, Suite 600
Gainesville, Florida 32606
Phone: (352) 363-5560 (office)
dboeff@nextower.net

Licensee:
Levy County Board of County of County Commissioners
355 South Court Street
Bronson, Florida 32621
Attn: Mitchell Harrell, Clayton Drew

24. Underlying Lease:

(a) Licensor leases the Site pursuant to a lease agreement entitled "Option & Ground

Lease Agreement" dated March 28, 2019 (the "Underlying Lease") by and between **Cedar Key Water and Sewer District,** as Lessor, and **NexTower Development Group, LLC,** as Lessee. This Agreement entered into between Licensor and Licensee is a sublease and is subject to the terms of the Underlying Lease. The "Ground Lessor" is defined as the party with a fee interest in the parcel of land which is referred to in the Underlying Lease.

(b) If the Ground Lessor declares Licensor to be in default of the Underlying Lease and Licensor fails to cure such default within the time frames set forth in the Underlying Lease, then Licensor shall provide written notice to Licensee within five (5) business days after the cure period of such default and Licensee shall have the option (but not the obligation) to cure such default on behalf of Licensor. If Licensee elects to cure said default and said default is cured to the satisfaction of the Ground Lessor, all curative expenses incurred by Licensee shall be immediately reimbursed by Licensor, and if Licensor fails to so reimburse Licensee, Licensee may deduct such expenses from the license fee payable under the Agreement.

25. Binding Agreement: This Agreement shall be binding upon and inure to the benefit of the parties hereto, their respective successors and permitted assigns.

26. Governing Law: This Agreement and the performance thereof shall be governed, interpreted, construed and regulated by the laws of the State in which the Site is located.

27. Attorney's Fees and Costs: In connection with any enforcement action or litigation arising out of this Agreement, each party shall be responsible for its own attorney's fees and legal assistant fees for services rendered in connection therewith, including appellate proceedings and post judgment proceedings.

28. Entire Agreement: This Agreement represents the entire understanding and agreement between the parties with respect to the subject matter hereof and no agreements or representations, unless incorporated into this Agreement shall be binding on any of the parties.

29. Waiver: Failure or delay on the part of either of the parties hereto to exercise any right, power or privilege hereunder shall not operate as a waiver thereof.

30. Severability: Should any provision of this Agreement be deemed invalid or unenforceable by any court of competent jurisdiction, such invalidity shall not be construed to render any other provision invalid or unenforceable.

31. Memorandum: At the request of Licensee, Licensor agrees to execute a memorandum or short form of this Agreement in recordable form, setting forth a description of the Site, and the term of this Agreement for the purpose of giving public notice to third parties. Licensor agrees that Licensee may obtain title insurance on the Site. Licensor shall cooperate with Licensee's efforts to obtain such title insurance policy by executing documents or, at the reasonable ability of Licensor, obtaining requested documentation as reasonably required by the title insurance company.

32. Hazardous Substances: Licensor represents and warrants that it has no knowledge of any substance, chemical, or waste (collectively, "Substance") on the Site or the Ground Lessor's Property that is identified as hazardous, toxic or dangerous in any applicable federal, state or local law or regulation. Neither

Licensor nor Licensee shall introduce or use any Substance on the Site or Ground Lessor's Property in violation of any applicable law. Each party shall be responsible for any liability, damage, loss, expense, cost, penalty and fee, including consultant's fees and attorney's fees, resulting from any breach by such party of any representation, warranty or agreement contained in this Paragraph 32.

33. Termination Rights: Licensee shall have the right to terminate this Agreement with written notice from Licensee to Licensor within one hundred twenty (120) days prior to the expiration of the then current lease term.

34. Multiple Counterparts: This Agreement may be executed in any number of counterpart copies, each of which shall be deemed an original, but all of which together shall constitute a single instrument.

{Signatures on following Page}

IN WITNESS WHEREOF, the parties hereto have set their hands and seals the day and year first above written.

LICENSOR:

NexTower Development Group, L.L.C.
a Delaware limited liability company

WITNESSES:

Michael Brown
Print Name

Joel Rousseau
Print Name

By: _____
Print Name: David H. Boeff
Title: President, CEO

LICENSEE:

Levy County Board of County Commissioners
a political subdivision of the State of Florida

ATTEST:

Danny J. Shipp, Clerk

By: _____
John Meeks, Chair

Approved as to form and legal sufficiency:

Anne Bast Brown, County Attorney

THIS INSTRUMENT PREPARED BY
AND RECORD AND RETURN TO:
BERT C. SIMON, ESQ.
GARTNER, BROCK AND SIMON, LLP
1300 RIVERPLACE BLVD., SUITE 525
JACKSONVILLE, FL 32207

Instrument # 666019
OR BK: 1533 PG: 38-7pg(s)
REC:4/22/2020 3:46 PM
Danny J. Shipp, Levy County Clerk, Florida
Rec: $61.00

Deputy Clerk UWILLIAMS

NEXTOWER LLC
4210 NW 37TH PL STE 600
GAINESVILLE, FL 32606

NexTower Development Group, LLC Site ID: NXFL-142
Site Name: Cedar Key WSD

MEMORANDUM OF LEASE

This Memorandum of Lease is made on APRIL 3, 2020, by and between **Cedar Key Water and Sewer District,** a Special District created under the laws of Florida, as Lessor, whose address is P.O. Box 309, Cedar Key, Florida 32625, and **NexTower Development Group, LLC**, a Delaware limited liability company, as Lessee, whose address is 4210 NW 37th Place, Suite 600, Gainesville, Florida 32606.

1. Lessor and Lessee are parties to an Option and Ground Lease Agreement dated as of March 28, 2019, (the "Lease Agreement"); the terms and provisions of which are incorporated herein by this reference. The premises covered by the Lease Agreement are located in Cedar Key, Levy County, Florida, as more fully described in the legal description attached hereto as Exhibit "A" ("Leased Premises").

2. Pursuant to the Lease Agreement, the Lessor has granted, and by these presents does grant, to the Lessee easements for ingress, egress and utilities (the "Easements") for the duration of the Lease Agreement over those lands more particularly described on Exhibit "B" hereto. The easement rights herein granted include the right and authority of Lessee to grant or assign to third parties all or some of the easement rights granted to Lessee herein. Additionally, the lands of the Lessor, including the Leased Premises, are benefitted by the existing easements for ingress and egress described on Exhibit "C" hereto (the "Existing Easements").

3. The Lease Agreement provides for an initial term of five (5) years (the "Initial Term"). The Lease Agreement also provides for seven (7) additional five (5) year terms, which shall occur automatically unless Lessee delivers written notice of intent not to renew to Lessor at least thirty (30) days prior to the expiration of the initial term, or the renewal term then in effect.

4. Lessor and Lessee agree and acknowledge that as of the date hereof the Lease Agreement is in full force and effect and that there are no modifications or amendments thereto, that there are no defaults by Lessor or Lessee under the Lease Agreement, that the Leased Premises has been delivered by Lessor and accepted by Lessee, and that the Initial Term commenced as of APRIL 1, 2020.

5. In accordance with Chapter 713.10 of the Florida Statutes, the Lease Agreement provides that the interest of the Lessor shall not be subject to liens for improvements made by the Lessee, and that the Lessee shall notify any contractor making such improvements of this provision of the Lease Agreement.

6. The Lease Agreement provides that during the term of the Lease Agreement neither Lessor nor any tenant or person or entity claiming by or through Lessor shall be allowed to install or operate a communications facility, including a telecommunications transmission tower, or operate an antenna site leasing business which competes directly or indirectly with Lessee on the lands of Lessor within a radius of four (4) miles from the Leased Premises, subject to certain limited exceptions set forth in the Lease Agreement.

{Signatures on Following Pages}

IN WITNESS WHEREOF, the parties hereto have executed this Memorandum of Lease as of the date first written above.

Witness:

James McCain
Signature

Print Name: JAMES McCAIN

LESSOR: CEDAR KEY WATER AND SEWER DISTRICT, a Special District created under the laws of Florida

By: John K McPherson
Print Name: JOHN K McPHERSON
Title: GENERAL MANAGER

Date: APRIL 3, 2020

William Quinn
Signature

Print Name: WILLIAM QUINN

STATE OF FLORIDA
COUNTY OF LEVY

The foregoing instrument was acknowledged before me by means of ☒ physical presence or ☐ online notarization this 3RD day of APRIL, 2020, by JOHN K McPHERSON, the GENERAL MANAGER of **Cedar Key Water and Sewer District,** a Special District created under the laws of Florida, who is personally known to me or produced N/A as identification.

Notary Public: Alicia M Johns
Print Name: Alicia M Johns
My Commission Expires: March 9, 2021

ALICIA M JOHNS
Notary Public - State of Florida
Commission # GG 069836
My Comm. Expires Mar 9, 2021
Bonded through National Notary Assn.

Witness:

Patricia S Bugos
Signature

Print Name: Patricia S. Bugos

Odi Boeff
Signature

Print Name: Jodi Boeff

LESSEE: NexTower Development Group, LLC
A Delaware limited liability company

By: _____

Print Name: David H. Boeff

Title: President/CEO

Date: 4/2/2020

STATE OF FLORIDA
COUNTY OF Alachua

The foregoing instrument was acknowledged before me by means of ☒ physical presence or ☐ online notarization this 2 day of April, 2020, by David H. Boeff, as CEO/President of **NexTower Development Group, LLC**, a Delaware limited liability company, on behalf of the company, who is personally known to me or produced _____ as identification.

Notary Public: _____

Print Name: Joel Rousseau

My Commission Expires: 9/12/2022

Notary Public State of Florida
Joel J Rousseau
My Commission GG 257889
Expires 09/12/2022

{Notary stamp/seal}

EXHIBIT "A"

NEXTOWER LEASE PARCEL

NEXTOWER LEASE PARCEL DESCRIPTION:

A PARCEL OF LAND LYING IN THE NORTHEAST QUARTER OF SECTION 17, TOWNSHIP 15 SOUTH, RANGE 13 EAST, LEVY COUNTY, FLORIDA; SAID PARCEL OF LAND BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

COMMENCE AT THE NORTHEAST CORNER OF SECTION 17, TOWNSHIP 15 SOUTH, RANGE 13 EAST, LEVY COUNTY, FLORIDA; THENCE S00° 29' 55"W ALONG THE EAST LINE OF SAID SECTION 17 FOR 376.34 FEET; THENCE N89° 30' 05"W FOR 625.86 FEET TO THE POINT OF BEGINNING OF THE HEREIN DESCRIBED PARCEL OF LAND; THENCE S06° 41' 20"W FOR 65.00 FEET; THENCE N83° 18' 40"W FOR 65.00 FEET; THENCE N06° 41' 20"E FOR 65.00 FEET; THENCE S83° 18' 40"E FOR 65.00 FEET TO THE POINT OF BEGINNING. SAID PARCEL OF LAND SITUATE, LYING AND BEING IN LEVY COUNTY, FLORIDA.

EXHIBIT "B"

Description of Ingress/Egress and Utilities Easements

NEXTOWER 25' WIDE INGRESS/EGRESS & UTILITIES EASEMENT DESCRIPTION

A 25-FEET WIDE EASEMENT STRIP OF LAND FOR THE PURPOSES OF INGRESS/EGRESS AND UTILITIES LYING IN THE NORTHEAST QUARTER OF SECTION 17, TOWNSHIP 15 SOUTH, RANGE 13 EAST, LEVY COUNTY, FLORIDA; SAID EASEMENT STRIP BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

COMMENCE AT THE NORTHEAST CORNER OF SECTION 17, TOWNSHIP 15 SOUTH, RANGE 13 EAST, LEVY COUNTY, FLORIDA; THENCE S00° 29' 55"W ALONG THE EAST LINE OF SAID SECTION 17 FOR 376.34 FEET; THENCE N89° 30' 05"W FOR 625.86 FEET; THENCE S06° 41' 20"W FOR 65.00 FEET; TO THE POINT OF BEGINNING OF THE HEREIN DESCRIBED EASEMENT STRIP; THENCE S83° 18' 40"E FOR 87.50 FEET; THENCE S06° 41' 20"W FOR 25.00 FEET TO AN INTERSECTION WITH THE NORTH RIGHT-OF-WAY LINE OF A 66 FOOT ROAD; THENCE N83° 18' 40"W, ALONG SAID NORTH RIGHT-OF-WAY LINE AND THE CONTINUATION THEREOF, FOR 120.00 FEET; THENCE N06° 41' 20"E FOR 25.00 FEET; THENCE S83° 18' 40"E FOR 32.50 FEET TO THE POINT OF BEGINNING. SAID EASEMENT STRIP SITUATE, LYING AND BEING IN LEVY COUNTY, FLORIDA.

EXHIBIT "C"

Existing Easements

(A) Perpetual Easement and right of way as recorded in Deed Book 109, page 619, of the public records of Levy County, Florida.

(B) Perpetual Easement and right of way recorded August 5, 1968 with a Clerk's Number of 17690, of the public records of Levy County, Florida.

FIRST AMENDMENT
TO
ANTENNA SITE LICENSE AGREEMENT

This First Amendment to Antenna Site License Agreement is made as of the 18th day of August, 2020, between **NexTower Development Group, LLC** a Delaware limited liability company ("Licensor") and **Levy County**, a political subdivision of the State of Florida ("Licensee") and

WITNESSETH:

WHEREAS, Licensor and Licensee have entered into that certain Antenna Site License Agreement (Cedar Key WSD, NXFL-142) dated June 4, 2019 (the "License Agreement"), with reference to a certain tower located at 10050 SW CR347, Cedar Key, Levy County, State of Florida, as described in the Antenna Site License Agreement and identified therein as the Site.

WHEREAS, Licensor and Licensee desire to amend and modify certain terms and conditions of the Lease;

NOW, THEREFORE, for and in consideration of ten and 00/100 ($10.00) which is hereby acknowledged, Licensor and Licensee, intending to be legally bound, do hereby covenant and agree as follows:

1. Licensor and Licensee agree to amend Paragraph 2 of the License Agreement, Term of License, to read in its entirety as follows: The initial term of this Agreement shall commence on May 1, 2020 (the "Commencement Date") and shall expire ten (10) years from the Commencement Date. Licensee and Licensor will confirm such date in writing. Additionally, the rent shall be $1,150.00 per month for the months from May 1, 2020 through September 30, 2020. Commencing October 1, 2020, the rent shall be $2,400.00 per month for the remainder of the term, with 2% annual escalation as provided in Exhibit "C.".

(a) In the event Licensor leases tower space to a second tenant having same rent amount as Licensee or is a cell carrier, the Term of License shall be revised from ten (10) years to five (5) years from the Commencement Date. Such change shall be memorialized and executed by Licensor and Licensee in an Amendment of Antenna Site License Agreement as shown on Exhibit "D".

2. Licensor and Licensee agree to amend Paragraph 4 of the License Agreement, License Fee, by deleting the fourth and fifth sentences of such Paragraph 4 in their entirety.

3. Licensor and Licensee agree to amend the **Initial License Fee** paragraph of Exhibit "C" to the License Agreement, License Fee Schedule, as follows, with the remainder of such Exhibit "C" to be unchanged: Licensee shall pay Licensor $1,150.00 per month rent for the months commencing May 1, 2020 through September 30, 2020. Commencing October 1, 2020, the rent shall be $2,400.00 per month for the remainder of the term.

4. Licensor and Licensee agree to amend Licensee's address for notices contained in Paragraph 23 of the License Agreement to read in its entirety as follows:

Levy County Board of County Commissioners
P.O. Box 310
310 Court Street, Bronson, FL 32621
Attn: Mitchell Harrell, Clayton Drew.

5. Capitalized Terms. All capitalized words and phrases used herein shall have the same meanings ascribed to them in the License Agreement.

6. Limitation. Except as amended herein, the License Agreement has not been otherwise amended and remains in full force and effect.

IN WITNESS WHEREOF, Licensee and Licensor have caused this instrument to be duly executed as of the date set forth above by their duly authorized officers or representatives.

LICENSOR

NexTower Development Group, LLC
a Delaware limited liability company

By: _____

Print Name: David H. Bocff

Title: President, CEO

Witness:

_____
Print Name: Joel Rousseau

_____
Print Name: David Bocff

LICENSEE

Levy County Board of County Commissioners
a political subdivision of the State of Florida

By: _____
Matthew Brooks, Chair

ATTEST:

_____
Danny J. Shipp, Clerk

APPROVED AS TO FORM:

_____
Anne Bast Brown, County Attorney

z:\legal\agr\amend.tower.cedarkey.clean
LR2018-073

EXHIBIT "B"

First Cost Proposal

NEXTOWER

New Tower Construction
Schedule of Values

Site Name: NXFL-142 Cedar Key Platform only

1. Lump Sum Price (includes labor, supervision, materials, equipment, transportation necessary and incidental to the completion of the work shown in the bid documents.

Activity		Amount
I. Tower Foundation	$	48,234.00
II. Tower Erection	$	59,296.00
III. Civil		
Electric/Telephone Conduit		
Power/Telco Equip Rack Installation		
Mobilization (If applicable)	$	1,000.00
Clearing ,Grubbing and Grading	$	2,838.00
Erosion Control		
Access Road		
Site/Anchor Grounding and Ground testing	$	950.00
Site Fencing	$	2,005.00
Site Stone and Fabric	$	2,645.00
Site Landscaping (If applicable)		
Sub Total Civil:	$	116,968.00
Other		
Other		
LUMP SUM TOTAL:	$	116,968.00

EXCEPTIONS: List any and all exceptions to the Terms & Conditions of the Contract

Exceptions/Notes: Includes fence removal as required to allow for drill rig access and platform erection. Includes (2) ground leads: (1) to tag platform steel; (1) lead coiled for use by county. Platform is bid as revised to remove grating under proposed shelter, remove handrails at shelter location and to revise X bracing to 6X6X1/2 in lieu of 8X8X3/4. Bid does not include shelter, shelter placement or any work associated with shelter connection, electrical, telco, grounding, permitting, etc. Bid assumes permit applied for and paid by others.

NEXTOWER

New Tower Construction

Schedule of Values

Site Name: NXFL-142 Cedar Key Platform only

SUBMITTED BY:

Signed: Terry L. Knight Date: 9/22/20

Firm: Florida Tel-Con, Inc.

Address: 1513 CR 315, Green Cove Springs, FL 32043

Estimator:

Email:

Federal Tax ID #: 59-3227345

State License #: CGC059354

Purchase Order

NexTower Development Group, LLC.
4210 NW 37th Place, Suite 600
Gainesville, Florida 32606
(904) 436-9105
Jboeff@nextower.net

Date: 07/16/20
P.O. #: 2020-082
Site Name: Cedar Key WSD
Nextower ID: **NXFL-142**

TO: SMW Engineering Group, Inc
13051 Telecom Parkway, Suite 100
Temple Terrace Florida 33637
Attention: Darren Revels

Shipping Method	Shipping Terms	Delivery Date

Qty	Item #	Description	Unit Price	Line Total
1.00		Stuctural Design Drawings - Levy County Platform	$1,850	$ 1,850.00
0.00				$ -
0.00				$ -
0.00				$ -
				$ -
			Subtotal	$ 1,850.00
			Sales Tax	
			Total	**$ 1,850.00**

EXHIBIT "C"

Last Cost Proposal

NEXTOWER

New Tower Construction
Schedule of Values

Site Name: NXFL-142 Cedar Key Platform only Rev#1

1. Lump Sum Price (includes labor, supervision, materials, equipment, transportation necessary and incidental to the completion of the work shown in the bid documents.

Activity		Amount
I. Tower Foundation	$	86,800.00
II. Tower Erection	$	133,404.00
III. Civil		
Electric/Telephone Conduit		
Power/Telco Equip Rack Installation		
Mobilization (If applicable)	$	1,000.00
Clearing ,Grubbing and Grading	$	2,838.00
Erosion Control		
Access Road		
Site/Anchor Grounding and Ground testing	$	5,031.00
Site Fencing	$	2,005.00
Site Stone and Fabric	$	2,845.00
Site Landscaping (If applicable)		
Sub Total Civil:	$	233,923.00
Other		
Other		
LUMP SUM TOTAL:	$	233,923.00

LOW BID + 10% CONTINGENCY

EXCEPTIONS: List any and all exceptions to the Terms & Conditions of the Contract

Exceptions/Notes: Based on Drawings dated 1/25/21 Rev#1. Includes fence removal & replacement as required to allow for drill rig access and platform erection. Includes ground ring & grounding per design. Platform is bid as designed. Bid does not include shelter, shelter placement or any work associated with shelter connection, electrical, telco, grounding, permitting, etc. Bid assumes permit applied for and paid by others.

NEXTOWER

New Tower Construction

Schedule of Values

Site Name: NXFL-142 Cedar Key Platform only Rev#1

SUBMITTED BY:

Signed: Terry L. Knight Date: 1/27/21

Firm: Florida Tel-Con, Inc.

Address: 1513 CR 315, Green Cove Springs, FL 32043

Estimator:

Email:

Federal Tax ID #: 59-3227345

State License #: CGC059354

INDEPENDENT
NETWORK SERVICES LLC.
1040 NE 16th Street, Ocala, FL 34470
PH. 352-620-0198 | FAX 352-368-1004 | WWW.INDEPENDENTNETWORKSERVICES.COM

CONSTRUCTION PROPOSAL

CUSTOMER
Nextower

ESTIMATE NO
20-1060

DATE
2/3/2021

ADDRESS

CITY/STATE/ZIP
Gainesville, FL 32606

PHONE
352-283-0001

E-MAIL
Joel Rousseau
<jrousseau@nextower.net>

Project
Cedar Key Platform

Job Site Address

PREPARED BY:
Bo Chaires

ATTENTION
Joel Rousseau

PAYMENT TERMS
Net 30

DUE DATE

DESCRIPTION	MATERIALS	LABOR	AMOUNT
Site Work		$ 7,475.00	$7,475.00
Foundations	$47,702.00	$ 71,553.00	$119,255.00
Grounding	$4,784.00	$ 7,176.00	$11,960.00
Platform	$77,000.00	$ 15,000.00	$92,000.00
Crane Cost	$0.00	$ 8,625.00	$8,625.00

SUBTOTAL	$239,315.00
OTHER	
TOTAL	$239,315.00

THIS PROPOSAL INCLUDES THE CONDITIONS NOTED:

Site to be built as per CD's provided by Nextower dated 01/25/21
Material cost are good for 48hrs. Will have to be re-quoted at time of construction

Sign Here to Accept Quote:

Authorized Rep

Date

Purchase Order

NexTower Development Group, LLC.
4210 NW 37th Place, Suite 600
Gainesville, Florida 32606
(904) 436-9105
Jboeff@nextower.net

Date: 12/09/20
P.O. #: 2020-120
Site Name: Cedar Key WSD
Nextower ID: **NXFL-142**

TO: SMW Engineering Group, Inc
13051 Telecom Parkway, Suite 100
Temple Terrace Florida 33637
Attention: Darren Revels

Shipping Method	Shipping Terms	Delivery Date

Qty	Item #	Description	Unit Price	Line Total
1.00		Stuctural Design Drawings - Levy County Platform	$1,850	$ 1,850.00
0.00		RELO RCS10200 Shelter + Generator		$ -
0.00				$ -
0.00				$ -
				$ -
			Subtotal	$ 1,850.00
			Sales Tax	
			Total	**$ 1,850.00**

EXHIBIT "D"

Last Structural Drawings & CD's

Date: **January 26, 2021**

Joel Rousseau
NexTower Development, LLC.
(352) 283-0001

SMW Engineering Group, Inc.
158 Business Center Drive
Birmingham, AL 35244
205.252.6985

Subject:	**Structural Analysis Report**
Carrier Designation:	***NexTower***
	Site Number: NXFL-142
	Site Name: Cedar Key
Engineering Firm Designation:	**SMW Engineering Group, Inc. Project Number:** 19-5345
Site Data:	**10050 SW County Rd. 347, Cedar Key, FL 32625 (Levy County)**
	Latitude *29° 10' 52.68"*, Longitude *-83° 01' 23.39"*
	Platforms – Generator and Shelter

Dear Joel Rousseau,

SMW Engineering Group, Inc. is pleased to submit this **"Structural Analysis Report"** to determine the structural integrity of the above-mentioned platforms.

The purpose of the assessment is to determine acceptability of the platforms to sufficiently support the telecommunications equipment presented in this report. Based on our professional opinion we have determined the suitability for the structure, under the following load case, to be:

Proposed Equipment Configuration **Sufficient Capacity**

This analysis utilizes an ultimate 3-second gust wind speed of 130 mph as required by the 2020 Florida Building Code 7th Edition. Applicable Standard references and design criteria are listed in Section 2 - Analysis Criteria.

All equipment proposed in this report shall be installed in accordance with the associated drawings for the determined available structural capacity to be effective.

We at *SMW Engineering Group, Inc.* appreciate the opportunity of providing our continuing professional services to you. If you have any questions or need further assistance on this or any other projects, please give us a call.

Respectfully submitted by:

Digitally signed by Jeremy Sharit
Location: FL PE Lic # 75137
Date: 2021.01.26 '17:57:12 -06'00
Adobe Acrobat version: 2020.013.20066

Jeremy Sharit, P.E.
Project Engineer
FL CA #33693

JEREMY D. SHARIT, FL PE 75137
SMW ENGINEERING GROUP, INC.

JEREMY D. SHARIT LICENSE No. 75137 STATE OF FLORIDA PROFESSIONAL ENGINEER

SEALED BY JEREMY SHARIT USING A DIGITAL SIGNATURE AND DATE. PRINTED COPIES OF THIS DOCUMENT ARE NOT CONSIDERED SIGNED AND SEALED AND THE SIGNATURE MUST BE VERIFIED ON ANY ELECTRONIC COPIES.

TABLE OF CONTENTS

1) INTRODUCTION

The proposed telecommunications equipment will be located on elevated platforms. See below for the equipment loading.

2) ASSESSMENT CRITERIA

Building Code:	2020 FBC, 7th Edition (2018 IBC)
Risk Category:	II
Ultimate Wind Speed:	130 mph
Exposure Category:	C
Topographic Factor:	I

Table 1 – Final Equipment Configuration on Generator Platform

Mounting Level	Number of Equipment	Equipment Model
±12'-0" AGL	1	DG50-2 Generator 5.7L V8
	1	Automatic Transfer Switch

Table 2 – Final Equipment Configuration on Shelter Platform

Mounting Level	Number of Equipment	Equipment Model
±12'-0" AGL	1	Shelter (10'x20')

3) ASSESSMENT PROCEDURE

Table 3 - Documents Provided

Document	Remarks	Reference	Source
Geotechnical Report	Universal Engineering Sciences	Dated 05/22/19	NexTower
Construction Drawing	SMW Engineering Group, Inc.	-	SMW

3.1) Assumptions

1) The configuration of equipment and other appurtenances are as specified in Table 1&2.
2) The structure has been maintained and is free of damage.

This assessment may be affected if any assumptions are not valid or have been made in error. SMW Engineering Group, Inc. should be notified to determine the effect on the platforms.

4) ASSESSMENT RESULTS

4.1) Recommendations

It is our assessment that the proposed generator platform ***will support*** the proposed loads with an overall structural utilization ratio of **27.4%** was found to be at the platform girder (Member 16 W6x15). Also, the proposed shelter platform ***will support*** the proposed loads with an overall structural utilization ratio of **27.1%** was found to be at the platform girder (Member 9 W8x35), and Max Soil Interaction Rating of **42.4%**. Therefore, the proposed platforms is deemed ***adequate***.

This letter is based on the proposed equipment to be installed as shown in the associated construction drawings.

Job Information

	Engineer	Checked	Approved
Name:	HE	JR	JS
Date:	1/25/2021	1/25/2021	1/25/2021

Project ID	
Project Name	

Structure Type	SPACE FRAME

Number of Nodes	30	Highest Node	30
Number of Elements	53	Highest Beam	53

Number of Basic Load Cases	6
Number of Combination Load Cases	44

Included in this printout are data for:

All	The Whole Structure

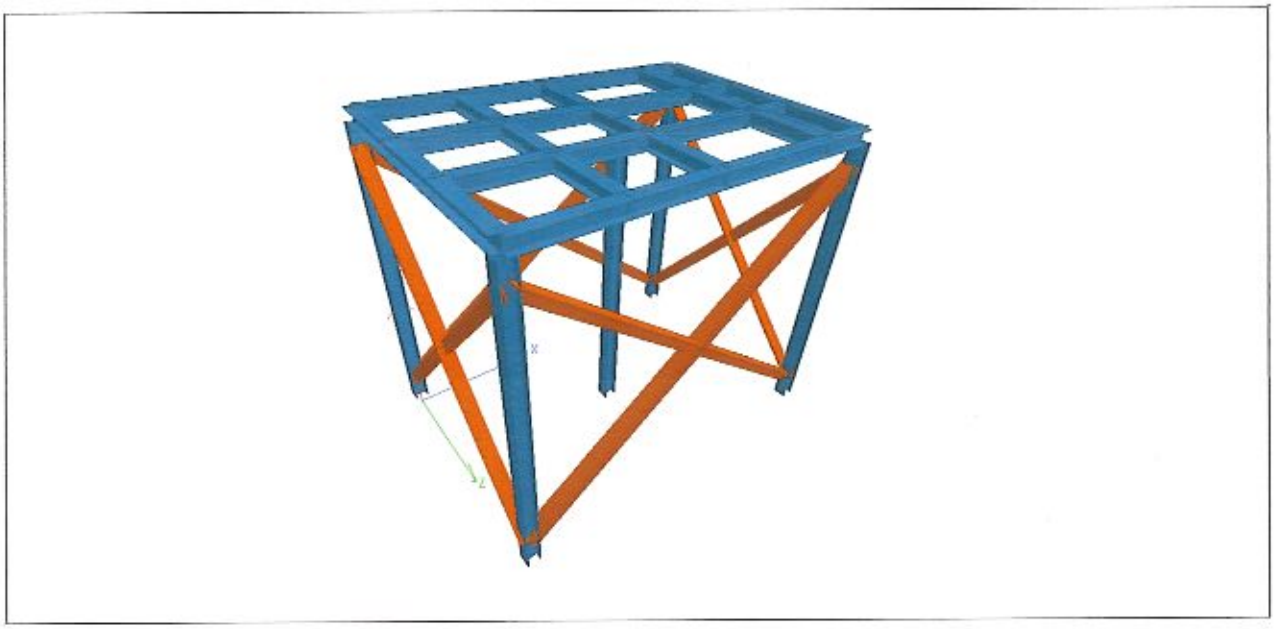
Included in this printout are results for load cases:

Type	L/C	Name
Primary	1	DEAD LOAD
Primary	2	LIVE LOAD
Primary	3	WIND +X
Primary	4	WIND -X
Primary	5	WIND +Z
Primary	6	WIND -Z
Primary	7	WIND +0.75
Primary	8	WIND -0.75
Combination	9	ULC, 1.4 DEAD
Combination	10	ULC, 1.2 DEAD + 1.6 LIVE
Combination	11	ULC, 1.2 DEAD + 1 LIVE
Combination	12	ULC, 1.2 DEAD + 0.5 WIND (1)
Combination	13	ULC, 1.2 DEAD + 0.5 WIND (2)
Combination	14	ULC, 1.2 DEAD + 0.5 WIND (3)
Combination	15	ULC, 1.2 DEAD + 0.5 WIND (4)
Combination	16	ULC, 1.2 DEAD + 0.5 WIND (5)
Combination	17	ULC, 1.2 DEAD + 0.5 WIND (6)
Combination	18	ULC, 1.2 DEAD + 1 LIVE + 1 WIND (1)
Combination	19	ULC, 1.2 DEAD + 1 LIVE + 1 WIND (2)
Combination	20	ULC, 1.2 DEAD + 1 LIVE + 1 WIND (3)
Combination	21	ULC, 1.2 DEAD + 1 LIVE + 1 WIND (4)
Combination	22	ULC, 1.2 DEAD + 1 LIVE + 1 WIND (5)
Combination	23	ULC, 1.2 DEAD + 1 LIVE + 1 WIND (6)
Combination	24	ULC, 0.9 DEAD + 1 WIND (1)
Combination	25	ULC, 0.9 DEAD + 1 WIND (2)
Combination	26	ULC, 0.9 DEAD + 1 WIND (3)
Combination	27	ULC, 0.9 DEAD + 1 WIND (4)
Combination	28	ULC, 0.9 DEAD + 1 WIND (5)
Combination	29	ULC, 0.9 DEAD + 1 WIND (6)
Combination	30	ULC, 0.9 DEAD
Combination	31	ULC, 1 DEAD
Combination	32	ULC, 1 DEAD + 1 LIVE
Combination	33	ULC, 1 DEAD + 0.75 LIVE

SMW ENGINEERING GROUP, INC.	Job No 19-5345	Sheet No 5	Rev 0
	Part EQUIPMENT GENERATOR PLATFORM		
Job Title CEDAR KEY	Ref NXFL-142		
	By HE	Date 1/25/2021	Chd JR
Client NexTower	File NXFL-142 Generator Plat	Date/Time 25-Jan-2021 15:14	

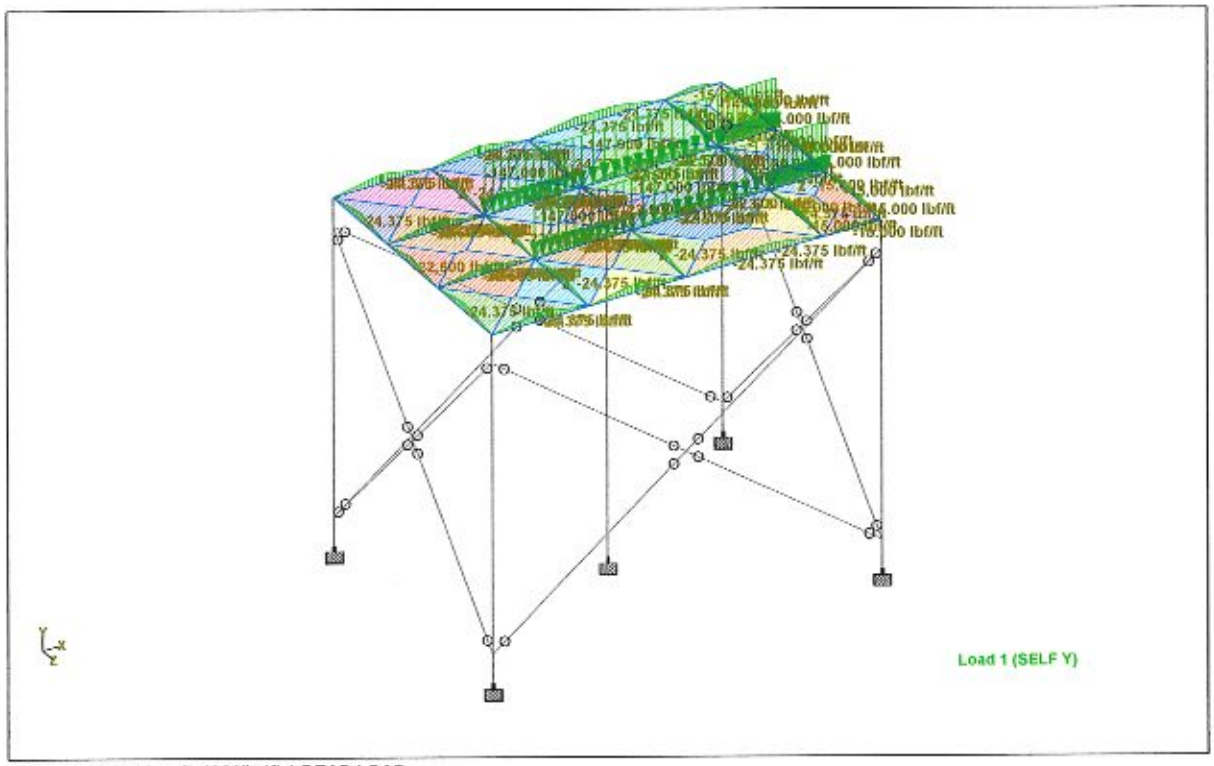
Job Information Cont...

Type	L/C	Name
Combination	37	ULC, 1 DEAD + 0.6 WIND (4)
Combination	38	ULC, 1 DEAD + 0.6 WIND (5)
Combination	39	ULC, 1 DEAD + 0.6 WIND (6)
Combination	40	ULC, 1 DEAD + 0.75 LIVE + 0.45 WIND (1
Combination	41	ULC, 1 DEAD + 0.75 LIVE + 0.45 WIND (2
Combination	42	ULC, 1 DEAD + 0.75 LIVE + 0.45 WIND (3
Combination	43	ULC, 1 DEAD + 0.75 LIVE + 0.45 WIND (4
Combination	44	ULC, 1 DEAD + 0.75 LIVE + 0.45 WIND (5
Combination	45	ULC, 1 DEAD + 0.75 LIVE + 0.45 WIND (6
Combination	46	ULC, 0.6 DEAD + 0.6 WIND (1)
Combination	47	ULC, 0.6 DEAD + 0.6 WIND (2)
Combination	48	ULC, 0.6 DEAD + 0.6 WIND (3)
Combination	49	ULC, 0.6 DEAD + 0.6 WIND (4)
Combination	50	ULC, 0.6 DEAD + 0.6 WIND (5)
Combination	51	ULC, 0.6 DEAD + 0.6 WIND (6)
Combination	52	ULC, 0.6 DEAD

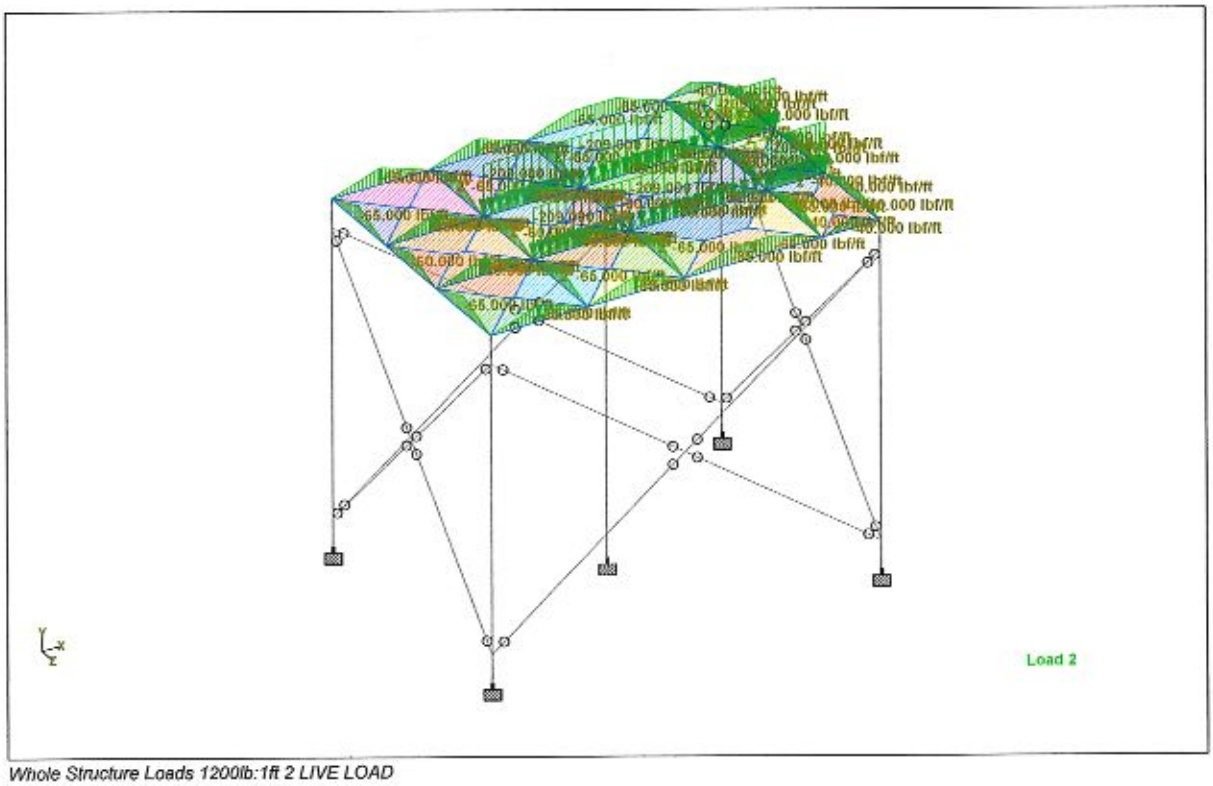


3D Rendered View

SMW ENGINEERING GROUP, INC.	Job No 19-5345	Sheet No 6	Rev 0
	Part EQUIPMENT GENERATOR PLATFORM		
Job Title CEDAR KEY	Ref NXFL-142		
	By HE	Date 1/25/2021	Chd JR
Client NexTower	File NXFL-142 Generator Plat	Date/Time 25-Jan-2021 15:14	

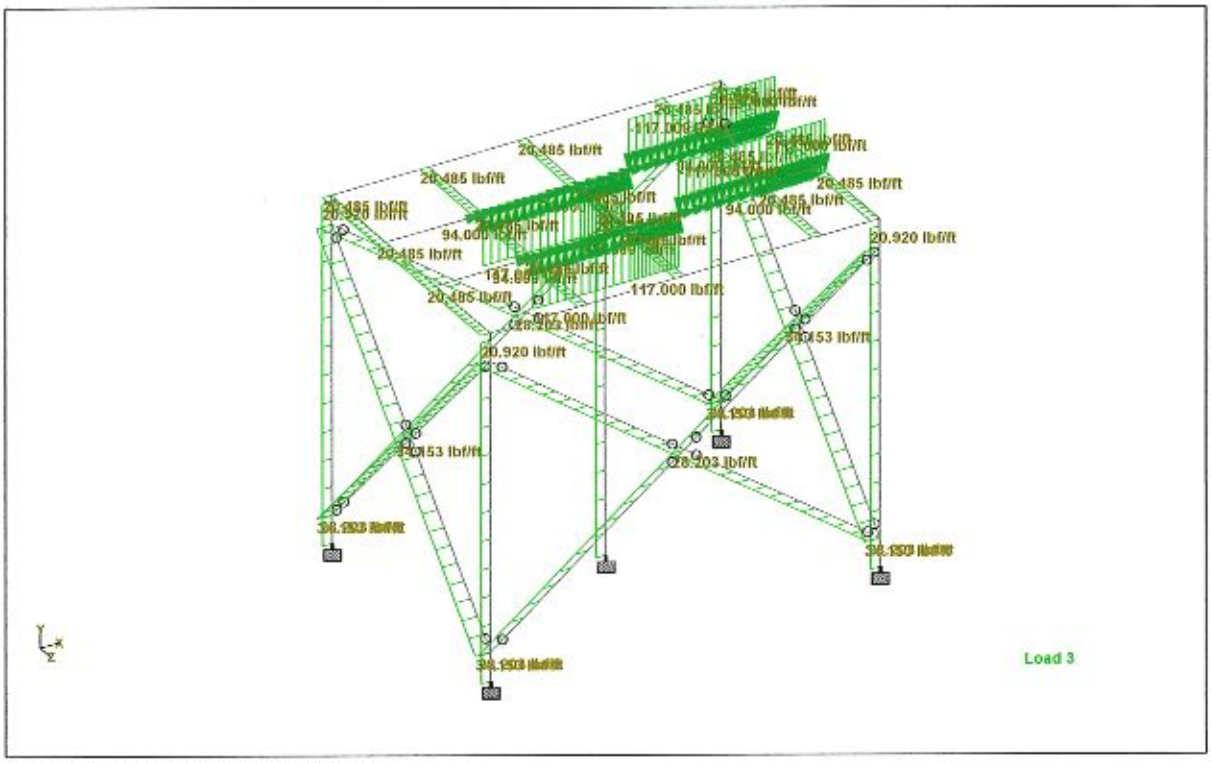


Whole Structure Loads 1200lb:1ft 1 DEAD LOAD

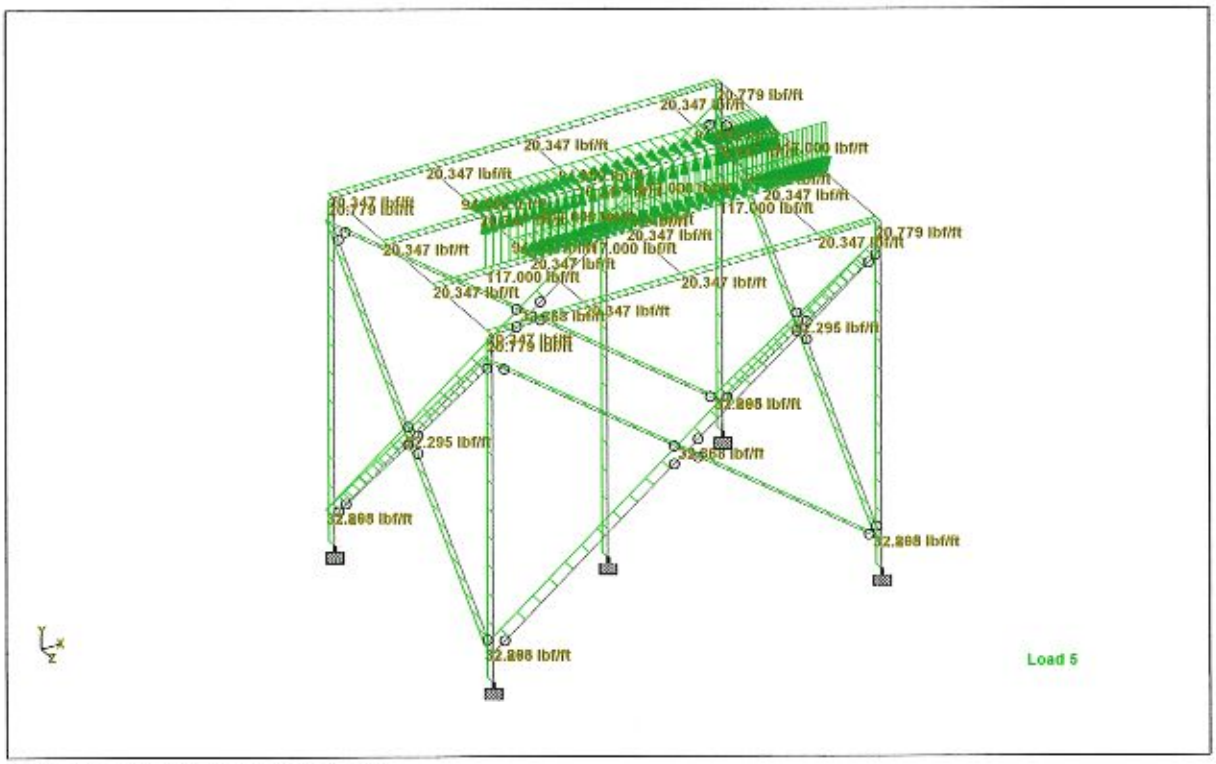


Whole Structure Loads 1200lb:1ft 2 LIVE LOAD

SMW ENGINEERING GROUP, INC.	Job No 19-5345	Sheet No 7	Rev 0
	Part EQUIPMENT GENERATOR PLATFORM		
Job Title CEDAR KEY	Ref NXFL-142		
	By HE	Date 1/25/2021	Chd JR
Client NexTower	File NXFL-142 Generator Plat	Date/Time 25-Jan-2021 15:14	

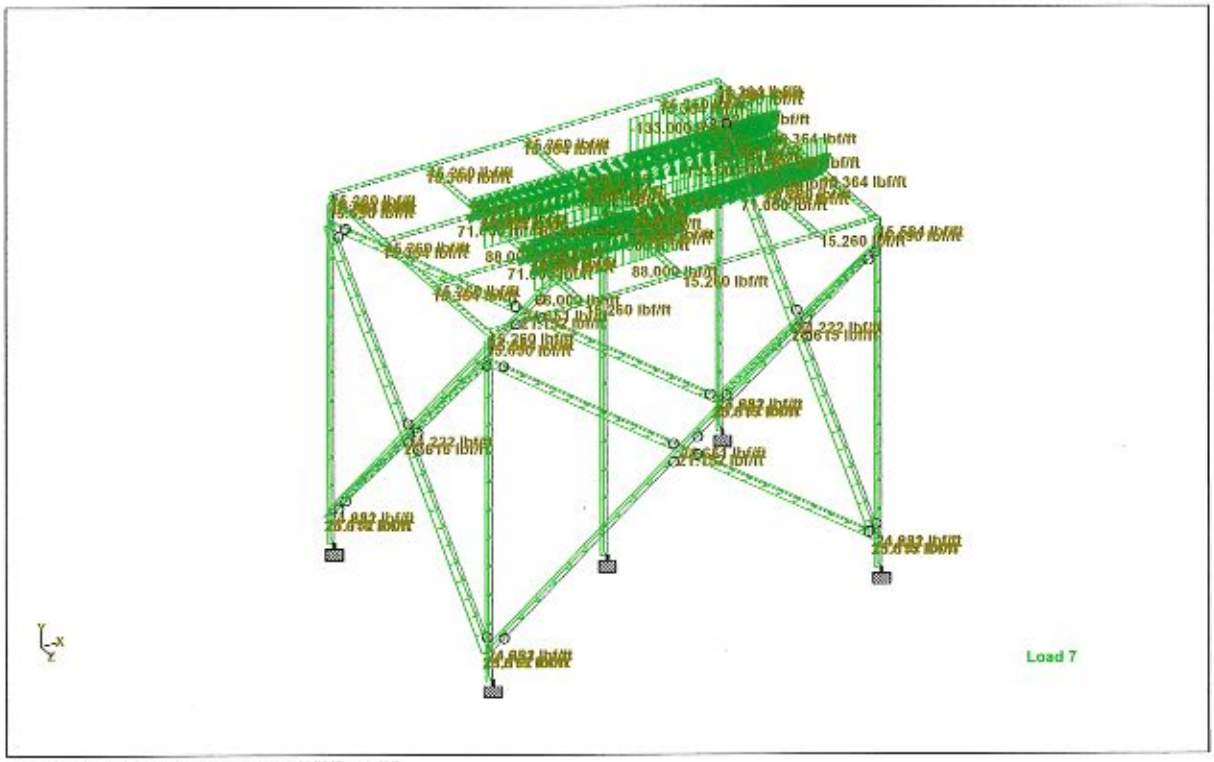


Whole Structure Loads 1200lb:1ft 3 WIND +X

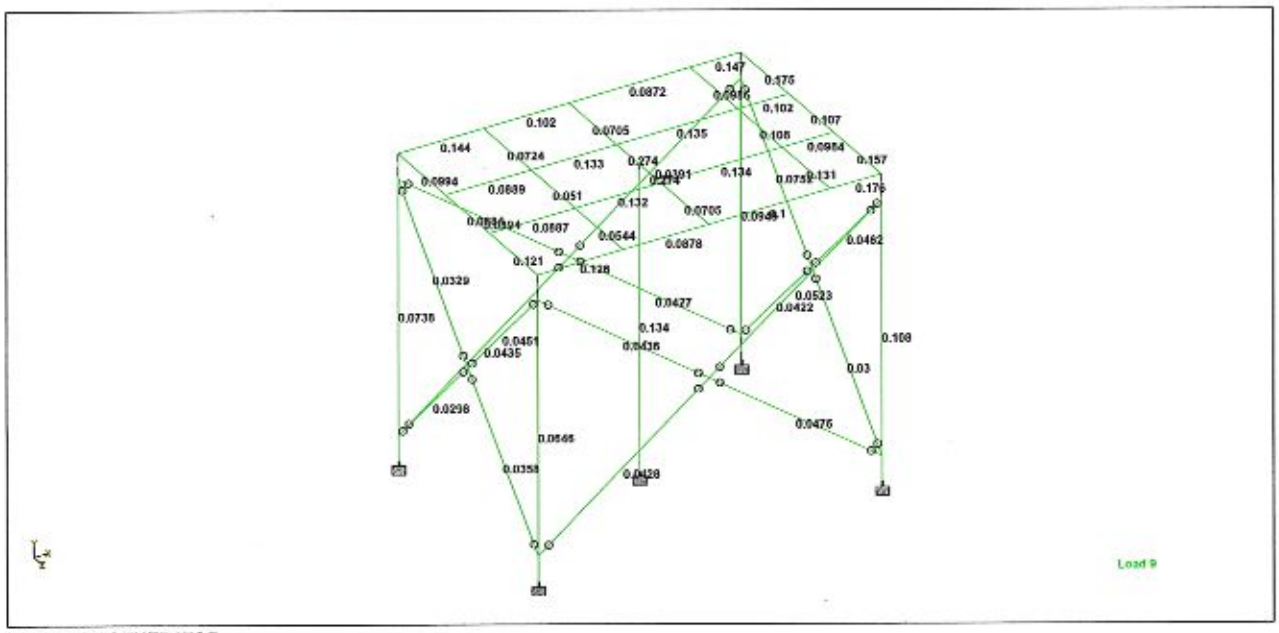


Whole Structure Loads 1200lb:1ft 5 WIND +Z

SMW ENGINEERING GROUP, INC.	Job No 19-5345	Sheet No 8	Rev 0
	Part EQUIPMENT GENERATOR PLATFORM		
Job Title CEDAR KEY	Ref NXFL-142		
	By HE	Date 1/25/2021	Chd JR
Client NexTower	File NXFL-142 Generator Plat	Date/Time 25-Jan-2021 15:14	



Whole Structure Loads 1200lb:1ft 7 WIND +0.75



UT RATIO / GENERATOR

Section Properties

Prop	Section	Area (in^2)	I_{yy} (in^4)	I_{zz} (in^4)	J (in^4)	Material
1	W6X15	4.430	9.320	29.100	0.101	STEEL
2	L606012	8.460	44.622	11.688	1.635	STEEL

Materials

Mat	Name	E (kip/ft^2)	v	Density (kip/ft^3)	α (/°F)
1	CONCRETE	454E+3	0.170	0.150	5.5E-6
2	ALUMINUM	1.44E+6	0.330	0.169	12.8E-6
3	STEEL_50_KSI	4.18E+6	0.300	0.489	6.5E-6
4	STAINLESSSTEEL	4.03E+6	0.300	0.489	9.9E-6
5	STEEL_36_KSI	4.18E+6	0.300	0.489	6.5E-6
6	STEEL_275_NMM2	4.28E+6	0.300	0.490	6.67E-6
7	STEEL	4.18E+6	0.300	0.489	6.5E-6
8	STEEL_355_NMM2	4.28E+6	0.300	0.490	6.67E-6

Supports

Node	X (klp/in)	Y (kip/in)	Z (kip/in)	rX (kip*ft/deg)	rY (kip*ft/deg)	rZ (kip*ft/deg)
21	Fixed	Fixed	Fixed	Fixed	Fixed	Fixed
22	Fixed	Fixed	Fixed	Fixed	Fixed	Fixed
23	Fixed	Fixed	Fixed	Fixed	Fixed	Fixed
24	Fixed	Fixed	Fixed	Fixed	Fixed	Fixed
26	Fixed	Fixed	Fixed	Fixed	Fixed	Fixed

Releases

Beam ends not shown in this table are fixed in all directions.

Beam	Node	x	y	z	rx	ry	rz
38	23	Fixed	Fixed	Fixed	Fixed	Fixed	Pin
38	27	Fixed	Fixed	Fixed	Fixed	Fixed	Pin
39	24	Fixed	Fixed	Fixed	Fixed	Fixed	Pin
39	27	Fixed	Fixed	Fixed	Fixed	Fixed	Pin
40	21	Fixed	Fixed	Fixed	Fixed	Fixed	Pin
40	28	Fixed	Fixed	Fixed	Fixed	Fixed	Pin
41	22	Fixed	Fixed	Fixed	Fixed	Fixed	Pin
41	28	Fixed	Fixed	Fixed	Fixed	Fixed	Pin
42	21	Fixed	Fixed	Fixed	Fixed	Fixed	Pin
42	29	Fixed	Fixed	Fixed	Fixed	Fixed	Pin
43	23	Fixed	Fixed	Fixed	Fixed	Fixed	Pin
43	29	Fixed	Fixed	Fixed	Fixed	Fixed	Pin
44	22	Fixed	Fixed	Fixed	Fixed	Fixed	Pin
44	30	Fixed	Fixed	Fixed	Fixed	Fixed	Pin
45	24	Fixed	Fixed	Fixed	Fixed	Fixed	Pin
45	30	Fixed	Fixed	Fixed	Fixed	Fixed	Pin
46	27	Fixed	Fixed	Fixed	Fixed	Fixed	Pin
46	20	Fixed	Fixed	Fixed	Fixed	Fixed	Pin
47	27	Fixed	Fixed	Fixed	Fixed	Fixed	Pin

Releases Cont...

Beam	Node	x	y	z	rx	ry	rz
47	16	Fixed	Fixed	Fixed	Fixed	Fixed	Pin
48	28	Fixed	Fixed	Fixed	Fixed	Fixed	Pin
48	5	Fixed	Fixed	Fixed	Fixed	Fixed	Pin
49	28	Fixed	Fixed	Fixed	Fixed	Fixed	Pin
49	1	Fixed	Fixed	Fixed	Fixed	Fixed	Pin
50	29	Fixed	Fixed	Fixed	Fixed	Fixed	Pin
50	16	Fixed	Fixed	Fixed	Fixed	Fixed	Pin
51	29	Fixed	Fixed	Fixed	Fixed	Fixed	Pin
51	1	Fixed	Fixed	Fixed	Fixed	Fixed	Pin
52	30	Fixed	Fixed	Fixed	Fixed	Fixed	Pin
52	20	Fixed	Fixed	Fixed	Fixed	Fixed	Pin
53	30	Fixed	Fixed	Fixed	Fixed	Fixed	Pin
53	5	Fixed	Fixed	Fixed	Fixed	Fixed	Pin

Primary Load Cases

Number	Name	Type
1	DEAD LOAD	Dead
2	LIVE LOAD	Live
3	WIND +X	Wind
4	WIND -X	Wind
5	WIND +Z	Wind
6	WIND -Z	Wind
7	WIND +0.75	Wind
8	WIND -0.75	Wind

Combination Load Cases

Comb.	Combination L/C Name	Primary	Primary L/C Name	Factor
9	ULC, 1.4 DEAD	1	DEAD LOAD	1.40
10	ULC, 1.2 DEAD + 1.6 LIVE	1	DEAD LOAD	1.20
		2	LIVE LOAD	1.60
11	ULC, 1.2 DEAD + 1 LIVE	1	DEAD LOAD	1.20
		2	LIVE LOAD	1.00
12	ULC, 1.2 DEAD + 0.5 WIND (1)	1	DEAD LOAD	1.20
		3	WIND +X	0.50
13	ULC, 1.2 DEAD + 0.5 WIND (2)	1	DEAD LOAD	1.20
		4	WIND -X	0.50
14	ULC, 1.2 DEAD + 0.5 WIND (3)	1	DEAD LOAD	1.20
		5	WIND +Z	0.50
15	ULC, 1.2 DEAD + 0.5 WIND (4)	1	DEAD LOAD	1.20
		6	WIND -Z	0.50
16	ULC, 1.2 DEAD + 0.5 WIND (5)	1	DEAD LOAD	1.20
		7	WIND +0.75	0.50
17	ULC, 1.2 DEAD + 0.5 WIND (6)	1	DEAD LOAD	1.20
		8	WIND -0.75	0.50
18	ULC, 1.2 DEAD + 1 LIVE + 1 WIND (1)	1	DEAD LOAD	1.20
		2	LIVE LOAD	1.00
		3	WIND +X	1.00

Combination Load Cases Cont...

Comb.	Combination L/C Name	Primary	Primary L/C Name	Factor
19	ULC, 1.2 DEAD + 1 LIVE + 1 WIND (2)	1	DEAD LOAD	1.20
		2	LIVE LOAD	1.00
		4	WIND -X	1.00
20	ULC, 1.2 DEAD + 1 LIVE + 1 WIND (3)	1	DEAD LOAD	1.20
		2	LIVE LOAD	1.00
		5	WIND +Z	1.00
21	ULC, 1.2 DEAD + 1 LIVE + 1 WIND (4)	1	DEAD LOAD	1.20
		2	LIVE LOAD	1.00
		6	WIND -Z	1.00
22	ULC, 1.2 DEAD + 1 LIVE + 1 WIND (5)	1	DEAD LOAD	1.20
		2	LIVE LOAD	1.00
		7	WIND +0.75	1.00
23	ULC, 1.2 DEAD + 1 LIVE + 1 WIND (6)	1	DEAD LOAD	1.20
		2	LIVE LOAD	1.00
		8	WIND -0.75	1.00
24	ULC, 0.9 DEAD + 1 WIND (1)	1	DEAD LOAD	0.90
		3	WIND +X	1.00
25	ULC, 0.9 DEAD + 1 WIND (2)	1	DEAD LOAD	0.90
		4	WIND -X	1.00
26	ULC, 0.9 DEAD + 1 WIND (3)	1	DEAD LOAD	0.90
		5	WIND +Z	1.00
27	ULC, 0.9 DEAD + 1 WIND (4)	1	DEAD LOAD	0.90
		6	WIND -Z	1.00
28	ULC, 0.9 DEAD + 1 WIND (5)	1	DEAD LOAD	0.90
		7	WIND +0.75	1.00
29	ULC, 0.9 DEAD + 1 WIND (6)	1	DEAD LOAD	0.90
		8	WIND -0.75	1.00
30	ULC, 0.9 DEAD	1	DEAD LOAD	0.90
31	ULC, 1 DEAD	1	DEAD LOAD	1.00
32	ULC, 1 DEAD + 1 LIVE	1	DEAD LOAD	1.00
		2	LIVE LOAD	1.00
33	ULC, 1 DEAD + 0.75 LIVE	1	DEAD LOAD	1.00
		2	LIVE LOAD	0.75
34	ULC, 1 DEAD + 0.6 WIND (1)	1	DEAD LOAD	1.00
		3	WIND +X	0.60
35	ULC, 1 DEAD + 0.6 WIND (2)	1	DEAD LOAD	1.00
		4	WIND -X	0.60
36	ULC, 1 DEAD + 0.6 WIND (3)	1	DEAD LOAD	1.00
		5	WIND +Z	0.60
37	ULC, 1 DEAD + 0.6 WIND (4)	1	DEAD LOAD	1.00
		6	WIND -Z	0.60
38	ULC, 1 DEAD + 0.6 WIND (5)	1	DEAD LOAD	1.00
		7	WIND +0.75	0.60
39	ULC, 1 DEAD + 0.6 WIND (6)	1	DEAD LOAD	1.00
		8	WIND -0.75	0.60
40	ULC, 1 DEAD + 0.75 LIVE + 0.45 WIND (1	1	DEAD LOAD	1.00
		2	LIVE LOAD	0.75
		3	WIND +X	0.45
41	ULC, 1 DEAD + 0.75 LIVE + 0.45 WIND (2	1	DEAD LOAD	1.00
		2	LIVE LOAD	0.75
		4	WIND -X	0.45
42	ULC, 1 DEAD + 0.75 LIVE + 0.45 WIND (3	1	DEAD LOAD	1.00
		2	LIVE LOAD	0.75

Combination Load Cases Cont...

Comb.	Combination L/C Name	Primary	Primary L/C Name	Factor
		5	WIND +Z	0.45
43	ULC, 1 DEAD + 0.75 LIVE + 0.45 WIND (4	1	DEAD LOAD	1.00
		2	LIVE LOAD	0.75
		6	WIND -Z	0.45
44	ULC, 1 DEAD + 0.75 LIVE + 0.45 WIND (5	1	DEAD LOAD	1.00
		2	LIVE LOAD	0.75
		7	WIND +0.75	0.45
45	ULC, 1 DEAD + 0.75 LIVE + 0.45 WIND (6	1	DEAD LOAD	1.00
		2	LIVE LOAD	0.75
		8	WIND -0.75	0.45
46	ULC, 0.6 DEAD + 0.6 WIND (1)	1	DEAD LOAD	0.60
		3	WIND +X	0.60
47	ULC, 0.6 DEAD + 0.6 WIND (2)	1	DEAD LOAD	0.60
		4	WIND -X	0.60
48	ULC, 0.6 DEAD + 0.6 WIND (3)	1	DEAD LOAD	0.60
		5	WIND +Z	0.60
49	ULC, 0.6 DEAD + 0.6 WIND (4)	1	DEAD LOAD	0.60
		6	WIND -Z	0.60
50	ULC, 0.6 DEAD + 0.6 WIND (5)	1	DEAD LOAD	0.60
		7	WIND +0.75	0.60
51	ULC, 0.6 DEAD + 0.6 WIND (6)	1	DEAD LOAD	0.60
		8	WIND -0.75	0.60
52	ULC, 0.6 DEAD	1	DEAD LOAD	0.60

Node Displacement Summary

	Node	L/C	X (in)	Y (in)	Z (in)	Resultant (in)	rX (rad)	rY (rad)	rZ (rad)
Max X	30	18:ULC, 1.2 DE	**0.019**	0.000	0.000	0.019	-0.000	-0.000	0.000
Min X	29	19:ULC, 1.2 DE	**-0.018**	-0.000	-0.000	0.018	0.000	-0.000	-0.000
Max Y	18	6:WIND -Z	0.001	**0.011**	-0.024	0.026	-0.000	-0.000	0.000
Min Y	18	10:ULC, 1.2 DE	-0.001	**-0.061**	0.000	0.061	0.001	0.000	-0.000
Max Z	27	20:ULC, 1.2 DE	-0.000	0.000	**0.036174**	0.035	-0.000	-0.000	-0.000
Min Z	28	21:ULC, 1.2 DE	0.000	0.000	**-0.033**	0.032709	0.000	-0.000	0.000
Max rX	4	10:ULC, 1.2 DE	0.000	-0.026	-0.002	0.026	**0.001**	-0.000	0.001
Min rX	19	10:ULC, 1.2 DE	-0.001	-0.028	-0.002	0.028	**-0.001**	0.000	0.001
Max rY	16	8:WIND -0.75	-0.002	0.000	-0.003	0.004	-0.000	**0.000**	0.000
Min rY	16	22:ULC, 1.2 DE	0.002	-0.003	0.003	0.005	-0.000	**-0.000**	-0.000
Max rZ	19	10:ULC, 1.2 DE	-0.001	-0.028	-0.002	0.028	-0.001	0.000	**0.001**
Min rZ	17	10:ULC, 1.2 DE	-0.000	-0.037	0.001	0.036998	-0.000	0.000	**-0.001**
Max Rst	18	20:ULC, 1.2 DE	-0.001	-0.057	0.024	**0.062**	0.001	0.000	-0.000

Beam End Displacement Summary

Displacements shown in italic indicate the presence of an offset

	Beam	Node	L/C	X (in)	Y (in)	Z (in)	Resultant (in)
Max X	44	30	18:ULC, 1.2 DE	**0.019**	0.000	0.000	0.019
Min X	42	29	19:ULC, 1.2 DE	**-0.018**	-0.000	-0.000	0.018
Max Y	25	18	6:WIND -Z	0.001	**0.011**	-0.024	0.026
Min Y	25	18	10:ULC, 1.2 DE	-0.001	**-0.061**	0.000	0.061
Max Z	38	27	20:ULC, 1.2 DE	*-0.000*	*0.000*	**0.035**	0.035
Min Z	40	28	21:ULC, 1.2 DE	*0.000*	*0.000*	**-0.033**	0.032709
Max Rst	25	18	20:ULC, 1.2 DE	-0.001	-0.057	0.024	**0.062**

Beam End Force Summary

The signs of the forces at end B of each beam have been reversed. For example: this means that the Min Fx entry gives the largest tension value for an beam.

				Axial	Shear		Torsion	Bending	
	Beam	Node	L/C	Fx (kip)	Fy (kip)	Fz (kip)	Mx (kip*ft)	My (kip*ft)	Mz (kip*ft)
Max Fx	37	26	10:ULC, 1.2 DE	**11.706**	-0.000	-0.000	-0.000	-0.000	-0.000
Min Fx	53	5	21:ULC, 1.2 DE	**-3.258**	-0.106	-0.178	0.005	-1.399	-0
Max Fy	36	25	10:ULC, 1.2 DE	-0.001	**5.744**	-0.004	0.001	-0.000	7.854
Min Fy	16	25	10:ULC, 1.2 DE	-0.001	**-5.750**	-0.003	-0.001	-0.000	7.852
Max Fz	31	20	22:ULC, 1.2 DE	1.252	-1.333	**0.849**	-0.002	1.155	2.274
Min Fz	13	10	21:ULC, 1.2 DE	0.235	-1.305	**-0.861**	-0.001	-0.863	0.001
Max Mx	46	27	18:ULC, 1.2 DE	-2.530	0.123	-0.285	**0.007**	0.385	0
Min Mx	52	30	20:ULC, 1.2 DE	-2.872	0.106	-0.296	**-0.006**	0.781	0
Max My	39	27	20:ULC, 1.2 DE	-0.502	-0.174	0.321	0.000	**1.328**	-0
Min My	53	5	10:ULC, 1.2 DE	-1.551	-0.058	-0.354	0.003	**-2.295**	-0
Max Mz	36	25	10:ULC, 1.2 DE	-0.001	5.744	-0.004	0.001	-0.000	**7.854**
Min Mz	27	15	10:ULC, 1.2 DE	0.944	-1.698	0.232	0.000	-0.184	**-2.814**

Beam Force Detail Summary

Sign convention as diagrams:- positive above line, negative below line except Fx where positive is compression. Distance d is given from beam end A.

				Axial	Shear		Torsion	Bending	
	Beam	L/C	d (ft)	Fx (kip)	Fy (kip)	Fz (kip)	Mx (kip*ft)	My (kip*ft)	Mz (kip*ft)
Max Fx	37	10:ULC, 1.2 DE	11.750	**11.706**	-0.000	-0.000	-0.000	-0.000	-0.000
Min Fx	53	21:ULC, 1.2 DE	6.897	**-3.258**	-0.106	-0.178	0.005	-1.399	-0
Max Fy	36	10:ULC, 1.2 DE	0	-0.001	**5.744**	-0.004	0.001	-0.000	7.854
Min Fy	16	10:ULC, 1.2 DE	1.500	-0.001	**-5.750**	-0.003	-0.001	-0.000	7.852
Max Fz	31	22:ULC, 1.2 DE	2.000	1.252	-1.333	**0.849**	-0.002	1.155	2.274
Min Fz	13	21:ULC, 1.2 DE	2.000	0.235	-1.305	**-0.861**	-0.001	-0.863	0.001
Max Mx	46	18:ULC, 1.2 DE	0	-2.530	0.123	-0.285	**0.007**	0.385	0
Min Mx	52	20:ULC, 1.2 DE	0	-2.872	0.106	-0.296	**-0.006**	0.781	0
Max My	39	20:ULC, 1.2 DE	8.400	-0.502	-0.174	0.321	0.000	**1.328**	-0
Min My	53	10:ULC, 1.2 DE	6.897	-1.551	-0.058	-0.354	0.003	**-2.295**	-0
Max Mz	36	10:ULC, 1.2 DE	0	-0.001	5.744	-0.004	0.001	-0.000	**7.854**
Min Mz	18	10:ULC, 1.2 DE	1.600	1.165	-0.005	0.044	-0.000	0.013	**-2.877**

SMW ENGINEERING GROUP, INC.	Job No 19-5345	Sheet No 14	Rev 0
	Part EQUIPMENT GENERATOR PLATFORM		
Job Title CEDAR KEY	Ref NXFL-142		
	By HE	Date 1/25/2021	Chd JR
Client NexTower	File NXFL-142 Generator Plat	Date/Time 25-Jan-2021 15:14	

Reaction Summary

	Node	L/C	Horizontal FX (kip)	Vertical FY (kip)	Horizontal FZ (kip)	Moment MX (kip-ft)	MY (kip-ft)	MZ (kip-ft)
Max FX	23	25:ULC, 0.9 DE	**2.077**	3.429	-0.260	-0.977	-0.369	-2.631
Min FX	22	24:ULC, 0.9 DE	**-2.155**	3.953	0.027	0.847	-0.381	2.737
Max FY	26	10:ULC, 1.2 DE	0.000	**11.706**	0.000	0.000	-0.000	0.000
Min FY	24	8:WIND -0.75	1.264	**-4.229**	1.610	1.705	0.238	-2.370
Max FZ	24	21:ULC, 1.2 DE	0.076	0.716	**2.388**	2.804	0.522	-0.414
Min FZ	24	26:ULC, 0.9 DE	-0.140	5.048	**-2.196**	-2.808	-0.640	1.235
Max MX	24	21:ULC, 1.2 DE	0.076	0.716	2.388	**2.804**	0.522	-0.414
Min MX	24	26:ULC, 0.9 DE	-0.140	5.048	-2.196	**-2.808**	-0.640	1.235
Max MY	23	28:ULC, 0.9 DE	-1.317	2.227	-1.280	-1.408	**0.800**	2.259
Min MY	22	22:ULC, 1.2 DE	-1.455	2.912	-1.685	-1.077	**-0.812**	2.662
Max MZ	24	22:ULC, 1.2 DE	-1.191	8.130	-1.385	-1.652	-0.354	**2.876**
Min MZ	21	23:ULC, 1.2 DE	1.225	6.563	1.658	1.764	-0.245	**-2.735**

Utilization Ratio

Beam	Analysis Property	Design Property	Actual Ratio	Allowable Ratio	Ratio (Act./Allow.)	Clause	L/C	Ax (in^2)	Iz (in^4)	Iy (in^4)	Ix (in^4)
1	W6X15	W6X15	0.144	1.000	0.144	Eq.H1-1b	23	4.430	29.100	9.320	0.101
2	W6X15	W6X15	0.102	1.000	0.102	Eq.H1-1b	23	4.430	29.100	9.320	0.101
3	W6X15	W6X15	0.087	1.000	0.087	Eq.H1-1b	21	4.430	29.100	9.320	0.101
4	W6X15	W6X15	0.147	1.000	0.147	Eq.H1-1b	10	4.430	29.100	9.320	0.101
5	W6X15	W6X15	0.099	1.000	0.099	Eq.H1-1b	22	4.430	29.100	9.320	0.101
6	W6X15	W6X15	0.072	1.000	0.072	Eq.H1-1b	23	4.430	29.100	9.320	0.101
7	W6X15	W6X15	0.070	1.000	0.070	Deflection	32	4.430	29.100	9.320	0.101
8	W6X15	W6X15	0.099	1.000	0.099	Eq.H1-1b	18	4.430	29.100	9.320	0.101
9	W6X15	W6X15	0.175	1.000	0.175	Eq.H1-1b	21	4.430	29.100	9.320	0.101
10	W6X15	W6X15	0.089	1.000	0.089	Eq.H1-1b	23	4.430	29.100	9.320	0.101
11	W6X15	W6X15	0.133	1.000	0.133	Eq.H1-1b	10	4.430	29.100	9.320	0.101
12	W6X15	W6X15	0.135	1.000	0.135	Eq.H1-1b	10	4.430	29.100	9.320	0.101
13	W6X15	W6X15	0.102	1.000	0.102	Eq.H1-1b	21	4.430	29.100	9.320	0.101
14	W6X15	W6X15	68384	1.000	0.068384	Eq.H1-1b	20	4.430	29.100	9.320	0.101
15	W6X15	W6X15	0.051	1.000	0.051	Eq.H1-1b	20	4.430	29.100	9.320	0.101
16	W6X15	W6X15	0.274	1.000	0.274	Eq.H1-1b	10	4.430	29.100	9.320	0.101
17	W6X15	W6X15	0.108	1.000	0.108	Eq.H1-1b	21	4.430	29.100	9.320	0.101
18	W6X15	W6X15	0.107	1.000	0.107	Eq.H1-1b	10	4.430	29.100	9.320	0.101
19	W6X15	W6X15	0.089	1.000	0.089	Eq.H1-1b	20	4.430	29.100	9.320	0.101
20	W6X15	W6X15	0.132	1.000	0.132	Eq.H1-1b	10	4.430	29.100	9.320	0.101
21	W6X15	W6X15	0.134	1.000	0.134	Eq.H1-1b	10	4.430	29.100	9.320	0.101
22	W6X15	W6X15	0.098	1.000	0.098	Eq.H1-1b	21	4.430	29.100	9.320	0.101
23	W6X15	W6X15	0.121	1.000	0.121	Eq.H1-1b	20	4.430	29.100	9.320	0.101
24	W6X15	W6X15	0.054	1.000	0.054	Eq.H1-1b	18	4.430	29.100	9.320	0.101
25	W6X15	W6X15	0.070	1.000	0.070	Deflection	32	4.430	29.100	9.320	0.101
26	W6X15	W6X15	0.131	1.000	0.131	Eq.H1-1b	22	4.430	29.100	9.320	0.101
27	W6X15	W6X15	0.157	1.000	0.157	Eq.H1-1b	10	4.430	29.100	9.320	0.101
28	W6X15	W6X15	0.126	1.000	0.126	Eq.H1-1b	10	4.430	29.100	9.320	0.101
29	W6X15	W6X15	0.088	1.000	0.088	Eq.H1-1b	20	4.430	29.100	9.320	0.101
30	W6X15	W6X15	0.100	1.000	0.100	Eq.H1-1b	22	4.430	29.100	9.320	0.101
31	W6X15	W6X15	0.176	1.000	0.176	Eq.H1-1b	22	4.430	29.100	9.320	0.101
32	W6X15	W6X15	0.074	1.000	0.074	Eq.H1-1b	10	4.430	29.100	9.320	0.101
33	W6X15	W6X15	0.095	1.000	0.095	Eq.H1-1b	10	4.430	29.100	9.320	0.101
34	W6X15	W6X15	0.065	1.000	0.065	Eq.H1-1b	10	4.430	29.100	9.320	0.101

Utilization Ratio Cont...

Beam	Analysis Property	Design Property	Actual Ratio	Allowable Ratio	Ratio (Act./Allow.)	Clause	L/C	Ax (in^2)	Iz (in^4)	Iy (in^4)	Ix (in^4)
35	W6X15	W6X15	0.108	1.000	0.108	Eq.H1-1b	10	4.430	29.100	9.320	0.101
36	W6X15	W6X15	0.274	1.000	0.274	Eq.H1-1b	10	4.430	29.100	9.320	0.101
37	W6X15	W6X15	0.134	1.000	0.134	Cl.E3	10	4.430	29.100	9.320	0.101
38	L606012	L606012	0.043	1.000	0.043	Cl.F10.2	20	8.460	11.581	44.729	1.586
39	L606012	L606012	47506	1.000	0.047506	Cl.F10.2	20	8.460	11.581	44.729	1.586
40	L606012	L606012	0.044	1.000	0.044	Cl.F10.2	21	8.460	11.581	44.729	1.586
41	L606012	L606012	0.043	1.000	0.043	Cl.F10.2	21	8.460	11.581	44.729	1.586
42	L606012	L606012	0.030	1.000	0.030	Cl.F10.2	19	8.460	11.581	44.729	1.586
43	L606012	L606012	0.036	1.000	0.036	Cl.F10.2	19	8.460	11.581	44.729	1.586
44	L606012	L606012	0.042	1.000	0.042	Cl.F10.2	18	8.460	11.581	44.729	1.586
45	L606012	L606012	0.030	1.000	0.030	Eq.H2-1	23	8.460	11.581	44.729	1.586
46	L606012	L606012	0.052	1.000	0.052	Cl.F10.2	23	8.460	11.581	44.729	1.586
47	L606012	L606012	0.044	1.000	0.044	Cl.F10.2	20	8.460	11.581	44.729	1.586
48	L606012	L606012	0.039	1.000	0.039	Cl.F10.2	21	8.460	11.581	44.729	1.586
49	L606012	L606012	0.039	1.000	0.039	Cl.F10.2	22	8.460	11.581	44.729	1.586
50	L606012	L606012	0.045	1.000	0.045	Cl.F10.2	21	8.460	11.581	44.729	1.586
51	L606012	L606012	0.033	1.000	0.033	Cl.F10.2	19	8.460	11.581	44.729	1.586
52	L606012	L606012	0.046	1.000	0.046	Cl.F10.2	18	8.460	11.581	44.729	1.586
53	L606012	L606012	0.075	1.000	0.075	Cl.F10.2	10	8.460	11.581	44.729	1.586

Failed Members

There is no data of this type.

Drilled Pier Foundation

BU # :	
Site Name:	CEDAR KEY_General
Order Number:	

TIA-222 Revison:	H
Tower Type:	Self Support

Applied Loads	Comp.	Uplift
Moment (kip-ft)	2,738	2,633
Axial Force (kips)	11.707	3.378
Shear Force (kips)	2.143	1.951

Material Properties		
Concrete Strength, Fc:	3	ksi
Rebar Strength, Fy:	60	ksi
Tie Yield Strength, Fyt:	60	ksi

Pier Design Data		
Depth	20	ft
Ext. Above Grade	0.5	ft
Pier Section 1		
From 0.5' above grade to 20' below grade		
Pier Diameter	2.5	ft
Rebar Quantity	10	
Rebar Size	8	
Clear Cover to Ties	3	in
Tie Size	4	
Tie Spacing	12	in

Rebar & Pier Options

Embedded Pole Inputs

Belled Pier Inputs

Analysis Results		
Soil Lateral Check	*Compression*	*Uplift*
D_{cap} (ft from TOC)	11.87	11.87
Soil Safety Factor	36.84	39.73
Max Moment (kip ft)	19.73	18.30
Rating*	3.4%	3.2%
Soil Vertical Check	*Compression*	*Uplift*
Skin Friction (kips)	90.75	90.75
End Bearing (kips)	0.00	-
Weight of Concrete (kips)	11.13	8.35
Total Capacity (kips)	90.75	99.10
Axial (kips)	22.84	3.38
Rating*	24.0%	3.2%
Reinforced Concrete Flexure	*Compression*	*Uplift*
Critical Depth (ft from TOC)	11.90	11.82
Critical Moment (kip-ft)	19.73	18.30
Critical Moment Capacity	376.82	370.84
Rating*	5.0%	4.7%
Reinforced Concrete Shear	*Compression*	*Uplift*
Critical Depth (ft from TOC)	17.65	17.65
Critical Shear (kip)	6.19	5.63
Critical Shear Capacity	123.75	123.87
Rating*	4.8%	4.3%

Soil Interaction Rating*	**24.0%**
Structural Foundation Rating*	**5.0%**

*Rating per TIA-222-H Section 15.5

Check Limitation	
Apply TIA-222-H Section 15.5:	☑
N/A	☐
Shear Design Options	
Check Shear along Depth of Pier:	☑
Utilize Shear-Friction Methodology:	☐

Go to Soil Calculations

Soil Profile

Groundwater Depth	1	# of Layers	4

Layer	Top (ft)	Bottom (ft)	Thickness (ft)	γ_{soil} (pcf)	$\gamma_{concrete}$ (pcf)	Cohesion (ksf)	Angle of Friction (degrees)	Calculated Ultimate Skin Friction Comp (ksf)	Calculated Ultimate Skin Friction Uplift (ksf)	Ultimate Skin Friction Comp Override (ksf)	Ultimate Skin Friction Uplift Override (ksf)	Ult. Gross Bearing Capacity (ksf)	SPT Blow Count	Soil Type
1	0	1	1	105	150		28	0.015	0.015				3	Cohesionless
2	1	7	6	42.6	87.6		29	0.191	0.191				10	Cohesionless
3	7	15	8	47.6	87.6		31	0.502	0.502				13	Cohesionless
4	15	20	5	72.6	87.6	4	0	2.045	2.045			0		Cohesive

Job Information

	Engineer	Checked	Approved
Name:	HE	JR	JS
Date:	1/25/2021	1/25/2021	1/25/2021

Project ID	
Project Name	

Structure Type	SPACE FRAME

Number of Nodes	74	Highest Node	74
Number of Elements	124	Highest Beam	124

Number of Basic Load Cases	8
Number of Combination Load Cases	44

Included in this printout are data for:

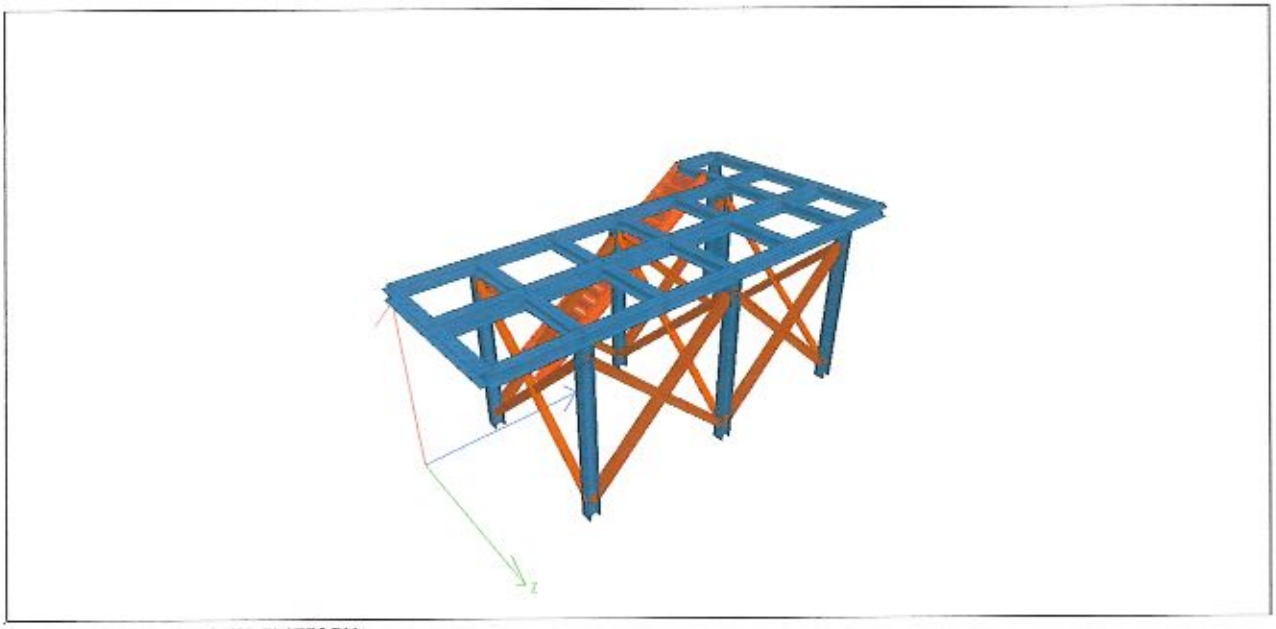
All	The Whole Structure

Included in this printout are results for load cases:

Type	L/C	Name
Primary	1	DEAD LOAD
Primary	2	LIVE LOAD
Primary	3	WIND +X
Primary	4	WIND -X
Primary	5	WIND +Z
Primary	6	WIND -Z
Primary	7	WIND +0.75
Primary	8	WIND -0.75
Combination	9	ULC, 1.4 DEAD
Combination	10	ULC, 1.2 DEAD + 1.6 LIVE
Combination	11	ULC, 1.2 DEAD + 1 LIVE
Combination	12	ULC, 1.2 DEAD + 0.5 WIND (1)
Combination	13	ULC, 1.2 DEAD + 0.5 WIND (2)
Combination	14	ULC, 1.2 DEAD + 0.5 WIND (3)
Combination	15	ULC, 1.2 DEAD + 0.5 WIND (4)
Combination	16	ULC, 1.2 DEAD + 0.5 WIND (5)
Combination	17	ULC, 1.2 DEAD + 0.5 WIND (6)
Combination	18	ULC, 1.2 DEAD + 1 LIVE + 1 WIND (1)
Combination	19	ULC, 1.2 DEAD + 1 LIVE + 1 WIND (2)
Combination	20	ULC, 1.2 DEAD + 1 LIVE + 1 WIND (3)
Combination	21	ULC, 1.2 DEAD + 1 LIVE + 1 WIND (4)
Combination	22	ULC, 1.2 DEAD + 1 LIVE + 1 WIND (5)
Combination	23	ULC, 1.2 DEAD + 1 LIVE + 1 WIND (6)
Combination	24	ULC, 0.9 DEAD + 1 WIND (1)
Combination	25	ULC, 0.9 DEAD + 1 WIND (2)
Combination	26	ULC, 0.9 DEAD + 1 WIND (3)
Combination	27	ULC, 0.9 DEAD + 1 WIND (4)
Combination	28	ULC, 0.9 DEAD + 1 WIND (5)
Combination	29	ULC, 0.9 DEAD + 1 WIND (6)
Combination	30	ULC, 0.9 DEAD
Combination	31	ULC, 1 DEAD
Combination	32	ULC, 1 DEAD + 1 LIVE
Combination	33	ULC, 1 DEAD + 0.75 LIVE

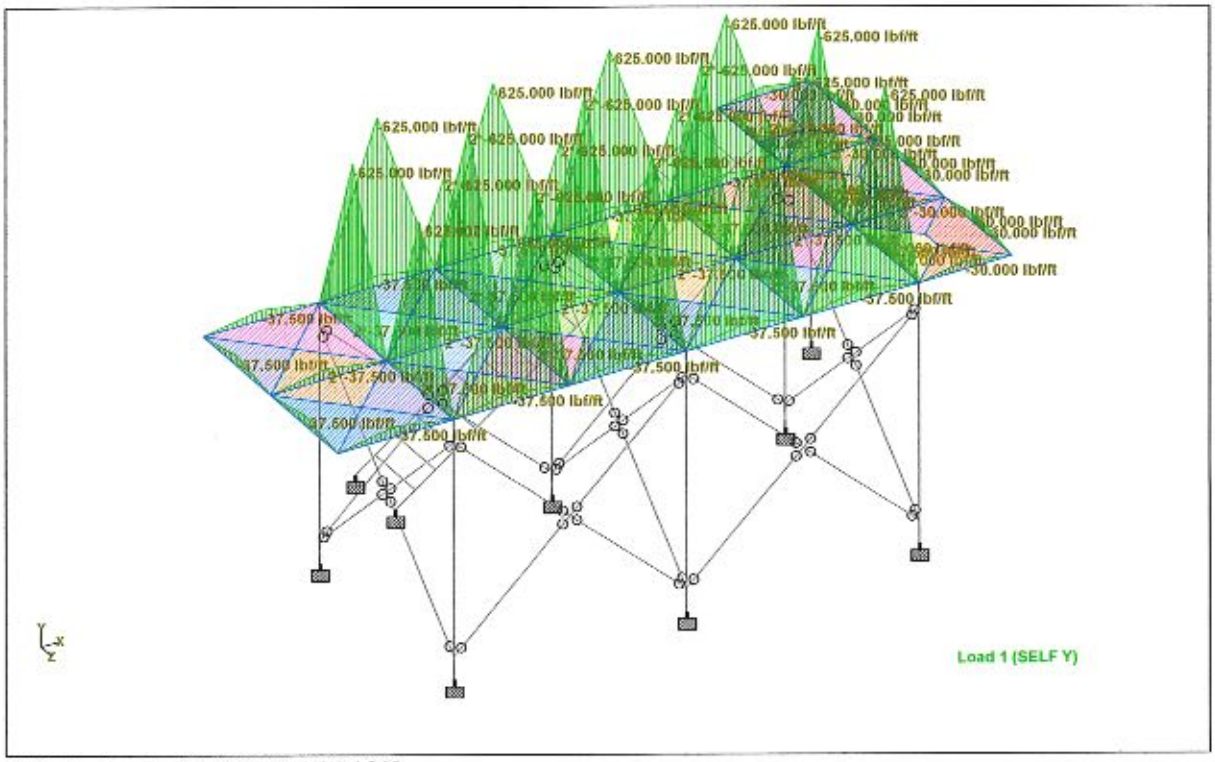
Job Information Cont...

Type	L/C	Name
Combination	37	ULC, 1 DEAD + 0.6 WIND (4)
Combination	38	ULC, 1 DEAD + 0.6 WIND (5)
Combination	39	ULC, 1 DEAD + 0.6 WIND (6)
Combination	40	ULC, 1 DEAD + 0.75 LIVE + 0.45 WIND (1
Combination	41	ULC, 1 DEAD + 0.75 LIVE + 0.45 WIND (2
Combination	42	ULC, 1 DEAD + 0.75 LIVE + 0.45 WIND (3
Combination	43	ULC, 1 DEAD + 0.75 LIVE + 0.45 WIND (4
Combination	44	ULC, 1 DEAD + 0.75 LIVE + 0.45 WIND (5
Combination	45	ULC, 1 DEAD + 0.75 LIVE + 0.45 WIND (6
Combination	46	ULC, 0.6 DEAD + 0.6 WIND (1)
Combination	47	ULC, 0.6 DEAD + 0.6 WIND (2)
Combination	48	ULC, 0.6 DEAD + 0.6 WIND (3)
Combination	49	ULC, 0.6 DEAD + 0.6 WIND (4)
Combination	50	ULC, 0.6 DEAD + 0.6 WIND (5)
Combination	51	ULC, 0.6 DEAD + 0.6 WIND (6)
Combination	52	ULC, 0.6 DEAD

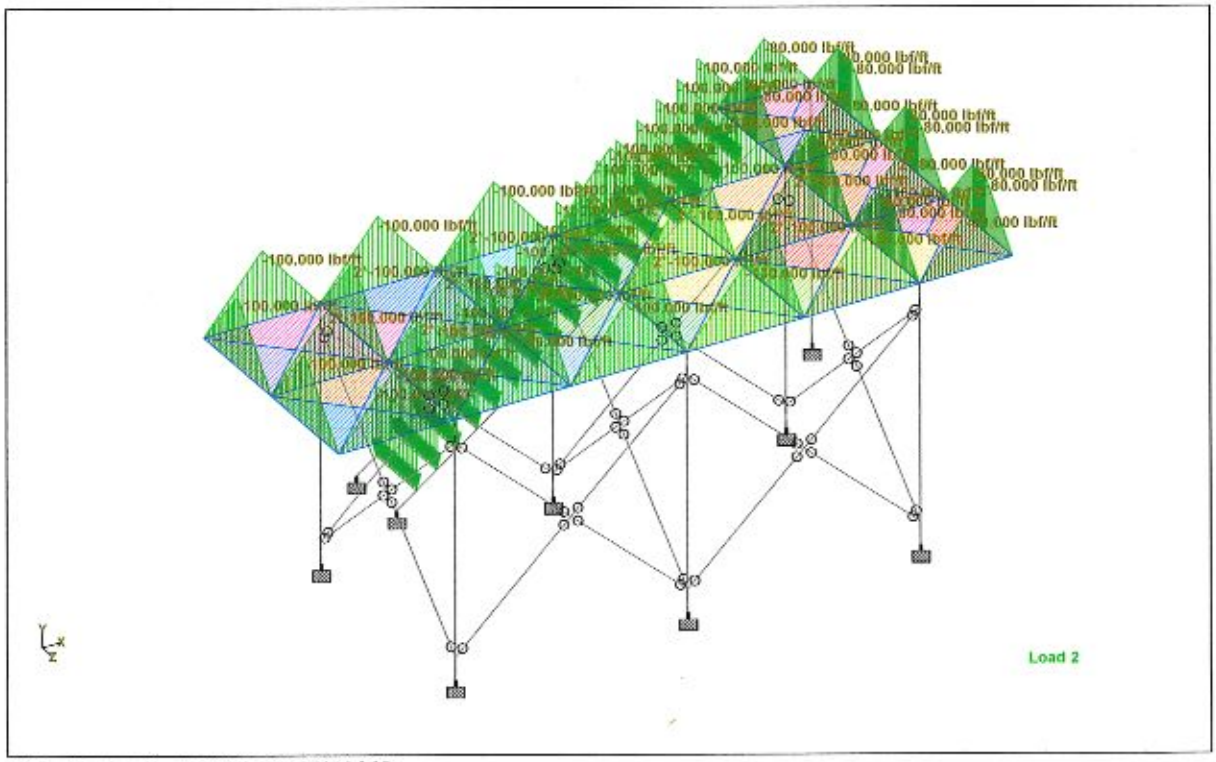


3D Rendered View / SHELTER PLATFORM

SMW ENGINEERING GROUP, INC.	Job No 19-5345	Sheet No 19	Rev 0
	Part SHELTER PLATFORM		
Job Title CEDAR KEY	Ref NXFL-142		
	By HE	Date 1/25/2021	Chd JR
Client NexTower	File NXFL-142 Shelter Platfor	Date/Time 25-Jan-2021 15:42	

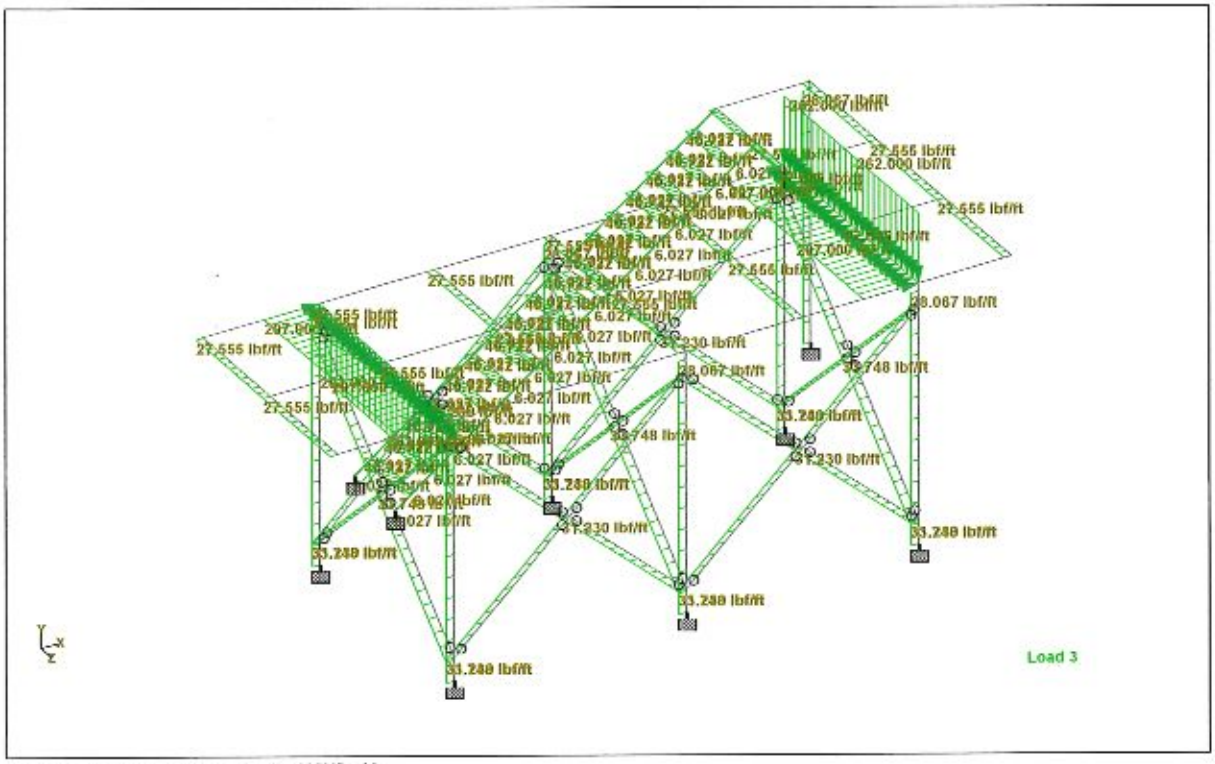


Whole Structure Loads 1200lb:1ft 1 DEAD LOAD

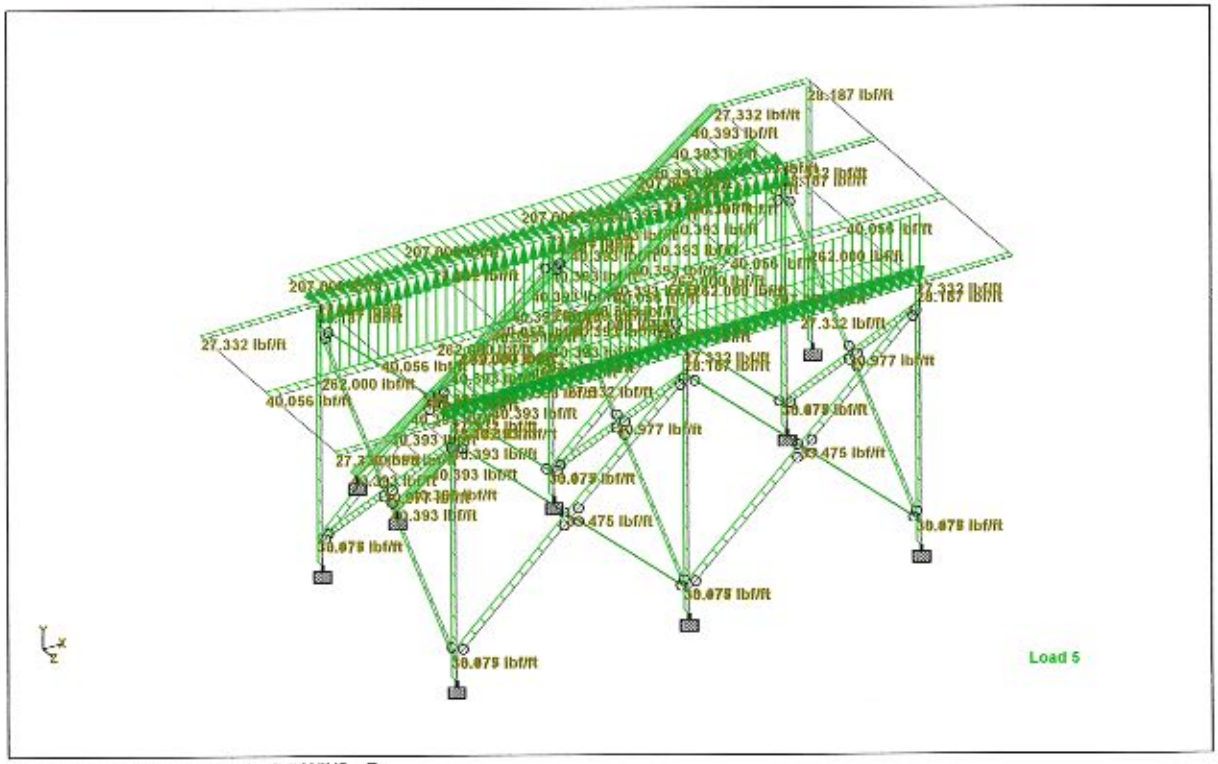


Whole Structure Loads 1200lb:1ft 2 LIVE LOAD

SMW ENGINEERING GROUP, INC.	Job No 19-5345	Sheet No 20	Rev 0
	Part SHELTER PLATFORM		
Job Title CEDAR KEY	Ref NXFL-142		
	By HE	Date 1/25/2021	Chd JR
Client NexTower	File NXFL-142 Shelter Platfor	Date/Time 25-Jan-2021 15:42	

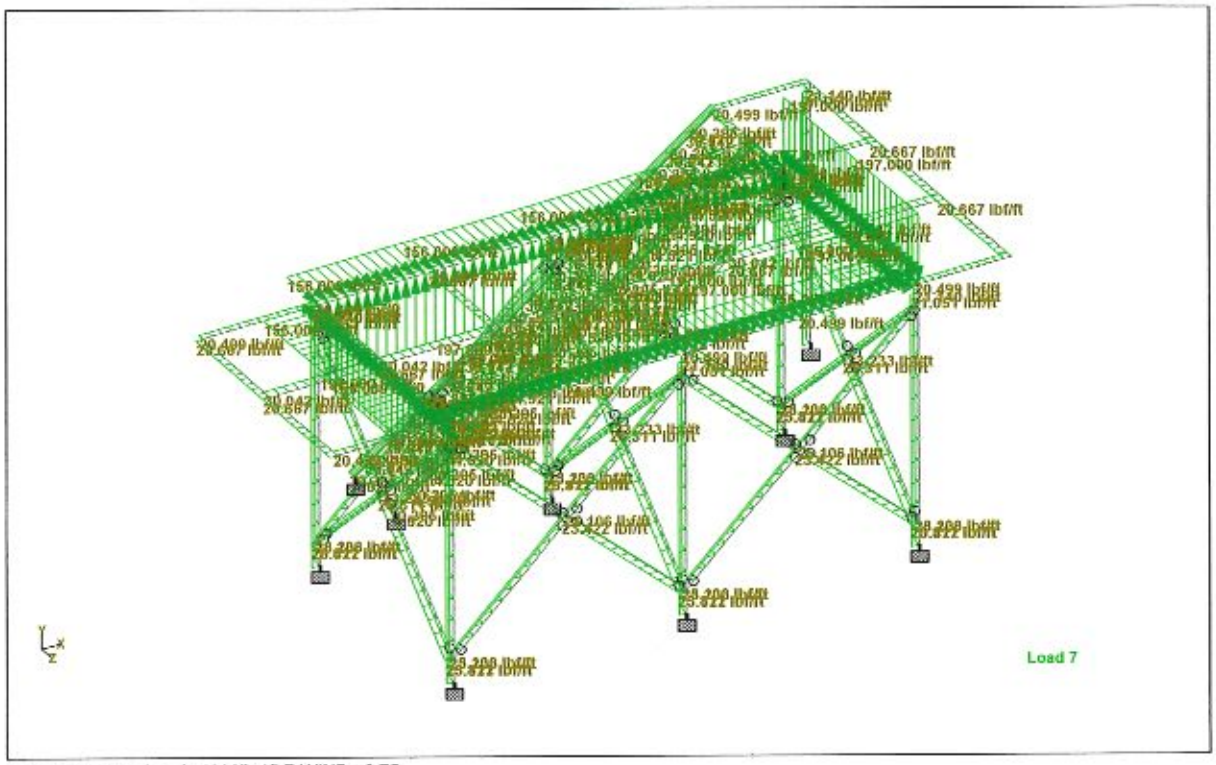


Whole Structure Loads 1200lb:1ft 3 WIND +X

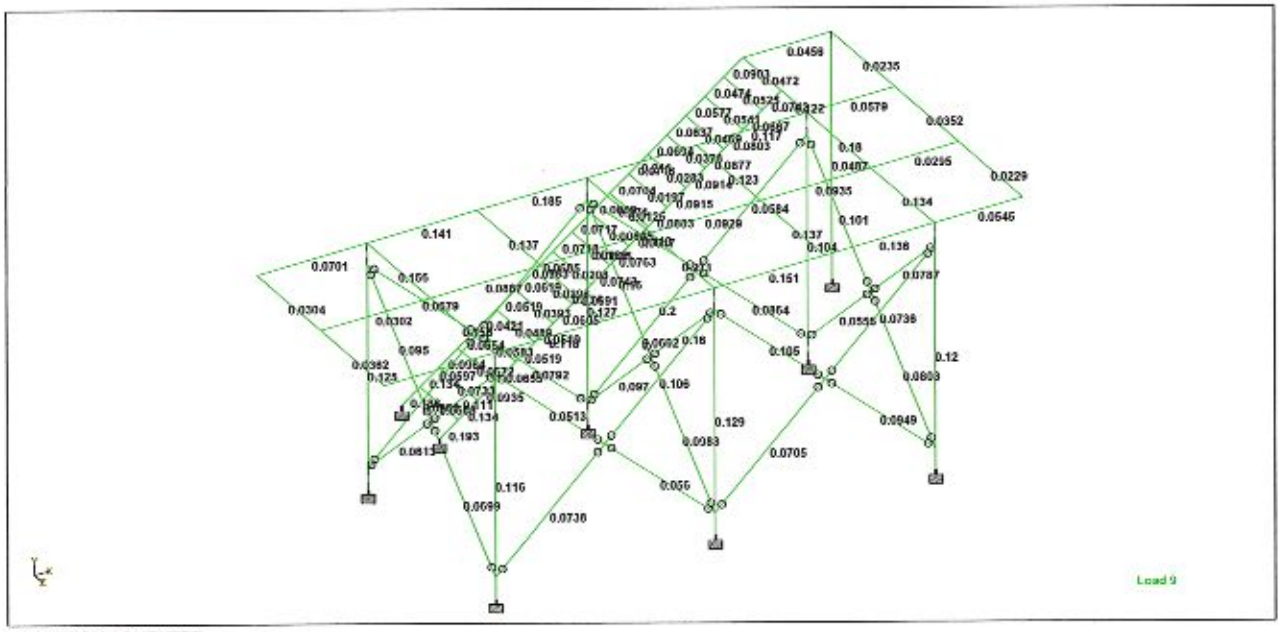


Whole Structure Loads 1200lb:1ft 5 WIND +Z

SMW ENGINEERING GROUP, INC.	Job No 19-5345	Sheet No 21	Rev 0
	Part SHELTER PLATFORM		
Job Title CEDAR KEY	Ref NXFL-142		
	By HE	Date 1/25/2021	Chd JR
Client NexTower	File NXFL-142 Shelter Platfor	Date/Time 25-Jan-2021 15:42	



Whole Structure Loads 1200lb:1ft 7 WIND +0.75



UT RATION / SHELTER

Section Properties

Prop	Section	Area (in^2)	I_{yy} (in^4)	I_{zz} (in^4)	J (in^4)	Material
1	W8X35	10.300	42.600	127.000	0.769	STEEL
2	W12X40	11.700	44.100	307.000	0.906	STEEL
3	C12X25	7.340	4.450	144.000	0.538	STEEL
4	L606012	8.460	44.622	11.688	1.635	STEEL

Materials

Mat	Name	E (kip/ft^2)	v	Density (kip/ft^3)	α (/°F)
1	CONCRETE	454E+3	0.170	0.150	5.5E-6
2	ALUMINUM	1.44E+6	0.330	0.169	12.8E-6
3	STEEL_50_KSI	4.18E+6	0.300	0.489	6.5E-6
4	STAINLESSSTEEL	4.03E+6	0.300	0.489	9.9E-6
5	STEEL_36_KSI	4.18E+6	0.300	0.489	6.5E-6
6	STEEL_275_NMM2	4.28E+6	0.300	0.490	6.67E-6
7	STEEL	4.18E+6	0.300	0.489	6.5E-6
8	STEEL_355_NMM2	4.28E+6	0.300	0.490	6.67E-6

Supports

Node	X (kip/in)	Y (kip/in)	Z (kip/in)	rX (kip-ft/deg)	rY (kip-ft/deg)	rZ (kip-ft/deg)
24	Fixed	Fixed	Fixed	Fixed	Fixed	Fixed
25	Fixed	Fixed	Fixed	Fixed	Fixed	Fixed
26	Fixed	Fixed	Fixed	Fixed	Fixed	Fixed
27	Fixed	Fixed	Fixed	Fixed	Fixed	Fixed
28	Fixed	Fixed	Fixed	Fixed	Fixed	Fixed
29	Fixed	Fixed	Fixed	Fixed	Fixed	Fixed
31	Fixed	Fixed	Fixed	Fixed	Fixed	Fixed
32	Fixed	Fixed	Fixed	Fixed	Fixed	Fixed
67	Fixed	Fixed	Fixed	Fixed	Fixed	Fixed

Releases

Beam ends not shown in this table are fixed in all directions.

Beam	Node	x	y	z	rx	ry	rz
97	27	Fixed	Fixed	Fixed	Fixed	Fixed	Pin
97	68	Fixed	Fixed	Fixed	Fixed	Fixed	Pin
98	28	Fixed	Fixed	Fixed	Fixed	Fixed	Pin
98	68	Fixed	Fixed	Fixed	Fixed	Fixed	Pin
99	28	Fixed	Fixed	Fixed	Fixed	Fixed	Pin
99	69	Fixed	Fixed	Fixed	Fixed	Fixed	Pin
100	29	Fixed	Fixed	Fixed	Fixed	Fixed	Pin
100	69	Fixed	Fixed	Fixed	Fixed	Fixed	Pin
101	24	Fixed	Fixed	Fixed	Fixed	Fixed	Pin
101	70	Fixed	Fixed	Fixed	Fixed	Fixed	Pin
102	27	Fixed	Fixed	Fixed	Fixed	Fixed	Pin
102	70	Fixed	Fixed	Fixed	Fixed	Fixed	Pin
103	24	Fixed	Fixed	Fixed	Fixed	Fixed	Pin

Releases Cont...

Beam	Node	x	y	z	rx	ry	rz
103	71	Fixed	Fixed	Fixed	Fixed	Fixed	Pin
104	25	Fixed	Fixed	Fixed	Fixed	Fixed	Pin
104	71	Fixed	Fixed	Fixed	Fixed	Fixed	Pin
105	25	Fixed	Fixed	Fixed	Fixed	Fixed	Pin
105	72	Fixed	Fixed	Fixed	Fixed	Fixed	Pin
106	26	Fixed	Fixed	Fixed	Fixed	Fixed	Pin
106	72	Fixed	Fixed	Fixed	Fixed	Fixed	Pin
107	25	Fixed	Fixed	Fixed	Fixed	Fixed	Pin
107	73	Fixed	Fixed	Fixed	Fixed	Fixed	Pin
108	26	Fixed	Fixed	Fixed	Fixed	Fixed	Pin
108	73	Fixed	Fixed	Fixed	Fixed	Fixed	Pin
109	26	Fixed	Fixed	Fixed	Fixed	Fixed	Pin
109	74	Fixed	Fixed	Fixed	Fixed	Fixed	Pin
110	29	Fixed	Fixed	Fixed	Fixed	Fixed	Pin
110	74	Fixed	Fixed	Fixed	Fixed	Fixed	Pin
111	68	Fixed	Fixed	Fixed	Fixed	Fixed	Pin
111	16	Fixed	Fixed	Fixed	Fixed	Fixed	Pin
112	68	Fixed	Fixed	Fixed	Fixed	Fixed	Pin
112	14	Fixed	Fixed	Fixed	Fixed	Fixed	Pin
113	69	Fixed	Fixed	Fixed	Fixed	Fixed	Pin
113	18	Fixed	Fixed	Fixed	Fixed	Fixed	Pin
114	69	Fixed	Fixed	Fixed	Fixed	Fixed	Pin
114	16	Fixed	Fixed	Fixed	Fixed	Fixed	Pin
115	70	Fixed	Fixed	Fixed	Fixed	Fixed	Pin
115	14	Fixed	Fixed	Fixed	Fixed	Fixed	Pin
116	70	Fixed	Fixed	Fixed	Fixed	Fixed	Pin
116	2	Fixed	Fixed	Fixed	Fixed	Fixed	Pin
117	71	Fixed	Fixed	Fixed	Fixed	Fixed	Pin
117	4	Fixed	Fixed	Fixed	Fixed	Fixed	Pin
118	71	Fixed	Fixed	Fixed	Fixed	Fixed	Pin
118	2	Fixed	Fixed	Fixed	Fixed	Fixed	Pin
119	72	Fixed	Fixed	Fixed	Fixed	Fixed	Pin
119	6	Fixed	Fixed	Fixed	Fixed	Fixed	Pin
120	72	Fixed	Fixed	Fixed	Fixed	Fixed	Pin
120	4	Fixed	Fixed	Fixed	Fixed	Fixed	Pin
121	73	Fixed	Fixed	Fixed	Fixed	Fixed	Pin
121	16	Fixed	Fixed	Fixed	Fixed	Fixed	Pin
122	73	Fixed	Fixed	Fixed	Fixed	Fixed	Pin
122	4	Fixed	Fixed	Fixed	Fixed	Fixed	Pin
123	74	Fixed	Fixed	Fixed	Fixed	Fixed	Pin
123	18	Fixed	Fixed	Fixed	Fixed	Fixed	Pin
124	74	Fixed	Fixed	Fixed	Fixed	Fixed	Pin
124	6	Fixed	Fixed	Fixed	Fixed	Fixed	Pin

Primary Load Cases

Number	Name	Type
1	DEAD LOAD	Dead
2	LIVE LOAD	Live
3	WIND +X	Wind
4	WIND -X	Wind
5	WIND +Z	Wind
6	WIND -Z	Wind
7	WIND +0.75	Wind
8	WIND -0.75	Wind

Combination Load Cases

Comb.	Combination L/C Name	Primary	Primary L/C Name	Factor
9	ULC, 1.4 DEAD	1	DEAD LOAD	1.40
10	ULC, 1.2 DEAD + 1.6 LIVE	1	DEAD LOAD	1.20
		2	LIVE LOAD	1.60
11	ULC, 1.2 DEAD + 1 LIVE	1	DEAD LOAD	1.20
		2	LIVE LOAD	1.00
12	ULC, 1.2 DEAD + 0.5 WIND (1)	1	DEAD LOAD	1.20
		3	WIND +X	0.50
13	ULC, 1.2 DEAD + 0.5 WIND (2)	1	DEAD LOAD	1.20
		4	WIND -X	0.50
14	ULC, 1.2 DEAD + 0.5 WIND (3)	1	DEAD LOAD	1.20
		5	WIND +Z	0.50
15	ULC, 1.2 DEAD + 0.5 WIND (4)	1	DEAD LOAD	1.20
		6	WIND -Z	0.50
16	ULC, 1.2 DEAD + 0.5 WIND (5)	1	DEAD LOAD	1.20
		7	WIND +0.75	0.50
17	ULC, 1.2 DEAD + 0.5 WIND (6)	1	DEAD LOAD	1.20
		8	WIND -0.75	0.50
18	ULC, 1.2 DEAD + 1 LIVE + 1 WIND (1)	1	DEAD LOAD	1.20
		2	LIVE LOAD	1.00
		3	WIND +X	1.00
19	ULC, 1.2 DEAD + 1 LIVE + 1 WIND (2)	1	DEAD LOAD	1.20
		2	LIVE LOAD	1.00
		4	WIND -X	1.00
20	ULC, 1.2 DEAD + 1 LIVE + 1 WIND (3)	1	DEAD LOAD	1.20
		2	LIVE LOAD	1.00
		5	WIND +Z	1.00
21	ULC, 1.2 DEAD + 1 LIVE + 1 WIND (4)	1	DEAD LOAD	1.20
		2	LIVE LOAD	1.00
		6	WIND -Z	1.00
22	ULC, 1.2 DEAD + 1 LIVE + 1 WIND (5)	1	DEAD LOAD	1.20
		2	LIVE LOAD	1.00
		7	WIND +0.75	1.00
23	ULC, 1.2 DEAD + 1 LIVE + 1 WIND (6)	1	DEAD LOAD	1.20
		2	LIVE LOAD	1.00
		8	WIND -0.75	1.00
24	ULC, 0.9 DEAD + 1 WIND (1)	1	DEAD LOAD	0.90
		3	WIND +X	1.00
25	ULC, 0.9 DEAD + 1 WIND (2)	1	DEAD LOAD	0.90
		4	WIND -X	1.00

Combination Load Cases Cont...

Comb.	Combination L/C Name	Primary	Primary L/C Name	Factor
26	ULC, 0.9 DEAD + 1 WIND (3)	1	DEAD LOAD	0.90
		5	WIND +Z	1.00
27	ULC, 0.9 DEAD + 1 WIND (4)	1	DEAD LOAD	0.90
		6	WIND -Z	1.00
28	ULC, 0.9 DEAD + 1 WIND (5)	1	DEAD LOAD	0.90
		7	WIND +0.75	1.00
29	ULC, 0.9 DEAD + 1 WIND (6)	1	DEAD LOAD	0.90
		8	WIND -0.75	1.00
30	ULC, 0.9 DEAD	1	DEAD LOAD	0.90
31	ULC, 1 DEAD	1	DEAD LOAD	1.00
32	ULC, 1 DEAD + 1 LIVE	1	DEAD LOAD	1.00
		2	LIVE LOAD	1.00
33	ULC, 1 DEAD + 0.75 LIVE	1	DEAD LOAD	1.00
		2	LIVE LOAD	0.75
34	ULC, 1 DEAD + 0.6 WIND (1)	1	DEAD LOAD	1.00
		3	WIND +X	0.60
35	ULC, 1 DEAD + 0.6 WIND (2)	1	DEAD LOAD	1.00
		4	WIND -X	0.60
36	ULC, 1 DEAD + 0.6 WIND (3)	1	DEAD LOAD	1.00
		5	WIND +Z	0.60
37	ULC, 1 DEAD + 0.6 WIND (4)	1	DEAD LOAD	1.00
		6	WIND -Z	0.60
38	ULC, 1 DEAD + 0.6 WIND (5)	1	DEAD LOAD	1.00
		7	WIND +0.75	0.60
39	ULC, 1 DEAD + 0.6 WIND (6)	1	DEAD LOAD	1.00
		8	WIND -0.75	0.60
40	ULC, 1 DEAD + 0.75 LIVE + 0.45 WIND (1	1	DEAD LOAD	1.00
		2	LIVE LOAD	0.75
		3	WIND +X	0.45
41	ULC, 1 DEAD + 0.75 LIVE + 0.45 WIND (2	1	DEAD LOAD	1.00
		2	LIVE LOAD	0.75
		4	WIND -X	0.45
42	ULC, 1 DEAD + 0.75 LIVE + 0.45 WIND (3	1	DEAD LOAD	1.00
		2	LIVE LOAD	0.75
		5	WIND +Z	0.45
43	ULC, 1 DEAD + 0.75 LIVE + 0.45 WIND (4	1	DEAD LOAD	1.00
		2	LIVE LOAD	0.75
		6	WIND -Z	0.45
44	ULC, 1 DEAD + 0.75 LIVE + 0.45 WIND (5	1	DEAD LOAD	1.00
		2	LIVE LOAD	0.75
		7	WIND +0.75	0.45
45	ULC, 1 DEAD + 0.75 LIVE + 0.45 WIND (6	1	DEAD LOAD	1.00
		2	LIVE LOAD	0.75
		8	WIND -0.75	0.45
46	ULC, 0.6 DEAD + 0.6 WIND (1)	1	DEAD LOAD	0.60
		3	WIND +X	0.60
47	ULC, 0.6 DEAD + 0.6 WIND (2)	1	DEAD LOAD	0.60
		4	WIND -X	0.60
48	ULC, 0.6 DEAD + 0.6 WIND (3)	1	DEAD LOAD	0.60
		5	WIND +Z	0.60
49	ULC, 0.6 DEAD + 0.6 WIND (4)	1	DEAD LOAD	0.60
		6	WIND -Z	0.60
50	ULC, 0.6 DEAD + 0.6 WIND (5)	1	DEAD LOAD	0.60

Combination Load Cases Cont...

Comb.	Combination L/C Name	Primary	Primary L/C Name	Factor
		7	WIND +0.75	0.60
51	ULC, 0.6 DEAD + 0.6 WIND (6)	1	DEAD LOAD	0.60
		8	WIND -0.75	0.60
52	ULC, 0.6 DEAD	1	DEAD LOAD	0.60

Node Displacement Summary

	Node	L/C	X (in)	Y (in)	Z (in)	Resultant (in)	rX (rad)	rY (rad)	rZ (rad)
Max X	60	10:ULC, 1.2 DE	**0.046336**	-0.066	-0.002	0.080783	0.000	0.000	0.000
Min X	74	4:WIND -X	**-0.031**	0.000	-0.000	0.031	0.000	0.000	0.000
Max Y	43	8:WIND -0.75	-0.011	**0.015**	-0.021	0.028	0.000	-0.000	0.000
Min Y	9	10:ULC, 1.2 DE	-0.000	**-0.103**	-0.000	0.103	-0.000	-0.000	-0.000
Max Z	69	22:ULC, 1.2 DE	0.003	-0.002	**0.036**	0.036	-0.000	-0.000	-0.001
Min Z	71	21:ULC, 1.2 DE	-0.002	-0.003	**-0.042**	0.042	0.000	-0.000	0.001
Max rX	3	20:ULC, 1.2 DE	-0.000	-0.029	0.014	0.032	**0.002**	0.000	0.000
Min rX	15	23:ULC, 1.2 DE	-0.003	-0.030	-0.013	0.033	**-0.002**	0.000	0.000
Max rY	34	21:ULC, 1.2 DE	0.004	-0.006	-0.008	0.011	-0.000	**0.000**	-0.000
Min rY	73	10:ULC, 1.2 DE	-0.000	0.003	-0.000	0.003	-0.000	**-0.001**	0.000
Max rZ	30	10:ULC, 1.2 DE	0.007	-0.011	-0.004	0.013	-0.000	-0.000	**0.001**
Min rZ	8	9:ULC, 1.4 DE/	-0.000	-0.055	-0.000	0.055	0.000	0.000	**-0.001**
Max Rst	9	10:ULC, 1.2 DE	-0.000	-0.103	-0.000	**0.103**	-0.000	-0.000	-0.000

Beam End Displacement Summary

Displacements shown in italic indicate the presence of an offset

	Beam	Node	L/C	X (in)	Y (in)	Z (in)	Resultant (in)
Max X	71	60	10:ULC, 1.2 DE	**0.046**	-0.066	-0.002	0.081
Min X	109	74	4:WIND -X	**-0.031**	0.000	-0.000	0.031
Max Y	54	43	8:WIND -0.75	-0.011	**0.015**	-0.021	0.028
Min Y	8	9	10:ULC, 1.2 DE	-0.000	**-0.103**	-0.000	0.103
Max Z	99	69	22:ULC, 1.2 DE	*0.003*	*-0.002*	**0.036**	0.036063
Min Z	103	71	21:ULC, 1.2 DE	*-0.002*	*-0.003*	**-0.042**	0.042
Max Rst	8	9	10:ULC, 1.2 DE	-0.000	-0.103	-0.000	**0.103**

Beam End Force Summary

The signs of the forces at end B of each beam have been reversed. For example: this means that the Min Fx entry gives the largest tension value for an beam.

	Beam	Node	L/C	Axial Fx (kip)	Shear Fy (kip)	Shear Fz (kip)	Torsion Mx (kip-ft)	Bending My (kip-ft)	Bending Mz (kip-ft)
Max Fx	37	25	21:ULC, 1.2 DE	**20.940**	-0.030	-0.839	0.001	-2.609	0.080
Min Fx	122	73	21:ULC, 1.2 DE	**-13.946**	0.144	-0.993	-0.005	1.787	0
Max Fy	9	4	10:ULC, 1.2 DE	7.360	**10.585**	0.137	-0.000	-0.654	16.474
Min Fy	20	16	10:ULC, 1.2 DE	7.249	**-10.528**	0.148	0.000	0.661	16.190
Max Fz	4	4	21:ULC, 1.2 DE	-1.390	6.387	**1.495**	-0.004	-2.997	13.123
Min Fz	3	4	6:WIND -Z	-0.310	-1.547	**-1.170**	-0.000	-1.845	3.141
Max Mx	33	6	22:ULC, 1.2 DE	0.817	3.516	-0.749	**0.027**	1.521	11.318
Min Mx	31	19	22:ULC, 1.2 DE	0.399	0.639	0.566	**-0.012**	-1.325	-0.072
Max My	37	4	22:ULC, 1.2 DE	12.629	-0.201	-0.768	0.000	**4.355**	-0.304
Min My	121	16	22:ULC, 1.2 DE	-11.966	-0.238	-1.063	-0.004	**-4.880**	-0
Max Mz	9	4	21:ULC, 1.2 DE	7.694	10.255	0.137	-0.001	-0.634	**16.867**
Min Mz	9	10	10:ULC, 1.2 DE	7.360	5.600	0.137	-0.000	0.032	**-23.991**

Beam Force Detail Summary

Sign convention as diagrams:- positive above line, negative below line except Fx where positive is compression. Distance d is given from beam end A.

	Beam	L/C	d (ft)	Axial Fx (kip)	Shear Fy (kip)	Shear Fz (kip)	Torsion Mx (kip-ft)	Bending My (kip-ft)	Bending Mz (kip-ft)
Max Fx	37	21:ULC, 1.2 DE	10.823	**20.940**	-0.030	-0.839	0.001	-2.609	0.080
Min Fx	122	21:ULC, 1.2 DE	0	**-13.946**	0.144	-0.993	-0.005	1.787	0
Max Fy	9	10:ULC, 1.2 DE	0	7.360	**10.585**	0.137	-0.000	-0.654	16.474
Min Fy	20	10:ULC, 1.2 DE	5.000	7.249	**-10.528**	0.148	0.000	0.661	16.190
Max Fz	4	21:ULC, 1.2 DE	0	-1.390	6.387	**1.495**	-0.004	-2.997	13.123
Min Fz	3	6:WIND -Z	5.000	-0.310	-1.547	**-1.170**	-0.000	-1.845	3.141
Max Mx	33	22:ULC, 1.2 DE	0	0.817	3.516	-0.749	**0.027**	1.521	11.318
Min Mx	31	22:ULC, 1.2 DE	0	0.399	0.639	0.566	**-0.012**	-1.325	-0.072
Max My	37	22:ULC, 1.2 DE	0	12.629	-0.201	-0.768	0.000	**4.355**	-0.304
Min My	121	22:ULC, 1.2 DE	6.781	-11.966	-0.238	-1.063	-0.004	**-4.880**	-0
Max Mz	9	21:ULC, 1.2 DE	0	7.694	10.255	0.137	-0.001	-0.634	**16.867**
Min Mz	9	10:ULC, 1.2 DE	5.000	7.360	5.600	0.137	-0.000	0.032	**-23.991**

Reaction Summary

	Node	L/C	Horizontal FX (kip)	Vertical FY (kip)	Horizontal FZ (kip)	Moment MX (kip-ft)	Moment MY (kip-ft)	Moment MZ (kip-ft)
Max FX	24	23:ULC, 1.2 DE	**9.247**	26.003	1.529	3.119	-0.609	-12.785
Min FX	29	22:ULC, 1.2 DE	**-9.132**	26.228	-4.268	-5.779	-0.611	12.684
Max FY	26	21:ULC, 1.2 DE	-7.848	**29.249**	4.200	6.129	0.638	8.090
Min FY	29	8:WIND -0.75	3.603	**-10.679**	4.251	4.445	0.112	-5.483
Max FZ	28	21:ULC, 1.2 DE	-1.222	4.384	**10.012**	8.886	-0.159	0.122
Min FZ	25	22:ULC, 1.2 DE	-3.512	7.608	**-8.270**	-6.141	-0.631	4.940
Max MX	28	21:ULC, 1.2 DE	-1.222	4.384	10.012	**8.886**	-0.159	0.122
Min MX	25	22:ULC, 1.2 DE	-3.512	7.608	-8.270	**-6.141**	-0.631	4.940
Max MY	26	19:ULC, 1.2 DE	-4.212	16.407	-0.521	-1.172	**1.060**	4.700
Min MY	29	19:ULC, 1.2 DE	-3.498	12.302	0.101	-2.469	**-1.473**	4.878
Max MZ	29	22:ULC, 1.2 DE	-9.132	26.228	-4.268	-5.779	-0.611	**12.684**
Min MZ	24	23:ULC, 1.2 DE	9.247	26.003	1.529	3.119	-0.609	**-12.785**

SMW ENGINEERING GROUP, INC.	Job No 19-5345	Sheet No 28	Rev 0
	Part SHELTER PLATFORM		
Job Title CEDAR KEY	Ref NXFL-142		
	By HE	Date 1/25/2021	Chd JR
Client NexTower	File NXFL-142 Shelter Platfor	Date/Time 25-Jan-2021 15:42	

Utilization Ratio

Beam	Analysis Property	Design Property	Actual Ratio	Allowable Ratio	Ratio (Act./Allow.)	Clause	L/C	Ax (in^2)	Iz (in^4)	Iy (in^4)	Ix (in^4)
1	W8X35	W8X35	0.070	1.000	0.070	Eq.H1-1b	19	10.300	127.000	42.600	0.769
2	W8X35	W8X35	0.141	1.000	0.141	Eq.H1-1b	23	10.300	127.000	42.600	0.769
3	W8X35	W8X35	0.185	1.000	0.185	Eq.H1-1b	21	10.300	127.000	42.600	0.769
4	W8X35	W8X35	0.211	1.000	0.211	Eq.H1-1b	21	10.300	127.000	42.600	0.769
5	W8X35	W8X35	0.117	1.000	0.117	Eq.H1-1b	21	10.300	127.000	42.600	0.769
6	W8X35	W8X35	0.030	1.000	0.030	Eq.H1-1b	23	10.300	127.000	42.600	0.769
7	W8X35	W8X35	0.156	1.000	0.156	Eq.H1-3a(H1-	10	10.300	127.000	42.600	0.769
8	W8X35	W8X35	0.137	1.000	0.137	Eq.H1-1b	23	10.300	127.000	42.600	0.769
9	W8X35	W8X35	0.271	1.000	0.271	Eq.H1-1b	9	10.300	127.000	42.600	0.769
10	W8X35	W8X35	0.123	1.000	0.123	Eq.H1-1b	18	10.300	127.000	42.600	0.769
11	W8X35	W8X35	0.180	1.000	0.180	Eq.H1-1b	18	10.300	127.000	42.600	0.769
12	W12X40	W12X40	0.030	1.000	0.030	Eq.H1-1b	21	11.700	307.000	44.100	0.906
13	W12X40	W12X40	0.089	1.000	0.089	Eq.H1-1b	21	11.700	307.000	44.100	0.906
14	W12X40	W12X40	83497	1.000	0.083497	Eq.H1-1b	21	11.700	307.000	44.100	0.906
15	W12X40	W12X40	0.093	1.000	0.093	Eq.H1-1b	21	11.700	307.000	44.100	0.906
16	W12X40	W12X40	0.094	1.000	0.094	Eq.H1-1b	20	11.700	307.000	44.100	0.906
17	W8X35	W8X35	36222	1.000	0.036222	Eq.H1-1b	23	10.300	127.000	42.600	0.769
18	W8X35	W8X35	0.156	1.000	0.156	Eq.H1-3a(H1-	10	10.300	127.000	42.600	0.769
19	W8X35	W8X35	0.134	1.000	0.134	Eq.H1-1b	19	10.300	127.000	42.600	0.769
20	W8X35	W8X35	0.271	1.000	0.271	Eq.H1-1b	9	10.300	127.000	42.600	0.769
21	W8X35	W8X35	0.137	1.000	0.137	Eq.H1-1b	18	10.300	127.000	42.600	0.769
22	W8X35	W8X35	0.134	1.000	0.134	Eq.H1-3a(H1-	10	10.300	127.000	42.600	0.769
23	W8X35	W8X35	0.060	1.000	0.060	Cl.F2.1	10	10.300	127.000	42.600	0.769
24	W8X35	W8X35	0.118	1.000	0.118	Eq.H1-1b	20	10.300	127.000	42.600	0.769
25	W8X35	W8X35	0.200	1.000	0.200	Eq.H1-1b	22	10.300	127.000	42.600	0.769
26	W8X35	W8X35	0.151	1.000	0.151	Eq.H1-3a(H1-	20	10.300	127.000	42.600	0.769
27	W8X35	W8X35	0.136	1.000	0.136	Eq.H1-1b	22	10.300	127.000	42.600	0.769
28	W8X35	W8X35	0.058	1.000	0.058	Cl.F2.1	10	10.300	127.000	42.600	0.769
29	W12X40	W12X40	0.029	1.000	0.029	Cl.F6.1	22	11.700	307.000	44.100	0.906
30	W8X35	W8X35	0.054	1.000	0.054	Eq.H1-1b	21	10.300	127.000	42.600	0.769
31	W8X35	W8X35	0.035	1.000	0.035	Eq.H1-1b	22	10.300	127.000	42.600	0.769
32	W8X35	W8X35	0.023	1.000	0.023	Eq.H1-1b	18	10.300	127.000	42.600	0.769
33	W8X35	W8X35	0.122	1.000	0.122	Eq.H1-3a(H1-	22	10.300	127.000	42.600	0.769
34	W8X35	W8X35	0.023	1.000	0.023	Eq.H1-1b	21	10.300	127.000	42.600	0.769
35	W8X35	W8X35	0.046	1.000	0.046	Eq.H1-3a(H1-	10	10.300	127.000	42.600	0.769
36	W8X35	W8X35	0.125	1.000	0.125	Eq.H1-1b	19	10.300	127.000	42.600	0.769
37	W8X35	W8X35	0.127	1.000	0.127	Eq.H1-1b	22	10.300	127.000	42.600	0.769
38	W8X35	W8X35	0.104	1.000	0.104	Eq.H1-3b	21	10.300	127.000	42.600	0.769
39	W8X35	W8X35	0.116	1.000	0.116	Eq.H1-1b	19	10.300	127.000	42.600	0.769
40	W8X35	W8X35	0.129	1.000	0.129	Eq.H1-1b	21	10.300	127.000	42.600	0.769
41	W8X35	W8X35	0.120	1.000	0.120	Eq.H1-1b	18	10.300	127.000	42.600	0.769
42	W8X35	W8X35	0.047	1.000	0.047	Deflection	44	10.300	127.000	42.600	0.769
43	C12X25	C12X25	0.186	1.000	0.186	Eq.H1-1b	22	7.340	144.000	4.450	0.491
44	C12X25	C12X25	0.193	1.000	0.193	Eq.H1-1b	22	7.340	144.000	4.450	0.491
45	C12X25	C12X25	0.134	1.000	0.134	Eq.H1-1b	22	7.340	144.000	4.450	0.491
46	C12X25	C12X25	0.096	1.000	0.096	Eq.H1-1b	22	7.340	144.000	4.450	0.491
47	C12X25	C12X25	0.065	1.000	0.065	Eq.H1-1b	21	7.340	144.000	4.450	0.491
48	C12X25	C12X25	0.042	1.000	0.042	Deflection	44	7.340	144.000	4.450	0.491
49	C12X25	C12X25	0.052	1.000	0.052	Eq.H1-1b	22	7.340	144.000	4.450	0.491
50	C12X25	C12X25	0.062	1.000	0.062	Eq.H1-1b	22	7.340	144.000	4.450	0.491
51	C12X25	C12X25	0.069	1.000	0.069	Eq.H1-1b	22	7.340	144.000	4.450	0.491
52	C12X25	C12X25	0.072	1.000	0.072	Eq.H1-1b	22	7.340	144.000	4.450	0.491
53	C12X25	C12X25	0.072	1.000	0.072	Eq.H1-1b	22	7.340	144.000	4.450	0.491

Utilization Ratio Cont...

Beam	Analysis Property	Design Property	Actual Ratio	Allowable Ratio	Ratio (Act./Allow.)	Clause	L/C	Ax (in^2)	Iz (in^4)	Iy (in^4)	Ix (in^4)
54	C12X25	C12X25	0.069	1.000	0.069	Eq.H1-1b	10	7.340	144.000	4.450	0.491
55	C12X25	C12X25	0.070	1.000	0.070	Eq.H1-1b	22	7.340	144.000	4.450	0.491
56	C12X25	C12X25	0.072	1.000	0.072	Eq.H1-1b	22	7.340	144.000	4.450	0.491
57	C12X25	C12X25	69394	1.000	0.069394	Eq.H1-1b	22	7.340	144.000	4.450	0.491
58	C12X25	C12X25	0.064	1.000	0.064	Eq.H1-1b	22	7.340	144.000	4.450	0.491
59	C12X25	C12X25	0.058	1.000	0.058	Eq.H1-1b	21	7.340	144.000	4.450	0.491
60	C12X25	C12X25	0.047	1.000	0.047	Eq.H1-1b	21	7.340	144.000	4.450	0.491
61	C12X25	C12X25	0.090	1.000	0.090	Eq.H1-1b	21	7.340	144.000	4.450	0.491
62	C12X25	C12X25	0.134	1.000	0.134	Eq.H1-1b	22	7.340	144.000	4.450	0.491
63	C12X25	C12X25	0.094	1.000	0.094	Eq.H1-1b	22	7.340	144.000	4.450	0.491
64	C12X25	C12X25	0.066	1.000	0.066	Eq.H1-1b	21	7.340	144.000	4.450	0.491
65	C12X25	C12X25	0.052	1.000	0.052	Deflection	44	7.340	144.000	4.450	0.491
66	C12X25	C12X25	0.052	1.000	0.052	Deflection	44	7.340	144.000	4.450	0.491
67	C12X25	C12X25	0.061	1.000	0.061	Eq.H1-1b	22	7.340	144.000	4.450	0.491
68	C12X25	C12X25	0.069	1.000	0.069	Eq.H1-1b	22	7.340	144.000	4.450	0.491
69	C12X25	C12X25	74338	1.000	0.074338	Eq.H1-1b	22	7.340	144.000	4.450	0.491
70	C12X25	C12X25	76304	1.000	0.076304	Eq.H1-1b	10	7.340	144.000	4.450	0.491
71	C12X25	C12X25	81701	1.000	0.081701	Eq.H1-1b	22	7.340	144.000	4.450	0.491
72	C12X25	C12X25	0.088	1.000	0.088	Eq.H1-1b	22	7.340	144.000	4.450	0.491
73	C12X25	C12X25	0.092	1.000	0.092	Eq.H1-1b	22	7.340	144.000	4.450	0.491
74	C12X25	C12X25	0.091	1.000	0.091	Eq.H1-1b	22	7.340	144.000	4.450	0.491
75	C12X25	C12X25	0.088	1.000	0.088	Eq.H1-1b	22	7.340	144.000	4.450	0.491
76	C12X25	C12X25	0.080	1.000	0.080	Eq.H1-1b	22	7.340	144.000	4.450	0.491
77	C12X25	C12X25	0.067	1.000	0.067	Eq.H1-1b	22	7.340	144.000	4.450	0.491
78	C12X25	C12X25	0.074	1.000	0.074	Eq.H1-1b	22	7.340	144.000	4.450	0.491
79	C12X25	C12X25	0.052	1.000	0.052	Eq.H1-1b	21	7.340	144.000	4.450	0.491
80	C12X25	C12X25	0.054	1.000	0.054	Eq.H1-1b	21	7.340	144.000	4.450	0.491
81	C12X25	C12X25	0.047	1.000	0.047	Eq.H1-1b	21	7.340	144.000	4.450	0.491
82	C12X25	C12X25	37791	1.000	0.037791	Eq.H1-1b	21	7.340	144.000	4.450	0.491
83	C12X25	C12X25	26322	1.000	0.026322	Eq.H1-1b	21	7.340	144.000	4.450	0.491
84	C12X25	C12X25	0.020	1.000	0.020	Eq.H1-1b	28	7.340	144.000	4.450	0.491
85	C12X25	C12X25	0.012	1.000	0.012	Eq.H1-1b	28	7.340	144.000	4.450	0.491
86	C12X25	C12X25	0.006	1.000	0.006	Eq.H1-1b	29	7.340	144.000	4.450	0.491
87	C12X25	C12X25	13628	1.000	0.013628	Eq.H1-1b	29	7.340	144.000	4.450	0.491
88	C12X25	C12X25	0.021	1.000	0.021	Eq.H1-1b	29	7.340	144.000	4.450	0.491
89	C12X25	C12X25	0.030	1.000	0.030	Eq.H1-1b	27	7.340	144.000	4.450	0.491
90	C12X25	C12X25	0.039	1.000	0.039	Eq.H1-1b	27	7.340	144.000	4.450	0.491
91	C12X25	C12X25	0.049	1.000	0.049	Eq.H1-1b	27	7.340	144.000	4.450	0.491
92	C12X25	C12X25	0.058	1.000	0.058	Eq.H1-1b	27	7.340	144.000	4.450	0.491
93	C12X25	C12X25	0.067	1.000	0.067	Eq.H1-1b	27	7.340	144.000	4.450	0.491
94	C12X25	C12X25	0.073	1.000	0.073	Eq.H1-1b	27	7.340	144.000	4.450	0.491
95	C12X25	C12X25	0.067	1.000	0.067	Eq.H1-1b	27	7.340	144.000	4.450	0.491
96	W8X35	W8X35	0.049	1.000	0.049	Eq.H1-1b	21	10.300	127.000	42.600	0.769
97	L606012	L606012	0.074	1.000	0.074	Eq.H2-1	20	8.460	11.581	44.729	1.586
98	L606012	L606012	0.056	1.000	0.056	Eq.H2-1	22	8.460	11.581	44.729	1.586
99	L606012	L606012	0.070	1.000	0.070	Cl.F10.2	22	8.460	11.581	44.729	1.586
100	L606012	L606012	0.095	1.000	0.095	Eq.H2-1	22	8.460	11.581	44.729	1.586
101	L606012	L606012	0.061	1.000	0.061	Eq.H2-1	22	8.460	11.581	44.729	1.586
102	L606012	L606012	0.070	1.000	0.070	Eq.H2-1	23	8.460	11.581	44.729	1.586
103	L606012	L606012	0.097	1.000	0.097	Eq.H2-1	23	8.460	11.581	44.729	1.586
104	L606012	L606012	0.079	1.000	0.079	Cl.F10.2	21	8.460	11.581	44.729	1.586
105	L606012	L606012	0.080	1.000	0.080	Cl.F10.2	21	8.460	11.581	44.729	1.586
106	L606012	L606012	0.086	1.000	0.086	Eq.H2-1	21	8.460	11.581	44.729	1.586

Utilization Ratio Cont...

Beam	Analysis Property	Design Property	Actual Ratio	Allowable Ratio	Ratio (Act./Allow.)	Clause	L/C	Ax (in^2)	Iz (in^4)	Iy (in^4)	Ix (in^4)
107	L606012	L606012	0.097	1.000	0.097	Eq.H2-1	22	8.460	11.581	44.729	1.586
108	L606012	L606012	0.098	1.000	0.098	Eq.H2-1	23	8.460	11.581	44.729	1.586
109	L606012	L606012	0.056	1.000	0.056	Cl.F10.2	25	8.460	11.581	44.729	1.586
110	L606012	L606012	0.080	1.000	0.080	Cl.F10.2	19	8.460	11.581	44.729	1.586
111	L606012	L606012	0.106	1.000	0.106	Eq.H2-1	23	8.460	11.581	44.729	1.586
112	L606012	L606012	0.051	1.000	0.051	Cl.F10.2	21	8.460	11.581	44.729	1.586
113	L606012	L606012	0.074	1.000	0.074	Cl.F10.2	21	8.460	11.581	44.729	1.586
114	L606012	L606012	0.105	1.000	0.105	Cl.F10.2	21	8.460	11.581	44.729	1.586
115	L606012	L606012	0.111	1.000	0.111	Cl.F10.2	19	8.460	11.581	44.729	1.586
116	L606012	L606012	0.095	1.000	0.095	Cl.F10.2	23	8.460	11.581	44.729	1.586
117	L606012	L606012	0.098	1.000	0.098	Cl.F10.2	22	8.460	11.581	44.729	1.586
118	L606012	L606012	0.068	1.000	0.068	Cl.F10.2	22	8.460	11.581	44.729	1.586
119	L606012	L606012	0.058	1.000	0.058	Cl.F10.2	21	8.460	11.581	44.729	1.586
120	L606012	L606012	0.113	1.000	0.113	Eq.H2-1	22	8.460	11.581	44.729	1.586
121	L606012	L606012	0.160	1.000	0.160	Cl.F10.2	22	8.460	11.581	44.729	1.586
122	L606012	L606012	0.160	1.000	0.160	Cl.F10.2	23	8.460	11.581	44.729	1.586
123	L606012	L606012	0.079	1.000	0.079	Cl.F10.2	18	8.460	11.581	44.729	1.586
124	L606012	L606012	0.101	1.000	0.101	Cl.F10.2	19	8.460	11.581	44.729	1.586

Failed Members

There is no data of this type.

Drilled Pier Foundation

BU # :	
Site Name:	CEDAR KEY_Shelter
Order Number:	

TIA-222 Revison:	H
Tower Type:	Self Support

Applied Loads	Comp.	Uplift
Moment (kip-ft)	12,684	12,785
Axial Force (kips)	29.249	10.679
Shear Force (kips)	10.012	8.27

Material Properties		
Concrete Strength, f'c:	3	ksi
Rebar Strength, Fy:	60	ksi
Tie Yield Strength, Fyt:	60	ksi

Pier Design Data		
Depth	20	ft
Ext. Above Grade	0.5	ft
Pier Section 1		
From 0.5' above grade to 20' below grade		
Pier Diameter	2.5	ft
Rebar Quantity	10	
Rebar Size	8	
Clear Cover to Ties	3	in
Tie Size	4	
Tie Spacing	12	in

Rebar & Pier Options
Embedded Pole Inputs
Belled Pier Inputs

Analysis Results		
Soil Lateral Check	*Compression*	*Uplift*
$D_{L,0}$ (ft from TOC)	11.87	11.75
Soil Safety Factor	7.69	9.35
Max Moment (kip-ft)	92.18	78.78
Rating*	*16.1%*	*13.5%*
Soil Vertical Check	*Compression*	*Uplift*
Skin Friction (kips)	90.75	90.75
End Bearing (kips)	0.00	-
Weight of Concrete (kips)	11.13	8.35
Total Capacity (kips)	90.75	99.10
Axial (kips)	40.38	10.68
Rating*	*42.4%*	*10.3%*
Reinforced Concrete Flexure	*Compression*	*Uplift*
Critical Depth (ft from TOC)	11.94	11.67
Critical Moment (kip-ft)	92.18	78.78
Critical Moment Capacity	385.34	367.05
Rating*	*22.8%*	*20.4%*
Reinforced Concrete Shear	*Compression*	*Uplift*
Critical Depth (ft from TOC)	17.65	17.65
Critical Shear (kip)	28.91	24.56
Critical Shear Capacity	112.10	123.48
Rating*	*24.6%*	*18.9%*

Soil Interaction Rating*	42.4%
Structural Foundation Rating*	24.6%

*Rating per TIA-222-H Section 15.5

Check Limitation	
Apply TIA-222-H Section 15.5:	☑
N/A	☐
Shear Design Options	
Check Shear along Depth of Pier:	☑
Utilize Shear-Friction Methodology:	☐

Go to Soil Calculations

Soil Profile

Groundwater Depth	1	# of Layers	4

Layer	Top (ft)	Bottom (ft)	Thickness (ft)	γ_{soil} (pcf)	$\gamma_{concrete}$ (pcf)	Cohesion (ksf)	Angle of Friction (degrees)	Calculated Ultimate Skin Friction Comp (ksf)	Calculated Ultimate Skin Friction Uplift (ksf)	Ultimate Skin Friction Comp Override (ksf)	Ultimate Skin Friction Uplift Override (ksf)	Ult. Gross Bearing Capacity (ksf)	SPT Blow Count	Soil Type
1	0	1	1	105	150		29	0.015	0.015				3	Cohesionless
2	1	7	6	42.6	87.6		29	0.191	0.191				10	Cohesionless
3	7	15	8	47.6	87.6		31	0.502	0.502				13	Cohesionless
4	15	20	5	72.6	87.6	4	0	2.045	2.045			0		Cohesive

NexTower
YOUR SIGNAL IS OUR EXPERIENCE

CEDAR KEY

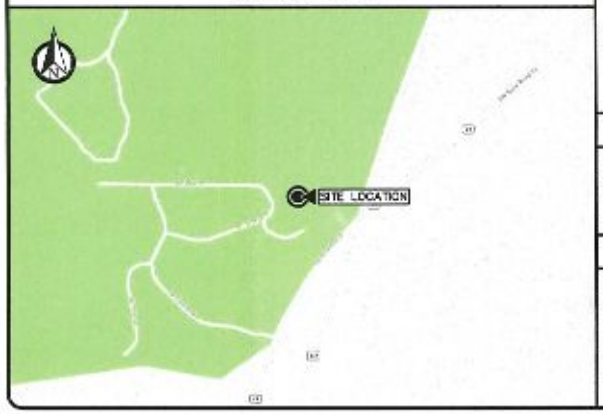
10050 SOUTHWEST COUNTY ROAD 347
CEDAR KEY, FLORIDA 32625
(LEVY COUNTY)

NXFL-142

PROPOSED ELEVATED STEEL PLATFORM

LOCAL MAP

VICINITY MAP



PROPERTY SUMMARY

PARCEL NUMBER
0034600100

PROPERTY OWNER

CEDAR KEY SPECIAL WATER & SEWAGE DISTRICT
PO BOX 309
CEDAR KEY, FLORIDA 32625

PROPERTY ADDRESS

10050 SOUTHWEST COUNTY ROAD 347
CEDAR KEY 32625

SITE E-911 ADDRESS

TBD

LATITUDE	LONGITUDE
29.1813 N	-83.023164 W

PARENT TRACT	ZONING
10 ACRES	TBD

ZONING JURISDICTION

LEVY COUNTY

POWER PROVIDER	TELCO PROVIDER
CENTRAL FLORIDA ELECTRIC (352) 493-2511	AT&T (877) 363-2480

DESIGN CRITERIA

DESIGN WIND SPEED: 130 MPH (ULTIMATE 3-SEC GUST)
101 MPH (NOMINAL 3-SEC GUST)
EXPOSURE CATEGORY: C
RISK CATEGORY: II
OPEN STRUCTURE

CONTACTS

NEXTOWER DEVELOPMENT GROUP
JOEL ROUSSEAU
(352) 283-0001

SVM ENGINEERING GROUP, INC. PROJECT MANAGER

DARREN REVELS (813) 503-0219

PROJECT DESCRIPTION

1. THE WIRELESS COMMUNICATIONS FACILITY IS NOT INTENDED FOR HUMAN OCCUPANCY.
2. THIS FACILITY DOES NOT REQUIRE POTABLE WATER AND WILL NOT PRODUCE ANY SEWAGE.
3. CONTRACTOR SHALL VERIFY ALL PLANS AND EXISTING DIMENSIONS AND CONDITIONS ON THE JOB SITE AND SHALL IMMEDIATELY NOTIFY THE ENGINEER IN WRITING OF ANY DISCREPANCIES BEFORE PROCEEDING WITH THE WORK OR BE RESPONSIBLE FOR SAME.

THE SCOPE OF WORK CONSISTS OF:

INSTALLATION OF (2) NEW ELEVATED EQUIPMENT PLATFORM

CODE COMPLIANCE

ALL WORK AND MATERIALS SHALL BE PERFORMED AND INSTALLED IN ACCORDANCE WITH THE CURRENT EDITIONS OF THE FOLLOWING CODES AS ADOPTED BY THE LOCAL GOVERNING AUTHORITIES. NOTHING IN THESE PLANS IS TO BE CONSTRUED TO PERMIT WORK NOT CONFORMING TO THESE CODES.

1. FLORIDA BUILDING CODE, 7TH EDITION (2020)
2. NATIONAL FIRE PROTECTION ASSOCIATION (NFPA) 70, NATIONAL ELECTRICAL CODE, 2017 EDITION.
3. TIA-222-H.
4. LIFE SAFETY CODE NFPA-101-2015.
5. FLORIDA FIRE PREVENTION CODE, 7TH EDITION.
6. AMERICAN INSTITUTE OF STEEL CONSTRUCTION (AISC) 360-10 AND 341-10.
7. UNDERWRITERS LABORATORIES (U.L) APPROVED ELECTRICAL PRODUCTS.
8. LOCAL JURISDICTIONAL REQUIREMENTS.
9. CITY/COUNTY ORDINANCES.

INDEX OF DRAWINGS

SHT. NO.	DESCRIPTION	REV. NO.
T1	TITLE SHEET	1
G1	GENERAL NOTES	1
C1	COMPOUND LAYOUT	1
C2	EQUIPMENT LAYOUT	1
S1	PLATFORM FRAMING PLAN	1
S2	SHELTER PLATFORM DETAILS	1
S3	SHELTER PLATFORM DETAILS	1
S4	SHELTER PLATFORM DETAILS	1
S5	SHELTER PLATFORM DETAILS	1
S6	SHELTER PLATFORM DETAILS	1
S7	GENERATOR PLATFORM DETAILS	1
S8	GENERATOR PLATFORM DETAILS	1
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S11	GENERATOR PLATFORM DETAILS	1
E1	ELECTRICAL NOTES	1
E2	GROUNDING NOTES	1
E3	SHELTER PLATFORM GROUNDING PLAN	1
E4	GENERATOR PLATFORM GROUNDING PLAN	1
E5	GROUNDING DETAILS	1

THIS DOCUMENT HAS BEEN ELECTRONICALLY SIGNED AND SEALED BY JEREMY D. SHARIT, PE (#75137) USING A DIGITAL SIGNATURE IN ACCORDANCE WITH F.A.C. 61G15-23.004, WITH A DIGITAL CERTIFICATE ISSUED BY ENTRUST, INC. PLEASE REFERENCE SHEET T1 TO VIEW THE SIGNATURE AND VERIFY ITS PROPERTIES. PRINTED COPIES OF THIS DOCUMENT ARE NOT CONSIDERED SIGNED AND SEALED AND THE SIGNATURE MUST BE VERIFIED ON ANY ELECTRONIC COPIES.

REV	DATE	DESCRIPTION
A	10/13/20	PRELIM PLANS
0	10/15/20	FINAL PLANS ISSUED
1	02/19/21	REVISED PER COMMENTS

PROJECT NO.:	19-5345
DRAWN BY:	J. MALLISON
PROJECT MANAGER:	D. REVELS
CHECKED BY:	D. REVELS

SVM ENGINEERING GROUP, INC.
12829 N. TELECOM PARKWAY
TEMPLE TERRACE, FLORIDA 33637
(813) 913-1402
CERTIFICATE OF AUTHORIZATION 32683

NexTower
4219 NORTHWEST 37TH PLACE, SUITE 603
GAINESVILLE, FLORIDA 32606

JEREMY D. SHARIT
LICENSE
No. 75137
STATE OF FLORIDA
PROFESSIONAL ENGINEER

JEREMY D. SHARIT PE FL LIC 75137

CEDAR KEY
NXFL-142
10050 SOUTHWEST COUNTY ROAD 347
CEDAR KEY, FLORIDA 32625
(LEVY COUNTY)

SHEET NAME
TITLE SHEET

SHEET NUMBER
T1

GENERAL NOTES

1. FOR THE PURPOSES OF THESE CONSTRUCTION DRAWINGS, THE FOLLOWING DEFINITIONS SHALL APPLY:

   OWNER/CONSTRUCTION MANAGER – NEXTOWER
   ENGINEER – SMW ENGINEERING GROUP, INC.
   CONTRACTOR – GENERAL CONTRACTOR (CONSTRUCTION)

2. PRIOR TO SUBMITTING HIS BID, THE CONTRACTOR SHALL VISIT THE JOB SITE IN ORDER TO (1) VERIFY ALL EXISTING CONDITIONS. (2) CONFIRM WHETHER ALL DIMENSIONS ARE AS SHOWN ON THE PLANS AND (3) CONFIRM WHETHER THE WORK MAY BE ACCOMPLISHED AS SHOWN. ANY DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE CONSTRUCTION MANAGER.

3. A 20-FOOT HORIZONTAL CLEARANCE DISTANCE SHALL BE MAINTAINED FROM ALL EXISTING POWER LINES.

4. THE CONTRACTOR'S USE OF A CONSTRUCTION STAGING AREA SHALL BE COORDINATED WITH THE OWNER WELL IN ADVANCE OF THE CONSTRUCTION START DATE.

5. LABOR, MATERIAL, TOOLS, EQUIPMENT, TRANSPORTATION AND TEMPORARY POWER SERVICES NECESSARY FOR AND INCIDENTAL TO COMPLETION OF ALL WORK SHALL BE PROVIDED AS INDICATED ON THE DRAWINGS AND/OR AS SPECIFIED HEREIN. LABOR AND MATERIALS SHALL BE FURNISHED AS REQUIRED FOR COMPLETE SYSTEMS, INCLUDING ALL ELEMENTS OBVIOUSLY OR REASONABLY INCIDENTAL TO A COMPLETE INSTALLATION, WHETHER OR NOT SPECIFICALLY INDICATED ON THE PLANS.

6. FOR TASKS REQUIRED TO BE PERFORMED BUT NOT CLEARLY DEFINED OR IDENTIFIED BY THE CONTRACT DOCUMENTS, THE CONTRACTOR SHALL NOT START WORK ON SUCH TASKS WITHOUT HAVING RECEIVED WRITTEN AUTHORIZATION FROM THE CONSTRUCTION MANAGER TO PROCEED.

7. THE DRAWINGS ARE DIAGRAMMATIC AND INDICATE THE GENERAL ARRANGEMENT OF SYSTEMS AND EQUIPMENT UNLESS OTHERWISE INDICATED BY DIMENSIONS OR DETAILS. EXACT EQUIPMENT LOCATIONS MAY BE MODIFIED AS REQUIRED BY ACTUAL FIELD CONDITIONS. IF THE SPECIFIED EQUIPMENT CANNOT BE INSTALLED AS SHOWN ON THESE DRAWINGS, CONTRACTOR SHALL PROPOSE AN ALTERNATIVE INSTALLATION FOR APPROVAL BY THE ENGINEER AND THE CONSTRUCTION MANAGER.

8. THE CONTRACTOR SHALL OBTAIN, PAY FOR AND DELIVER ALL REQUIRED PERMITS, CERTIFICATES OF INSPECTION, INCLUDING UTILITY CONNECTION FEES, ETC., REQUIRED BY THE AUTHORITIES HAVING JURISDICTION AND SHALL DELIVER SUCH DOCUMENTS TO THE OWNER PRIOR TO FINAL ACCEPTANCE OF THE WORK.

9. THE CONTRACTOR'S OPERATIONS SHALL BE CONFINED TO AREAS OF NEW CONSTRUCTION.

10. ALL NECESSARY PROVISIONS SHALL BE MADE TO PROTECT EXISTING IMPROVEMENTS, PAVING, CURBS, GALVANIZED SURFACES, ETC. AND THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE TO SAME RESULTING FROM THE CONSTRUCTION WORK. ALL DISTURBED AND DAMAGED AREAS SHALL BE RESTORED TO THEIR ORIGINAL CONDITION OR BETTER UPON COMPLETION OF ALL WORK TO THE SATISFACTION OF THE CONSTRUCTION MANAGER.

11. THE FOLLOWING CLEANUP TASKS SHALL BE PERFORMED AS FOLLOWS: (1) ON A DAILY BASIS, KEEP THE GENERAL AREA CLEAN AND HAZARD FREE, REMOVING ALL WASTE, DEBRIS AND TRASH FROM THE SITE AND DISPOSING OF SAME IN A LEGAL MANNER. (2) UPON COMPLETION, LEAVE THE PREMISES IN A CLEAN CONDITION AND FREE FROM PAINT SPOTS, DUST, OR SMUDGES OF ANY NATURE. (3) UPON COMPLETION, CONSTRUCTION AND CONSTRUCTION STAGING AREA SHALL BE LEFT IN AS GOOD OR BETTER CONDITION THAN PRIOR TO CONSTRUCTION.

12. ALL EQUIPMENT AND MATERIALS SHALL BE INSTALLED IN ACCORDANCE WITH THE RESPECTIVE MANUFACTURER'S RECOMMENDATIONS EXCEPT WHERE IT IS SPECIFICALLY INDICATED OTHERWISE IN THE CONTRACT DOCUMENTS OR WHERE LOCAL CODES OR REGULATIONS TAKE PRECEDENCE.

13. ALL WORK PERFORMED AND MATERIALS INSTALLED SHALL BE IN STRICT ACCORDANCE WITH ALL APPLICABLE CODES, REGULATIONS AND ORDINANCES. THE CONTRACTOR SHALL GIVE ALL NOTICES AND COMPLY WITH ALL LAWS, ORDINANCES, RULES, REGULATIONS AND LAWFUL ORDERS OF ANY PUBLIC AUTHORITY HAVING JURISDICTION OVER THE PERFORMANCE OF THE WORK. MECHANICAL AND ELECTRICAL SYSTEMS SHALL BE INSTALLED IN ACCORDANCE WITH ALL APPLICABLE MUNICIPAL AND UTILITY COMPANY SPECIFICATIONS AS WELL AS LOCAL AND STATE CODES, ORDINANCES AND APPLICABLE REGULATIONS.

14. THE CONTRACTOR SHALL SUPERVISE AND DIRECT THE WORK AT ALL TIMES, USING THE BEST SKILLS AND ATTENTION. HE SHALL BE SOLELY RESPONSIBLE FOR ALL OF THE CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES AND PROCEDURES AND FOR COORDINATING ALL PORTIONS OF THE WORK, INCLUDING CONTACT AND COORDINATION WITH THE CONSTRUCTION MANAGER AND WITH THE OWNER'S AUTHORIZED REPRESENTATIVE.

15. WITHIN TEN (10) WORKING DAYS AFTER PROJECT COMPLETION, THE CONTRACTOR SHALL PROVIDE A COMPLETE SET OF AS-BUILT DRAWINGS, SWEEP TEST, CYLINDER TESTS, LIEN RELEASES, AND OTHER CLOSEOUT DOCUMENTATION AS REQUIRED BY THE OWNER. ALL SYSTEMS SHALL BE COMPLETELY ASSEMBLED, TESTED, ADJUSTED AND DEMONSTRATED TO BE READY FOR OPERATION PRIOR TO THE OWNER'S ACCEPTANCE.

GENERAL NOTES | 1

1. THE APPROPRIATE UTILITY LOCATING SERVICES SHALL BE CONTACTED PRIOR TO THE START OF CONSTRUCTION IN ORDER TO VERIFY THE EXACT LOCATION OF ALL EXISTING UNDERGROUND UTILITIES.

2. THE INSTALLATION OF NEW UTILITIES SHALL BE COORDINATED WITH LOCAL AUTHORITIES.

3. ALL EXISTING ACTIVE SEWER, WATER, GAS, ELECTRIC AND OTHER UTILITIES, WHERE ENCOUNTERED IN THE WORK, SHALL BE PROTECTED AT ALL TIMES. WHERE REQUIRED FOR THE PROPER EXECUTION OF THE WORK, SUCH UTILITIES SHALL BE RELOCATED AS DIRECTED BY THE CONSTRUCTION MANAGER. EXTREME CAUTION SHALL BE USED WHEN EXCAVATING OR DRILLING PIERS AROUND OR NEAR UTILITIES.

4. RUBBISH, STUMPS, DEBRIS, STICKS, STONES AND OTHER REFUSE SHALL BE REMOVED FROM THE SITE AND DISPOSED OF LEGALLY.

5. ALL EXISTING INACTIVE SEWER, WATER, GAS, ELECTRIC AND OTHER UTILITIES THAT INTERFERE WITH THE EXECUTION OF THE WORK SHALL BE REMOVED AND/OR CAPPED, PLUGGED OR OTHERWISE DISCONTINUED AT POINTS THAT WILL NOT INTERFERE WITH THE EXECUTION OF THE WORK, SUBJECT TO THE APPROVAL OF THE LANDLORD AND/OR LOCAL UTILITIES.

6. DISTURBANCE TO THE EXISTING SITE DURING CONSTRUCTION SHALL BE MINIMIZED.

7. ANY AREAS OF THE CONSTRUCTION SITE DISTURBED BY THE WORK AND NOT COVERED BY THE TOWER, EQUIPMENT OR DRIVEWAY, SHALL BE GRADED TO A UNIFORM SLOPE. SUCH GRADING SHALL CAUSE SURFACE WATER TO FLOW AWAY FROM ANY EQUIPMENT SHELTER AND TOWER AREAS AND THE SOIL SHALL BE STABILIZED TO PREVENT EROSION. EROSION CONTROL MEASURES,IF REQUIRED DURING CONSTRUCTION, SHALL BE IN CONFORMANCE WITH THE LOCAL GUIDELINES FOR EROSION AND SEDIMENT CONTROL.

8. THE SUB-GRADE SHALL BE COMPACTED AND BROUGHT TO A UNIFORM GRADE PRIOR TO FINISHED SURFACE APPLICATION.

9. BACKFILL SHALL CONSIST OF CLEAN SAND FILL APPROVED FOR USE BY THE ENGINEER. NO UNAPPROVED MATERIAL WILL BE ALLOWED. CLEAN SAND FILL SHALL BE FREE OF ALL ROOTS, BOULDERS, OR OTHER DELETERIOUS MATERIAL.

10. THE CONTRACTOR SHALL RESTORE ALL DISTURBED AREAS TO EQUAL TO OR BETTER CONDITION THAN ORIGINAL.

11. SITE SIGNAGE SHALL BE PROVIDED IN ACCORDANCE WITH THE TECHNICAL SPECIFICATIONS FOR SUCH SIGNAGE AS MAY BE CONTAINED IN THESE DRAWINGS.

SITE WORK NOTES | 2

1. MATERIAL:
   A. ALL STRUCTURAL STEEL WORK SHALL CONFORM TO THE LATEST EDITION OF THE AISC "STEEL CONSTRUCTION MANUAL".
   B. ALL STRUCTURAL STEEL WF BEAMS SHALL BE ASTM A992 AND "HOT DIPPED" GALVANIZED IN ACCORDANCE WITH ASTM A123 AND ASTM A153 STANDARDS.
   C. ALL STRUCTURAL PLATES, ANGLES, AND CHANNELS SHALL BE ASTM A36 AND "HOT DIPPED" GALVANIZED IN ACCORDANCE WITH ASTM A123 AND ASTM A153 STANDARDS.
   D. ALL TS MEMBERS SHALL BE ASTM A500 GRADE B (Fy=46ksi), AND "HOT DIPPED" GALVANIZED IN ACCORDANCE WITH ASTM A123 AND ASTM A153 STANDARDS.
   E. ALL STRUCTURAL PIPE MEMBERS SHALL BE ASTM A500 GRADE B (Fy=42ksi), AND "HOT DIPPED" GALVANIZED IN ACCORDANCE WITH ASTM A123 AND ASTM A153 STANDARDS.
   F. ALL NON_STRUCTURAL PIPE MEMBERS SHALL BE ASTM A53 GRADE B, AND "HOT DIPPED" GALVANIZED IN ACCORDANCE WITH ASTM A123 AND ASTM A153 STANDARDS.

2. DESIGN, FABRICATION, AND CONSTRUCTION OF ALL CONNECTIONS SHALL CONFORM TO AISC STEEL CONSTRUCTION MANUAL.

3. WELDING:
   A. ALL WELDS, WELDERS, AND WELD INSPECTIONS SHALL CONFORM TO THE REQUIREMENTS OF AWS D 1.1, LATEST REVISION.
   B. ALL WELDS SHALL BE MADE WITH E70XX LOW HYDROGEN ELECTRODES.
   C. ALL STEEL SHALL BE SPRAY GALVANIZED AFTER WELDING.

4. ALL BOLTS SHALL BE GALVANIZED ¾" DIAMETER, A325-N, UNLESS NOTED OTHERWISE AND TIGHTENED TO A "SNUG TIGHT" CONDITION AS DEFINED BY AISC. SECURE NUT WITH LOCKING WASHER.

5. ANCHOR BOLTS SHALL CONFORM TO ASTM A307, UNLESS NOTED OTHERWISE.

6. THE CONTRACTOR/STEEL FABRICATOR SHALL LOCATE ANY REINFORCEMENT IN THE STRUCTURAL MEMBERS IN SUCH A MANNER SO THAT THERE WILL NOT BE CONFLICT WITH THE REINFORCEMENT WHEN INSTALLING ANCHORS. THE ANCHORS SHALL BE INSTALLED PER THE MANUFACTURER'S INSTRUCTION.

7. THE CONTRACTOR/STEEL FABRICATOR SHALL CONFORM TO THE MINIMUM EDGE DISTANCE REQUIREMENTS IN ACCORDANCE WITH THE AISC MANUAL OF STEEL CONSTRUCTION.

8. ALL STRUCTURAL STEEL SHALL BE FABRICATED TO FIT AT BOLTED CONNECTIONS WITHIN $\frac{1}{8}$ INCH TOLERANCE. STRUCTURAL STEEL SHALL NOT BE FLAME CUT UNDER ANY CIRCUMSTANCES WITHOUT APPROVAL OF THE ENGINEER.

9. THE CONTRACTOR/STEEL FABRICATOR SHALL CAP OR SEAL ALL PIPES AS REQUIRED TO PREVENT RAINWATER INTRUSION.

10. THE CONTRACTOR/STEEL FABRICATOR SHALL SUBMIT SHOP DRAWINGS FOR REVIEW PRIOR TO ANY STEEL FABRICATION. AT THE CONTRACTOR'S OPTION, FIELD SPLICES MAY BE USED FOR ERECTION PURPOSES. IF FIELD SPLICES ARE USED, THE SHOP DRAWINGS SHALL INCLUDE ALL DETAILS FOR THE PROPOSED FIELD SPLICES.

11. AT THE CONTRACTOR'S OPTION, SHOP WELDS MAY BE USED INSTEAD OF FIELD WELDS.

12. SUBMIT ORIGINAL SHOP DRAWINGS, INCLUDING COMPLETE DETAILS, SCHEDULES OF FABRICATION AND ASSEMBLY, PROCEDURES, AND DIAGRAMS. INCLUDE DETAILS OF CUTS, CONNECTIONS, CAMBER, HOLE, AND OTHER PERTINENT DATA. INDICATE WELDS BY STANDARD AWS A2.1 AND A2.4 SYMBOLS, AND SHOW SIZE, LENGTH, AND TYPE OF WELD. PROVIDE SETTING DRAWINGS, TEMPLATES, AND DIRECTIONS FOR INSTALLATION OF ANCHOR BOLTS AND OTHER ANCHORAGES TO BE INSTALLED AS WORK OF OTHERS' SECTIONS.

STRUCTURAL STEEL NOTES | 3

REV	DATE	DESCRIPTION
A	10/13/20	PRELIM PLANS
0	10/15/20	FINAL PLANS ISSUED
1	02/19/21	REVISED PER COMMENTS

PROJECT NO.:	19-5345
DRAWN BY:	J. MALLISON
PROJECT MANAGER:	C. REVELS
CHECKED BY:	C. REVELS

SMW ENGINEERING GROUP, INC.
12975 N. TELECOM PARKWAY
TEMPLE TERRACE, FLORIDA 33637
(813) 978-1432
CERTIFICATE OF AUTHORIZATION #3292

NexTower
4211 NORTHWEST 37TH PLACE, SUITE 830
GAINESVILLE, FLORIDA 32606

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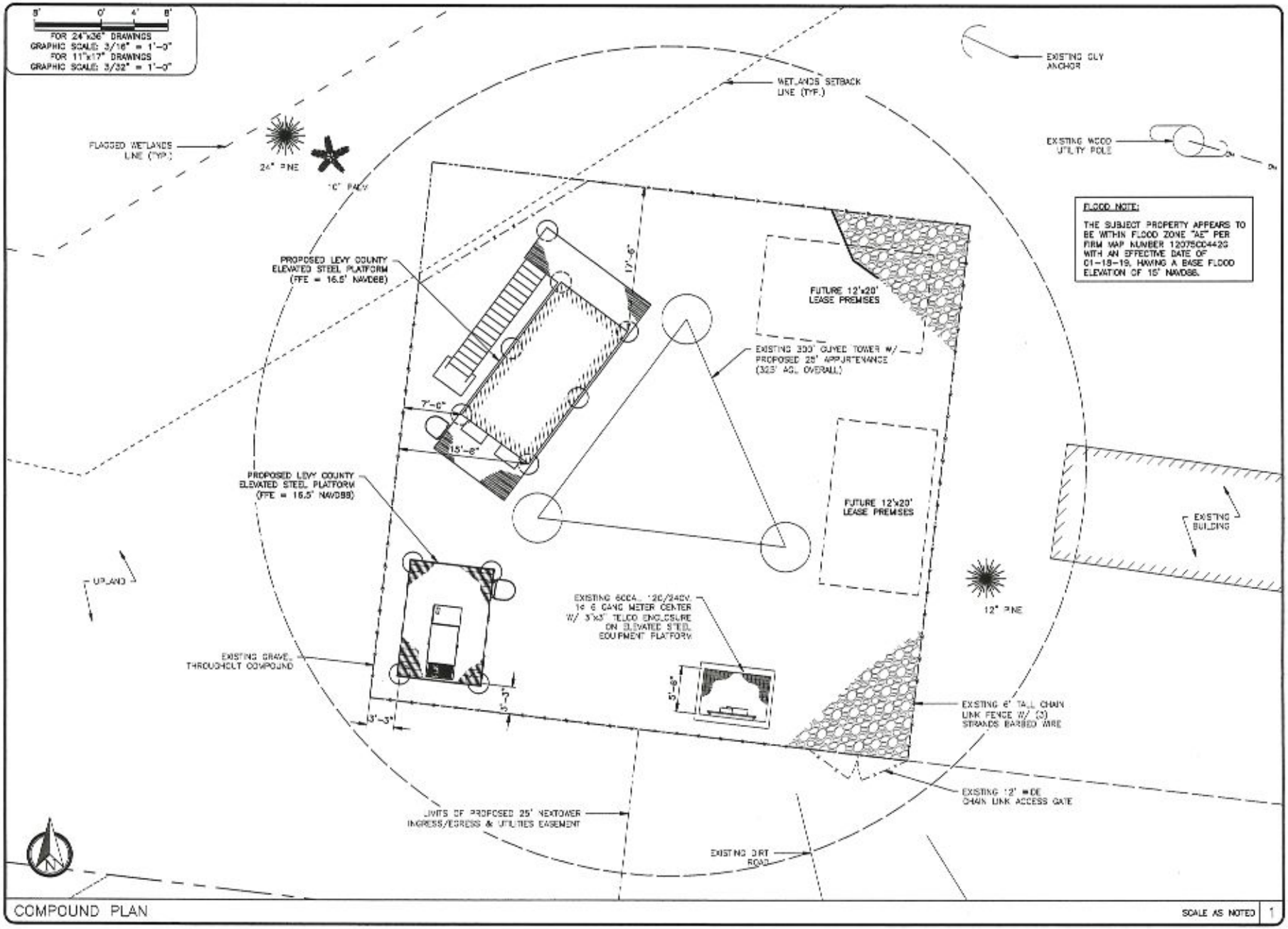
JEREMY D. SHARIT PE FL LIC 75137

CEDAR KEY
NXFL-142
10350 SOUTHWEST COUNTY ROAD 347
CEDAR KEY, FLORIDA 32625
(LEVY COUNTY)

SHEET NAME
GENERAL NOTES

SHEET NUMBER
G1



REV	DATE	DESCRIPTION
A	10/13/20	PRELIM PLANS
D	10/15/20	FINAL PLANS ISSUED
1	02/19/21	REVISED PER COMMENTS

PROJECT NO.:	19-5345
DRAWN BY:	J. MALLISON
PROJECT MANAGER:	C. REVELS
CHECKED BY:	C. REVELS

SMW ENGINEERING GROUP, INC.
TOGETHER PLANNING A BETTER TOMORROW
12979 N. TELECOM PARKWAY
TEMPLE TERRACE, FLORIDA 33637
(813) 615-1422
CERTIFICATE OF AUTHORIZATION #3892

NexTower
YOUR SIGNAL IS OUR DIFFERENCE
4210 NORTHWEST 37TH PLACE, SUITE 900
GAINESVILLE, FLORIDA 32606

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JEREMY D. SHARIT PE FL LIC 75137

CEDAR KEY

NXFL-142

10650 SOUTHWEST COUNTY ROAD 347
CEDAR KEY, FLORIDA 32625
(LEVY COUNTY)

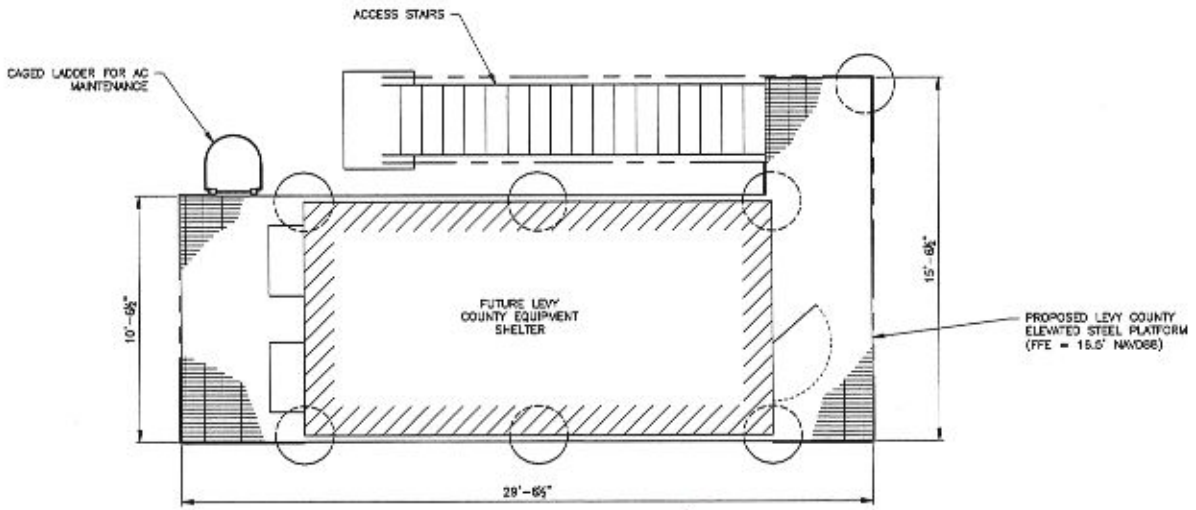
SHEET NAME

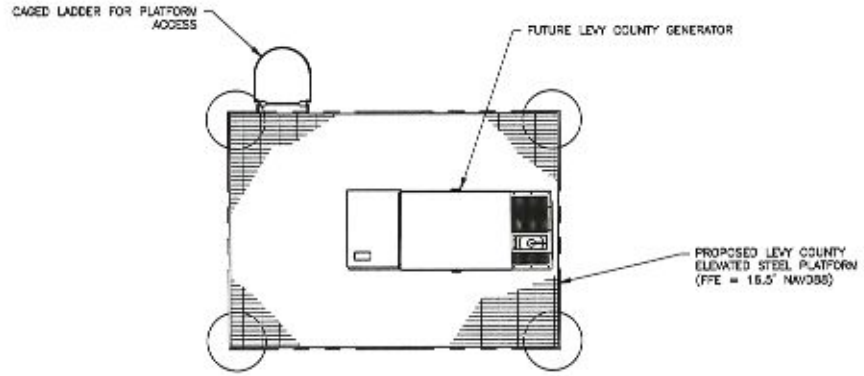
PROPOSED COMPOUND PLAN

SHEET NUMBER

C1

4' 0' 2' 4'
FOR 24"x36" DRAWINGS
GRAPHIC SCALE: 3/8" = 1'-0"
FOR 11"x17" DRAWINGS
GRAPHIC SCALE: 3/16" = 1'-0"





SEE SHEET S1 FOR PLATFORM DESIGN

REV	DATE	DESCRIPTION
A	10/13/20	PRELIM PLANS
C	10/15/20	FINAL PLANS ISSUED
1	02/19/21	REVISED PER COMMENTS

PROJECT NO.:	19-5345
DRAWN BY:	J. MALLISON
PROJECT MANAGER:	D. REVELS
CHECKED BY:	D. REVELS

SMW ENGINEERING GROUP, INC.
12979 W. FLORIDA AVENUE
TAMPA TERRACE, FLORIDA 33637
(813) 615-1443
CERTIFICATE OF AUTHORIZATION #29900

NexTower
4210 NORTHWEST 39TH PLACE, SUITE 630
GAINESVILLE, FLORIDA 32606

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JEREMY D. SHARIT PE P. LIC 75137

CEDAR KEY

NXFL-142

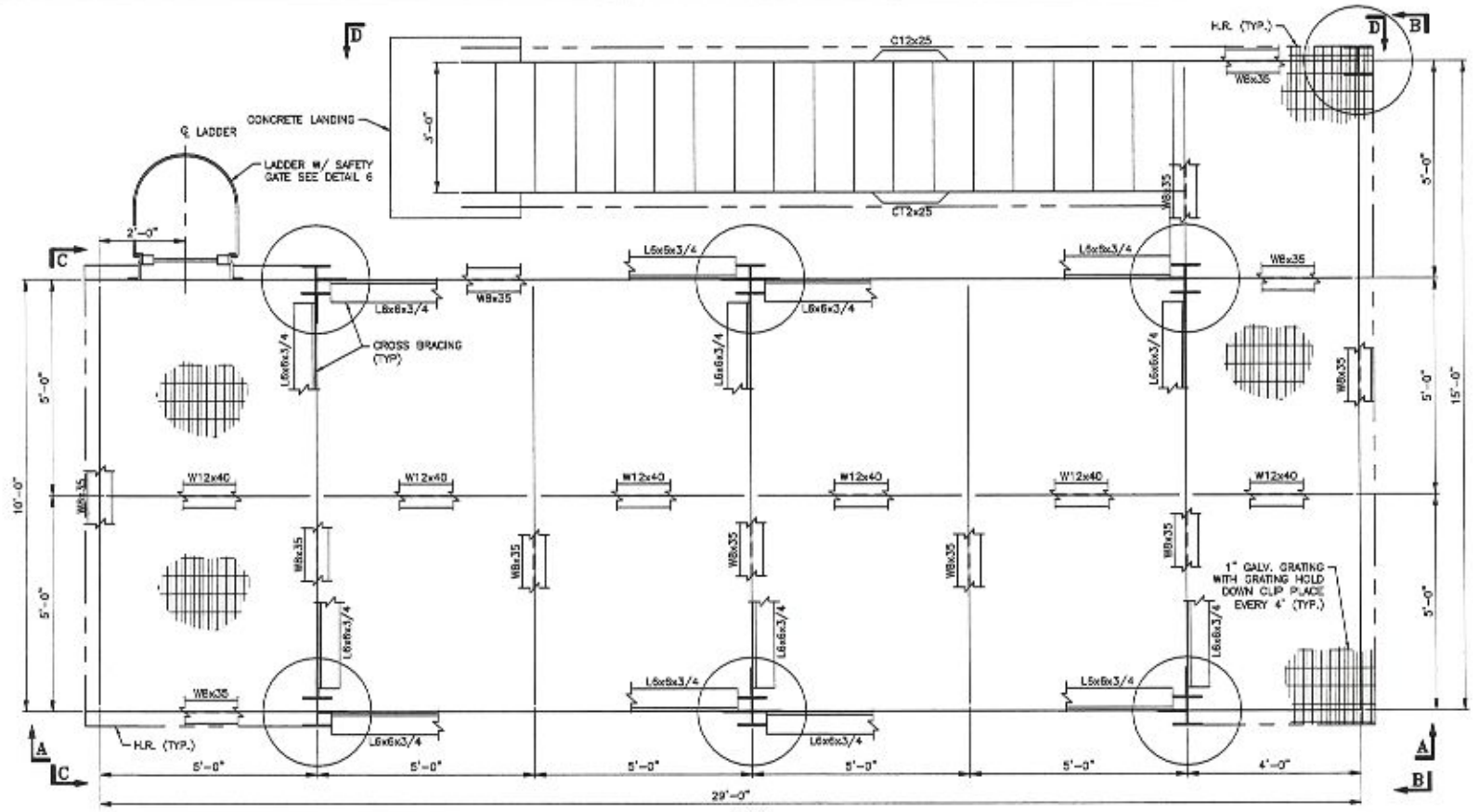
10350 SOUTHWEST COUNTY ROAD 347
CEDAR KEY, FLORIDA 32625
(LEVY COUNTY)

SHEET NAME
EQUIPMENT LAYOUT

SHEET NUMBER
C2

EQUIPMENT LAYOUT

SCALE AS NOTED | 1



PLAN
EQUIPMENT SHELTER PLATFORM
SCALE: 3/8" = 1'-0"

REINFORCED CONCRETE NOTES:

1. CONCRETE SHALL ATTAIN A MINIMUM COMPRESSIVE STRENGTH OF 4,000 PSI IN 28 DAYS; CONTINUOUS INSPECTION IS NOT REQUIRED. PORTLAND CEMENT: TYPE I OR II. SLUMP: 2" MIN./4" MAX. AIR ENTRAINMENT: 4% TO 6% BY VOLUME.
2. MAXIMUM COARSE AGGREGATE SIZE SHALL BE 1". REINFORCEMENT SHALL BE NEW BILLET STEEL DEFORMED BARS CONFORMING TO ASTM SPECIFICATION A615 GRADE 60. MINIMUM REBAR SPLICES SHALL BE 30 DIAMETERS. REINFORCEMENT SHALL HAVE A MINIMUM CLEAR DIMENSION ON ALL SIDES OF 3 IN.
3. ALL EMBEDDED ITEMS SHALL BE SECURELY HELD IN POSITION PRIOR TO PLACEMENT OF CONCRETE. ALL CONCRETE SHALL BE READY MIXED IN ACCORDANCE WITH ASTM C94.
4. ALL EMBEDDED ITEMS SHALL BE SECURELY HELD IN POSITION PRIOR TO PLACEMENT OF CONCRETE. ALL CONCRETE SHALL BE READY-MIXED IN ACCORDANCE WITH ASTM C94.
5. MAINTAIN TEMPERATURE OF CAST IN PLACE CONCRETE AT BETWEEN 50 DEGREES AND 90 DEGREES F.
6. DO NOT USE RETEMPERED CONCRETE, OR ADD WATER TO READY-MIX CONCRETE AT THE JOBSITE.
7. CONCRETE WORK TO BE PERFORMED PER ACI 318.

STRUCTURAL STEEL NOTES:

1. ALL STRUCTURAL STEEL SHALL HAVE A MINIMUM YIELD STRESS OF 36 KSI
2. ALL BOLTS SHALL BE A-325 WITH THREADS EXCLUDED FROM THE SHEAR PLANE. BOLTS, NUTS, AND WASHERS SHALL BE AMERICAN MADE. THE MANUFACTURER SHALL PROVIDE CERTIFICATION THAT THEY ARE AMERICAN MADE. BOLTS SHALL BE 3/4"ø U.N.O.
3. ALL PIPE SHALL BE A-53 GRADE B
4. ALL PIPE SHALL BE GALVANIZED INSIDE AND OUTSIDE.
5. EDGE DISTANCE 1 1/4" UNLESS OTHERWISE NOTED.
6. HOLES SHALL BE PUNCHED OR DRILLED 1/16" LARGER THAN THE DIAMETER OF THE BOLTS THEY WILL RECEIVE UNLESS OTHERWISE NOTED.
7. WELDING SHALL BE DONE WITH E70 ELECTRODES IN ACCORDANCE WITH A.W.S. WELDING CODES.
8. ALL U-BOLTS SHALL HAVE 2 EA. NUTS PER LEG OR ONE ANCO LOCK NUT.
9. ALL FIELD DRILLED HOLES AND FIELD CUT ENDS SHALL BE GIVEN (2) TWO COATS OF "ZRC GALVITE" GALVANIZING REPAIR COMPOUND OR APPROVED EQUIVALENT. TOUCH UP OF GALVANIZED SURFACES SHALL BE PERFORMED PER THE REQUIREMENTS OF ASTM A780.
10. ALL STRUCTURAL STEEL PLATE, AND PIPE SHALL BE HOT DIPPED GALVANIZEDPER ASTM A123. ALL NUTS AND WASHERS SHALL BE GALVANIZED PER ASTM A153.
11. ALL STEEL SHALL BE FABRICATED IN ACCORDANCE WITH THE MANUAL OF STEEL CONSTRUCTION (ALLOWABLE STRESS DESIGN) NINTH EDITION, BY THE AMERICAN INSTITUTE OF STEEL CONSTRUCTION.

REV	DATE	DESCRIPTION
A	10/13/20	PRELIM PLANS
0	10/15/20	FINAL PLANS ISSUED
1	02/19/21	REVISED PER COMMENTS

PROJECT NO.:	19-5345
DRAWN BY:	J. MALLISON
PROJECT MANAGER:	D. REVELS
CHECKED BY:	D. REVELS

SMW ENGINEERING GROUP, INC.
12979 S. FLORIDA AVENUE
EAGLE TERRACE, FLORIDA 33837
(813) 615-1403
CERTIFICATE OF AUTHORIZATION #2892

NexTower
4212 NORTHWEST 37TH PLACE, SUITE 830
GAINESVILLE, FLORIDA 32605

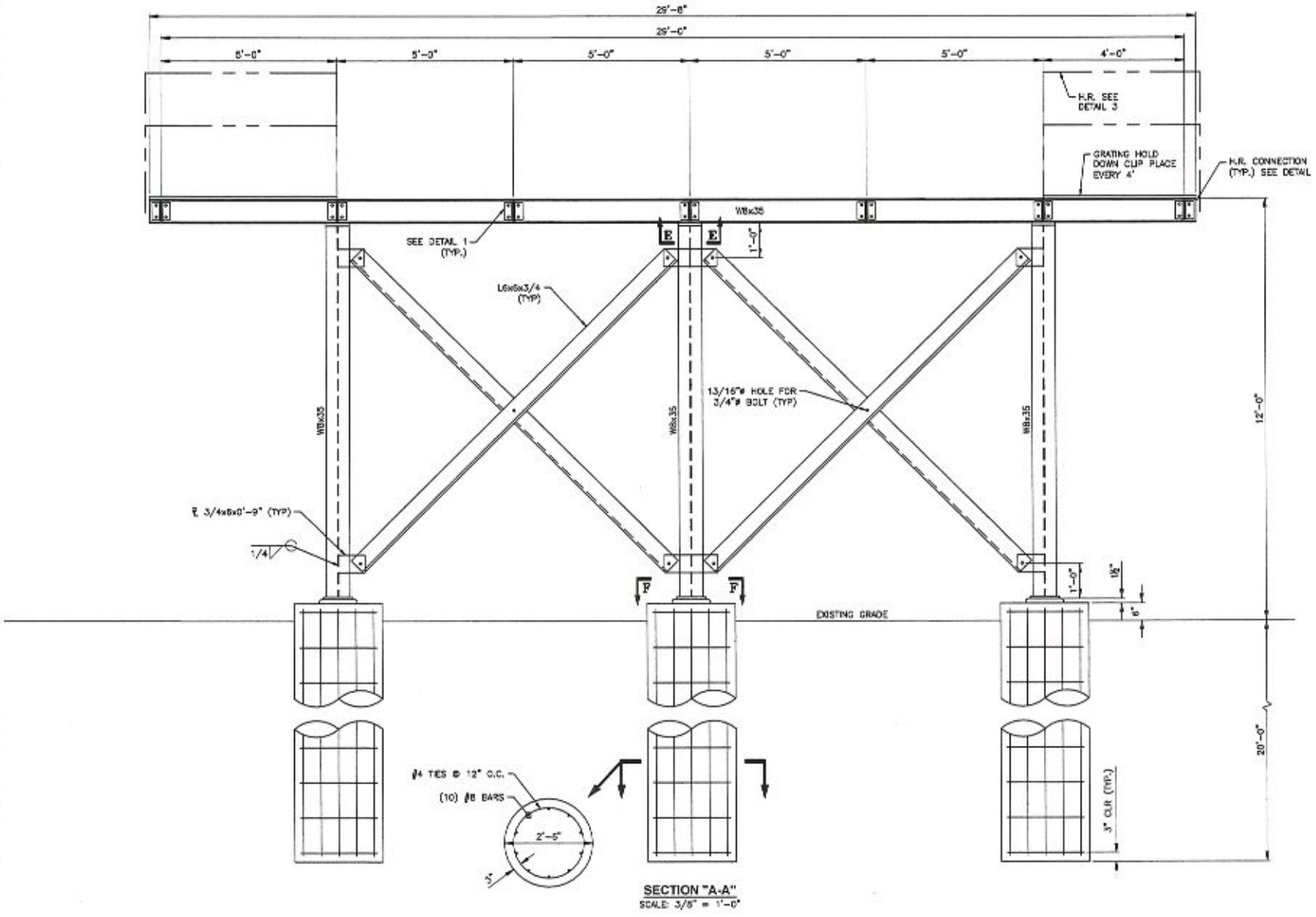
CEDAR KEY

NXFL-142

10050 SOUTHWEST COUNTY ROAD 347
CEDAR KEY, FLORIDA 32625
(LEVY COUNTY)

SHEET NAME
SHELTER PLATFORM FRAMING PLAN

SHEET NUMBER
S1



SECTION "A-A"
SCALE: 3/8" = 1'-0"

REV	DATE	DESCRIPTION
A	10/13/20	PRELIM PLANS
0	10/15/20	FINAL PLANS ISSUED
1	02/19/21	REVISED PER COMMENTS

PROJECT NO.:	19-5348
DRAWN BY:	J. MALLISON
PROJECT MANAGER:	D. REVELS
CHECKED BY:	D. REVELS

SMW ENGINEERING GROUP, INC.
12979 N. TELECOM PARKWAY
TEMPLE TERRACE, FLORIDA 33637
(813) 913-1422
CERTIFICATE OF AUTHORIZATION 31693

NexTower
4210 NORTHWEST 39TH PLACE, SUITE 603
GAINESVILLE, FLORIDA 32606

CEDAR KEY

NXFL-142

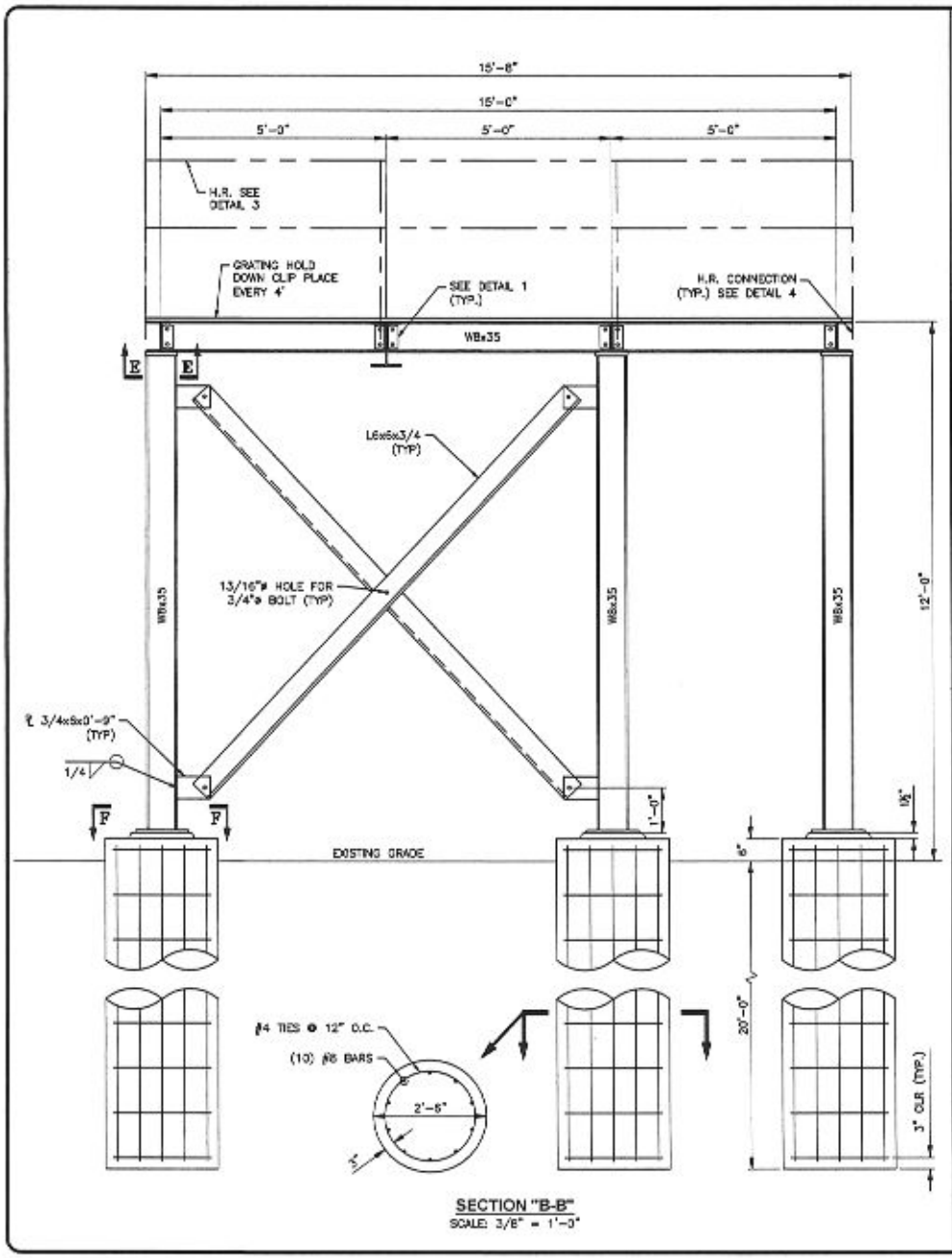
10350 SOUTHWEST COUNTY ROAD 347
CEDAR KEY, FLORIDA 32625
(LEVY COUNTY)

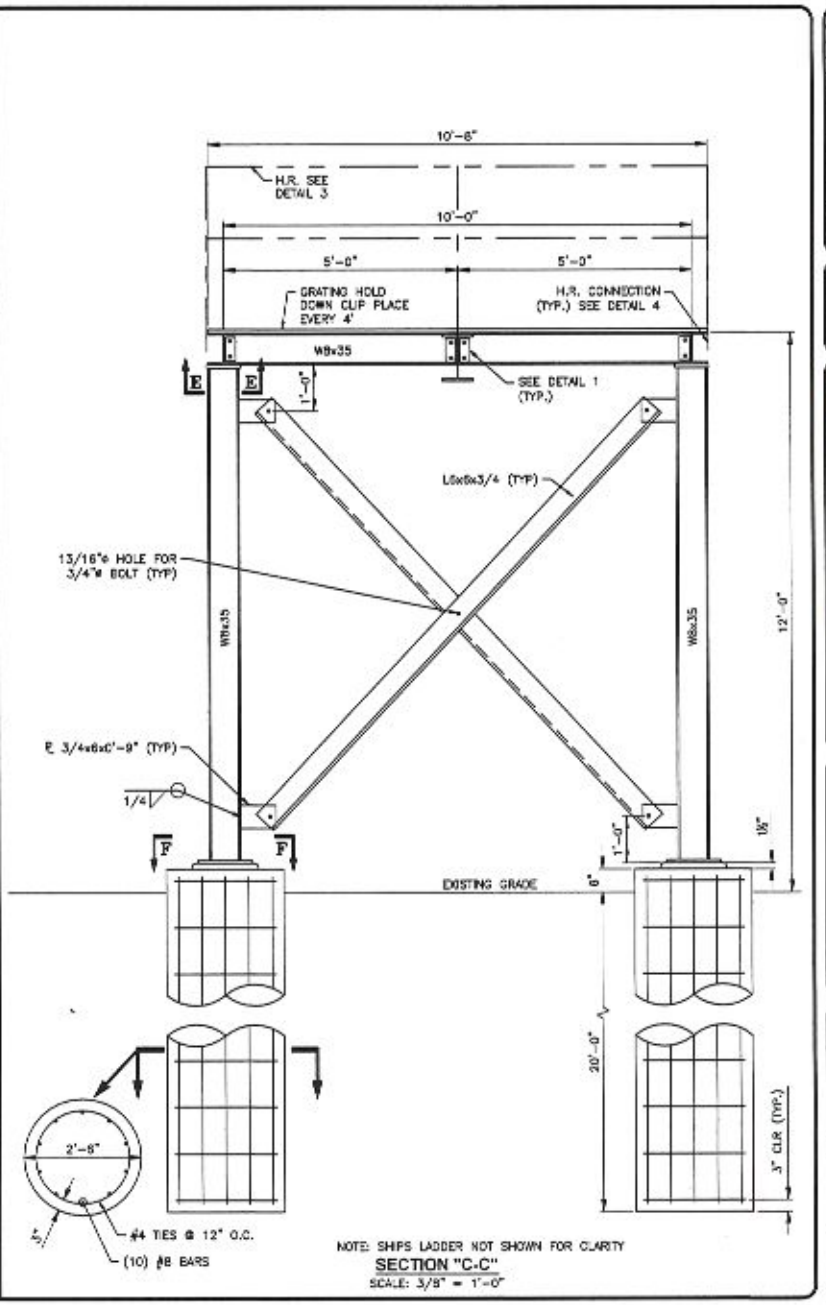
SHEET NAME

SHELTER PLATFORM DETAILS

SHEET NUMBER

S2





REV	DATE	DESCRIPTION
A	10/13/20	PRELIM PLANS
0	10/15/20	FINAL PLANS ISSUED
1	02/19/21	REVISED PER COMMENTS

PROJECT NO:	19-5345
DRAWN BY:	J. MALLISON
PROJECT MANAGER:	D. REVELS
CHECKED BY:	D. REVELS

SMW ENGINEERING GROUP, INC.
TOGETHER PLANNING A BETTER TOMORROW
13975 N TELECOM PARKWAY
TEMPLE TERRACE, FLORIDA 33637
(813) 913-1422
CERTIFICATE OF AUTHORIZATION 33893

NexTower
4216 NORTHWEST 37TH PLACE, SUITE 630
GAINESVILLE, FLORIDA 32606

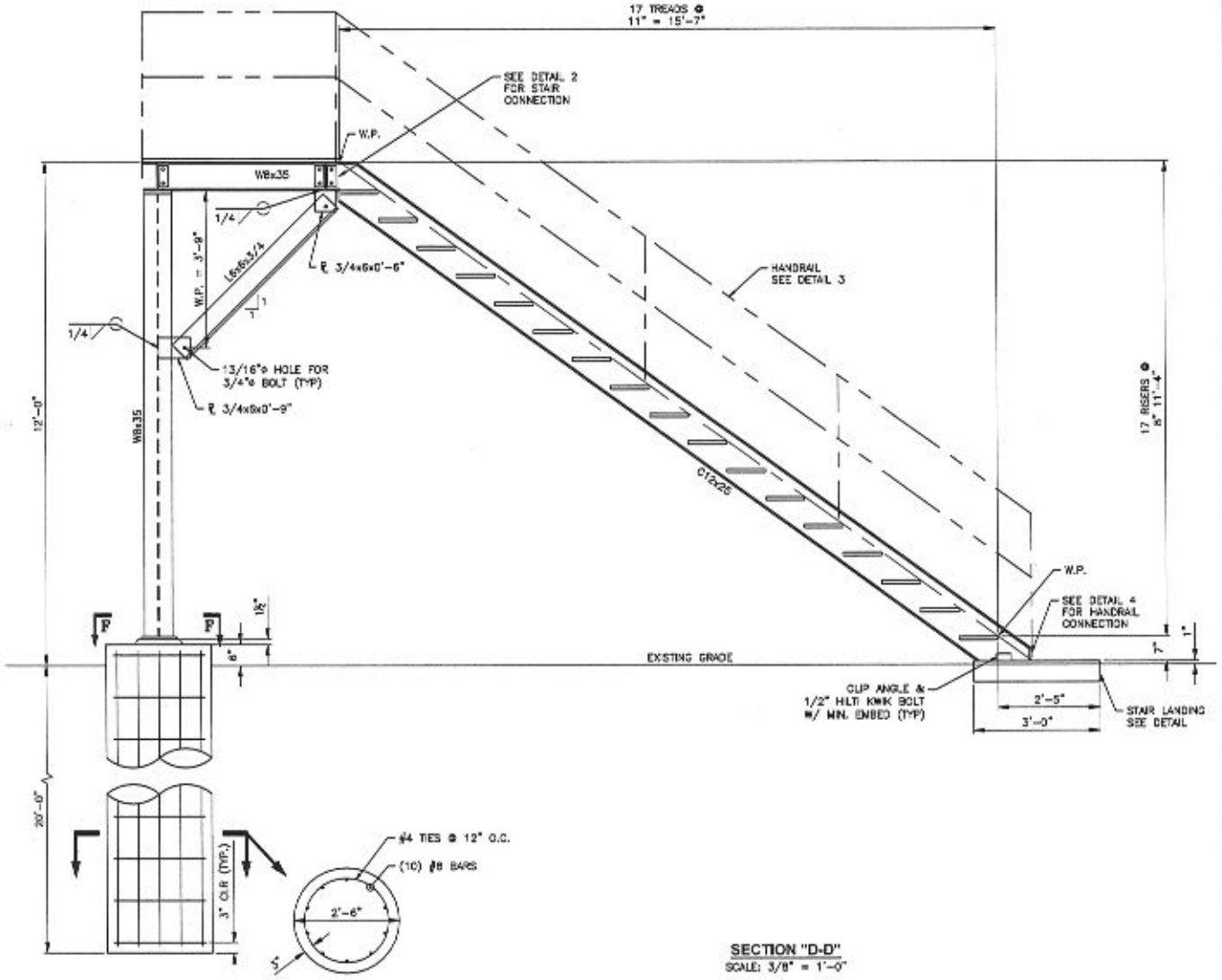
CEDAR KEY

NXFL-142

10050 SOUTHWEST COUNTY ROAD 347
CEDAR KEY, FLORIDA 32625
(LEVY COUNTY)

SHEET NAME
SHELTER PLATFORM DETAILS

SHEET NUMBER
S3



SECTION "D-D"
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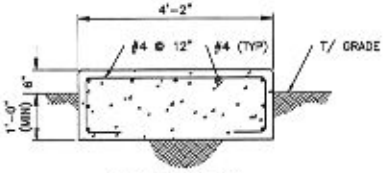
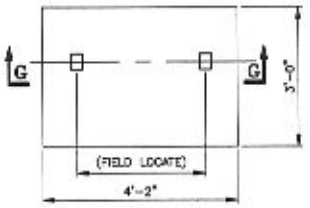


SECTION "G-G"



PLAN
STAIR LANDING
SCALE: N.T.S.

REV	DATE	DESCRIPTION
A	10/13/20	PRELIM PLANS
0	10/15/20	FINAL PLANS ISSUED
1	02/19/21	REVISED PER COMMENTS

PROJECT NO.:	19-5345
DRAWN BY:	J. MALUSKY
PROJECT MANAGER:	D. REVELS
CHECKED BY:	D. REVELS

SMW ENGINEERING GROUP, INC.
TOGETHER, PLANNING A BETTER TOMORROW
12979 N. TELECOM PARKWAY
TEMPLE TERRACE, FLORIDA 33637
(813) 675-1452
CERTIFICATE OF AUTHORIZATION 32892

NexTower
YOUR GOAL IS OUR EXPERIENCE
4216 NORTHWEST 37TH PLACE, SUITE 630
GAINESVILLE, FLORIDA 32606

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JEREMY D. SHARIT PE FL LIC 75137

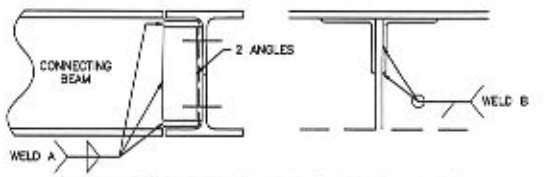
CEDAR KEY

NXFL-142

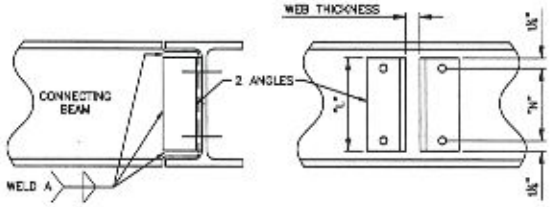
10350 SOUTHWEST COUNTY ROAD 347
CEDAR KEY, FLORIDA 32625
(LEVY COUNTY)

SHEET NAME
SHELTER PLATFORM DETAILS

SHEET NUMBER
S4

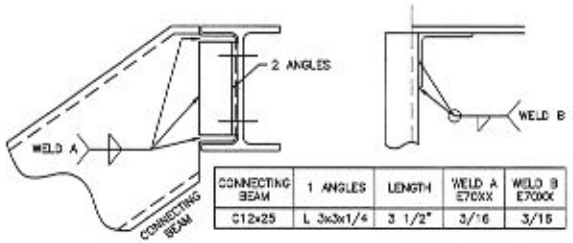


CONNECTING BEAM	2 ANGLES	LENGTH	WELD A E70XX	WELD B E70XX
W8x35	L 3x3x1/4	5"	3/16	3/16

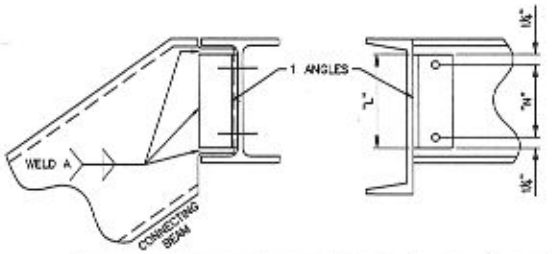


CONNECTING BEAM	2 ANGLES	"L"	"N"	BOLT DIA.	WELD B E70XX
W8x35	L 3x3x1/4	6"	4"	3/4" A307	3/16

DETAIL 1
SCALE: N.T.S.

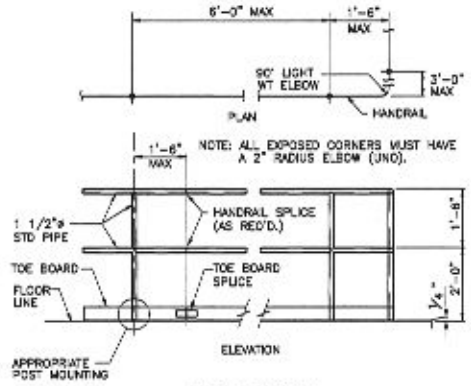


CONNECTING BEAM	1 ANGLES	LENGTH	WELD A E70XX	WELD B E70XX
C12x25	L 3x3x1/4	3 1/2"	3/16	3/16



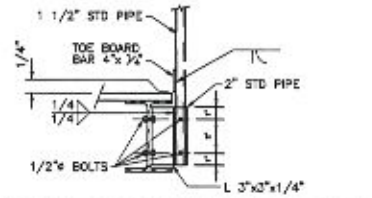
CONNECTING BEAM	2 ANGLES	"L"	"N"	BOLT DIA.	WELD B E70XX
C12x25	L 3x3x1/4	4 1/2"	2	3/4" A307	3/16

DETAIL 2
SCALE: N.T.S.



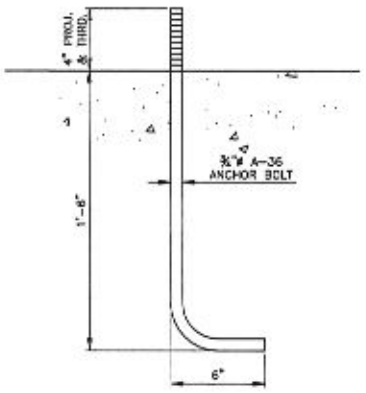
FIXED HANDRAIL

DETAIL 3
SCALE: N.T.S.

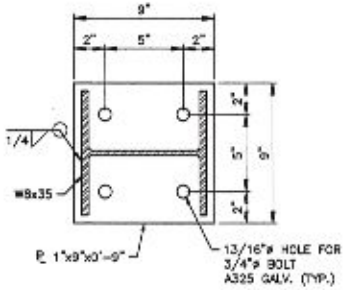


HANDRAIL POST CONNECTIONS TO STEEL

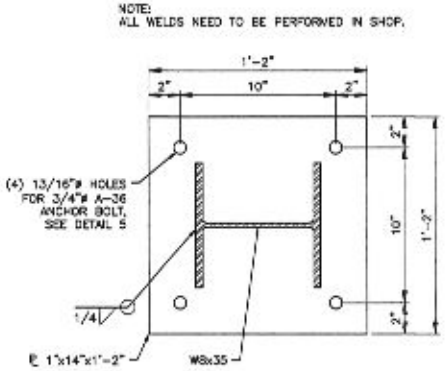
DETAIL 4
SCALE: N.T.S.



DETAIL 5
SCALE: N.T.S.



SECTION "E-E"
N.T.S.



SECTION "F-F"
N.T.S.

REV	DATE	DESCRIPTION
A	10/13/20	PRELIM PLANS
0	10/15/20	FINAL PLANS ISSUED
1	02/19/21	REVISED PER COMMENTS

PROJECT NO.:	19-5345
DRAWN BY:	J. MALUSKY
PROJECT MANAGER:	D. REVELS
CHECKED BY:	D. REVELS

SMW ENGINEERING GROUP, INC.
TOGETHER PLANNING A BETTER TOMORROW
2679 N. OLDEN AVENUE
TEMPLE TERRACE, FLORIDA 33637
(813) 913-1422
CERTIFICATE OF AUTHORIZATION 33693

NexTower
YOUR DIGITAL INFRASTRUCTURE
4211 NORTHWEST 37TH PLACE, SUITE 630
GAINESVILLE, FLORIDA 32606

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JEREMY D. SHARIT PE FL LIC 75137

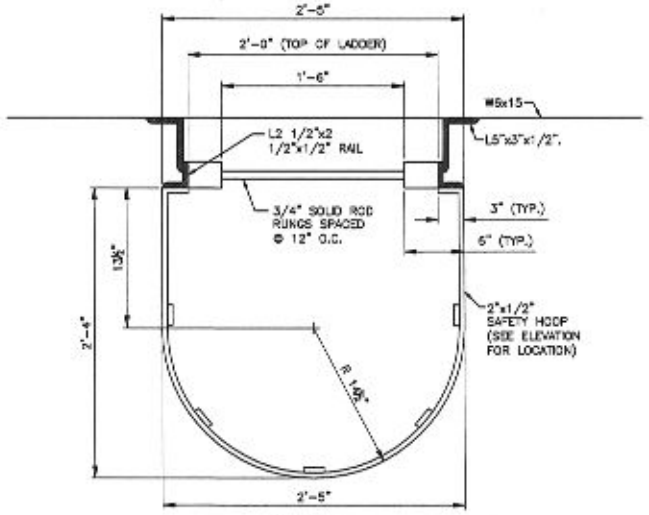
CEDAR KEY

NXFL-142

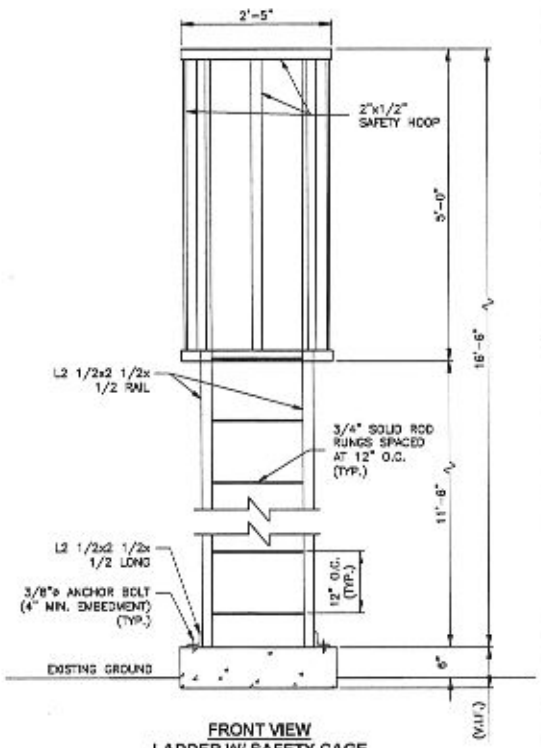
10350 SOUTHWEST COUNTY ROAD 347
CEDAR KEY, FLORIDA 32625
(LEVY COUNTY)

SHEET NAME
SHELTER PLATFORM DETAILS

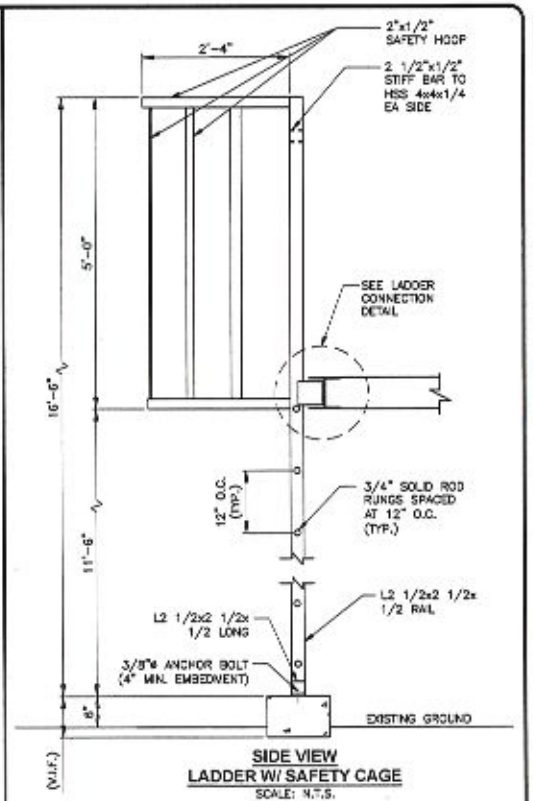
SHEET NUMBER
S5



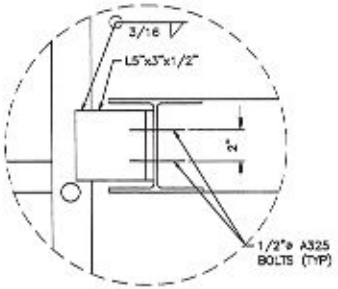
PLAN
LADDER W/ SAFETY CAGE
DETAIL 6
SCALE: N.T.S.



FRONT VIEW
LADDER W/ SAFETY CAGE
SCALE: N.T.S.



SIDE VIEW
LADDER W/ SAFETY CAGE
SCALE: N.T.S.



SHELTER PLATFORM

LADDER CONNECTION DETAIL
SCALE: N.T.S.

REV	DATE	DESCRIPTION
A	10/13/20	PRELIM PLANS
0	10/15/20	FINAL PLANS ISSUED
1	03/19/21	REVISED PER COMMENTS

PROJECT NO.:	19-5345
DRAWN BY:	E. MALLISON
PROJECT MANAGER:	D. REVELS
CHECKED BY:	D. REVELS

SMW ENGINEERING GROUP, INC.
TOGETHER PLANNING + SUPERB PERFORMANCE
13379 N. TELECOM PARKWAY
TEMPLE TERRACE, FLORIDA 33637
(813) 819-1422
CERTIFICATE OF AUTHORIZATION 33683

NexTower
4510 123TH/21ST 27TH PLACE, SUITE 103
DAMERVILLE, FLORIDA 32808

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JEREMY D. SHARIT PE FL LIC 75137

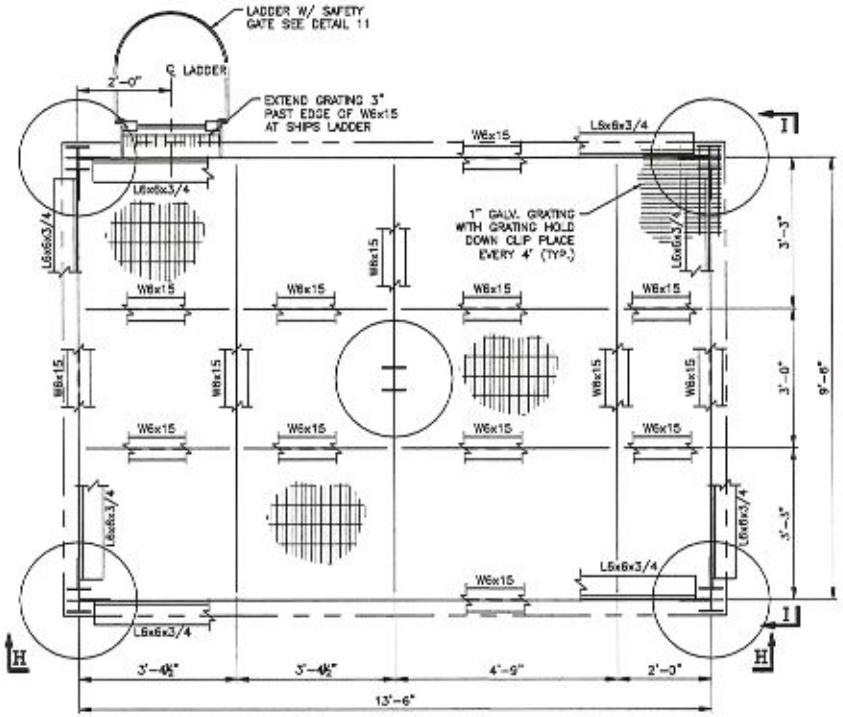
CEDAR KEY

NXFL-142

10350 SOUTHWEST COUNTY ROAD 347
CEDAR KEY, FLORIDA 32625
(LEVY COUNTY)

SHEET NAME
SHELTER PLATFORM DETAILS

SHEET NUMBER
S6



PLAN
GENERATOR PLATFORM
SCALE: 3/8" = 1'-0"

REV	DATE	DESCRIPTION
A	10/13/20	PRELIM PLANS
0	10/15/20	FINAL PLANS ISSUED
1	02/19/21	REVISED PDH COMMENTS

PROJECT NO.:	19-5345
DRAWN BY:	J. MALLISON
PROJECT MANAGER:	D. REVELS
CHECKED BY:	D. REVELS

SMW ENGINEERING GROUP, INC.
12979 S. TELECOM PARKWAY
TEMPLE TERRACE, FLORIDA 33637
(813) 615-1422
CERTIFICATE OF AUTHORIZATION 33663

NexTower
4510 NORTHWEST 27TH PLACE, SUITE 100
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JEREMY D. SHART PE FL LIC 75137

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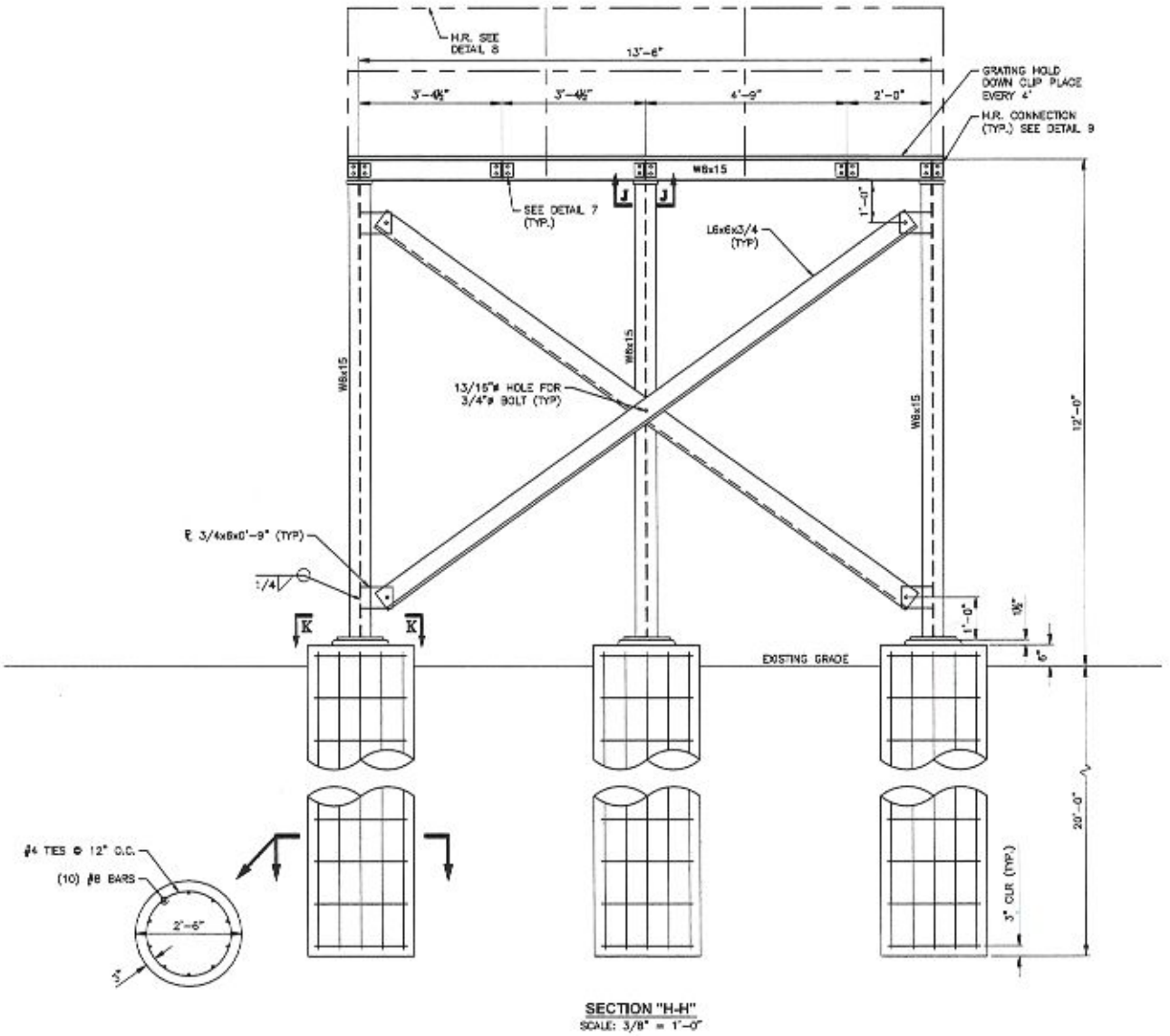
10350 SOUTHWEST COUNTY ROAD 347
CEDAR KEY, FLORIDA 32625
(LEVY COUNTY)

SHEET NAME
GENERATOR PLATFORM DETAILS

SHEET NUMBER
S7



SECTION "H-H"
SCALE: 3/8" = 1'-0"

REV	DATE	DESCRIPTION
A	10/13/20	PRELIM PLANS
0	10/15/20	FINAL PLANS ISSUED
1	02/19/21	REVISED PER COMMENTS

PROJECT NO.:	19-5345
DRAWN BY:	J. MALLISON
PROJECT MANAGER:	D. REVELS
CHECKED BY:	D. REVELS

SMW ENGINEERING GROUP, INC.
TOGETHER WE'RE BUILDING A BETTER TOMORROW
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JEREMY D. SHARIT PE FL LIC 75137

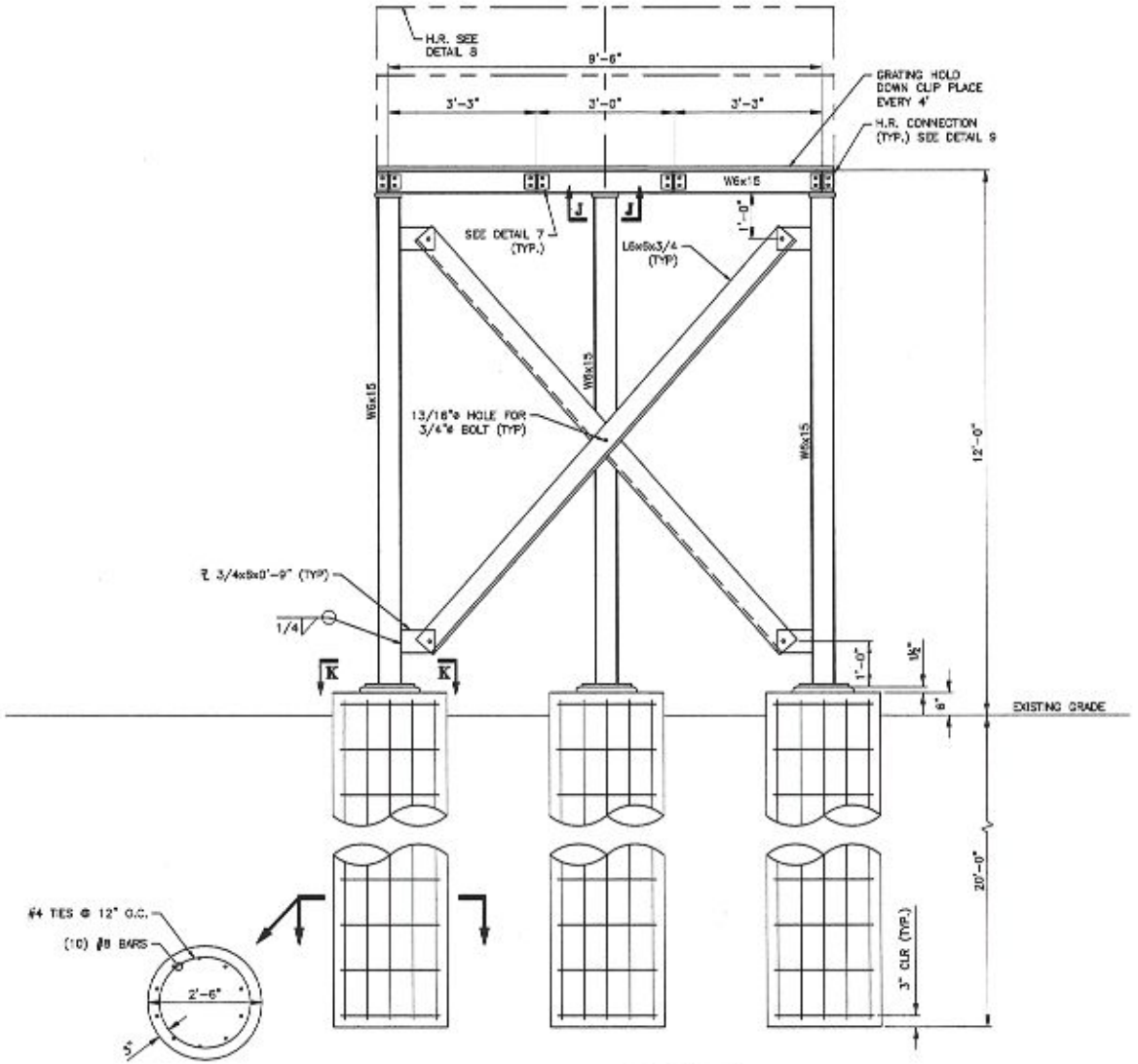
CEDAR KEY

NXFL-142

10390 SOUTHWEST COUNTY ROAD 347
CEDAR KEY, FLORIDA 32625
(LEVY COUNTY)

SHEET NAME
GENERATOR PLATFORM DETAILS

SHEET NUMBER
S8



SECTION "I-I"
SCALE: 3/8" = 1'-0"

REV	DATE	DESCRIPTION
A	10/12/20	PRELIM PLANS
0	10/15/20	FINAL PLANS ISSUED
1	02/10/21	REVISED PER COMMENTS

PROJECT NO.:	19-5348
DRAWN BY:	J. MALLISON
PROJECT MANAGER:	D. REVELS
CHECKED BY:	D. REVELS

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GAINESVILLE, FLORIDA 32606

CEDAR KEY

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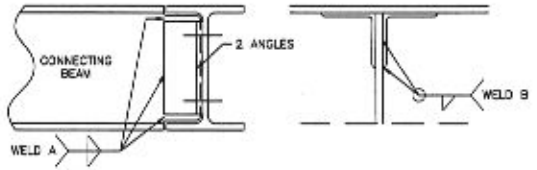
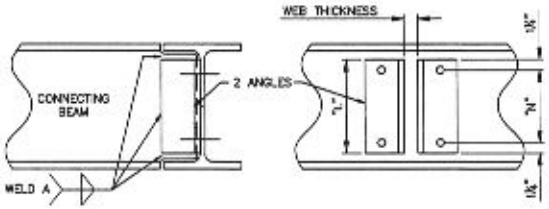
10050 SOUTHWEST COUNTY ROAD 347
CEDAR KEY, FLORIDA 32625
(LEVY COUNTY)

SHEET NAME
GENERATOR PLATFORM DETAILS

SHEET NUMBER
S9

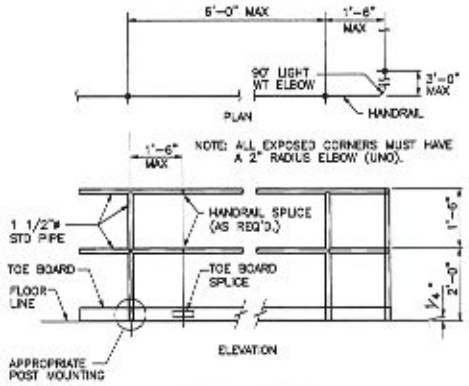


CONNECTING BEAM	2 ANGLES	LENGTH	WELD A E70XX	WELD B E70XX
W6x15	L 3x3x1/4	4"	3/16	3/16



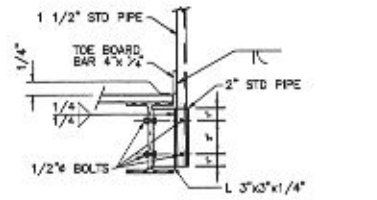
CONNECTING BEAM	2 ANGLES	"L"	"N"	BOLT DIA.	WELD B E70XX
W6x15	L 3x3x1/4	4"	1 1/2"	3/4" A307	3/16

DETAIL 7
SCALE: N.T.S.



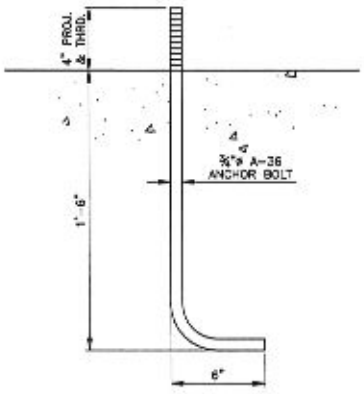
FIXED HANDRAIL

DETAIL 8
SCALE: N.T.S.

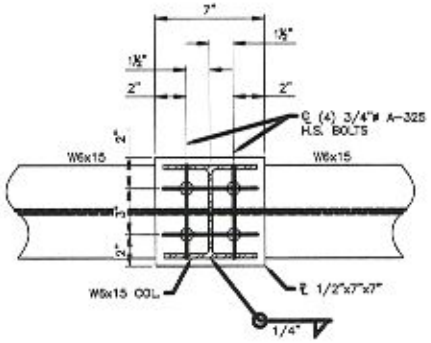


HANDRAIL POST CONNECTIONS TO STEEL

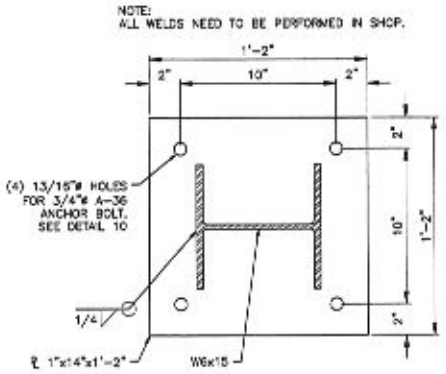
DETAIL 9
SCALE: N.T.S.



DETAIL 10
SCALE: N.T.S.



SECTION "J-J"
SCALE: 1 1/2" = 1'-0"



SECTION "K-K"
N.T.S.

REV	DATE	DESCRIPTION
A	10/13/20	PRELIM PLANS
0	10/19/20	FINAL PLANS ISSUED
1	02/19/21	REVISED PER COMMENTS

PROJECT NO:	19-5345
DRAWN BY:	J. MALLISON
PROJECT MANAGER:	D. REVELS
CHECKED BY:	D. REVELS

SMW ENGINEERING GROUP, INC.
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13976 N. TELECOM PARKWAY
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(813) 913-1422
CERTIFICATE OF AUTHORIZATION 33853

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4310 NORTHWEST 37TH PLACE, SUITE 600
GAINESVILLE, FLORIDA 32606

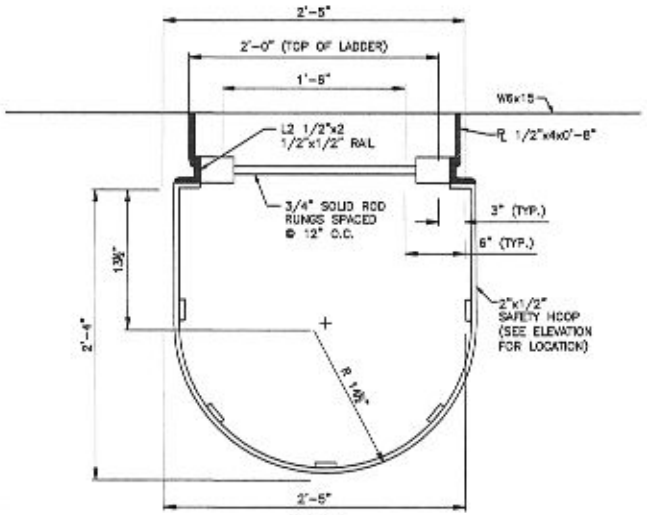
CEDAR KEY

NXFL-142

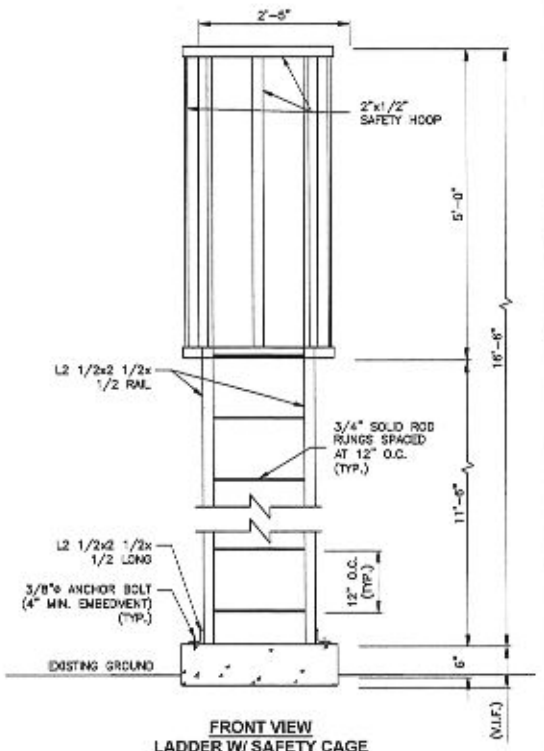
10350 SOUTHWEST COUNTY ROAD 347
CEDAR KEY, FLORIDA 32625
(LEVY COUNTY)

SHEET NAME
GENERATOR PLATFORM DETAILS

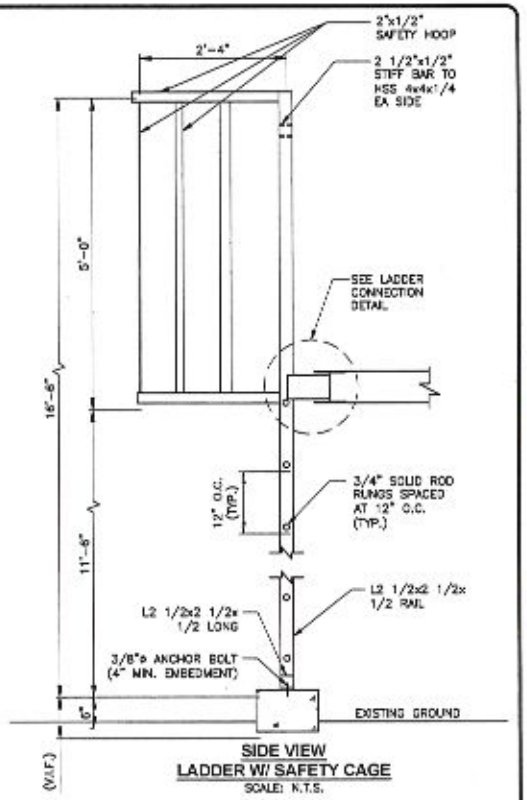
SHEET NUMBER
S10



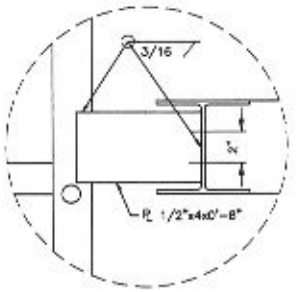
PLAN
LADDER W/ SAFETY CAGE
DETAIL 11
SCALE: N.T.S.



FRONT VIEW
LADDER W/ SAFETY CAGE
SCALE: N.T.S.



SIDE VIEW
LADDER W/ SAFETY CAGE
SCALE: N.T.S.



GENERATOR PLATFORM

LADDER CONNECTION DETAIL
SCALE: N.T.S.

REV	DATE	DESCRIPTION
A	10/13/20	PRELIM PLANS
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PROJECT NO.:	19-5345
DRAWN BY:	J. MALLISON
PROJECT MANAGER:	D. REVELS
CHECKED BY:	D. REVELS

SMW ENGINEERING GROUP, INC.
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TEMPLE TERRACE, FLORIDA 33637
(813) 615-1422
CERTIFICATE OF AUTHORIZATION 23063

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CEDAR KEY

NXFL-142

10350 SOUTHWEST COUNTY ROAD 347
CEDAR KEY, FLORIDA 32625
(LEVY COUNTY)

SHEET NAME
GENERATOR PLATFORM DETAILS

SHEET NUMBER
S11

A – GENERAL

A1. ALL ELECTRICAL WORK SHALL CONFORM TO THE NATIONAL ELECTRICAL CODE (EDITION ADOPTED BY LOCAL JURISDICTION) AND APPLICABLE LOCAL CODES.

A2. GROUNDING SHALL COMPLY WITH ARTICLE 250 OF THE NATIONAL ELECTRIC CODE.

A3. ALL ELECTRICAL EQUIPMENT AND ACCESSORIES SHALL BE U.L. APPROVED OR LISTED.

A4. ALL POWER WIRING SHALL BE STRANDED COPPER, TYPE THHN/THHW, AND 90 DEGREES C RATED.

A5. GROUNDING ELECTRODE CONDUCTORS SHALL BE BARE, TIN COATED COPPER AND EQUIPMENT GROUND CONDUCTORS SHALL BE GREEN INSULATED, UNLESS OTHERWISE NOTED.

A6. ALL POWER WIRING SHALL BE INSTALLED IN GALVANIZED RIGID STEEL CONDUIT, PVC, OR FLEXIBLE LIQUIDTIGHT CONDUIT, AS INDICATED.

A7. CONTRACTOR SHALL OBTAIN ALL PERMITS, PAY PERMIT FEES, AND SCHEDULE INSPECTIONS.

A8. CONTRACTOR SHALL APPLY FOR ELECTRICAL SERVICE AS SOON AS POSSIBLE AND COORDINATE REQUIREMENTS, SERVICE ROUTING, AND METER SOCKET TYPE WITH LOCAL POWER COMPANY.

A9. CONTRACTOR SHALL APPLY FOR TELEPHONE SERVICE AS SOON AS POSSIBLE AND COORDINATE REQUIREMENTS AND SERVICE ROUTING WITH TELEPHONE COMPANY.

A10. PROVIDE ALL LABOR AND MATERIAL DESCRIBED ON THIS DRAWING, AND ALL ITEMS INCIDENTAL TO COMPLETING AND PRESENTING THIS PROJECT AS FULLY OPERATIONAL.

A11. WHERE LONG POWER CABLE RUNS PREVAIL CONTRACTOR SHALL CALCULATE THE VOLTAGE DROP AND SIZE WIRES AND CONDUIT ACCORDINGLY.

A12. WHERE TRANSFORMER IS REQUIRED FOR ELECTRICAL SERVICE, TRANSFORMER SECONDARY SHALL BE GROUNDED PER N.E.C., ARTICLE 250-26.

A13. REFER TO SITE SPECIFIC DWGS FOR ELEVATIONS.

A14. ALL ELECTRICAL DEVICES EXPOSED TO WEATHER SHALL BE OF RAINPROOF CONSTRUCTION AND SHALL REQUIRE WATER TIGHT CONDUIT HUBS. NEMA 3R TYPICAL.

A15. CONTRACTOR SHALL COIL CABLES AT HANDHOLE WITH LENGTHS AS REQUIRED BY ELECTRICAL UTILITY FOR CONNECTION BY UTILITY.

A16. ALL UNDERGROUND SERVICE ENTRANCE POWER CABLES SHALL BE TYPE FOR SUCH USE. CONTRACTOR SHALL CALCULATE VOLTAGE DROP AND RE-SIZE CABLES PER NEC REQUIREMENTS FOR CABLE RUNS EXCEEDING 250 FEET.

B – POWER CABLE AND SERVICE

B1. CONTRACTOR SHALL PROVIDE CONDUIT AND WIRING TO BTS AND VERIFY EXACT CONDUIT ROUTING. RACEWAY SYSTEM MATERIALS AND DEVICES FURNISHED SHALL BE IN ACCORDANCE WITH APPLICABLE STANDARDS OF ANSI, NEMA, AND UL. RACEWAY SYSTEM COMPONENTS SHALL BE INSTALLED IN ACCORDANCE WITH APPLICABLE REQUIREMENTS OF THE N.E.C.

B2. CONTRACTOR SHALL SEAL AROUND ALL CONDUIT PENETRATIONS THROUGH WALLS, FLOORS AND ROOFS TO PREVENT MOISTURE PENETRATION OR VERMIN INFESTATION.

B3. CONDUCTORS RUNNING ALONG HORIZONTAL SURFACES (ROOF TOP OR SLAB) SHALL BE INSTALLED IN RIGID CONDUIT SUPPORTED ON ELECTRICAL CONDUIT SUPPORT.

B4. ALL VERTICAL RUNS OF POWER CABLE EXCEEDING 80 FEET IN LENGTH SHALL BE SUPPORTED PER N.E.C. ARTICLE 300 USING KELLEMS GRIPS OR ACCEPTABLE EQUAL CABLE SUPPORT SYSTEM.

B5. WHERE A SEPARATE ELECTRICAL SERVICE DROP IS ADDED, CONTRACTOR SHALL INSTALL PERMANENT SERVICE DISCONNECT OR GROUPING THEREOF, DENOTING ALL OTHER SERVICE ENTRANCES, LOCATION OF EACH AND THE AREAS SERVED BY EACH.

B6. WHERE ELECTRICAL POWER IS TO BE SUB-FED FROM AN EXISTING DISTRIBUTION SYSTEM, THE FOLLOWING SHALL APPLY:

A) CONTRACTOR SHALL PERFORM LOAD TESTING TO DETERMINE MAXIMUM FEEDER DEMAND PER N.E.C. ARTICLE 220-35.
B) CONTRACTOR SHALL VERIFY WHETHER EXISTING FEEDER CAPACITY EXCEEDS VALUE CALCULATED PER N.E.C. ARTICLE 220-35
C) EACH BRANCH CIRCUIT PROTECTIVE DEVICE SHALL HAVE SAME INTERRUPTING RATING AS EQUIPMENT SUPPLYING IT.
D) PREFERRED MEANS OF SUPPLY SHALL BE A BRANCH CIRCUIT PROTECTIVE DEVICE LOCATED IN EXISTING PANEL.
E) IF A BRANCH CIRCUIT PROTECTIVE DEVICE CANNOT BE OBTAINED OR SPACE IS NOT AVAILABLE, A BRANCH CIRCUIT MAY BE TAPPED FROM EXISTING FEEDER CONDUCTORS USING AN INSTALLED 2-POLE FUSED DISCONNECT AND METER BASE PER N.E.C. ARTICLE 240-21 WITH TEN FOOT (10) MAXIMUM TAP CONDUCTORS. FUSED DISCONNECT SHALL BE LISTED SAME OR BETTER INTERRUPTING RATING AS EXISTING SOURCE OF SUPPLY.

C – RF (COAX) AND LOW VOLTAGE CABLE

C1. RF CABLES AND LOW VOLTAGE CABLING BETWEEN BTS, LNA OR TMA AND ANTENNA SHALL BE SUPPORTED USING ANDREW "SNAP-IN" HANGERS OR ACCEPTABLE EQUAL.

C2. RF CABLES AND LOW VOLTAGE CABLING BETWEEN BTS, LNA OR TMA AND ANTENNA SHALL BE ROUTED AS FOLLOWS:

A) RUNNING ALONG HORIZONTAL SURFACES: USE WAVEGUIDE SUPPORTS OR BRIDGE KIT MOUNTED ON CONCRETE SLEEPERS.
B) RUNNING ALONG VERTICAL TOWER FACE: WAVEGUIDE LADDER W/HANGERS OR KELLEMS GRIPS.
C) RUNNING ALONG OR ADJACENT TO BTS PLATFORM: USE 12 X 3 OPEN OR COVERED ELECTRICAL LADDER TRAY.

D – IDENTIFICATION

D1. LOCATE NAMEPLATE, MARKING, OR OTHER IDENTIFICATION MEANS ON OUTSIDE EQUIPMENT OR BOX FRONT COVERS.

D2. PROVIDE NAMEPLATE ENGRAVED WITH EQUIPMENT DESIGNATION FOR EACH SAFETY SWITCH AND ALL OTHER ELECTRICAL CABINETS, ETC.

D3. DURING TRENCH BACK-FILLING FOR EACH UNDERGROUND ELECTRICAL, TELEPHONE, SIGNAL AND COMMUNICATIONS LINE, PROVIDE A CONTINUOUS UNDERGROUND WARNING TAPE TWELVE INCHES BELOW FINISHED GRADE.

REV	DATE	DESCRIPTION
A	10/13/20	PRELIM PLANS
0	10/15/20	FINAL PLANS ISSUED
1	02/19/21	REVISED PER COMMENTS

PROJECT NO.:	19-5345
DRAWN BY:	J. MALLISON
PROJECT MANAGER:	D. REVELS
CHECKED BY:	D. REVELS

SAW ENGINEERING GROUP, INC.
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TEMPLE TERRACE, FLORIDA 33637
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CERTIFICATE OF AUTHORIZATION 33663

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GAINESVILLE, FLORIDA 32606

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JEREMY D. SHARIT PE FL LIC 75137

CEDAR KEY

NXFL-142

10050 SOUTHWEST COUNTY ROAD 347
CEDAR KEY, FLORIDA 32625
(LEVY COUNTY)

SHEET NAME

ELECTRICAL NOTES

SHEET NUMBER

E1

A – GENERAL

A1. INSTALLATION OF GROUNDING ELECTRODE SYSTEM SHALL COMPLY WITH ARTICLE 250 OF THE NATIONAL ELECTRIC CODE AND WITH ALL BUILDING CODES OF AUTHORITIES HAVING JURISDICTION.

A2. GROUNDING CONDUCTORS SHALL BE #2 AWG TINNED SOLID BARE COPPER BELOW AND ABOVE GRADE, UNLESS OTHERWISE NOTED AND SHALL BE ROUTED IN A DOWNWARD PATH TOWARDS GROUND BARS.

A3. GROUNDING CONDUCTORS SHALL BE KEPT AS SHORT AND DIRECT AS POSSIBLE WITH MINIMUM BEND RADIUS OF 12 INCHES.

A4. ALL BELOW GRADE CONNECTIONS SHALL BE CADWELD TYPE CONNECTIONS AND ALL CONNECTIONS TO EQUIPMENT AND GROUND BARS SHALL BE 2-HOLE BRONZE COMPRESSION CONNECTORS UNLESS OTHERWISE NOTED.

A5. CONTRACTOR SHALL INSTALL NEW PCS GROUNDING SYSTEM PER SPECIFICATIONS AND INTERCONNECT NEW SYSTEMS TO ANY EXISTING GROUNDING SYSTEMS AS REQUIRED BY NFPA 70 AND 780 (THIS APPLIES TO ELECTRICAL POWER DISTRIBUTION GROUNDING SYSTEM, LIGHTNING PROTECTION GROUNDING SYSTEM, COAX CABLE GROUNDING SYSTEM AND ANY OTHER EXISTING GROUNDING SYSTEMS).

A6. GROUNDING CONDUCTORS SHALL BE BONDED TO CABLE SUPPORTS, ANTENNA FRAMES, AND ANY SUPPORT FRAMES OR RACKS USING CADWELD OR MECHANICAL CONNECTIONS.

A7. CONTRACTOR SHALL PROVIDE LOCK WASHERS FOR ALL MECHANICAL CONNECTIONS FOR GROUND CONDUCTORS. STAINLESS STEEL HARDWARE SHALL BE USED THROUGHOUT.

A8. GROUNDING CONDUCTORS EMBEDDED IN CONCRETE OR PENETRATING WALLS AND FLOORS SHALL BE ENCASED IN PVC CONDUIT. NO METALLIC CONDUIT SHALL BE USED FOR GROUNDING CONDUCTORS UNLESS REQUIRED BY LOCAL CODES OR OTHERWISE INDICATED ON DRAWINGS. CONTRACTOR SHALL SEAL AROUND ALL CONDUIT PENETRATIONS TO PREVENT MOISTURE PENETRATION AND VERMIN INFESTATION.

A9. CONTRACTOR SHALL BOND PCS GROUNDING SYSTEM VIA THE MASTER GROUND BAR TO ALL METAL OBJECTS WITHIN 12 FEET OF EQUIPMENT, CONDUIT AND CABLES.

A10. BONDING OF GROUNDED CONDUCTOR (NEUTRAL) AND GROUNDING CONDUCTOR SHALL BE AT SERVICE DISCONNECTING MEANS. BONDING JUMPER SHALL BE INSTALLED PER N.E.C. ARTICLE 250-28.

A11. CONTRACTOR SHALL VERIFY EXACT CONDUIT ROUTING FOR GROUNDING CONDUCTORS WHERE APPLICABLE.

A12. A GROUND LEAD IS REQUIRED ONLY FOR BTS SUPPORTED ON STEEL FRAME. AN ADDITIONAL GROUND LEAD IS REQUIRED IF CABLE TRAY IS USED.

A13. CONNECTIONS TO CGB SHALL BE ARRANGED IN THE FOLLOWING THREE GROUPS:

- SURGE PRODUCERS (COAXIAL CABLE GROUND KITS, TELCO CABINET AND POWER PEDESTAL GROUND).
- SURGE ABSORBERS (GROUNDING ELECTRODE RING OR BUILDING STEEL).
- NON-SURGING OBJECTS (EGB GROUND IN BTS).

A14. DOUBLING OR STACKING OF ANY GROUNDING CONNECTIONS IS NOT ACCEPTABLE.

A15. ALL GROUND BARS SHALL BE INSTALLED WITH STAND OFF INSULATORS.

B – PREPARATION

B1. SURFACES: ALL CONNECTIONS SHALL BE MADE TO BARE METAL. ALL PAINTED SURFACES SHALL BE FIELD INSPECTED TO ENSURE PROPER CONTACT. ALL GALVANIZED SURFACES ON WHICH GALVANIZING HAS BEEN REMOVED BY CUTTING, DRILLING, OR ANY OTHER OPERATION SHALL BE RE-GALVANIZED IN ACCORDANCE WITH ASTM A780 USING "ZINC RICH" COATING AS MANUFACTURED BY ZRC CHEMICAL PRODUCTS COMPANY (LOCATED IN QUINCY, MASSACHUSETTS), OR ACCEPTABLE EQUAL. NO WASHERS ARE ALLOWED BETWEEN ITEMS BEING GROUNDED. ALL CONNECTIONS ARE TO HAVE A NON-OXIDIZING AGENT ("COPPER SHIELD") APPLIED PRIOR TO INSTALLATION.

B2. GROUND BAR: ALL COPPER GROUND BARS SHALL BE CLEANED, POLISHED AND A NON-OXIDIZING AGENT ("COPPER SHIELD") APPLIED. NO FINGER PRINTS OR DISCOLORED COPPER SHALL BE PERMITTED.

C – BUILDINGS

C1. ELECTRICAL CONTRACTOR SHALL PERFORM REQUIRED TESTING ON GROUNDING SYSTEM ONCE GROUNDING SYSTEM IS COMPLETELY CONSTRUCTED AND BEFORE SERVICE POWER AND GROUND IS CONNECTED (SEE NOTE T1 FOR TEST DESCRIPTION).

C2. A #4/0 AWG COPPER CONDUCTOR SHALL BE ROUTED FROM MASTER GROUND BAR AT BTS SITE TO MAIN METAL COLD WATER PIPE AND BONDED TO PIPE WITH BRONZE 2-HOLE PIPE CLAMP. CLAMP SHALL BE CONNECTED TO WATER PIPE WITHIN 5 FEET OF ENTRY OF PIPE INTO BUILDING WITH NO DEVICES BETWEEN ENTRY POINT AND CONNECTION AND SHALL COME IN CONTACT WITH PIPE FOR A MINIMUM DISTANCE OF 4 INCHES.

C3. METAL RACEWAYS, ENCLOSURES, FRAMES AND OTHER NON-CURRENT CARRYING PARTS OF ELECTRICAL EQUIPMENT SHALL BE KEPT AT LEAST 6 FEET AWAY FROM LIGHTNING ROD CONDUCTORS OR THEY MUST BE BONDED TO LIGHTING ROD CONDUCTORS AT THE LOCATION WHERE SEPARATION DISTANCE IS LESS THAN 6 FEET.

C4. A MASTER GROUND BAR (MGB) SHALL BE INSTALLED NEAR BTS WITH BUILDING PRINCIPAL GROUND BAR (BPG) INSTALLED NEAR ENTRANCE OF MAIN METAL COLD WATER PIPE INTO BUILDING. A #4/0 AWG STRANDED COPPER DOWN CONDUCTOR (VERTICAL GROUND RISER) SHALL BE USED TO INTERCONNECT GROUND BARS.

C5. VERTICAL RISER SHALL CONSIST OF A #4/0 AWG (THWN) STRANDED COPPER CONDUCTOR INSIDE ¾" CONDUIT.

C6. CONTRACTOR SHALL BOND BUILDING PRINCIPAL GROUND BAR (BPG) NEAR MAIN METAL COLD WATER PIPE TO EXISTING BUILDING GROUND RING AS WELL AS TO MAIN METAL COLD WATER PIPE WITH #4/0 AWG (THWN) STRANDED COPPER CONDUCTOR.

C7. ANTENNA GROUND BARS (AGB) SHALL BE INSTALLED NEAR ANTENNAS AND SHALL BE BONDED TO MASTER GROUND BAR (MGB) WITH #2 AWG TINNED SOLID BARE COPPER CONDUCTOR.

C8. IF CODES REQUIRE VERTICAL RISER TO BE ISOLATED IN CONDUIT, PVC CONDUIT IS PREFERRED. IF METALLIC CONDUIT IS USED, GROUNDING BUSHINGS SHALL BE INSTALLED ON EACH END OF THE CONDUIT AND BONDED TO GROUND BARS USING #2 AWG (THWN) STRANDED COPPER CONDUCTORS WITH GREEN INSULATION.

D – LAND BUILDS AND CO-LOCATES

D1. THE GROUND ELECTRODE SYSTEM SHALL CONSIST OF DRIVEN GROUND RODS UNIFORMLY SPACED AROUND THE EQUIPMENT FOUNDATION AND AROUND THE PERIMETER OF THE TOWER FOUNDATION. THE GROUND RODS SHALL BE ⅝" X 10'-0" COPPER CLAD STEEL INTERCONNECTED WITH #2 SOLID TINNED BARE COPPER GROUND CONDUCTOR TO FORM A GROUND RING AT A DEPTH OF 30 INCHES BELOW THE SURFACE OF THE SOIL. A MINIMUM OF 1 FOOT AND A MAXIMUM OF 3 FEET CLEARANCES SHALL BE MAINTAINED FROM FOUNDATIONS. TOWER AND EQUIPMENT GROUND RINGS SHALL BE INTERCONNECTED WITH TWO GROUNDING CONDUCTORS OF EQUAL LENGTH AND MATERIALS.

D2. GROUND RODS SHALL BE BONDED TO GROUND RINGS AND INTERCONNECTING CONDUCTORS AT EQUAL INTERVALS OF APPROXIMATELY 10 FEET.

D3. WAVEGUIDE BRIDGE SHALL BE BONDED TO GROUND RINGS OR INTERCONNECTING CONDUCTORS WITH GROUNDING CONDUCTORS BONDED TO DIAGONALLY OPPOSED SUPPORT POSTS.

D4. GROUND BARS SHALL BE BONDED TO GROUND RING WITH SINGLE GROUNDING CONDUCTOR.

D5. BONDS TO ANTENNA MASTS, FENCE POSTS, WAVEGUIDE BRIDGE, TOWER STEEL (UNLESS PROHIBITED BY TOWER MANUFACTURER) AND THOSE BELOW GRADE SHALL BE EXOTHERMIC TYPE (CADWELD). ALL OTHER BONDS SHALL BE BRONZE 2-HOLE COMPRESSION FITTINGS UNLESS OTHERWISE NOTED.

D6. GROUNDING CONDUCTORS MAKING A TRANSITION FROM ABOVE TO BELOW GRADE SHALL BE INSULATED FROM EARTH CONTACT BY PASSING THROUGH PVC CONDUIT. THE CONDUIT SHALL EXTEND AT LEAST 6 INCHES ABOVE AND 12 INCHES BELOW GRADE LEVEL.

E – LIGHTNING PROTECTION

E1. IF EXISTING BUILDING HAS AN NFPA 780 AIR TERMINAL SYSTEM, EXISTING SYSTEM SHALL BE BONDED TO A GROUND BAR TO BOND THE EXISTING SYSTEM TO THE NEW SYSTEM. SHOULD THE EXISTING SYSTEM COME WITHIN 6 FEET OF ANTENNA STRUCTURES, EXISTING SYSTEM SHALL ALSO BE BONDED TO COAX GROUND BARS.

E2. IF SITE IS IN A HIGH RISK AREA AND ANTENNAS DO NOT FALL WITHIN EXISTING CONE OF PROTECTION FOR BUILDING, AIR TERMINALS SHALL BE INSTALLED AT ANTENNAS. A SINGLE AIR TERMINAL MAY BE USED WHEN TWO ANTENNAS ARE MOUNTED ON SAME STRUCTURE AND IT HAS BEEN DETERMINED THAT BOTH ANTENNAS WILL FALL WITHIN LIGHTNING CONE OF PROTECTION FOR SINGLE AIR TERMINAL.

T – GROUNDING REQUIREMENTS

T1. CONTRACTOR SHALL INSPECT AND TEST ANY NEW OR EXISTING NEXTOWER GROUNDING SYSTEM WITH A BIDDLE-MEGGER TESTER UTILIZING THE FALL OF POTENTIAL METHOD AND CONTACT CONSTRUCTION MANAGER IF RESISTANCE EXCEEDS 5 OHMS AND SHALL FIELD MODIFY GROUNDING SYSTEM AS NECESSARY TO ACHIEVE COMPLIANCE. TEST RESULTS AND CONCLUSIONS SHALL BE RECORDED FOR PROJECT CLOSE-OUT DOCUMENTATION.

T2. COAX CABLE OUTER CONDUCTORS (SHIELDS) SHALL BE GROUNDED USING COAX GROUNDING KITS AT A MINIMUM OF TWO POINTS, INCLUDING AT ANTENNA AND AT MASTER GROUND BAR. THE COAXIAL CABLE SHALL NOT EXCEED 100 FEET BETWEEN GROUNDING KITS.

T3. GROUNDING CONDUCTOR CONSISTING OF 2-#2 AWG TINNED SOLID BARE COPPER WIRE SHALL BE BONDED TO WAVEGUIDE ENTRY GROUND BAR USING CADWELD CONNECTIONS.

T4. COAX CABLE ENTERING A BUILDING SHALL BE GROUNDED WITH COAX GROUNDING KITS TO AN INSULATED COAX GROUND BAR WHICH SHALL BE INSTALLED ON THE OUTSIDE FACE OF THE BUILDING, BELOW THE CABLE ENTRY PORTS.

T5. WHEN COAX CABLES ENTER A BUILDING FROM A TOWER, THE COAX GROUND BAR AT THE BUILDING SHALL BE CONNECTED TO THE EXTERNAL GROUND RING USING 2-#2 AWG BARE TINNED SOLID COPPER ISOLATED IN PVC CONDUIT.

T6. WHEN COAX CABLES ENTER A BUILDING FROM A ROOF TOP, THE COAX GROUND BAR AT THE BUILDING SHALL BE CONNECTED TO THE MASTER GROUND BAR NEAR THE BTS USING #2 AWG STRANDED INSULATED COPPER CONDUCTOR (SEE BUILDINGS NOTES ON THIS DRAWING FOR CONNECTION TO PRINCIPLE GROUND BAR AND BUILDING GROUND).

REV	DATE	DESCRIPTION
A	10/13/20	PRELIM PLANS
0	10/15/20	FINAL PLANS ISSUED
1	02/19/21	REVISED PER COMMENTS

PROJECT NO.:	19-5349
DRAWN BY:	J. MALUSON
PROJECT MANAGER:	D. REVELS
CHECKED BY:	D. REVELS

SMW ENGINEERING GROUP, INC.
TOMORROW PLANNING A BETTER TOMORROW
13975 N TELECOM PARKWAY
TEMPLE TERRACE, FLORIDA 33637
(813) 972-1432
CERTIFICATE OF AUTHORIZATION #3892

NexTower
NEXTGENERATIONAL WIRELESS INFRASTRUCTURE
4019 NORTHWEST 37TH PLACE, SUITE 300
GAINESVILLE, FLORIDA 32605

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JEREMY D. SHARP PE FL LIC 75137

CEDAR KEY

NXFL-142

10030 SOUTHWEST COUNTY ROAD 347
CEDAR KEY, FLORIDA 32625
(LEVY COUNTY)

SHEET NAME
GROUNDING NOTES

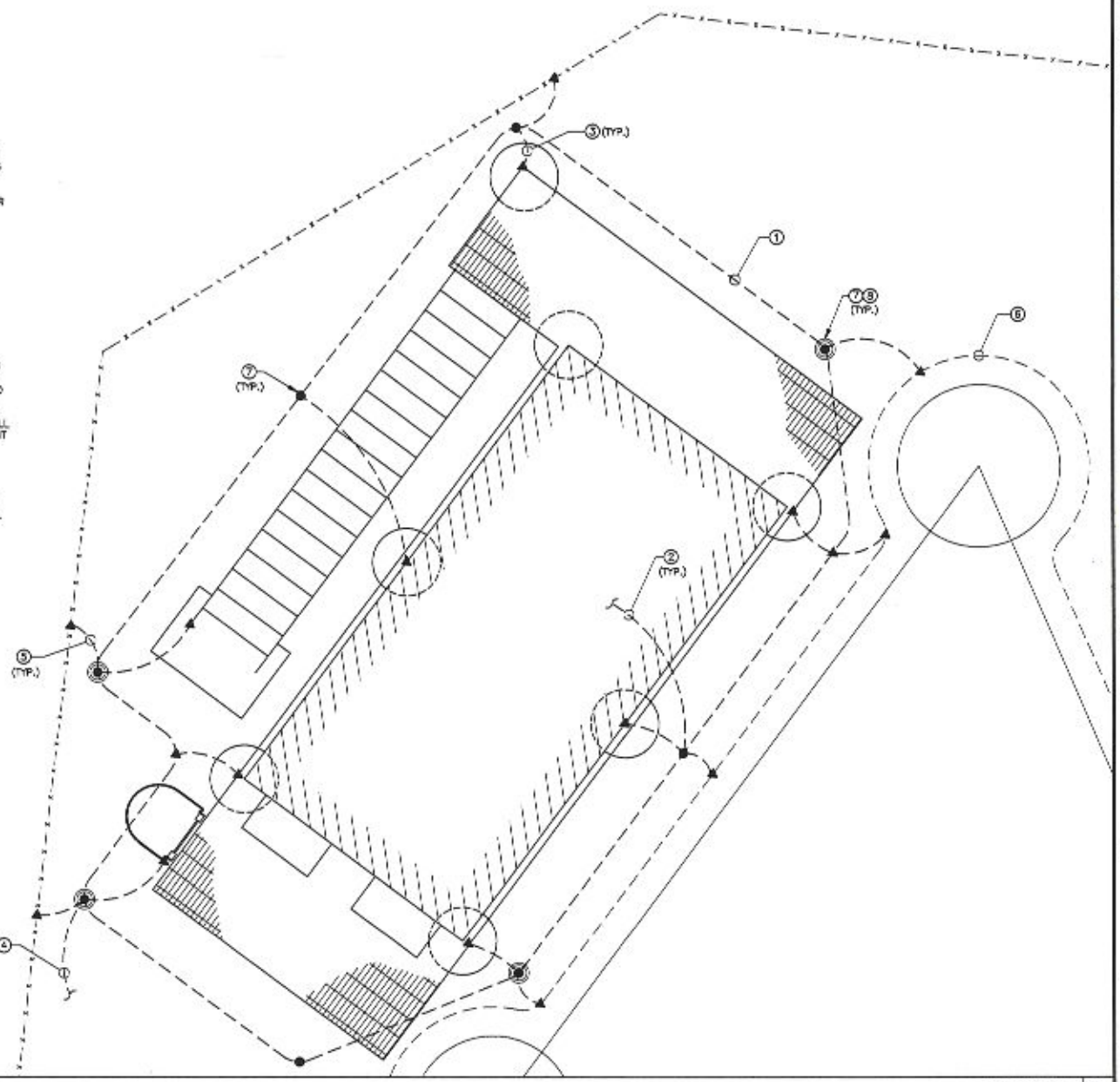
SHEET NUMBER
E2

16' 0' 8' 16'

FOR 24"x36" DRAWINGS
GRAPHIC SCALE: 1/8" = 1'-0"
FOR 11"x17" DRAWINGS
GRAPHIC SCALE: 1/16" = 1'-0"

GROUNDING KEY NOTES:

1. PROVIDE A #2 AWG SOLID BARE TINNED COPPER GROUND RING AROUND THE ELEVATED PLATFORM. THE GROUND RING SHALL BE INSTALLED 1'-0" AWAY FROM FOUNDATIONS (MINIMUM UNLESS SHOWN OTHERWISE ON DRAWINGS). ALL BONDS TO THE BURIED GROUND RING SHALL BE WITH EXOTHERMIC WELDS.
2. #2 AWG TINNED SOLID BARE PIGTAIL FROM GROUND RING TO INTERIOR HALO.
3. #2 AWG TINNED SOLID BARE BOND FROM PLATFORM LEG TO PROPOSED GROUND RING
4. #2 AWG TINNED SOLID BARE BOND TO ANY METAL WITHIN 10' OF PROPOSED GROUND RING.
5. #2 AWG TINNED SOLID BARE BOND TO FENCE.
6. EXISTING TOWER GROUND RING CONTRACTOR TO HAND EXCAVATE TO EXPOSE.
7. INSTALL ⅝" X 10' LONG COPPERCLAD STEEL GROUND RODS. SPACING BETWEEN RODS NOT TO EXCEED 16' (NONLINEAR). TYPICAL FOR ALL GROUND RODS SHOWN, UNLESS NOTED OTHERWISE. SEE GROUND ROD INSPECTION WELL DETAIL SHEET E-6. IF ROCK IS ENCOUNTERED, GROUND ROD MAY BE INSTALLED WITH A MAXIMUM VARIATION OF 30° FROM VERTICAL AND CONTRACTOR SHALL BE PREPARED TO CORE DRILL TO INSTALL GROUND RODS AND BACKFILL WITH GROUND ENHANCEVENT MATERIAL.
8. PROVIDE 6" DIAMETER PVC INSPECTION SLEEVE WITH REMOVABLE COVER IN LOCATION SHOWN. SEE GROUND ROD INSPECTION WELL DETAIL, SHEET E-6, FOR TYPICAL GROUND RING INSPECTION SLEEVE. NOTE: INSPECTION SLEEVE CAN BE USED AS A TEST WELL FOR GROUND WATER LEVEL INSPECTION AND GROUND RESISTANCE TESTING.



GROUNDING PLAN

SCALE AS NOTED | 1

REV	DATE	DESCRIPTION
A	10/13/20	PRELIM PLANS
0	10/15/20	FINAL PLANS ISSUED
1	02/19/21	REVISED PER COMMENTS

PROJECT NO.:	19-5345
DRAWN BY:	J. MALLISON
PROJECT MANAGER:	D. REVELS
CHECKED BY:	D. REVELS

SMW ENGINEERING GROUP, INC.
12975 N TELECOM PARKWAY
TEMPLE TERRACE, FLORIDA 33637
(813) 972-1433
CERTIFICATE OF AUTHORIZATION 32892

NexTower
4213 NORTHWEST 37TH PLACE, SUITE 900
GAINESVILLE, FLORIDA 32605

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JEREMY D. SHARP PE FL LIC 75137

CEDAR KEY

NXFL-142

10350 SOUTHWEST COUNTY ROAD 347
CEDAR KEY, FLORIDA 32625
(LEVY COUNTY)

SHEET NAME

SHELTER PLATFORM GROUNDING PLAN

SHEET NUMBER

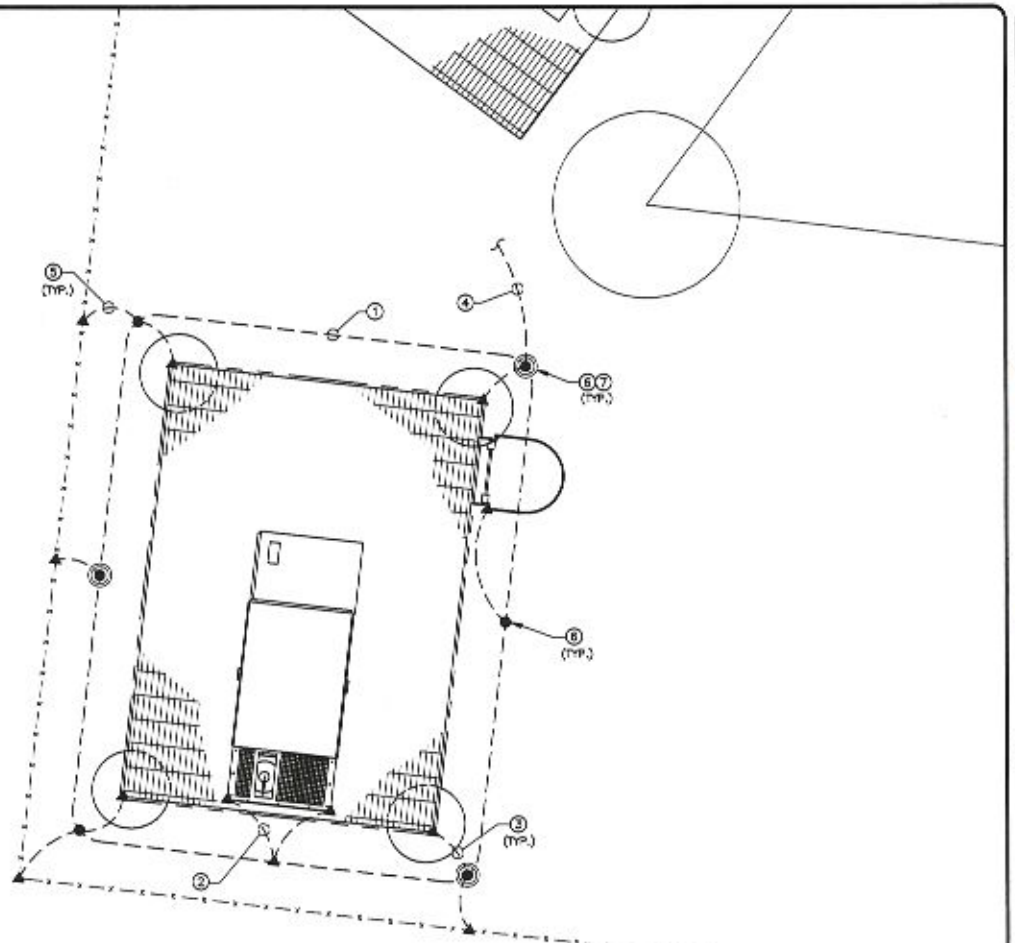
E3

0' 8' 16'

FOR 24"x36" DRAWINGS
GRAPHIC SCALE: 1/8" = 1'-0"
FOR 11"x17" DRAWINGS
GRAPHIC SCALE: 1/16" = 1'-0"

GROUNDING KEY NOTES:

1. PROVIDE A #2 AWG SOLID BARE TINNED COPPER GROUND RING AROUND THE ELEVATED PLATFORM. THE GROUND RING SHALL BE INSTALLED 1'-0" AWAY FROM FOUNDATIONS (MINIMUM UNLESS SHOWN OTHERWISE ON DRAWINGS). ALL BONDS TO THE BURIED GROUND RING SHALL BE WITH EXOTHERMIC WELDS.
2. #2 AWG TINNED SOLID BARE BOND TO GENERATOR CASE.
3. #2 AWG TINNED SOLID BARE BOND FROM PLATFORM LEG TO PROPOSED GROUND RING
4. #2 AWG TINNED SOLID BARE BOND TO ANY METAL WITHIN 10' OF PROPOSED GROUND RING.
5. #2 AWG TINNED SOLID BARE BOND TO FENCE.
6. INSTALL ⅝" X 10' LONG COPPERCLAD STEEL GROUND RODS. SPACING BETWEEN RODS NOT TO EXCEED 16' (NONLINEAR). TYPICAL FOR ALL GROUND RODS SHOWN, UNLESS NOTED OTHERWISE. SEE GROUND ROD INSPECTION WELL DETAIL, SHEET E5. IF ROCK IS ENCOUNTERED, GROUND ROD MAY BE INSTALLED WITH A MAXIMUM VARIATION OF 30° FROM VERTICAL AND CONTRACTOR SHALL BE PREPARED TO CORE DRILL TO INSTALL GROUND RODS AND BACKFILL WITH GROUND ENHANCEMENT MATERIAL.
7. PROVIDE 6" DIAMETER PVC INSPECTION SLEEVE WITH REMOVABLE COVER IN LOCATION SHOWN. SEE GROUND ROD INSPECTION WELL DETAIL, SHEET E5, FOR TYPICAL GROUND RING INSPECTION SLEEVE. NOTE: INSPECTION SLEEVE CAN BE USED AS A TEST WELL FOR GROUND WATER LEVEL INSPECTION AND GROUND RESISTANCE TESTING.



REV	DATE	DESCRIPTION
A	10/13/20	PRELIM PLANS
0	10/19/20	FINAL PLANS ISSUED
1	02/19/21	REVISED PER COMMENTS

PROJECT NO:	18-5345
DRAWN BY:	A. MALLISON
PROJECT MANAGER:	D. REVELS
CHECKED BY:	D. REVELS

SMW ENGINEERING GROUP, INC.
1205 N. TELEM PARKWAY
TEMPLE TERRACE, FLORIDA 33637
(813) 973-1413
CERTIFICATE OF AUTHORIZATION: 30830

NexTower
4215 NORTHWEST 97TH PLACE, SUITE 800
GAINESVILLE, FLORIDA 32606

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JEREMY D. SHARIT PE FL LIC 75137

CEDAR KEY

NXFL-142

10050 SOUTHWEST COUNTY ROAD 347
CEDAR KEY, FLORIDA 32625
(LEVY COUNTY)

SHEET NAME

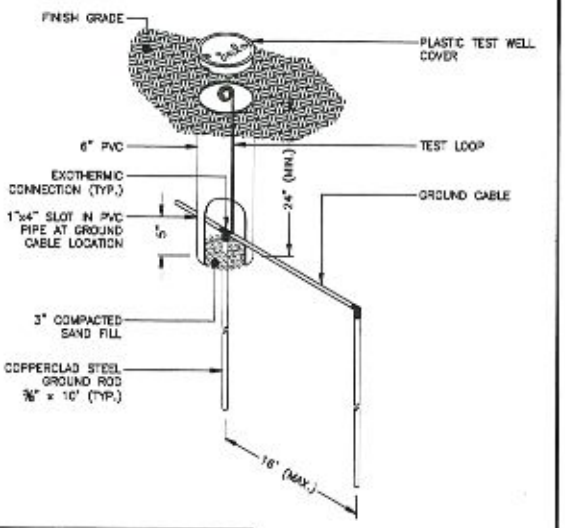
GENERATOR PLATFORM GROUNDING PLAN

SHEET NUMBER

E4

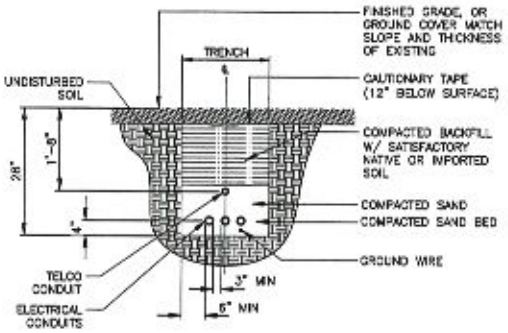
GROUNDING PLAN

SCALE AS NOTED | 1



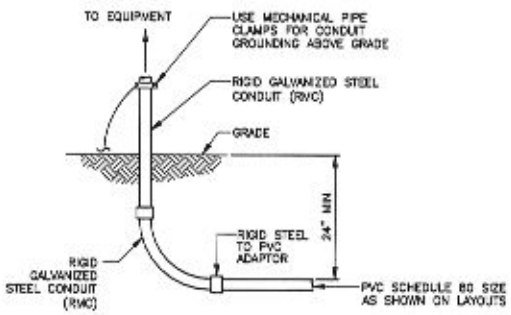
NOTE:
ALL WORK SHALL CONFORM TO THE LOCAL BUILDING CODES. DEPTH MAY VARY.

GROUND ROD INSPECTION WELL DETAIL NTS 1

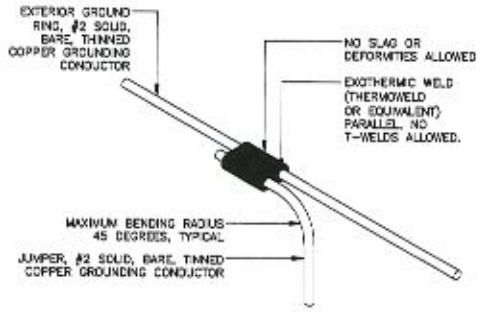


* CONDUIT SIZE, TYPE, QUANTITY AND SEPARATION DIMENSION TO BE VERIFIED WITH LOCAL UTILITY COMPANY REQUIREMENTS

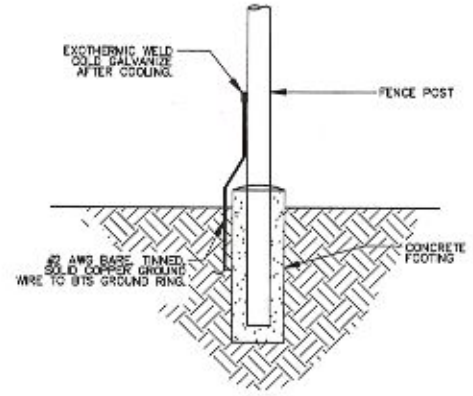
TRENCHING DETAIL NTS 2



CONDUIT STUB-UP DETAIL NTS 3



EXOTHERMIC WELD DETAIL NTS 4



UTILITY RACK POST BONDING DETAIL NTS 5

REV	DATE	DESCRIPTION
A	10/13/20	PRELIM PLANS
0	10/15/20	FINAL PLANS ISSUED
1	03/19/21	REVISED PER COMMENTS

PROJECT NO.:	19-5245
DRAWN BY:	J. MALLISON
PROJECT MANAGER:	D. REVELS
CHECKED BY:	D. REVELS

SMW ENGINEERING GROUP, INC.
TOGETHER, EXCEEDING A BETTER TOMORROW
12079 S. FLORIDA PARKWAY
TEMPLE TERRACE, FLORIDA 33637
(813) 615-1422
CERTIFICATE OF AUTHORIZATION 33653

NexTower
4212 NORTHWEST 34TH PLACE, SUITE 830
GAINESVILLE, FLORIDA 32605

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JEREMY D. SHARP PE FL LIC 75137

CEDAR KEY
NXFL-142
10090 SOUTHWEST COUNTY ROAD 347
CEDAR KEY, FLORIDA 32625
(LEVY COUNTY)

SHEET NAME
GROUNDING DETAILS

SHEET NUMBER
E5

EXHIBIT "E"

Matrix For Rent Repayment Options

Example Payment Structure

Total Platform Cost (getting updated number from GC, increased 10% for approx. cost increase in materials)	259,165.00	259,165.00	259,165.00	259,165.00	259,165.00	259,165.00	259,165.00	259,165.00	259,165.00	259,165.00	259,165.00	259,165.00	259,165.00	259,165.00
Less NexTower commitment	(30,000.00)	(30,000.00)	(30,000.00)	(30,000.00)	(30,000.00)	(30,000.00)	(30,000.00)	(30,000.00)	(30,000.00)	(30,000.00)	(30,000.00)	(30,000.00)	(30,000.00)	(30,000.00)
Balance	229,165.00	229,165.00	229,165.00	229,165.00	229,165.00	229,165.00	229,165.00	229,165.00	229,165.00	229,165.00	229,165.00	229,165.00	229,165.00	229,165.00
Less Levy County funded amount	(25,000.00)	(35,000.00)	(45,000.00)	(55,000.00)	(65,000.00)	(75,000.00)	(85,000.00)	(95,000.00)	(105,000.00)	(115,000.00)	(125,000.00)	(135,000.00)	(145,000.00)	(155,000.00)
Balance paid back amortized over lease (15 years)	204,165.00	194,165.00	184,165.00	174,165.00	164,165.00	154,165.00	144,165.00	134,165.00	124,165.00	114,165.00	104,165.00	94,165.00	84,165.00	74,165.00
Year-1 monthly cost	1,134.25	1,078.69	1,023.14	967.58	912.03	856.47	800.92	745.36	689.81	634.25	578.69	523.14	467.58	412.03
Base tower rent (per executed ASLA)	2,400.00	2,400.00	2,400.00	2,400.00	2,400.00	2,400.00	2,400.00	2,400.00	2,400.00	2,400.00	2,400.00	2,400.00	2,400.00	2,400.00
Revised accumulative monthly tower rent	3,534.25	3,478.69	3,423.14	3,367.58	3,312.03	3,256.47	3,200.92	3,145.36	3,089.81	3,034.25	2,978.69	2,923.14	2,867.58	2,812.03

Note: base rent plus amortized rent increases 2% per year

Note: the Total Platform Cost will be updated.

Note: would require amendment to lease changing first term to 15-years with (3) 5-year renewal terms.