



**Board of Supervisors
County of Louisa
Monday, November 3, 2025
Louisa County Public Meeting Room
5:00 PM**

I. Call to Order - 5:00 p.m.

Closed Session

II. Administrative Items - 6:00 p.m.

1. Invocation - Mr. Williams
2. Pledge of Allegiance
3. Adoption of Agenda
4. Minutes Approval
 1. Board of Supervisors Regular Meeting Minutes - October 20, 2025
5. Bills Approval
 1. Resolution - To Approve the Bills for the Second Half of October 2025
6. Consent Agenda Items
 1. Resolution - To Authorize a Supplemental Appropriation to the FY 2026 Budget for Fund 0210 Asset Forfeiture for the Sheriff's Office
 2. Resolution - Posthumously Honoring the Life and Service of Gerald Bowles
 3. Resolution - Transferring Ownership of a Vehicle From the Louisa County Board of Supervisors to the Louisa County Public School System
 4. Resolution - To Approve and Award a Contract for On-Call General Contractor Services
 5. Resolution - Posthumously Honoring the Life and Service of Gloria Layne

III. Recognitions

IV. Public Comment Period

V. Information/Discussion Items

VI. Unfinished Business

VII. New Business/Action Items

1. Resolution - To Approve the 2026 Thomas Jefferson Planning District Commission Legislative Program
2. Resolution - Authorizing a Budget Supplement for Holly Grove Volunteer Fire Department for Roof Repairs
3. Resolution - Authorizing County Staff to Apply for Grants less than \$20,000 Prior to Board Approval
4. Resolution - To Approve and Award a Contract for Towing Services - Inoperable

Vehicles

VIII. Reports of Officers, Boards and Standing Committees

1. Committee Reports
2. Board Appointments
3. County Administrator's Report

IX. Public Hearings

1. Resolution - To Approve/Deny Conditional Use Permit Request - CUP2025-08
American Tower Asset Sub II, LLC, Applicant; 4 All Land, LLC, Owner; Lori H.
Schweller, Agent

X. Adjournment

The Louisa County Board of Supervisors reserves the right to amend and/or change the Agenda the day of the meeting.

**BY ORDER OF:
DUANE A. ADAMS, CHAIRMAN
BOARD OF SUPERVISORS
LOUISA COUNTY, VIRGINIA**



**Board of Supervisors
County of Louisa
Monday, October 20, 2025
Louisa County Public Meeting Room
5:00 PM**

CALL TO ORDER - 5:00 P.M.

Mr. Adams called the October 20, 2025, meeting of the Louisa County Board of Supervisors to order at 5:00 p.m.

Attendee Name	Title	Status	Arrived
Tommy J. Barlow	Mountain Road District Supervisor	Present	5:00 PM
Fitzgerald A. Barnes	Patrick Henry District Supervisor	Present	5:00 PM
Christopher C. McCotter	Cuckoo District Supervisor	Present	5:00 PM
H. Manning Woodward, III	Louisa County Supervisor	Present	5:00 PM
R. T. Williams	Jackson District Supervisor	Present	5:00 PM
Duane A. Adams	Mineral District Supervisor	Present	5:00 PM
Rachel G. Jones	Green Springs District Supervisor	Present	5:00 PM

Others Present: Christian Goodwin, County Administrator; Chris Coon, Deputy County Administrator; Wanda Colvin, Deputy County Administrator/Director of Finance; Patricia Smith, County Attorney; William Newman, Assistant County Attorney; Alexandra Stanley, Executive Assistant/Deputy Clerk; and Scott Raettig, Director of Information Technology

CLOSED SESSION

On the motion of Mr. Barlow, seconded by Mr. Williams, which carried by a vote of 7-0, the Board voted to enter Closed Session at 5:00 p.m. for the purpose of discussing the following:

1. In accordance with §2.2-3711 (A)(3), discussion or consideration of the acquisition of real property for a public purpose, or of the disposition of publicly held real property, where discussion in an open meeting would adversely affect the bargaining position or negotiating strategy of the public body; and
2. In accordance with §2.2-3711(A)(8), consultation with legal counsel employed or retained by a public body regarding specific legal matters requiring the provision of legal advice by such counsel.

REGULAR SESSION

On the motion of Mr. Williams, seconded by Mr. Barnes, which carried by a vote of 7-0, the Board voted to return to Regular Session at 6:00 p.m.

RESOLUTION - CERTIFICATION OF CLOSED SESSION

Voter	Role	Vote
Tommy J. Barlow	Voter	Yes/Aye
Fitzgerald A. Barnes	Seconder	Yes/Aye

R.T. Williams, Jr.	Mover	Yes/Aye
Christopher C. McCotter	Voter	Yes/Aye
Duane A. Adams	Voter	Yes/Aye
Rachel G. Jones	Voter	Yes/Aye
H. Manning Woodward, III	Voter	Yes/Aye

On the motion of Mr. Williams, seconded by Mr. Barnes, which carried by a vote of 7-0, the Board voted to adopt the following resolution:

WHEREAS, the Louisa County Board of Supervisors has convened a Closed Meeting this 20th day of October 2025, pursuant to an affirmative recorded vote and in accordance with the provisions of the Virginia Freedom of Information Act; and

WHEREAS, §2.2-3712 of the Code of Virginia requires a certification by the Louisa County Board of Supervisors that such closed meeting was conducted in conformity with the Virginia Law.

NOW, THEREFORE BE IT RESOLVED on this 20th day of October 2025, that the Louisa County Board of Supervisors does hereby certify that, to the best of each member's knowledge, (i) only public business matters lawfully exempted from open meeting requirements by Virginia law were discussed in the closed meeting to which this certification resolution applies, and (ii) only such public business matters as were identified in the motion convening the closed meeting was heard, discussed or considered by the Louisa County Board of Supervisors.

ADMINISTRATIVE ITEMS - 6:00 P.M.

INVOCATION

Mr. McCotter led the invocation, followed by the Pledge of Allegiance.

ADOPTION OF AGENDA

On the motion of Mr. Williams, seconded by Mr. Barnes, which carried by a vote of 7-0, the Board voted to adopt the agenda, as amended, with the following changes:

- Added a presentation from the Resource Council to Information/Discussion Items
- Removed Adopting the Louisa County Public Outdoor Art Program Policy and Adopting the Sign Implementation Plan from Consent and Added it to Information/Discussion Items

MINUTES APPROVAL

Board of Supervisors Regular Meeting Minutes – October 6, 2025

On the motion of Mr. Barnes, seconded by Mr. McCotter, which carried by a vote of 7-0, the Board voted to approve the minutes from the October 6, 2025, regular meeting.

BILLS APPROVAL

Resolution – To Approve the Bills for the First Half of October 2025

On the motion of Mr. Barnes, seconded by Mr. McCotter, which carried by a vote of 7-0, the Board adopted a resolution approving the bills for the first half of October 2025.

CONSENT AGENDA ITEMS

On the motion of Mr. Barnes, seconded by Mr. Williams, which carried by a vote of 7-0, the Board voted to adopt the Consent Agenda items for October 20, 2025, as follows:

1. Resolution – Authorizing a Pass Through Appropriation to the Louisa County Airport for State Aviation Funding
2. Resolution – To Proceed with the Airport Paving Capital Project
3. Resolution – Authorizing a Pass Through Appropriation to the Louisa County Airport for State Aviation Funding
4. Resolution – Authorizing a Pass-Through Appropriation to Juvenile Probation for VJCCCA
5. Resolution – Honoring the Life and Service of Mozell Lee Booker
6. Resolution – To Procure and Purchase a New Bulldozer for the Louisa County Landfill
7. Resolution – Approving a Letter of Support for Additional State Transportation

RECOGNITIONS

(None)

PUBLIC COMMENT PERIOD

Chairman Adams opened the public comment period.

Mr. Keenan Dakota, Mountain Road District, proposed establishing a community pavilion for item exchange, with volunteers assisting weekly cleanup using a county dumpster.

Ms. Vicky Harte, Louisa District, raised concerns about Louisa's water supply, referencing low James River levels and asking whether current storage tanks can support approved data centers. She requested County documentation assuring a stable water supply for residents.

With no one wishing to speak, Chairman Adams closed the public comment period.

INFORMATION/DISCUSSION ITEMS**Presentation – VACo Achievement Award**

Mr. Jeremy Bennett (VACo) presented the County's 9th VACo Achievement Award for the Enhanced Tourism Program. Mr. Bennett highlighted Louisa's innovation and efficiency. Ms. Cindy King (County of Louisa) described program elements including partnerships, grant-style support, marketing analytics, and a Tourism Ambassador Program. Chairman Adams and Mr.

Woodward commended Ms. King's leadership.

Presentation – Louisa Arts Center

Ms. Karen Welch, Executive Director, presented the FY2025 Annual Report. Highlights included \$419,000 income (+3%), nine sold-out shows, expanded scholarships, 2,500 students reached via the Arts Bus, and enhanced collaborations with local groups. Future goals: maintain ticket prices under \$50, continue ADA upgrades, and introduce new performances such as Matilda and A Christmas Carol.

Discussion – Landfill Usage Expansion

Mr. Coon provided a detailed overview of current landfill operations, projected capacity, and planning for expansion, noting that population and industrial growth continue to drive increased waste generation countywide. The landfill currently receives an average of 22,819 tons per year, representing an annual growth rate of approximately 4.62%, with a notable 16.99% increase recorded from 2023 to 2024.

He reported that Cells 2 and 3 are projected to reach capacity by approximately 2031, based on current waste inflow trends. To address this, the County is planning the next expansion phase with Cells 4A and 4B:

- Cell 4A will horizontally fill the space between existing closed and active cells.
- Cell 4B will vertically build 60 feet above Cell 4A and Permit 194, together providing a combined capacity of approximately 1.78 million tons—sufficient for 34 years with continued growth, or 53 years without additional growth.

Mr. Coon outlined the estimated total cost of \$2.8 million for construction, permitting, and compliance related to Cell 4. Funding will come through the County's Capital Improvement Program (CIP) with annual allocations and inflation reserves. He stated that no significant operational or tipping fee impacts are expected, as existing infrastructure and haul distances will continue to maintain efficiency. The primary cost drivers include waste volume, composition, and evolving regulatory compliance standards.

He also discussed the regulatory and permitting timeline, explaining that permitting, groundwater monitoring, engineering design, and DEQ review typically take five to six years. Early planning and coordination are essential to avoid any service disruptions in waste management. Mr. Coon highlighted that the Virginia Department of Environmental Quality (DEQ) is proposing increased setback and buffer requirements for new or expanded cells. However, the DEQ's upcoming Permitting Enhancement and Evaluation Platform (PEEP) should help streamline review timelines.

The presentation also covered contingency planning and alternative measures. Mr. Coon noted that while out-of-county disposal remains a possible fallback option, it is cost-prohibitive and would only be used as a temporary measure. The County will also evaluate other alternative waste management approaches to ensure long-term sustainability.

In summary, the expansion plan for Cells 4A and 4B provides up to five decades of additional capacity depending on growth rates. Looking beyond Cell 4, future expansion will require newly

permitted land acquisition and close coordination with DEQ under evolving environmental regulations.

Mr. Coon emphasized the importance of proactive planning, early permitting, and stakeholder engagement to ensure uninterrupted solid waste disposal services for Louisa County.

The Board discussed the timeline, funding strategy, and long-range planning implications, offering feedback and expressing support for continuing forward with the proposed expansion. Chairman Adams thanked Mr. Coon for his comprehensive presentation and affirmed the Board's commitment to sustainable landfill management for future county needs.

Discussion – Revenue Committee Update

Ms. Wanda Colvin provided an update on the recent work of the Revenue Committee, focusing on potential new revenue sources, existing allocations, and planning strategies related to the County's financial future. She noted that the Committee has been actively reviewing projected revenues associated with anticipated data center development, along with the County's long-term debt management and capital commitments. The presentation included a payment comparison analysis, highlighting the relationship between current debt service levels and future revenue opportunities to ensure the County maintains fiscal balance while continuing to meet service demands.

A major component of the discussion centered on planning for the use of future data center revenues, which are expected to provide a substantial new funding stream over the coming years. To guide that process, Ms. Colvin proposed conducting a community survey to solicit public input on priority areas for investment. The proposed survey will ask residents to rank several potential initiatives, including:

- Road Projects
- Rural Preservation Efforts
- Recreation Projects
- Utilities Maintenance and Improvements (Water, Sewer, etc.)
- Water Quality Management for Lake Anna
- Tax Reductions or Rebates
- Capital and Infrastructure Projects (Schools, Public Safety, Courts, etc.)
- Other initiatives as identified by respondents

Ms. Colvin also reviewed the Committee's ongoing focus on committed allocations, emphasizing that fiscal responsibility and transparency remain top priorities as the County plans for both near-term projects and long-range infrastructure investments.

In her closing remarks, Ms. Colvin outlined the next steps for the Committee, including continued analysis of debt capacity, refinement of capital priorities, and preparation for the April 7, 2025, financial planning session, where preliminary findings and recommendations will be presented for further Board consideration.

The Board expressed appreciation for the Committee's comprehensive review and the proactive approach to planning future revenues.

Chairman Adams thanked Ms. Colvin for her presentation and for the Committee's ongoing efforts to maintain Louisa County's strong fiscal position while preparing for sustainable economic development.

Resolution – Adopting the Louisa County Public Outdoor Art Program Policy

The Board discussed the proposed Louisa County Public Outdoor Art Program Policy, which had been reviewed and recommended by the Tourism Advisory Committee. Discussion centered on the policy's structure, the review and approval process for art displays, and the overarching goals of promoting tourism and community engagement through public art.

Several members noted that while advisory groups and staff would oversee the program's administration and selection process, the Board of Supervisors would retain final authority over what artworks are displayed on County property or in County-sponsored spaces, ensuring that any installations reflect the values and character of Louisa County.

On the motion of Mr. Barnes, seconded by Mr. Williams, which carried by a vote of 7-0, the Board voted to adopt the Louisa County Public Outdoor Art Program Policy as recommended by the Tourism Advisory Committee. The Board directed staff to implement the policy in coordination with the Tourism Advisory Committee, ensuring that public art is used to enhance community aesthetics, support tourism objectives, and celebrate the character and creativity of Louisa County.

Resolution – Adopting the Sign Implementation Plan

Mr. Barnes requested that the Louisa County Sign Implementation Plan be removed from the Consent Agenda for further discussion prior to Board action.

Staff provided an overview of the proposed Plan, which establishes a phased, County-wide approach to installing gateway, wayfinding, and event signage intended to promote visitor exploration, enhance community aesthetics, and ensure safe travel throughout Louisa County. The Plan outlines general design concepts, implementation phases, and maintenance recommendations for various types of signage, including gateway entrances, roundabouts, and public event locations.

During discussion, Mr. Barnes noted that the renderings included in the draft plan should not be considered final versions, and suggested that the design elements be refined through future discussion and feedback. Staff confirmed that the current renderings were conceptual only, serving as a starting point for design development and community input on how the County's gateway and wayfinding signs should ultimately appear.

Board members agreed that the overall plan was well developed, providing a clear framework for phased implementation, funding, and design review. It was reiterated that final design approvals would return to the Board for consideration prior to installation.

On the motion of Mr. Barnes, seconded by Mr. Williams, which carried by a vote of 7-0, the Board voted to approve the Louisa County Sign Implementation Plan, excluding the conceptual images included in the draft document.

UNFINISHED BUSINESS

(None)

NEW BUSINESS/ACTION ITEMS**Resolution – To Adopt the County’s 2026 Legislative Platform**

The Board was presented with the draft 2026 Louisa County Legislative Platform, outlining the County’s top legislative priorities for the upcoming Virginia General Assembly session. The draft platform included key issues such as rural preservation, broadband expansion, state funding levels, and local flexibility, as well as items specific to Louisa County’s needs including hydrilla treatment, buoy maintenance, and harmful algae bloom mitigation on Lake Anna.

Mr. Goodwin explained that the legislative platform serves as the County’s formal statement of priorities for use during meetings with legislators and advocacy partners throughout the General Assembly session.

The Board discussed the hydrilla treatment and buoy maintenance sections in detail. Members noted the growing costs of Lake Anna Advisory Committee (LAAC) operations and the need for state funding support for aquatic weed mitigation and navigational safety. There was agreement that these items should remain highlighted in the final version due to their ongoing regional significance and environmental impact.

During review, several members suggested editorial refinements to improve clarity and focus, particularly regarding the presentation of local fiscal and regulatory issues. After discussion, the Board approved the proposed list of priorities with amendments, and directed staff to finalize the document for adoption and distribution.

On the motion of Mr. Barnes, seconded by Mr. Williams, which carried by a vote of 7-0, the Board voted to adopt the County’s 2026 Legislative Platform, with amendments to include specific cost estimates for buoy maintenance and hydrilla mitigation in the final version.

Resolution – To Approve a Performance Agreement with Virginia Economic Development Partnership Authority (VEDP)

Mr. Wade provided the Board with a brief overview of the Performance Agreement between the County of Louisa and the Virginia Economic Development Partnership Authority (VEDP). He explained that the agreement formalizes the local grant reporting processes related to the previously announced Amazon Data Services, Inc. (AWS) capital investment project in Louisa County.

Mr. Wade noted that the General Assembly of Virginia established the Cloud Computing Cluster Infrastructure Grant Fund (Code of Virginia §59.1-284.42), which provides grants to qualifying data center companies meeting certain capital investment and job creation benchmarks. Under this program, the Commonwealth’s grant funding must be matched two-to-one by the locality in which the project is located.

He clarified that Louisa County had already entered into an Economic Development Local Performance Agreement (EDLPA) with AWS on November 28, 2023, which outlines the County's local grant commitments that satisfy the required match. The new agreement with VEDP simply establishes local reporting procedures and does not create any additional payment obligations or modify the existing terms of the County's agreement with AWS.

After brief discussion, the Board expressed support for formalizing the arrangement to maintain compliance with the state's grant requirements while ensuring that local obligations remain consistent with the prior EDLPA.

On the motion of Mr. Barnes, seconded by Ms. Jones, which carried by a vote of 7-0, the Board voted to approve the performance agreement.

REPORTS OF OFFICERS, BOARDS AND STANDING COMMITTEES

Committee Reports

Mr. McCotter reported on the Lake Anna Advisory Committee.

Board Appointments

(None)

County Administrator's Report

Mr. Goodwin provided the Board with his report, which included updates on departmental operations, project progress, and upcoming events. He highlighted several ongoing County initiatives and noted that all departments had submitted their monthly performance and activity reports for review. Mr. Goodwin reviewed recent and upcoming community and County events, recognizing staff efforts across multiple departments for their continued professionalism and service.

PUBLIC HEARINGS

(None)

ADJOURNMENT

On the motion of Mr. Barnes, seconded by Mr. Williams, which carried by a vote of 7-0, the Board voted to adjourn the October 20, 2025, meeting at 7:32 p.m.

BY ORDER OF:
DUANE A. ADAMS, CHAIRMAN
BOARD OF SUPERVISORS
LOUISA COUNTY, VIRGINIA

**BOARD OF SUPERVISORS
COUNTY OF LOUISA
RESOLUTION**

At a regular meeting of the Board of Supervisors of the County of Louisa held in the Louisa County Public Meeting Room at 5:00 PM on the 3rd day of November 2025, at which the following members were present, the following resolution was adopted by a majority of all members of the Board of Supervisors, the vote being recorded in the minutes of the meeting as shown below:

RESULT:	
MOVER:	None
SECONDER:	None
AYES:	None
NAYS:	None
ABSTAIN:	None

**A RESOLUTION TO APPROVE THE BILLS FOR THE SECOND HALF OF
OCTOBER 2025**

WHEREAS, the Louisa County Board of Supervisors, by a resolution adopted April 28, 2025, approved the budget for the County of Louisa for the Fiscal Year 2025-2026; and

WHEREAS, the Louisa County Board of Supervisors, by resolution, appropriated funds to be expended during the Fiscal Year 2025-2026 on May 5, 2025, in accordance with the approved budget; and

WHEREAS, the checks listed for the second half of October 2025 represent payments of invoices which are within the original appropriated amounts and/or supplemental appropriated amounts.

NOW, THEREFORE, BE IT RESOLVED, on this 3rd day of November 2025, that the Louisa County Board of Supervisors hereby approves the bills for the second half of October 2025 for the County of Louisa and are hereby approved for payment for the County of Louisa in the amount of \$1,660,317.30.

A Copy, teste:

Christian R. Goodwin, Clerk
Board of Supervisors

Louisa County, Virginia

**BOARD OF SUPERVISORS
COUNTY OF LOUISA
RESOLUTION**

At a regular meeting of the Board of Supervisors of the County of Louisa held in the Louisa County Public Meeting Room at 5:00 PM on the 3rd day of November 2025, at which the following members were present, the following resolution was adopted by a majority of all members of the Board of Supervisors, the vote being recorded in the minutes of the meeting as shown below:

RESULT:	
MOVER:	None
SECONDER:	None
AYES:	None
NAYS:	None
ABSTAIN:	None

**A RESOLUTION AUTHORIZING A BUDGET SUPPLEMENT FOR THE SHERIFF'S
OFFICE FOR ASSET FORFEITURES**

WHEREAS, the Sheriff's Office receives funding for forfeited assets that it can use for specified items for law enforcement purposes; and

WHEREAS, the Sheriff's Office would like to use \$2,500 in FY 2026 in accordance with Section B of the Forfeited Asset Sharing Program Manual that lists acceptable uses of forfeited money; and

WHEREAS, this funding was not included in the Fiscal Year 2026 budget and needs to be appropriated at this time.

NOW, THEREFORE BE IT RESOLVED, by the Louisa County Board of Supervisors, on this 3rd day of November 2025, that a budget supplement in the amount of \$2,500 to the FY 2026 budget is hereby approved and allocated to the Louisa County Sheriff's Office for Asset Forfeitures, GL # 21031210-459200. The Source of these Funds is Asset Forfeiture Fund Balance, GL # 0210R99-399990.

A Copy, teste:

Christian R. Goodwin, Clerk
Board of Supervisors

Louisa County, Virginia

**BOARD OF SUPERVISORS
COUNTY OF LOUISA
RESOLUTION**

At a regular meeting of the Board of Supervisors of the County of Louisa held in the Louisa County Public Meeting Room at 5:00 PM on the 3rd day of November 2025, at which the following members were present, the following resolution was adopted by a majority of all members of the Board of Supervisors, the vote being recorded in the minutes of the meeting as shown below:

RESULT:	
MOVER:	None
SECONDER:	None
AYES:	None
NAYS:	None
ABSTAIN:	None

**A RESOLUTION POSTHUMOUSLY HONORING THE LIFE AND SERVICE OF
GERALD BOWLES**

WHEREAS, the Louisa County Board of Supervisors wishes to recognize and honor the life, service, and dedication of the late Mr. Gerald Bowles, who faithfully served the citizens of Louisa County through his involvement in multiple boards and committees; and

WHEREAS, Mr. Bowles contributed his time, knowledge, and experience as a valued member of the Agricultural and Forestal Districts and Rural Preservation Committee, where he supported the preservation of Louisa County's rural character and agricultural heritage; and

WHEREAS, Mr. Bowles also served on the Board of Road Viewers, providing thoughtful input and local insight on roadway access and infrastructure matters vital to the County's growth and safety; and

WHEREAS, his service on the Board of Zoning Appeals demonstrated his commitment to fair and balanced consideration of land use issues, ensuring that the County's ordinances were applied with consistency and integrity; and

WHEREAS, as a member of the Transportation Safety Commission, Mr. Bowles worked

collaboratively to enhance roadway safety and promote the welfare of County residents and travelers alike; and

WHEREAS, throughout his many years of service, Mr. Bowles exemplified the spirit of civic duty, integrity, and community pride that define the citizens of Louisa County; and

WHEREAS, his leadership, wisdom, and dedication leave a lasting legacy of service and a positive impact on the community he cared so deeply for.

NOW, THEREFORE, BE IT RESOLVED, on this 3rd day of November 2025, that the Louisa County Board of Supervisors, on behalf of the citizens of Louisa County, does hereby express its deepest appreciation and respect for the life and service of Mr. Gerald Bowles, honoring his memory and acknowledging his many contributions to the betterment of Louisa County.

A Copy, teste:

Christian R. Goodwin, Clerk
Board of Supervisors
Louisa County, Virginia

**BOARD OF SUPERVISORS
COUNTY OF LOUISA
RESOLUTION**

At a regular meeting of the Board of Supervisors of the County of Louisa held in the Louisa County Public Meeting Room at 5:00 PM on the 3rd day of November 2025, at which the following members were present, the following resolution was adopted by a majority of all members of the Board of Supervisors, the vote being recorded in the minutes of the meeting as shown below:

RESULT:	
MOVER:	None
SECONDER:	None
AYES:	None
NAYS:	None
ABSTAIN:	None

**A RESOLUTION TRANSFERRING OWNERSHIP OF A VEHICLE FROM THE
LOUISA COUNTY BOARD OF SUPERVISORS TO THE LOUISA COUNTY PUBLIC
SCHOOL SYSTEM**

WHEREAS, the Louisa Board of Supervisors has deemed it a priority to reduce costs of all County operating entities by reuse and repurposing of vehicles, equipment, and property when it can efficiently reduce expenditures and cost to taxpayers; and

WHEREAS, the Sheriff's Department has identified One (1) surplus 2019 Ford Sport Utility vehicle as surplus; and

WHEREAS, the Louisa County Public School System has the need for additional vehicles for their transportation fleet; and

WHEREAS, localities are allowed to donate surplus property to qualified organizations for the purpose of emergencies declared in accordance with Code of Virginia, Section 44-146.18.2 or 44-146.28.

NOW, THEREFORE, BE IT RESOLVED, on this 3rd day of November 2025, that the Louisa County Board of Supervisors hereby authorizes the donation and transfer of ownership of one (1) Ford Sport Utility Vehicle (VIN Number:1FM5K8AR3KGB45129) from the County of Louisa to the Louisa County Public Schools to be used as a transportation vehicle.

A Copy, teste:

Christian R. Goodwin, Clerk
Board of Supervisors
Louisa County, Virginia

**BOARD OF SUPERVISORS
COUNTY OF LOUISA
RESOLUTION**

At a regular meeting of the Board of Supervisors of the County of Louisa held in the Louisa County Public Meeting Room at 5:00 PM on the 3rd day of November 2025, at which the following members were present, the following resolution was adopted by a majority of all members of the Board of Supervisors, the vote being recorded in the minutes of the meeting as shown below:

RESULT:	
MOVER:	None
SECONDER:	None
AYES:	None
NAYS:	None
ABSTAIN:	None

**A RESOLUTION TO APPROVE AND AWARD A CONTRACT FOR ON-CALL
GENERAL CONTRACTOR SERVICES**

WHEREAS, Request for Proposals (RFP) # GS-26-05 was issued on September 22, 2025, to solicit proposals for On-Call General Contractor Services; and

WHEREAS, this solicitation was advertised on the County's website, on eVA (the Virginia Procurement website); sent directly to current vendors; and

WHEREAS, proposals were due by 3:30 p.m. on October 9, 2025, at the Louisa County Administration Building; and

WHEREAS, four (4) proposals were received; and

WHEREAS, HSL, Inc. dba Loudin Building Systems, Nielsen Builders, Inc. and Paisley Kerr, LLC were deemed the most qualified and will meet the needs of the county.

NOW, THEREFORE, BE IT RESOLVED, on this 3rd day of November 2025, that the Louisa County Board of Supervisors hereby authorizes the County of Louisa to enter into a contract with HSL, Inc. dba Loudin Building Systems, Nielsen Builders, Inc. and Paisley Kerr, LLC for On-Call General Contractor Services, so long as such contracts are consistent with the Request for Proposals, and only after the County Attorney for Louisa County, Virginia approves such contracts as to form.

A Copy, teste:

Christian R. Goodwin, Clerk
Board of Supervisors
Louisa County, Virginia



COUNTY OF LOUISA

MEMORANDUM

TO: The Honorable Members of the Board of Supervisors

FROM: Sam Massie, Purchasing Coordinator
Anderson Woolfolk, General Services Manager

CC: Christian Goodwin, County Administrator

DATE: October 24, 2025

RE: A Resolution to Approve and Award a Contract for On-Call General Contractor Services

I. Background:

a. Project Description

The County of Louisa is seeking qualified vendors to provide on-call general contractor services.

b. Need

The County of Louisa invites qualified Contractors to submit bids to establish a term contract for providing on-call construction and related services utilizing trade-specific sub-contractors.

c. Project Budget

Funds for such services provided are included in various accounts.

d. Request for Proposals

On September 22, 2025, the County issued a Request for Proposals inviting qualified firms to submit proposals for On-Call General Contractor Services.

e. The Selection Committee consisted of Sam Massie, Purchasing Coordinator and Anderson Woolfolk, General Services Manager.

II. Current Situation:

a. Proposals/Bids

Four (4) proposals were received by the closing date of October 9, 2025.

- HSL, Inc. dba Loudin Building Systems
- Haley Builders, Inc.
- Neilsen Builders, Inc.
- Paisley Kerr, LLC

b. Short Listed Firms

The selection committee reviewed and evaluated the proposals. Interviews with the following firms were conducted on October 20, 2025:

- HSL, Inc. dba Loudin Building Systems
- Haley Builders, Inc.
- Neilsen Builders, Inc.
- Paisley Kerr, LLC

c. Selected Firms

After careful consideration and negotiation, the selection committee determined that HSL, Inc. dba Loudin Building Systems, Neilsen Builders, Inc. and Paisley Kerr, LLC would be the most qualified firms to meet the needs of Louisa County.

d. Justification

HSL, Inc. dba Loudin Building Systems has done past contracts for the County of Louisa at great satisfaction. This firm has met the needs of the County, has been very responsive to the County's construction-related requests and is very familiar with Louisa County and its construction needs.

Neilsen Builders, Inc. has performed this type of contract for other localities and universities, and are currently performing multiple construction projects for Louisa County Public Schools.

Paisley Kerr, LLC has performed separate on-call construction projects for the County for the past ten years.

III. Recommendation

The recommendation is for the Board of Supervisors to approve and award the contract for On-Call General Contractor Services to HSL, Inc. dba Loudin Building Systems, Neilsen Builders, Inc. and Paisley Kerr, LLC for a period of one year beginning November 4, 2025, with two (2) optional one year renewals.

**BOARD OF SUPERVISORS
COUNTY OF LOUISA
RESOLUTION**

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RESULT:	
MOVER:	None
SECONDER:	None
AYES:	None
NAYS:	None
ABSTAIN:	None

**A RESOLUTION POSTHUMOUSLY HONORING THE LIFE AND SERVICE OF
GLORIA G. LAYNE**

WHEREAS, Gloria G. Layne was a proud resident of Louisa County and a valued member of the community whose life was marked by dedication, service, and a deep love for others; and

WHEREAS, Mrs. Layne graduated from Louisa County High School in the Class of 1961 and began her career serving the public through positions with the Department of Motor Vehicles, Thalhimers, and later the Louisa County Treasurer's Office; and

WHEREAS, in 2000, Mrs. Layne became the first woman ever elected to serve as Treasurer of Louisa County, a position she held with distinction for three terms before retiring in 2011; and

WHEREAS, throughout her years of public service, Mrs. Layne was known for her professionalism, attention to detail, and unwavering commitment to the citizens of Louisa County; and

WHEREAS, Mrs. Layne earned the respect and admiration of her colleagues, peers, and the many citizens she served through her fairness, integrity, and willingness to assist anyone in need;

and

WHEREAS, she took great pride in her work and in serving her community with dedication and humility, always striving to ensure the Treasurer's Office operated with accuracy, accountability, and compassion; and

WHEREAS, beyond her official duties, Mrs. Layne will be fondly remembered for her kindness, generosity, and lively spirit, which brought warmth and joy to all who knew her; and

WHEREAS, she especially cherished time spent with family and friends, sharing laughter, conversation, and her love for dancing; and

NOW, THEREFORE, BE IT RESOLVED, on this 3rd day of November 2025, that the Louisa County Board of Supervisors hereby recognizes, appreciates, and honors the life and service of Gloria G. Layne, whose contributions have left a lasting impact on Louisa County and whose legacy of dedication and compassion will long be remembered.

A Copy, teste:

Christian R. Goodwin, Clerk
Board of Supervisors
Louisa County, Virginia

**BOARD OF SUPERVISORS
COUNTY OF LOUISA
RESOLUTION**

At a regular meeting of the Board of Supervisors of the County of Louisa held in the Louisa County Public Meeting Room at 5:00 PM on the 3rd day of November 2025, at which the following members were present, the following resolution was adopted by a majority of all members of the Board of Supervisors, the vote being recorded in the minutes of the meeting as shown below:

RESULT:	
MOVER:	None
SECONDER:	None
AYES:	None
NAYS:	None
ABSTAIN:	None

**A RESOLUTION TO APPROVE THE 2026 THOMAS JEFFERSON PLANNING
DISTRICT COMMISSION LEGISLATIVE PROGRAM**

WHEREAS, the Thomas Jefferson Planning District Commission (TJPDC) prepares and recommends the annual Legislative Program to serve as the basis of legislative positions and priorities of the member localities of the TJPDC for the 2026 Session of the Virginia General Assembly; and

WHEREAS, the Board has reviewed the draft 2026 TJPDC Legislative Program.

NOW, THEREFORE, BE IT RESOLVED, on this 3rd day of November 2025, that the Louisa County Board of Supervisors hereby approves the 2026 TJPDC Legislative Program.

A Copy, teste:

Christian R. Goodwin, Clerk
Board of Supervisors
Louisa County, Virginia

October 27, 2025

TO: Members, Louisa County Board of Supervisors
Louisa County Administrator

FROM: David C. Blount, Director of Legislative Services

RE: 2026 TJPDC Legislative Program Approval

Attached for your review and consideration is the draft 2026 TJPDC Legislative Program. It will be on the agenda for approval at your November 3 meeting. The draft program continues three top legislative priorities for 2026 as follows:

- 1) Public Education Funding
- 2) Budgets and Funding
- 3) Land Use and Growth Management

The accompanying “Legislative Positions” section focuses on the most critical recommendations and positions in other areas of current interest and concern in the region.

Items in the draft program that have been substantively amended are noted following this memo.

A summary of the priority positions will be produced and distributed later for you to use in continuing to communicate with your state legislators.

Thank you for your consideration.

Recommended Action: Approve the draft 2026 TJPDC Legislative Program

Substantive Changes to Legislative Priorities and Positions

Public Education Funding (p. 1; first paragraph of rationale): Adds language regarding the federal government's fundamental changes in its funding relationship with states.

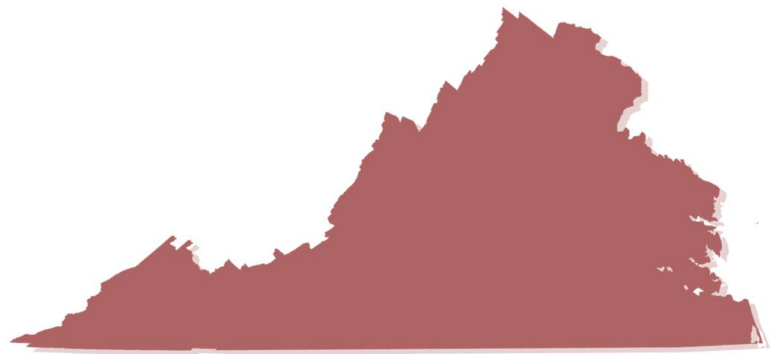
Budgets and Funding (p. 2; first paragraph): New language stresses that the state 1) not shift costs to localities of programs previously supported by federal funds; and 2) should collaborate with local governments to implement required changes to programs with shared responsibility.

Children's Services Act (p. 3; fourth bullet): Adds language opposing caps on state reimbursement under the Children's Services Act.

Health and Human Services (p. 6 - 7; various): New language encourages support for the following:

- 1) investment in staff training and other tools to enable local social services staff to administer revised SNAP and Medicaid programs effectively and efficiently (p. 6, second bullet);
- 2) rural hospitals facing reductions in overall Medicaid funding (p. 7, first bullet); and
- 3) additional funding to local communities to assist low-income working families with childcare costs (p. 7, third bullet).

Transportation (p. 8; first paragraph): Adds language supporting additional state investment to meet increasing demands for new construction and maintenance for existing transportation infrastructure.



Thomas Jefferson Planning District

2026 LEGISLATIVE PROGRAM

Thomas Jefferson Planning District

Albemarle County | City of Charlottesville
Fluvanna County | Greene County
Louisa County | Nelson County

October 2025
DRAFT

Keith Smith, Chair
Christine Jacobs, Executive Director
David Blount, Director of Legislative Services

TOP LEGISLATIVE PRIORITIES

Public Education Funding

PRIORITY: The Planning District’s member localities urge the State to fully fund its share of the realistic costs of the Standards of Quality (SOQ) and reverse policy changes that previously reduced funding or shifted funding responsibility to localities.

With the federal government fundamentally changing its funding relationship with states, policymakers in Virginia are pledging to exercise caution in development of the next state biennial budget. Also added to the mix is more than \$1.5 billion needed to meet increasing state K-12 education rebenchmarking costs and for Medicaid.

The State will spend more than \$21 billion dollars on direct aid to public education in the current biennium. Additional state funding for teacher salaries, at-risk students and childcare subsidies in the current biennium are appreciated. However, we continue to believe that the State should increase its commitment to public education in a manner that reflects the true costs of K-12 education. The 2023 Joint Legislative Audit and Review Commission (JLARC) report on K-12 education funding confirmed this, finding that public education in Virginia is underfunded, while noting that local school divisions receive less K-12 funding per student than divisions in other states and several key funding benchmarks.

Local governments consistently go “above and beyond” their responsibilities by appropriating twice as much K-12 funding as required by the state. We believe localities need an adequately defined SOQ that more equitably shares the costs of public education between the state and local governments, in order to ensure the overall success of students across the Commonwealth.

Further, we urge state efforts to support 1) flexibility in the use of state funds provided for school employee compensation; 2) adequate pipeline programs for teachers, especially in critical shortage areas; and 3) funding and policies that assist localities in addressing challenges with hiring school bus drivers and mental health professionals.

Budgets and Funding

PRIORITY: The Planning District’s member localities urge the governor and legislature to preserve and enhance state aid to localities, to not impose unfunded mandates on or shift costs to localities, and to enhance local revenue options.

As the State addresses spending priorities for the current biennium, we encourage support for K-12 education, health services, public safety, economic development and other public goals. Localities continue to be the state’s “go-to” service provider and we believe state investment in local service delivery must be enhanced. The State should not expect local governments to pay for new funding requirements or to expand existing ones on locally delivered services, without a commensurate increase in state financial assistance.

As the state confronts declines in financial support and additional spending requirements from the federal government, we urge the state to avoid shifting costs for programs previously supported by federal funds to localities, and to collaborate with local governments to implement required changes to programs with shared state/local responsibility. Generally, we oppose unfunded state and federal mandates and the cost shifting that occurs when the State or the federal government fails to fund requirements or reduces or eliminates funding for programs. Doing so strains local ability to craft effective and efficient budgets to deliver required services or those demanded by residents.

We support the legislature making additional revenue options available to localities in order to diversify the local revenue stream. Any tax reform efforts should examine the financing and delivery of state services at the local level and how revenue is generated relevant to our economic competitiveness. The State should not eliminate, phase out or restrict local revenue sources or confiscate or redirect local general fund dollars to the state treasury. This includes any state-mandated exemptions to local revenue sources, Communications Sales and Use Tax Trust Fund dollars, and the local share of recordation taxes, unless a viable revenue replacement to local governments is established.

Land Use and Growth Management

PRIORITY: The Planning District's member localities urge the State to resist preempting or circumventing existing land use authorities, but rather support local authority to plan and regulate land use.

In the past, the General Assembly has enacted both mandated and optional land use provisions. Some have been helpful, while others more recently have prescribed one-size-fits-all rules that hamper different local approaches to land use planning. Accordingly, we support local control of decisions to plan and regulate land use and oppose legislation that weakens these key local responsibilities.

- We support the State providing additional tools to plan and manage growth, as current land use authority often is inadequate to allow local governments to provide for balanced growth in ways that protect and improve quality of life.
- We support local authority to address siting and other impacts associated with utility-scale installation of clean energy resources and facilities. We support state funding and technical assistance that address the planning, production, transmission, and deployment of new energy resources.
- We support broader impact fee authority for facilities other than roads, and changes to the current proffer law that limit the scope of impacts that can be addressed by proffers.
- We oppose legislation that would 1) restrict local oversight of the placement of various telecommunications infrastructure; 2) single out specific land uses for special treatment without regard to the impact of such uses in particular locations; and 3) exempt additional facilities serving as event spaces from building, fire code and other health and safety regulations.
- We believe accessory dwelling units should not be mandated, and that local governments should retain the authority to regulate them.
- We request 1) state funding and incentives for localities, at their option, to acquire, preserve and maintain open space, and 2) enhanced ability for localities to balance growth and development as it pertains to farm and forestland within their jurisdiction.
- We support greater flexibility for localities in the preservation and management of trees.

LEGISLATIVE POSITIONS

Broadband

The Planning District's member localities urge and support state and federal efforts and financial incentives that assist localities and their communities in deploying universal, affordable access to broadband technology in unserved areas. While we appreciate federal and state actions that have substantially increased funding for the Virginia Telecommunication Initiative (VATI), we believe state and federal support for broadband expansion that utilizes both fiber and wireless technologies, public/private partnerships and regulated markets should include the following:

- Support for cooperative efforts among private broadband, internet and wireless companies, and electric cooperatives to ensure access to service at an affordable cost.
 - Support for linking broadband efforts for education and public safety to private sector efforts to serve businesses and residences.
 - Maintaining local land use, permitting, fee and other local authorities.
 - The ability of localities to establish, operate and maintain sustainable broadband authorities to provide essential broadband to communities.
 - Provisions and incentives that would provide a sales tax exemption for materials used to construct broadband infrastructure.
-

Children's Services Act

The Planning District's member localities urge the State to be partners in containing Children's Services Act (CSA) costs and to better balance CSA responsibilities between the State and local governments. Accordingly, we take the following positions:

- The costs of CSA should be fully funded in the state's base budget, with allocations based on realistic anticipated levels of need. We support local ability to use state funds to pay for mandated services provided directly by the locality, specifically for private day placements, where the same services could be offered in schools.
- We support the state maintaining cost shares on a sum sufficient basis by both the state and local governments; changing the funding mechanism to a per-pupil basis of state funding would shift the sum sufficient portion fully to localities, which we would oppose.
- We support enhanced state funding for local CSA administrative costs.
- We support a cap on local expenditures (with the State making up any gaps) in order to combat higher costs for serving mandated children. We do not support caps on state reimbursement which limit the state's exposure to increasing costs.
- We support the state being proactive in making residential facilities, services, and service providers available, especially in rural areas, and in supporting local efforts to provide facilities and services on a regional level.
- We oppose state efforts to increase local match levels and to make the program more uniform by attempting to control how localities run their programs.

Economic and Workforce Development

The Planning District's member localities recognize economic development and workforce training as essential to the continued viability of the Commonwealth. Policies and additional state funding that closely link the goals of economic and workforce development and the state's efforts to streamline and integrate workforce activities and revenue sources are crucial. Accordingly, we support the following:

- Enhanced coordination with the K-12 education community to equip the workforce with in-demand skill sets, so as to align workforce supply with anticipated employer demands.
- Continuing emphasis on regional cooperation in economic, workforce and tourism development.
- Continuation of the *GO Virginia* initiative to grow and diversify the private sector in each region.
- State job investment and small business grants being targeted to businesses that pay higher wages.
- State support for the Virginia Business Ready Sites Program and for an economic development project adjacent to the existing Rivanna Station.
- Increased state funding for regional planning district commissions.

Education

The Planning District's member localities believe that, in addition to funding the Standards of Quality (as previously noted), the State should be a reliable funding partner with localities by recognizing other resources necessary for a high-quality public education system. Accordingly, we take the following positions:

- Concerning school facilities:
 - >We support allowing all localities the option of levying a one-cent sales tax to be used for construction or renovation of school facilities.
 - >The State should discontinue seizing dollars from the Literary Fund to help pay for teacher retirement.
 - >We appreciate and support the school construction assistance programs enacted in 2022 and request that they be consistently funded.
- We support 1) amending the LCI formula to recognize the land use taxation value, rather than the true value, of real property; and 2) preserving current *Code* provisions stipulating that local school funds unexpended at the end of the year be retained by the local governing body.
- We believe that unfunded liability associated with the teacher retirement plan should be a shared responsibility of state and local government.

Environmental and Water Quality

The Planning District's member localities believe that environmental and water quality should be funded and promoted through a comprehensive approach, and address air and water quality, solid waste management, land conservation, climate change, and land use policies. Such an approach requires regional cooperation due to the inter-jurisdictional nature of environmental resources, and adequate state funding to support local and regional efforts. Accordingly, we take the following positions:

- We oppose legislation mandating expansion of the Chesapeake Bay Preservation Act's coverage area. Instead, we urge the State to provide legal, financial, and technical support to localities that wish to improve water quality and use other strategies that address point and non-point source pollution. We also support aggressive state investment in meeting required milestones for reducing Chesapeake Bay pollution to acceptable levels. We support state assistance for cyanobacteria monitoring, mitigation, and remediation efforts, as well as hydrilla treatment and buoy maintenance at Lake Anna.
- We support state investment targeted to permitted dischargers to upgrade treatment plants, to aid farmers with best management practices, and to retrofit developed areas.
- We support continued investment in the Stormwater Local Assistance Fund (SLAF) to assist localities with much-needed stormwater projects and in response to any new regulatory requirements.
- We support the option for localities, as a part of their zoning ordinances, to designate and/or reasonably restrict the land application of biosolids to specific areas within the locality.
- We support legislative and regulatory action to ensure effective operation and maintenance of alternative on-site sewage systems and to increase options for localities to secure owner abatement or correction of system deficiencies.
- We support dam safety regulations that do not impose unreasonable costs on dam owners whose structures meet current safety standards.
- The State should be a partner with localities in water supply development and should work with and assist localities in addressing water supply issues, to include providing funding for development and implementation of state-required regional plans and investing in regional projects.

General Government

The Planning District's member localities believe that since so many governmental actions take place at the local level, a strong local government system is essential. Local governments must have the freedom, flexibility, and tools to fulfill their responsibilities. Accordingly, we take the following positions:

- State policies should protect local governments' current ability to regulate businesses, to include collection and auditing of taxes, licensing, and regulation (whether they are traditional, electronic, internet-based, virtual, or otherwise), while encouraging a level playing field for competing services in the marketplace.
- We oppose intrusive legislation involving purchasing procedures; local government authority to establish hours of work, salaries and working conditions for local employees; matters that can be adopted by resolution or ordinance; and procedures for adopting ordinances.
- The state should maintain the principles of sovereign immunity for local governments and their employees, to include regional jail officers.

- Localities should have maximum flexibility in providing compensation increases for state-supported local employees (including school personnel), as local governments provide significant local dollars and additional personnel beyond those funded by the State. We also support the use of a notarized waiver to allow volunteer workers to state they are willing to provide volunteer services and waive any associated compensation.
- We urge state funding to address shortfalls in elections administration dollars, as administration has become more complex and federal and state financial support for elections continues to lag the need. We request adequate funding for costs associated with voting equipment, mail in ballots, registrar offices, early voting requirements, and election security standards.
- We urge state funding necessary for agencies to carry out tasks such as processing applications, reviewing permits and other critical administrative functions.
- We support expanding the allowable use of electronic meetings for all local public bodies, with flexibility for them to determine public comment, participation, and other procedures. Also, any changes to FOIA should preserve 1) a local governing body's ability to meet in closed session; 2) the list of records currently exempt from disclosure; 3) provisions concerning the creation of customized records; and 4) provisions allowing public bodies to charge for providing requested records.
- We support the use of alternatives to newspapers for publishing various legal advertisements and public notices.
- We support federal and state funding for localities to acquire and maintain advanced cybersecurity to protect critical systems and sensitive data.
- We support enhanced state funding for local and regional libraries.
- We support expanding local authority to regulate smoking in public places.
- The State should not inhibit the ability of localities to determine how best to use artificial intelligence (AI) or require any related reporting requirements that are unreasonable.

Health and Human Services

The Planning District's member localities recognize that special attention must be given to helping disabled people, poor people, and young and elderly people achieve their full potential. Funding for at-risk individuals and families to access appropriate services remains critical. Recently enacted changes to the Supplemental Nutrition Assistance Program (SNAP) and to Medicaid also will require significant state support and coordination between state agencies and localities. Accordingly, we take the following positions:

- We support full state funding for any local costs associated with Medicaid expansion, including local eligibility workers and case managers, but oppose any shifting of Medicaid matching requirements from the State to localities.
- We support investment in staff training and other tools to enable local social services staff to administer revised SNAP and Medicaid programs effectively and efficiently.
- We support the provision of sufficient state funding to match federal dollars for the administration of mandated services within the Department of Social Services, and to meet the staffing standards for local departments to provide services as stipulated in state law.
- The State should provide sufficient funding to allow Community Services Boards to meet the challenges of providing a community-based system of care for people with behavioral health and developmental disability service needs that helps divert them from needing state hospital care, as well as having services such as outpatient and permanent supportive housing available.

- We support improvements in state hospital capacity to accept individuals under a TDO, and encourage support for rural hospitals facing reductions in overall Medicaid funding.
- We support continued operation and enhancement of early intervention and prevention programs, including the Virginia Preschool Initiative and Part C of the Individuals with Disabilities Education Act (infants and toddlers).
- We support additional funding to local communities to assist low-income working families with childcare costs.

Housing

The Planning District's member localities believe every citizen should have an opportunity to afford decent, safe, and sanitary housing. The State, regions and localities should work to promote a balanced mix of affordable and mixed-use housing, and to expand and preserve the supply and improve the quality of housing that is affordable for the elderly, disabled, and low- and moderate-income households. Accordingly, we take the following positions:

- We support the following specific items: 1) local authority to promote and flexibility in the operation of housing affordability programs and establishment of affordable dwelling unit ordinances; 2) increased federal and state funding, as well as appropriate authority and incentives, to assist communities in fostering an increased supply of housing that is affordable; 3) grants and loans to low- or moderate-income persons to aid in purchasing dwellings; 4) funding for rental assistance to low-income families with school-aged children; and 5) policies and direct state investments to prevent homelessness and to assist the chronic homeless.
- We support incentives that encourage rehabilitation and preservation of historic structures.

Public Safety

The Planning District's member localities encourage state financial support, cooperation and assistance for law enforcement, emergency medical care, criminal justice activities, and fire services responsibilities carried out locally. Accordingly, we take the following positions:

- The Compensation Board should fully fund local positions that fall under its purview, to include supporting realistic levels of staffing to enable constitutional offices to meet their responsibilities and limit the need for localities to provide additional locally funded positions. The Compensation Board should not increase the local share of funding for Constitutional offices or divert money away from them, and localities should be afforded flexibility in the state use of state funds for compensation for these offices.
- We encourage state support and incentives for paid and volunteer fire/EMS/first responders and related equipment needs, given the ever-increasing importance they play in local communities. We oppose regulatory action that hinders the provision of emergency services by increasing costs of operations or deterring recruitment and retention of emergency services employees.
- We support state efforts to assist localities in recruiting and retaining law enforcement personnel.
- We support changes to the Line of Duty Act (LODA) to afford officers employed by private police departments the benefits available under LODA.

- We urge state funding of the HB 599 law enforcement program in accordance with *Code of Virginia* provisions.
- We support adequate and necessary funding for mental health and substance abuse services at juvenile and adult detention facilities and jails.
- We encourage needed funding for successful implementation of policies and programs that 1) supplement law enforcement responses to help individuals in crisis to get evaluation services and treatment; 2) provide alternative transportation options for such individuals; and 3) reduce the amount of time police officers must spend handling mental health detention orders.
- In an effort to fairly share future cost increases, we support indexing jail per diem costs as a fixed percentage of the actual, statewide daily expense average, as set forth in the annual Jail Cost Report.
- We support the ability of local governments to 1) adopt policies regarding law enforcement body worn cameras that account for local needs and fiscal realities, and 2) utilize photo speed camera devices to address safety concerns, including on locally designated highway segments.

Transportation

The Planning District's member localities recognize that revenues for expanding and maintaining all modes of infrastructure are critical for meeting Virginia's well-documented transportation challenges; for attracting and retaining businesses, residents, and tourism; and for keeping pace with growing public needs and expectations. We encourage the State to seek to grow revenue over time to meet increasing demands for new construction and maintenance for existing transportation infrastructure; to prioritize funding for local and regional transportation needs; and to provide financial support to localities for increased workloads for performing administrative functions. Accordingly, we take the following positions:

- As the State continues to adjust the "Smart Scale" prioritization and the funds distribution process, there should be state adequate funding and local authority to generate transportation dollars for important local and regional projects across modes.
- We support additional authority to establish mechanisms for funding transit and non-transit projects in our region.
- We support the Virginia Department of Transportation utilizing Metropolitan Planning Organizations and regional rural transportation staff to conduct local transportation studies.
- We oppose attempts to transfer responsibility to counties for construction, maintenance, or operation of current or new secondary roads.
- We support ongoing state and local efforts to coordinate land use and transportation planning and urge state and local officials to be mindful of various local and regional plans when conducting corridor or transportation planning within a locality or region.

**BOARD OF SUPERVISORS
COUNTY OF LOUISA
RESOLUTION**

At a regular meeting of the Board of Supervisors of the County of Louisa held in the Louisa County Public Meeting Room at 5:00 PM on the 3rd day of November 2025, at which the following members were present, the following resolution was adopted by a majority of all members of the Board of Supervisors, the vote being recorded in the minutes of the meeting as shown below:

RESULT:	
MOVER:	None
SECONDER:	None
AYES:	None
NAYS:	None
ABSTAIN:	None

**A RESOLUTION AUTHORIZING A BUDGET SUPPLEMENT FOR HOLLY GROVE
VOLUNTEER FIRE DEPARTMENT FOR ROOF REPAIRS**

WHEREAS, Holly Grove Volunteer Fire Department is experiencing leaks in its roof at this time and is requesting a budget supplement in the amount up to \$70,000 to repair and restore the metal roof on their building; and

WHEREAS, the purchase of services for the repair would be in accordance with Virginia and Louisa County Procurement Requirements; and

WHEREAS, this funding was not included in the FY2026 budget and needs to be appropriated at this time.

NOW, THEREFORE BE IT RESOLVED, on this 3rd day of November 2025, that the Louisa County Board of Supervisors hereby authorizes a budget supplement to Holly Grove Volunteer Fire Department Building Enhancements (30332000-482500-FS4) in the amount up to \$70,000 for the repair and restoration of the metal roof at Holly Grove Fire Station. Source of Funding is General Fund Balance.

A Copy, teste:

Christian R. Goodwin, Clerk
Board of Supervisors

Louisa County, Virginia

**BOARD OF SUPERVISORS
COUNTY OF LOUISA
RESOLUTION**

At a regular meeting of the Board of Supervisors of the County of Louisa held in the Louisa County Public Meeting Room at 5:00 PM on the 3rd day of November 2025, at which the following members were present, the following resolution was adopted by a majority of all members of the Board of Supervisors, the vote being recorded in the minutes of the meeting as shown below:

RESULT:	
MOVER:	None
SECONDER:	None
AYES:	None
NAYS:	None
ABSTAIN:	None

**A RESOLUTION AUTHORIZING COUNTY STAFF TO APPLY FOR GRANTS LESS
THAN \$20,000 PRIOR TO BOARD APPROVAL**

WHEREAS, many departments within the County receive notifications of small grants that are available to fund items that are needed in those departments, such as small equipment items for the Sheriff's Office & Fire and EMS or maintenance funding for the Airport for building or equipment repairs; and

WHEREAS, many times these grants have a very short window to submit the application in order to be eligible to receive the grant funding; and

WHEREAS, allowing staff to apply for grants up to \$20,000 for one-time purchases of goods or services and bring them to the board for approval and appropriation of funding only if awarded, when no new local funding/match is required, would allow quicker turnaround time for applications; and

WHEREAS, staff would continue to receive approval on grants under \$20,000 that require a local match that is not already in the department's current budget.

NOW, THEREFORE BE IT RESOLVED, on this 3rd day of November 2025, the Louisa County Board of Supervisors authorizes County staff to apply for grants less than \$20,000 for one-time purchases of goods or services that do not require a local match or where the match is already in the department's budget prior to board approval. Board approval and budget appropriation will still be required prior to accepting the grant award.

A Copy, teste:

Christian R. Goodwin, Clerk
Board of Supervisors
Louisa County, Virginia

**BOARD OF SUPERVISORS
COUNTY OF LOUISA
RESOLUTION**

At a regular meeting of the Board of Supervisors of the County of Louisa held in the Louisa County Public Meeting Room at 5:00 PM on the 3rd day of November 2025, at which the following members were present, the following resolution was adopted by a majority of all members of the Board of Supervisors, the vote being recorded in the minutes of the meeting as shown below:

RESULT:	
MOVER:	None
SECONDER:	None
AYES:	None
NAYS:	None
ABSTAIN:	None

**A RESOLUTION TO APPROVE AND AWARD A CONTRACT FOR TOWING
SERVICES - INOPERABLE VEHICLES**

WHEREAS, Request for Proposals (RFP) # CD-25-04 was issued on March 28, 2025, to solicit proposals for Towing Services - Inoperable Vehicles; and

WHEREAS, this solicitation was advertised on the County's website, on eVA (the Virginia Procurement website); and

WHEREAS, proposals were due by 3:30 p.m. on April 10, 2025, at the Louisa County Administration Building; and

WHEREAS, three (3) proposals were received; and

WHEREAS, Mathews Towing and Recovery, LLC was deemed the most qualified and will meet the needs of the County.

NOW, THEREFORE, BE IT RESOLVED, on this 3rd day of November 2025, that the Louisa County Board of Supervisors hereby authorizes the County of Louisa to enter into a contract with Mathews Towing and Recovery, LLC for Towing Services - Inoperable Vehicles so long as such contracts are consistent with the Request for Proposals, and only after the County Attorney for Louisa County, Virginia approves such contracts as to form.

A Copy, teste:

Christian R. Goodwin, Clerk
Board of Supervisors
Louisa County, Virginia



COUNTY OF LOUISA

MEMORANDUM

TO: The Honorable Members of the Board of Supervisors

FROM: Sam Massie, Purchasing Coordinator
Anderson Woolfolk, General Services Manager

CC: Christian Goodwin, County Administrator

DATE: October 24, 2025

RE: A Resolution to Approve and Award a Contract for Towing Services - Inoperable Vehicles

I. Background:

a. Project Description

The County of Louisa is seeking qualified vendors to provide Towing Services - Inoperable Vehicles.

b. Need

It is the intent and purpose of this Request for Proposals (RFP) is to establish a contract with a towing company (herein referred to as the "Contractor") to remove vehicles which have been flagged under the County Ordinance, *Section 74-86 - Inoperative Vehicles*.

c. Project Budget

Funds for such services provided are included in the Community Development budget, and the County of Louisa intends to seek reimbursement from the property owners through the Legal Department.

d. Request for Proposals

On March 28, 2025, the County issued a Request for Proposals inviting qualified firms to submit proposals for Towing Services - Inoperable Vehicles.

e. The Selection Committee consisted of Sam Massie, Purchasing Coordinator; Christian Goodwin, County Administrator; Wanda Colvin, Deputy County Administrator; and Chris Coon, Deputy County Administrator.

II. Current Situation:

a. Proposals/Bids

Three (3) proposals were received by the closing date of April 10, 2025.

- G & A Auto Wrecker
- Mathews Towing and Recovery, LLC
- Soot Happens, LLC

b. Short Listed Firms

The selection committee reviewed and evaluated the proposals. Interviews with the following firms were conducted on May 1, 2025:

- G & A Auto Wrecker
- Mathews Towing and Recovery, LLC
- Soot Happens, LLC

c. Selected Firms

After careful consideration and negotiation, the selection committee determined that Mathews Towing and Recovery, LLC would be the most qualified firm to meet the needs of Louisa County.

d. Justification

Mathews Towing and Recovery, LLC was responsive and knowledgeable. They promptly relied to additional requests for information and pricing, and during the interview demonstrated that they had provided similar services for many years and were very familiar with the required operation.

III. Recommendation

The recommendation is for the Board of Supervisors to approve and award the contract for Towing Services – Inoperable Vehicles to Mathews Towing and Recovery, LLC for a period of one year beginning November 4, 2025, with two (2) optional one year renewals.



COUNTY OF LOUISA

MEMORANDUM

FROM: Eleni Rackley/ Administrative Assistant

SUBJECT: Board Appointments

DATE: October 21, 2025, for November 3, 2025, Board Meeting

The following is a list of Board Committee and Commission appointments that are either **vacant** or have **terms expiring**. Individual names in parenthesis previously/currently serve in the position and may wish to be reappointed. Please let me know if you have any questions. Thank you.

Board Name/Description	Term Length	Frequency/Times of Meetings	Vacancies/Upcoming Expirations (previous/current appointee)
<u>Board of Building Appeals</u> Hears appeals of decisions made by the Building Official relative to the Virginia Uniform Statewide Building Code.	Indefinite	Members meet as requested.	VACANT
<u>Board of Equalization</u> <i>The Board of Equalization shall hear all complaints and objections to real estate assessments from the taxpayer or his agent. The Board shall hear and give consideration to such complaints and equalize such assessments and, moreover, the Board is charged with the especial duty of increasing as well as decreasing assessments. The Board's main charge is the equalizing of real estate assessments.</i>	Serves a three (3) year term	Members meet as requested.	VACANT VACANT

<u>Board of Zoning Appeals</u> The establishment and organization of the Louisa County Board of Zoning Appeals or BZA is established in the Code of Virginia, Section 15.2-2308. The powers and duties of the BZA are also outlined in the Code of Virginia, Section 15.2-2309.	Serves a five (5) year term.	Members meet as required for zoning appeals.	VACANT VACANT VACANT (Second Alternate)
<u>Commission on Aging</u> promotes quality of life for all elderly persons and ensures their needs are included in County planning and development.	Serves a four (4) year term	Members meet on the first Wednesday of every month at 10 a.m.	VACANT-Mineral District (unexpired term 10/16/25) VACANT- Mineral District VACANT -Jackson District (unexpired term 04/09/28)
<u>Human Services Advisory Board</u> This is an advisory board that monitors the formulation and implementation of social welfare programs in the county and advises the director on program and policy matters. Members serve as advocates for the Department of Human Services with the community, the Board of County Supervisors, and the State, seeking information regarding department services and the community, and as liaisons between the community and the Board of County Supervisors. The board also sets policy regarding the broad focus for the Department of Human Services.	Serves a four (4) year term to run concurrent with the term of the Board of Supervisor's member making the appointment and no more than two (2) consecutive terms.	Members meet on the second Thursday of every even-numbered month at 3:30 pm.	Tina Schweikart- Term Expiring 11/01/25

<u>MACAA</u> The MACAA Board of Directors is responsible as the legal and policy making entity of the organization. MACAA is the antipoverty agency serving Albemarle County along with the City of Charlottesville, Fluvanna, Louisa and Nelson Counties. The Board is responsible for (a) identifying community needs, (b) establishing agency goals and objectives, (c) approving program plans and priorities (d) determining personnel, fiscal and program policies, (e) approving proposals for funding support, (f) ensuring compliance with funding regulations, and (g) employing the Executive Director.	There are no term limits	Members meet on the third Thursday of every month.	VACANT (filling unexpired term)
<u>Management Oversight Group (MOG)</u> An advisory body for matters concerning the provisions of Fire and EMS services to the Fire and EMS Chief and the Board of Supervisors; strives to enhance the quality of services provided by the Fire and EMS in Louisa County.	Serves a Four (4) year term	Third Thursday of every month.	VACANT
<u>Region Ten Community Services Board</u> Members review and evaluate public mental health, developmental disability, and substance abuse services and facilities.	Serves a three (3) year term	Members meet on the second Tuesday of each month at 4pm	VACANT
<u>Transportation Safety Commission</u> This Commission reviews accidents and transportation hazards in the County and makes recommendation to the Board of Supervisors and the Virginia Department of Transportation.	Serves a three (3) year term. Ex-Officio members serve a three (3) year term. Board member serves duration of term on the Board of Supervisors	Members meet every other month starting in January.	VACANT – Green Springs VACANT – Louisa District Ronnie Roberts – Term Expired- Sheriff's Department



COUNTY OF LOUISA

MEMORANDUM

TO: The Honorable Members of the Board

FROM: Christian Goodwin, County Administrator

DATE: October 28, 2025

RE: County Administrator's Report – November 3, 2025, Board Meeting

As of the preparation and printing of this packet, the following has been placed under the County Administrator's Report for your review:

Monthly Reports:

Update:

Correspondence:

1. Virginia Department of Health (VDH).

Upcoming Events & Reminders:

1. [Upcoming Meetings](#)
2. **November 5, 2025 4:30 p.m. – 7:00 p.m.;** Louisa Works Local Employment Opportunities; Louisa County High School, 757 Davis Highway, Mineral.
3. **December 5, 2025 6:00 – 8:00 p.m.;** Christmas Tree Lighting; Louisa Courthouse Lawn; 100 W Main Street, Louisa, VA.
4. **December 6, 2025 10:00 a.m. – 3:00 p.m.;** *A Storybook Christmas*; Louisa Christmas Festival & Parade; Courthouse Square; 100 W Main Street, Louisa, VA.
5. **December 13, 2025 9:00 a.m. – 11:00 a.m.;** 21st Annual Breakfast with Santa; Betty Queen Center; 522 Industrial Dr., Louisa, VA.



COMMONWEALTH of VIRGINIA

Karen Shelton, MD
State Health Commissioner

DEPARTMENT OF HEALTH
**OFFICE OF DRINKING
WATER**
Richmond Field Office

Madison Building
109 Governor St., 6th
Floor Richmond, VA
23219
Phone: 804-864-7409
Fax: 804-864-7520

OFFICIAL ELECTRONIC COMMUNICATION- NO HARDY COPY OT FOLLOW

NOTICE OF ALLEGED VIOLATION

SUBJECT: Louisa County
Waterworks: SESMAU Jerdone
Island
PWSID No: 2109265

October 21, 2025

Mackenzie Lynn
77 West Lee Street
Suite 202
Warrenton, VA 20187

Re: Major Failure to Monitor for Disinfection Byproducts

Dear Ms. Lynn,

This notice is to advise that you appear to be operating a waterworks in violation of the Public Water Supplies Law, Title 32.1, Chapter 6, Article 2 of the Code of Virginia, and Section 12VAC5-590-374 D of the Virginia *Waterworks Regulations* ("Regulations") for failing to collect any of the routine samples for disinfection byproducts monitoring in accordance with your approved monitoring plan. The Regulations characterize this alleged violation as a major Tier 3 violation.

Section 12VAC5-590-374 D states, in part, "Failure to monitor in accordance with the monitoring plan...is a monitoring violation. Failure to monitor shall be treated as a violation for the entire

VDH VIRGINIA
DEPARTMENT
OF HEALTH
Protecting You and Your Environment
WWW.VDH.VIRGINIA.GOV

period covered by the annual average where compliance is based on [a running annual average] of monthly or quarterly samples or averages, and the owner's failure to monitor makes it impossible to determine compliance with [primary maximum contaminant levels] or [maximum residual disinfectant levels].”

The SESMAU Jerdone Island waterworks was required to take one TTHM and one HAA5 sample during the 2025 triennial monitoring period (July-September), no sample was collected and analyzed according to our records.

Required Actions

In accordance with Section 12VAC5-590-540 of the Regulations, you are required to issue a Tier 3 public notice (“Notice”) to the consumers in the area served by the waterworks in accordance with the public notification requirements described below:

Public Notice: The Notice requires you to notify consumers in the area served **within 12 months** of learning of the violation. This Notice must be handled as follows:

- You must distribute the Notice no later than **October 21, 2026**.
- The Notice must be mailed or directly delivered to each customer receiving a bill, and to other service connections served by your waterworks.
- If your waterworks serves consumers who do not pay water bills, or who do not have service connection addresses (apartment dwellers, university students, or nursing home patients, for example), you must also use other delivery methods to provide the Notice to these consumers as well. Examples of other methods include, but are not limited to, publication in local newspapers, delivery of multiple copies to apartment buildings, or posting the Notice in public places served by the waterworks.
- You may choose to include the Notice as an enclosure with or as an integral part of your Consumer Confidence Report (CCR) for 2025 water quality data. To do so, the combined CCR and public Notice must be distributed to consumers by July 1, 2026, AND you must take steps to ensure that the CCR and public Notice reach all persons served by the waterworks. This requirement is more stringent than the “good faith effort” requirements for distributing the CCR alone.
- Until the violation is resolved, you must give a copy of the Notice to all new billing units or new customers, before or at the time service begins.
- You must repeat distribution of the Notice annually for as long as the violation persists.

Draft Notice: Attached is a draft Notice for you to distribute as directed above. You may use this Notice as is, or modify it to better meet your situation, as long as the information is accurate and it contains all of the required elements and mandated language. If you decide to change the Notice,

we suggest that you contact this Office to verify that your proposed changes meet the requirements of the Regulations. Please insert the name, address, and phone number of a waterworks representative in the spaces provided on the draft Notice.

Public Notice Confirmation: Within ten (10) days of completing the public notification, but no later than **October 31, 2026**, you must provide this Office with a copy of the Notice that you distributed, along with a signed certification that the distribution was completed in the required time and manner. Failure to distribute the Notice and submit a signed certification form to this Office may be a further violation of the Regulations. A certification form is enclosed for your use.

Follow-Up Actions:

- The waterworks will collect and analyze TTHM and HAA5s samples in 2026 (July-September).

Requesting an Administrative Proceeding: If you disagree with the allegations in this notice or wish to obtain a determination as to whether a violation has occurred, you may request an informal conference in accordance with Va. Code § 2.2-4019 and 12VAC5-590-115 of the Regulations. To request an informal conference, please contact the ODW Director of Compliance, Enforcement and Policy by telephone or email at 804-629-0989 or Grant.Kronenberg@vdh.virginia.gov.

Enforcement Authority: Failure to take all the necessary corrective actions in a timely manner to voluntarily return your waterworks to compliance may result in enforcement action. Enforcement actions include permit revocation, administrative orders, and civil or criminal proceedings, and civil charges or penalties of up to \$5,000 per day for each violation. Va. Code §§ 32.1-26, 32.1-27, 32.1-175.01 and 32.1-176.

If you have any questions or concerns regarding this matter, please contact me at 804-910-6111 or email at lydia.belser@vdh.virginia.gov

Sincerely,



Lydia Belser,
Environmental Specialist Sr.
Richmond Field Office

LMB:lt

Enclosures:

1. Draft Tier 3 Public Notice
2. Certification Form

Ec:

John “Jack” McClelland, Environmental Health Manager, Blue Ridge Health District
(john.mcclelland@vdh.virginia.gov)
Christian Goodwin, Louisa County Administrator
David Gonce, Operator (dgonce@yahoo.com)

**NOTICE TO CONSUMERS
of the SESMAU Jerdone Island WATERWORKS**

IMPORTANT INFORMATION ABOUT YOUR DRINKING WATER

Major Failure to Monitor for Disinfection Byproducts

On October 21, 2025, we became aware that our system recently failed to collect the required number of routine drinking water samples. Although this incident was not an emergency, as our customers, you have a right to know what happened and what we did (are doing) to correct this situation.

We are required to monitor your drinking water for specific contaminants on a regular basis. Results of regular monitoring are an indicator of whether or not our drinking water meets health standards. During the 2025 triennial monitoring period (July- September), we did not collect any routine samples for disinfection byproducts and therefore cannot be sure of the quality of your drinking water during that time.

What should I do?

There is nothing you need to do at this time. You may continue to drink the water. If a situation arises where the water is no longer safe to drink, you will be notified within 24 hours.

What is being done?

We will collect and analyze water samples for disinfection byproducts during the next monitoring period in 2026 (July -September).

For more information, please contact Mackenzie Lynn at 703-570-6960 or 77 West Lee Street, Suite 202, Warrenton, VA 20187

Please share this information with all the other people who drink this water, especially those who may not have received this notice directly (for example, people in apartments, nursing homes, schools, and businesses). You can do this by posting this notice in a public place or distributing copies by hand or mail.

This notice is being sent to you by SESMAU Jerdone Island. State Water System ID#: 2109265
Date distributed: _____.

SUBJECT: Louisa County
Waterworks: SESMAU
Jerdone Island
PWSID No: 2109265

VIOLATION: Major Failure to Monitor for Disinfection Byproducts - (2025 Triennial
Monitoring Period)

PUBLIC NOTIFICATION CERTIFICATION REPORT FORM
(Community Waterworks)

By direct (hand) delivery on _____ *(date)* at _____ a.m./p.m.

Posted on _____ *(date)* at _____ a.m./p.m.

At the following locations _____

Provided to the following broadcast media *(list: television/radio/website/social media)* on

_____ *(date)* at _____ a.m./p.m.

_____ *(date)* at _____ a.m./p.m.

Other approved method _____ *(method and date)*

New billing customers will be notified of any ongoing violation for which notice has previously been issued.

I hereby certify that the attached public notice was distributed as indicated above and that the
notice meets all content requirements.

(Printed Name) (Signature)

RETURN FORM WITH COPY OF NOTICE TO:

Email: ODWfieldoffice4@vdh.virginia.gov

**BOARD OF SUPERVISORS
COUNTY OF LOUISA
RESOLUTION**

At a regular meeting of the Board of Supervisors of the County of Louisa held in the Louisa County Public Meeting Room at 5:00 PM on the 3rd day of November 2025, at which the following members were present, the following resolution was adopted by a majority of all members of the Board of Supervisors, the vote being recorded in the minutes of the meeting as shown below:

RESULT:	
MOVER:	None
SECONDER:	None
AYES:	None
NAYS:	None
ABSTAIN:	None

**A RESOLUTION TO APPROVE/DENY CUP2025-08 AMERICAN TOWER ASSET SUB II, APPLICANT; 4 ALL LAND, LLC, OWNER; LORI H. SCHWELLER, AGENT -
CONDITIONAL USE PERMIT REQUEST**

WHEREAS, American Tower Asset Sub II, LLC, Applicant; 4 All Land, LLC, Owner; Lori H. Schweller, Agent requests an amendment of conditional use permit (CUP) 1994-03 to eliminate condition 8 (eight) which prohibits the transfer of the conditional use permit to another applicant or owner, also an amendment of conditional use permit (CUP) 1994-03 condition 10 (ten) which requires removal of the tower within ninety (90) days of a violation of the conditional use permit; and

WHEREAS, the property is located on Chopping Road (Route 623), approximately .87 miles from Davis Highway (Route 22) and is further identified as tax map parcel 42-34 zoned Agricultural A-2, in the Mineral Election District; and

WHEREAS, at a regular meeting of the Louisa County Planning Commission held October 9, 2025, the Planning Commission found the request to be in substantial accord with the 2040 Louisa County Comprehensive Plan in accordance with Section 15.2-2232 of the State Code of Virginia, and recommended approval to the Louisa County Board of Supervisors on the conditional use permit CUP2025-08 requesting amendments to two of the twelve conditions for CUP1994-03; and

NOW, THEREFORE, BE IT RESOLVED, on this 3rd day of November 2025, that the Louisa County Board of Supervisors hereby approves/denies the request for conditional use permit

CUP2025-08 American Tower Asset Sub II, LLC, Applicant; 4 All Land, LLC, Owner; Lori H. Schweller, Agent.

A Copy, teste:

Christian R. Goodwin, Clerk
Board of Supervisors
Louisa County, Virginia



COUNTY OF LOUISA COMMUNITY DEVELOPMENT

(540) 967-3430

Fax (540) 967-3486

www.louisacounty.com

TO: Members, Louisa County Board of Supervisors
FROM: Staff, Community Development Department
SUBJECT: CUP2025-08 American Tower Asset Sub II, LLC
DATE: October 23, 2025

American Tower Asset Sub II, LLC, Applicant; 4 All Land, LLC, Owner; Lori H. Schweller, Agent requests the following:

- Amendment of Conditional Use Permit (CUP) 1994-03 to eliminate condition 8 which prohibits the transfer of the Conditional Use Permit to another applicant or owner.
- Amendment of Conditional Use Permit (CUP) 1994-03 condition 10 which requires removal of the tower within ninety (90) days of a violation of the Conditional Use Permit.

The Louisa County Board of Supervisors approved CUP1994-03 for Southwestern Bell Mobile Systems, Inc. T/A Cellular One on July 5, 1994, with twelve (12) conditions of which the applicant has requested to amend the following:

1. Condition 8 states “The Conditional Use Permit is not transferable to another applicant or owner”. It has come to Staff’s attention that the tower operator and landowner has changed over the years. The requested updates to the Conditional Use Permit would allow the tower to remain in operation.
2. Condition 10 states “Permit Revocation – violation of any condition of this permit shall be grounds for revocation of the Condition Use Permit. If a violation does occur, Southwestern Bell Mobile Systems, Inc. will have ninety (90) days in which to remove the tower.” The applicant would like to update the condition to eliminate the requirement of the tower being removed within 90 days. Proposed replacement language currently used by staff is bolded in the conditions updated within this report.

A Neighborhood Meeting was held in the Louisa County Public Meeting Room on August 13, 2025, at which one (1) individual attended for clarification on the application.

A Planning Commission Meeting was held in the Louisa County Public Meeting Room on October 9, 2025, at 7:00PM. The Planning Commission found the request to be in substantial accord with the 2040 Louisa County Comprehensive Plan in accordance with Section 15.2-2232 of the State Code of Virginia. The Planning Commission recommended approval to the Louisa County Board of Supervisors on the conditional use permit CUP2025-08 requesting amendments to two of the twelve conditions for CUP1994-03.

The property is located on Chopping Road (Route 623), approximately .87 miles from Davis

Highway (Route 22) and is further identified as tax map parcel 42-34 zoned Agricultural A-2, in the Mineral Election District. The 2040 Louisa County Comprehensive Plan designates this area as rural, outside of the Growth Areas.

The applicant's preference is to remove/amend conditions 8 & 10 as shown from the existing conditions below:

1. That the site be developed according to all Agricultural (A) District regulations.
2. That development be in accordance with a site plan approved by Louisa County.
3. That all necessary permits be secured from the Louisa County Zoning/Building Department.
4. Prior to release of the building permit for the tower or the building, a copy of FAA approval shall be submitted to the Planning Office.
5. The operation of this tower shall not interfere with any other communication system including, but not limited to, television, radio, microwave, and satellite transmissions or use of any electric equipment in the County.
6. Any UHF, VHF or other type of transmitters/receivers that would interfere with the County's Emergency communications to be prohibited from this tower.
7. The tower shall be painted and lit in accordance with FAA regulations.
- ~~8. The Conditional Use Permit is not transferable to another applicant or owner.~~
9. Inspections – the Board of Supervisors or their designated representatives reserves the right to inspect the site at any reasonable time without prior notice.
- ~~10. Permit Revocation – violation of any condition of this permit shall be grounds for revocation of the Conditional Use Permit. If a violation does occur, Southwestern Bell Mobile Systems, Inc. will have ninety (90) days in which to remove the tower.~~

Violation of any conditions contained herein shall be grounds for revocation of the Conditional Use Permit.

11. Space shall be reserved on the tower, (up to 300' or higher as long as it does not cause interference), for Louisa County Emergency Services use at no cost to the County. In addition, the applicant will provide suitable communications equipment to enhance emergency services in Louisa County as an in-kind contribution to the Volunteer Fire and Rescue Organizations, with additional costs not to exceed \$10,000 wholesale price, and said contribution would be transferable and cumulative to another tower if it is not needed at this site. Equipment shall be in accordance with specifications from the Emergency Services Coordinator.
12. An emergency number be provided for Louisa County cellular users to connect them directly to the Sheriff's Department until the E-911 system is implemented in Louisa County.

TEXT LEGEND		
Bolded Text = To Be Added	Regular Text = To Remain	Strikethrough = To Be Removed

Should you have any questions or desire additional information, please contact our office.

Attachments

1. Application
2. Structural Analysis

Reviewer: DJ Case # CWP2025-08
 Fee Rcv'd: _____ Rcpt # _____
 Date & Time Rcv'd: 8/16/2025
 Pre-App Meeting: _____

LAND USE AMENDMENT APPLICATION

Board of Supervisors of Louisa County, Virginia

The following information shall be typed or printed and completed in full. Attach additional pages where necessary.

1. IDENTIFICATION OF REQUEST:

- A: REZONING: From _____ () to _____ ()
- B: CONDITIONAL USE: This request is to amend the conditions of an existing Conditional Use Permit, issued July 5, 1994, for a communications tower to delete the non-transferability
- C: condition.
- TEMPORARY CONDITIONAL USE: _____
- D: _____
- VARIANCE: _____
- E: _____
- PROFFER AMENDMENT: _____
- F: _____
- COMP PLAN AMENDMENT: _____
- G: _____
- COMP PLAN REVIEW FOR CONFORMANCE: _____
- H: _____
- SPECIAL EXCEPTION: _____

2. APPLICANT, PROPERTY OWNER, AGENT

- A. NAME OF APPLICANT: American Tower Asset Sub II, LLC
If a corporation, name of agent: Lori H. Schweller, Esq., Williams Mullen, Attorneys
- B. MAILING ADDRESS: 323 2nd Street, Suit 900, Charlottesville, VA 22902
 Telephone # 434-951-5728
- C. NAME OF PRESENT OWNER OF PROPERTY ON WHICH THIS REQUEST WILL OCCUR:
4 All Land, LLC, a Virginia limited liability company
- D. MAILING ADDRESS: 8249 Crown Colony Parkway, Suite 100, Mechanicsville, VA 23116
 Telephone # _____

If the applicant is not the owner of the property in question, explain: The Applicant has an easement to use a portion of the property for a wireless telecommunications facility. A copy of the Easement Agreement is attached to this Application for reference.

E. NAME OF PERSON TO BE NOTIFIED IN ADDITION TO THE APPLICANT AND/OR
PROPERTY OWNER: _____

F. ADDRESS: _____
Telephone #: _____

3. **LOCATION OF PROPERTY** (Assistance will be given in obtaining the following information upon request).

A. VOTING DISTRICT Mineral B. TAX MAP # 42
C. SUBDIVISION NAME NA D. LOT/PARCEL# 34
E. PROPERTY LOCATION 977 Chopping Road, Mineral, VA
F. IS PARCEL UNDER LAND USE TAXATION PROGRAM? NO x YES

4. **EXPLAIN FULLY THE PROPOSED USE, TYPE OF DEVELOPMENT, OPERATION PROGRAM, ETC., AND THE REASON OF THIS REQUEST:** The property was the subject of a conditional use permit issued in 1994 to Southwestern Bell Mobile Systems, Inc. for a communications tower. The CUP included a condition that the CUP is non-transferable. The lease from the property owner to the permit holder has been assigned since that time, and the tower operator has changed over the years owing to assignments and corporate transactions. The purpose of this request is to delete the non-transferability condition (#8) of the CUP and update the permit revocation condition (#10).

(Attach applicable plans, renderings, elevations, photographs.)

5. **STATE HOW THIS REQUEST WILL NOT BE MATERIALLY DETRIMENTAL TO ADJACENT PROPERTY, THE SURROUNDING NEIGHBORHOOD OR THE COUNTY IN GENERAL. INCLUDE, WHERE APPLICABLE, INFORMATION CONCERNING: USE OF PUBLIC UTILITIES; EFFECT OF REQUEST ON PUBLIC SCHOOLS; EFFECT ON TRAFFIC--INCLUDE MEANS OF ACCESS TO THE NEAREST PUBLIC ROAD; EFFECT ON EXISTING AND FUTURE AREA DEVELOPMENT, ETC.** The proposed CUP amendment will not change the existing use or operation of the communications tower, which provides essential wireless communications services from Verizon Wireless, AT&T, and T-Mobile. The County noted the non-transferability condition when Verizon Wireless submitted an application to remove equipment and install equipment on the tower.

6. **EXPLAIN ANY EXISTING USE PERMIT, SPECIAL EXCEPTION, (Prior) CONDITIONAL USE PERMIT, TEMPORARY CONDITIONAL USE PERMIT OR VARIANCE PREVIOUSLY GRANTED ON THE PARCEL IN QUESTION:** Conditional Use Permit approved by the Louisa County Board of Supervisors on July 5, 1994 for construction of a 350 foot cellular communications tower and related equipment building on the west side of State Route 623, approximately 3.1 miles north of Route 22/33.

7. **INDICATE THE FOLLOWING WITH RESPECT TO THE SUBJECT PARCEL:**

- A. EXISTING LAND USE(S): forest
- B. EXISTING STRUCTURE(S): cell tower with related ground equipment
- C. EXISTING ZONING: A2
- D. ACREAGE OF REQUEST: 22
- E. UTILITIES: electricity, telephone existing
(Intended use, example: public water and/or sewer; individual well and/or septic tank; other source.)
- F. IS THIS PROJECT IN OR NEAR A PINE PLANTATION? no
- G. IS THIS PROJECT IN AN AG/FORESTAL DISTRICT? no

8. **IF REQUESTING A VARIANCE, EXPLAIN THE UNIQUE PHYSICAL HARDSHIP OR EXTRAORDINARY SITUATION THAT IS THE JUSTIFICATION FOR THE VARIANCE:**

NA

9. **GIVE COMPLETE NAMES AND ADDRESSES (INCLUDING ZIP CODES) OF ALL OWNERS ADJACENT, ACROSS THE ROAD OR HIGHWAY FACING THE PROPERTY AND ACROSS ANY RAILROAD RIGHT-OF-WAY, CREEK, OR RIVER FROM SUCH PROPERTY, EVEN IF SUCH PROPERTY LIES IN ANOTHER COUNTY OR TOWN. (THIS INFORMATION MUST BE OBTAINED BY THE APPLICANT).**

* PROPERTY OWNER'S NAME: Lisa D. Spicer MAILING
ADDRESS: 1070 Chopping Road, Mineral, VA 23117

TAX MAP # 42

SUBDIVISION NAME NA LOT/PARCEL# 42

ACREAGE 5.88 ZONING A2

* PROPERTY OWNER'S NAME: Nicholas J. Marotta MAILING
ADDRESS: 13209 Pennerview Lane, Fairfax, VA 22033

TAX MAP # 42

SUBDIVISION NAME: NA LOT/PARCEL# 43

ACREAGE 68.5 ZONING A2

* PROPERTY OWNER'S NAME: Jeremy and Charity Boston MAILING
ADDRESS: 913 Chopping Road, Mineral, VA 23117

TAX MAP # 42-1

SUBDIVISION NAME: NA LOT/PARCEL# 3B
 ACREAGE 9.22 ZONING A2
 * PROPERTY OWNER'S NAME: The William A. Cooke Foundation
 MAILING ADDRESS: P.O. Box 462, Louisa, VA 23093
 TAX MAP # 42

SUBDIVISION NAME: NA LOT/PARCEL# 33
 ACREAGE 25.12 ZONING A2
 * PROPERTY OWNER'S NAME: The William A. Cooke Foundation
 MAILING ADDRESS: P.O. Box 462, Louisa, VA 23093
 TAX MAP # 27C-1

SUBDIVISION NAME: NA LOT/PARCEL# B
 ACREAGE 16.89 ZONING A2
 * PROPERTY OWNER'S NAME: Christopher D. Brooks
 MAILING ADDRESS: 175 Twin Cedars Road, Mineral, VA 23117
 TAX MAP # 27C-1

SUBDIVISION NAME: NA LOT/PARCEL# B3 & C1
 ACREAGE 4,894 ZONING A2
 * PROPERTY OWNER'S NAME: Patricia D. Wolfrey MAILING
 ADDRESS: 39 Twin Cedar Road, Mineral, VA 23117
 TAX MAP # 27C-1

SUBDIVISION NAME: NA LOT/PARCEL# C
 ACREAGE 2.767 ZONING A2
 * PROPERTY OWNER'S NAME: Jay T. Jolliffe
 MAILING ADDRESS: 1206 Chopping Road, Mineral, VA 23117
 TAX MAP # 42

SUBDIVISION NAME: NA LOT/PARCEL# 41
 ACREAGE 22.25 ZONING A2
 * PROPERTY OWNER'S NAME: _____
 MAILING ADDRESS: _____
 TAX MAP # _____

SUBDIVISION NAME: _____ LOT/PARCEL# _____
 ACREAGE _____ ZONING _____
 * PROPERTY OWNER'S NAME: _____
 MAILING ADDRESS: _____

10. HEREWITH IS DEPOSITED THE FEE REQUIRED. CHECKS OR MONEY ORDERS
MADE PAYABLE TO TREASURER, COUNTY OF LOUISA.

13. I/WE HEREBY CERTIFY THAT TO THE BEST OF MY/OUR KNOWLEDGE ALL OF THE ABOVE STATEMENTS AND THE STATEMENTS CONTAINED IN ANY EXHIBITS TRANSMITTED ARE TRUE AND THAT THE ADJACENT PROPERTY OWNERS LIST HERewith ARE THE OWNERS OF RECORD AS OF THE DATE OF APPLICATION.

NOTE: INCOMPLETE APPLICATIONS WILL NOT BE ACCEPTED. ANY REQUEST WHICH REQUIRES PLANS MUST BE ACCOMPANIED BY THOSE PLANS AT THE TIME OF SUBMISSION OF THE APPLICATION.

DATE: July 24, 20 25.

By: 
SIGNATURE OF APPLICANT
(Same Name as Used in Item 2-A, Page 1)

American Tower Asset Sub II, LLC
APPLICANT'S NAME
(Typed or Printed)

By: 
SIGNATURE OF OWNER
(Same Name as Used in Item 2-C, Page 1)

4 All Land, LLC, a Virginia limited liability company
OWNER'S NAME
(Typed or Printed)

By: 
SIGNATURE OF AGENT
(Name of Person Other Than, but Acting for the Applicant, Responsible for this Application)

Williams Mullen /Lori H.
Schweller, Esq.
AGENT'S NAME





LANDOWNER LETTER OF AUTHORIZATION FOR PERMITTING

Licensee Name: Cellco Partnership d/b/a Verizon Wireless
@ ATC Site Name: Mineral / ATC Site #: 310370 / Project #: 14921176
Site Address: 977 Chopping Rd, Mineral, VA 23117
Coordinates: 38.03718473, -77.92405042

I, SHAWN TUTHILL, of 4 ALL LAND LLC, owner of the property identified above or duly authorized agent thereof, do hereby authorize Cellco Partnership d/b/a Verizon Wireless, American Tower, and their parents, subsidiaries, affiliates, successors, assigns, contractors, and/or agents, to act as my non-exclusive agent for the sole purpose of filing and consummating any land-use, building, or electrical permit application(s) as may be required by the applicable permitting authorities for proposed equipment additions and/or modifications by Cellco Partnership d/b/a Verizon Wireless within the leased area. The Project generally consists of the following:

Proposing: the following equipment is being physically installed on the tower:
6 - 95.9' PANEL
2 - 29.5' BOB/SSB
3 - 15' RRU/RRH
2 - 1 5/8" Hybriflex

Removing: The following equipment is being physically removed from the tower:
3 - 74.9' PANEL
3 - 96.5' PANEL
6 - 96' PANEL
1 - 19.2' BOB/SSB
1 - 19.2' BOB/SSB
3 - 6.9' DIPLEXER/DUAL COUPLER
3 - 13' RRU/RRH
3 - 21.4' RRU/RRH
3 - 26.6' RRU/RRH
6 - 1 5/8" Coax
2 - 1 1/4" Hybriflex Cable

Application Groundspace:
Removing a diesel generator

Signature: _____

Print Name: _____

Shawn Tuthill

NOTARY BLOCK

State of Virginia
County of Hanover

On 7/24/25, before me, Shawn Tuthill personally appeared _____, who provide to me on the basis of satisfactory evidence to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

I certify under PENALTY OF PERJURY under the laws of the State of Virginia that the foregoing paragraph is true and correct.

Witness my hand and official seal.

Signature Christy Catlett (Seal)
My Commission Expires: 1-31-26



*American Tower as used herein includes any affiliates or subsidiaries of American Tower Corporation

FILE COPY



County of Louisa

(410) 712-7700

Post Office Box 160
Louisa, Virginia 23093

(703) 967-0401
FAX 703) 967-3411

July 7, 1994

Jeff Owens
Southwestern Bell Mobile Systems, Inc.
T/A Cellular One
7150 Standard Drive
Hanover, MD 21076

Dear Mr. Owens:

At a regular meeting of the Louisa County Board of Supervisors held July 5, 1994, the Board voted to approve your request for a Conditional Use Permit. The Conditional Use Permit was issued for the construction of a 350 foot cellular communications tower and 12'x26' equipment building. The property is located on the west side of State Route 623, approximately 3.1 miles north of Route 22/33.

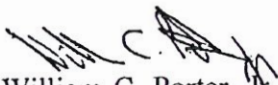
The Board approved the Conditional Use Permit with the following conditions to insure project compatibility and minimize potential nuisance from development:

1. That the site be developed according to all Agricultural (A) District regulations;
2. That development be in accordance with a site plan approved by Louisa County;
3. That all necessary permits be secured from the Louisa County Zoning/Building Department;
4. Prior to release of the building permit for the tower or the building, a copy of FAA approval shall be submitted to the Planning Office;
5. The operation of this tower shall not interfere with any other communication system including, but not limited to, television, radio, microwave, and satellite transmissions or use of any electronic equipment in the County;
6. Any UHF, VHF or other type of transmitters/receivers that would interfere with the County's Emergency communications to be prohibited from this tower;
7. The tower shall be painted and lighted in accordance with FAA regulations;

8. The Conditional Use Permit is not transferable to another applicant or owner;
9. Inspections - the Board of Supervisors or their designated representatives reserves the right to inspect the site at any reasonable time without prior notice;
10. Permit Revocation - violation of any condition of this permit shall be grounds for revocation of the Conditional Use Permit. If a violation does occur, Southwestern Bell Mobile Systems, Inc. will have ninety (90) days in which to remove the tower.
11. Space shall be reserved on the tower, (up to 300' or higher as long as it does not cause interference), for Louisa County Emergency Services use at no cost to the County. In addition, the applicant will provide suitable communications equipment to enhance emergency services in Louisa County as an in-kind contribution to the Volunteer Fire and Rescue Organizations, with additional costs not to exceed \$10,000 wholesale price, and said contribution would be transferable and cumulative to another tower if it is not needed at this particular site. Equipment shall be in accordance with specifications from the Emergency Services Coordinator.
12. An emergency number be provided for Louisa County cellular users to connect them directly to the Sheriff's Department until the E-911 system is implemented in Louisa County.

Should you have any questions, please do not hesitate to contact our office.

Sincerely,


William C. Porter, Jr.
County Administrator

WCPjr/raf

WILLIAMS MULLEN

Direct Dial: 434.951.5728
LSchweller@williamsmullen.com

September 12, 2025

VIA EMAIL: RMawyer@louisacounty.gov; TEgeland@louisacounty.gov
and FEDERAL EXPRESS

Louisa County Community Development
1 Woolfolk Avenue, Suite 201
Louisa, VA 23093

Attention: Renee Mawyer, Associate Planner/Deputy Subdivision Agent
Tom Egeland, Jr., Deputy Director of Community Development / Deputy Zoning Administrator

RE: **Comprehensive Plan Substantial Accord Review in relation to
Conditional Use Permit Amendment Request**

Applicant: American Tower Asset Sub II, LLC

Property: Tax Map Parcel 42-34; 977 Chopping Road, Mineral, VA; 22 acres

Property Owner: 4 All Land, LLC, a Virginia limited liability company

Dear Ms. Mawyer and Mr. Egeland:

American Tower Asset Sub II, LLC, which is a wholly-owned subsidiary of American Tower Corporation, submitted a request on August 12, 2025 to amend an existing Conditional Use Permit (CUP) for an existing wireless communications facility (the "WCF" or the "Chopping Road WCF"). The request is to delete one and amend another condition of the existing Conditional Use Permit, issued July 5, 1994, "for the construction of a 350-foot cellular communications tower and 12' x 26' equipment building" on "property located on the west side of State Route 623, approximately 3.1 miles north of Route 22/23" (the "CUP").

We have been informed that the County requires a review of the WCF to determine if it is substantially in accord with the County's Comprehensive Plan. I note that Sec. 86-664 of Division 5 (Telecommunications Regulations) of the Louisa County Zoning Ordinance provides that facilities that are approved by a special use permit process, as this WCF was approved in 1994, "shall be deemed substantially in accord with the comprehensive plan." As such, we submit that the WCF may be deemed in substantial accord with the comprehensive plan by operation of the County Code.

Nevertheless, we provide the following support for a finding by the Planning Commission that the WCF is in substantial accord with the current County Comprehensive Plan.

The WCF is located at 977 Chopping Road north of Mineral. It serves the area between the Mineral Growth Area and the property developing to the north along Chopping Road (State Route 623) and Zachary Taylor Highway (S. R. 522) leading to the Lake Anna Growth Area. County wireless needs have grown substantially since the adoption of the Telecommunications Master Plan, dated September 17, 2007. The County experienced population growth, but, more significant, wireless usage has increased dramatically since 2007.

On August 4, 2025, Verizon Wireless obtained approval for a new WCF approximately 0.28 mile from the intersection of Zachary Taylor Highway (Route 522) and Chopping Road (Route 623)¹ (the “522 WCF”). The 522 WCF is needed even though Verizon Wireless has antennas on the Chopping Road WCF and on the existing tower near the County Fire & EMS Training Center at 26 Sacred Heart Avenue (where the new sector facing Mineral is overloaded). More coverage and capacity are needed in this growing area of the County. Verizon Wireless intends to remove and replace the antennas on the Chopping Road WCF to provide improved service from this important site.

The Louisa County Comprehensive Plan lays out strategies for growth in Chapter 3: Land Use. The Land Use Plan identifies guiding principle 1. to preserve and protect the County’s rural heritage. The WCF is located in an area designated as Rural on the County’s Future Land Use Map. The Plan denotes Rural Values and Character in 3.1.1 to include the importance of agriculture, forestry, hunting, and fishing, as well as having jobs that residents can work close to home.

This WCF is critical for the continuance of high-quality wireless communications services provided by Verizon Wireless, AT&T, and T-Mobile, which serve existing and future residents, agriculture, rural activities, and travelers through the area, all of which increasingly rely on wireless communications infrastructure for everyday life. Wireless communications enable remote work, support advanced agricultural applications, and support commerce. In addition, the WCF provides effective access to 911 first responders such as fire, EMS, and police. Residents and travelers in the area have benefitted from wireless communications from this WCF for approximately 20 years, while experiencing little to no impact from the facility.

At its meeting on July 10, 2025, the Planning Commission found the Verizon Wireless request for approval of the 522 WCF to be in substantial accord with the 2040 Louisa County Comprehensive Plan in accordance with Section 15.2-2232 of the State Code of Virginia. The Staff Report to the Planning Commission for the 522 WCF hearing provides relevant information for this request because the 522 WCF will be a handoff or connecting site for the existing Chopping Road WCF, located in the same area of the County. The staff report addressing Comprehensive Plan Conformance for the 522 WCF states as follows:

“CONFORMANCE REVIEW:

1. 2040 Louisa County Comprehensive Plan

The primary goal of the Louisa County 2040 Comprehensive Plan (the “2040 Plan”), “protects Louisa’s rural character and provides for efficient delivery of public services, and for accommodating economic growth in designated growth areas.”

The 2040 Plan contains many ideas for protecting and preserving the County’s rural character, including a thorough review (and update where necessary) of designated growth areas, based on detailed future needs analyses, trends and projections. Simultaneously, the Plan provides the means for planning the delivery of capable public services to ensure a healthy future economy.

The proposed tower is located between two growth areas (Lake Anna & Mineral), on Zachary

¹ The 522 WCF parcel (Tax Map parcel 28-97F) fronts on both State Routes, but the tower site is accessed from Route 522 (Zachary Taylor Highway).

Taylor Highway (Route 522) which has an annual average daily trips of 4900. Chopping Road (Route 623) has an annual average daily trips of 4100.

2. 2007 Louisa County Wireless Telecommunication Master Plan

This Plan establishes guidelines for the rational growth and development of wireless facilities thus minimizing tower proliferation throughout the County. The Telecommunications Master Plan combines land use strategies with industry accepted radio frequency (RF) engineering standards and propagation or wireless coverage maps to create an illustrative planning tool complimenting related zoning regulations. The Master Plan also provides an engineering analysis, an inventory of existing towers, and an assessment of future wireless needs.

The 2007 Telecommunications Master Plan Projected Theoretical Coverage for 2020 Including County-Owner Land Map page 52 does not propose a tower in this area of the County (Exhibit K). However, since the creation of the 2020 Map, technology and the demand for wireless services has increased over the past 17 years. Therefore, staff finds the proposed wireless tower at this location complies with the Master Plan as it may provide improved wireless coverage for the County.

3. 2024 Public Facilities Impacts Review

The Board of Supervisors adopted a Public Facilities plan on February 20, 2024, as an amendment to the 2040 Comprehensive Plan adopted August 5, 2019. Implementation of the Public Facilities plan allows the County to deliver the planned quality of life and service standards at current and future levels by identifying the impacts of proposed development and offering the means to consider proposed mitigation(s). The Plan aims to ensure that development impacts are adequately assessed and mitigated, to promote sustainable growth and to preserve the community's well-being. As Louisa County grows, the pressure on public facilities and services intensifies. The county expects proposed developments to consider the impacts on Public Facilities and to mitigate the impacts of the development. This mitigation can take various forms, such as impact fees, infrastructure improvements, land dedication, and other items, ensuring that the burden of growth does not disproportionately fall on existing residents and businesses in the County.

This application has therefore been evaluated to determine if it impacts the following areas:

Administration

Staff believes there would be a minimum level of impact to Administration. Community Development Department staff is currently involved in the Conditional Use Permitting Process. Community Development Department staff would also be involved in future site plan reviews, and development permit reviews and inspections.

Fire & EMS

Staff believes the proposed tower would have a positive impact on Fire & EMS service resulting in increased wireless service for communication during an emergency event.

Law Enforcement

Staff believes a positive impact on Law Enforcement service will result in the approval of a new tower as communication is crucial during an emergency event.

September 12, 2025
Page 4

Parks and Recreation

Staff believes this project would have no impact on Parks and Recreation.

Schools

Staff believes this project would have a positive impact on Schools as it would increase coverage allowing more parents the option of teleworking and students access to the internet for homework.

Solid Waste

Community Development staff believe there would be a minimum level of impact. Construction debris and refuse is also anticipated from the development to cause impacts as a user of the landfill. Standard charges would apply.”

In summary, recent staff analysis clearly describes how the existing WCF, located in the same area of the County as the 522 WCF, supports County goals set out in the Comprehensive Plan and 2024 Public Facilities Impact Review.

Thank you for your consideration of this request. Please contact me with any questions at 434-951-5728 or LSchweller@williamsmullen.com.

Very truly yours,



Lori H. Schweller

Enclosures

cc: American Tower Corporation

WILLIAMS MULLEN

Direct Dial: 434.951.5728
LSchweller@williamsmullen.com

August 12, 2025

VIA EMAIL: RMawyer@louisacounty.gov; TEgeland@louisacounty.gov
and FEDERAL EXPRESS

Louisa County Community Development
1 Woolfolk Avenue, Suite 201
Louisa, VA 23093
Attention: Renee Mawyer, Associate Planner/Deputy Subdivision Agent
Tom Egeland, Jr., Deputy Director of Community Development / Deputy Zoning Administrator

RE: Conditional Use Permit Amendment Request

Applicant: American Tower Asset Sub II, LLC

Property: Tax Map Parcel 42-34; 977 Chopping Road, Mineral, VA; 22 acres

Property Owner: 4 All Land, LLC, a Virginia limited liability company

Dear Ms. Mawyer and Mr. Egeland:

On behalf of the Applicant, American Tower Asset Sub II, LLC, which is a wholly-owned subsidiary of American Tower Corporation, I request an amendment to an existing Conditional Use Permit (CUP) for an existing wireless communications tower. Our request is to amend certain conditions of the existing Conditional Use Permit, issued July 5, 1994, "for the construction of a 350 foot cellular communications tower and 12' x 26' equipment building" on "property located on the west side of State Route 623, approximately 3.1 miles north of Route 22/23" (the "CUP"). The CUP approval letter, enclosed for reference, is addressed to Jeff Owens, Southwestern Bell Mobile Systems, Inc. t/a Cellular One. As permitted by the CUP, the Property is developed with a 350-foot guy-wired communications tower and a ground equipment compound (the "Facility"). The building permit for the tower was issued on August 12, 1994, and the tower was built in 1994-95.

Enclosed are the following:

- Land Use Amendment Application
- Landowner Letter of Authorization for Permitting
- Verizon Wireless Regulatory Compliance letter
- Check in the amount of \$1,150 made payable to Louisa County
- Copy of Existing CUP approval letter

Antennas and related equipment at the Facility provide wireless communications services from Verizon Wireless, AT&T, and T-Mobile. Verizon Wireless submitted a collocation application package in January 2025 to allow Verizon Wireless to remove and replace certain antennas and equipment. We understand that this collocation application raised awareness about the non-transferability condition with Community Development.

CUP Conditions Amendment Request

The Applicant requests elimination of Condition #8, which provides that ***"the Conditional Use Permit is not transferable to another applicant or owner."*** Over the years since the CUP was issued, the original permit holder, Southwestern Bell Mobile Systems, Inc. assigned the lease through corporate mergers and assignments; and, by assignment, dated February 28, 2007, the Applicant acquired rights in the lease so that the current owner and operator of the Facility is the Applicant. Further, the Property owner at the time of the CUP was Miles Robert Gibson. He has transferred the property to 4 All Land, LLC. Louisa County's current conditional use permits typically are issued for the property and "run with the land" regardless of ownership or operator, so the requested change of eliminating the non-transferability condition will make the CUP consistent with other conditional use permits in the county.

As a tall tower with antennas providing service from the three major wireless communications providers, the Facility serves many County residents, so it is essential that the CUP not be terminated for violation of the condition. We ask for a simple update of the CUP to strike the outdated condition of non-transferability, thus bringing the CUP into compliance.

Additionally, the Applicant requests amendment of Condition #10 by deleting the second sentence, which requires the former permit holder, Southwestern Bell, to remove the facility within 90 days of any permit violation. It is appropriate to replace this condition with the updated condition used in the recent Arcola Towers project discussed below: ***"Violation of any conditions contained herein shall be grounds for revocation of the Conditional Use Permit."*** The Zoning Ordinance provides in Section 86-43(e) that the Board of Supervisors may revoke a conditional use permit under certain circumstances. The Applicant should be entitled to a public hearing before the revocation of the CUP in the case of an alleged violation. Also, since Southwestern Bell is no longer the lessee / Facility owner/operator, the second sentence is out of date with respect to the responsible party.

Conditional Use Permit Support

The Louisa County Code, Chapter 86 – Land Development Regulations, Division 5 – Conditional Use Permits allows certain uses where so listed in the district regulations of the zoning district where the use is located subject to conditions the Board of Supervisors deems necessary. Subsection (b) of Section 86-43 provides that

"(b) In determining imposed conditions, the governing body shall take into consideration the intent of this chapter and may impose reasonable conditions that:

(1) Abate or restrict noise, smoke, dust or other elements that may affect surrounding property.

(2) Establish setback, side and front yard requirements necessary for orderly development and to prevent traffic congestion.

(3) Provide for adequate parking and ingress and egress to public streets or roads.

(4) Provide adjoining property with a buffer or shield from view of the proposed use if such use is considered detrimental to adjoining property.

(5) Tend to prevent such use from changing the character and established pattern of development of the community."

As a constructed tower, the Facility will not cause any noise, smoke, dust, or other negative impacts on surrounding properties. The Facility is set back from the road on a 22-acre forested parcel and has been in place for two decades. The proposed amendments to the CUP conditions will not alter the Facility in any way that would change the character of the neighborhood. On the contrary, approving the requested revisions to the CUP conditions will allow the Facility to remain in place with no technical violations, thus providing essential wireless services to County residents. Verizon Wireless, AT&T, and T-Mobile use the Facility to provide important wireless services to the community.

Current Communications Tower Conditions Comparison

We discussed in our pre-application meeting for this proposal that it may be useful to compare the existing CUP conditions to current County CUP conditions for wireless communications facilities. A recently approved communications facility for Arcola Towers LLC, CUP2024-08 (February 20, 2025 approval letter) provides an example of conditional use permit conditions the County currently imposes on similar projects. The majority of its 21 conditions are inapplicable to the Facility because it is already constructed. The Applicant's preference is to leave the existing CUP conditions as-is except #8 and #10, as discussed above. We have the following comments regarding the recent CUP20-24-08 as they relate to the Facility CUP:

1. Construction of the 197-foot-tall monopole tower with a 2 foot tall antenna or its facility shall only take place Monday through Saturday 7:00 AM to 7:00 PM.

Inapplicable since the Facility is already constructed and is 350'.

2. All ground equipment shall be properly shielded from pedestrian view.

Inapplicable since Facility is already constructed with ground equipment well concealed within wooded parcel.

3. The Board of Supervisors or their designated representative shall have the right to inspect the site at any reasonable time without prior notice.

Already provided for in existing CUP #9.

4. All exterior lighting at the wireless communication facility shall be designed and installed to mitigate light pollution to the surrounding areas and skies and shall comply with the specifications of the International Dark-Sky Association (www.darksky.org).

Current CUP Condition #7 addresses painting and lighting, which is already installed.

5. If the approved new tower facility at this location does not become operational within two (2) years from the approval date, then this conditional use permit shall become void. The applicant is allowed one administrative extension of one year from the Zoning Administrator.

Inapplicable as Facility is constructed.

6. The overall tower height shall not exceed 199 feet in height above ground level, which shall include any antennas and a lightning rod.

Inapplicable; CUP is for a 350' tower.

7. The facility shall be developed in accordance with an approved site plan and erosion and sediment control plan to be approved by the appropriate government agency. The applicant shall post the phone number to call 24 hours for noise complaints.

Inapplicable as Facility has been developed. The Facility does not generate noise.

8. The applicant shall secure all necessary permits from the Louisa County Community Development Department.

Inapplicable as Facility has been developed and constructed.

9. Prior to issuance of a building permit for the facility, the applicant shall supply to the Community Development Department a copy of a FAA determination letter and completed NEPA study for the tower.

Inapplicable as Facility has been developed and constructed.

10. The FCC Licensee and affected carriers or service providers shall be responsible for immediately correcting any interference.

Issue is addressed by Condition #5 of the existing CUP.

11. The color and lighting system for the tower facility shall be as follows:
 - a. The tower shall be gray or another neutral color, acceptable to the Director of Community Development.
 - b. The tower shall not be lit, unless lighting is required by the Federal Aviation Administration (FAA).

Existing Facility is neutral colors, and it is required to be lit by the FAA.

12. The cellular carriers shall route all emergency "911" calls directly to the Public Safety Access Point charged with taking emergency "911" calls. At the time of application, the Public Safety Access Point is the Louisa County Emergency Services.

The Applicant cannot agree to this condition because it does not apply to the Applicant but to the cellular carriers so is not within the Applicant's control.

13. The tower shall be structurally designed and built to permit the colocation of a minimum of four (4) wireless carriers' antenna arrays and related equipment.

The Applicant would not object to this new condition.

14. The applicant or its assigns or successors in interest shall agree to remove the tower, at their own expense, from the above referenced site not more than six months from the date that the tower is no longer being used to provide space for telecommunications operations and/or providers.

The Applicant would not object to this condition.

15. The facility shall not be accessible to any unauthorized persons.

The Applicant would not object to this condition.

16. The monopole tower shall have all antenna feed lines installed inside the monopole.

Inapplicable as Facility includes a guy-wired tower, not a monopole.

17. All access ports for the tower shall be sealed in a manner that prevents access by birds or other wildlife.

Inapplicable as Facility includes a guy-wired tower, not a monopole.

18. The applicant shall provide the County with an "as built" sealed report by a Registered Virginia Professional Engineer that the tower will support the designed loading to permit the colocation of a minimum of four (4) wireless carriers' antenna arrays and related equipment and be in compliance with ANSI/EIA/TIA 222-F (as amended).

Inapplicable as Facility has been developed and constructed.

19. The applicant is responsible for notifying the Louisa County Community Development Department of the date that the primary lease tenant has become operational and is providing telecommunications services to its customers from the tower.

Inapplicable as Facility is in operation.

20. Entrance permit and/or an approval letter shall be issued by the Virginia Department of Transportation prior to issuance of any building permits.

Inapplicable as Facility has been developed and constructed.

21. Violation of any conditions contained herein shall be grounds for revocation of the Conditional Use Permit.

The Applicant would like to replace existing condition #10 with this condition.

In summary, because most of the current conditions applied to communications towers are inapplicable to this Facility, we ask simply for the elimination of Condition #8 and replacement Condition #10 of the CUP with an updated condition.

August 13, 2025
Page 6

Thank you for your consideration of this request. Please contact me with any questions at 434-951-5728 or LSchweller@williamsmullen.com.

Very truly yours,

A handwritten signature in blue ink, appearing to read "Lori Schweller". The signature is fluid and cursive, with the first name "Lori" and last name "Schweller" clearly distinguishable.

Lori H. Schweller

Enclosures

cc: American Tower Corporation



Structural Analysis Report

Structure : 340 ft Guyed Tower
ATC Asset Name : Mineral
ATC Asset Number : 310370
Engineering Number : 14921176_C3_03
Proposed Carrier : VERIZON WIRELESS
Carrier Site Name : MINERAL
Carrier Site Number : 5000114073
Site Location : 977 Chopping Road
Mineral, VA 23117-4145
38.0372° N, 77.924° W
County : Louisa
Date : November 13, 2024
Max Usage : 89%
Analysis Result : Pass



COA: 0407004594

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Tower Loading	5
Standard Conditions	Attached
Calculations	Attached

Introduction

The purpose of this report is to summarize results of a structural analysis performed on the 340 ft Guyed tower to reflect the change in loading by VERIZON WIRELESS.

Supporting Documents

Tower:	FWT Job #6766000, dated January 19, 1999
Foundation:	FWT, PJF Job #1944894, dated September 9, 1994
Geotechnical:	Triad Engineering Project #G-877, dated September 1, 1994

Analysis

The tower was analyzed using American Tower Corporation's tower analysis software. This program considers an elastic three-dimensional model and second-order effects per ANSI/TIA-222.

Basic Wind Speed:	111 mph (3-second gust)
Basic Wind Speed w/ Ice:	30 mph (3-second gust) w/ 1.00" radial ice concurrent
Code(s):	ANSI/TIA-222-H / 2021 IBC / Virginia Uniform State Building Code
Exposure Category:	B
Risk Category:	II
Topographic Factor Procedure:	Method 1
Topographic Category:	1
Spectral Response:	$S_s = 0.27$, $S_i = 0.06$
Site Class:	D - Stiff Soil - Default

**Wind load and Ice thickness have been reduced by applicable existing structure load modification factors in accordance with TIA-222, ANNEX-S*

Conclusion

Based on the analysis results, the structure meets the requirements per the applicable codes listed above. The tower and foundation can support the equipment as described in this report.

If you have any questions or require additional information, please reach out to your American Tower contact. If you do not have an American Tower contact and have an Engineering question, please contact Engineering@americantower.com. Please include the American Tower asset name, asset number, and engineering number in the subject line for any questions.

Structure Usages

Structural Component	Usage	Control	Location	Result
Leg	89.1%	Member X	Section 22	Pass
Diagonal	54.2%	Member	Section 24	Pass
Horizontal	35.7%	Member	Section 1	Pass
Bolt	14.6%	-	Section 22	Pass
Torque Arm	21.0%	Compression	Elevation 218 ft	Pass
Cable	84.0%	Tension	Elevation 328 ft	Pass
Serviceability Usage	6.0%	Rotation	Elevation 300 ft	Pass
Mat & Pier	85.1%	Bearing [Soil]	Node 1	Pass
Guy Anchor	27.3%	Tension [Anchor Rod]	Node A1	Pass
Guy Anchor	26.9%	Tension [Anchor Rod]	Node A1a	Pass
Guy Anchor	27.4%	Tension [Anchor Rod]	Node A1b	Pass
Guy Anchor	47.4%	Tension [Anchor Rod]	Node A2	Pass
Guy Anchor	46.2%	Tension [Anchor Rod]	Node A2a	Pass
Guy Anchor	46.4%	Tension [Anchor Rod]	Node A2b	Pass

Maximum Reactions

Foundation	Moment (k-ft)	Axial (k)	Uplift (k)	Shear (k)
Guyed – Pivot Base	-	140.8	-	0.6
Guyed Anchor - A2	-	-	27.0	27.5
Guyed Anchor - A1	-	-	10.5	12.7

**Reactions shown are maximum overall and not limited by Load Case*

Structure base reactions were analyzed using available geotechnical and foundation information.

VERIZON WIRELESS Final Loading

Elev (ft)	Qty	Equipment	Lines
335.0	2	Raycap RCMD-6627-PF-48	(2) 1 5/8" Hybriflex
	3	Sector Frame	
	3	Samsung B2/B66A RRH ORAN (RF 4439d-25A)	
	3	Samsung MT6413-77A	
	3	Samsung RF4461d-13A	
	6	JMA Wireless MX06FHG865-HG	

Install proposed lines in the place of the existing VERIZON WIRELESS lines.

Other Existing/Reserved Loading

Elev (ft)	Qty	Equipment	Lines
338.0	-	-	(1) 1 1/4" Hybriflex Cable
335.8	3	Antel BXA-80080/8CF	-
335.6	3	Andrew HBXX-6517DS-A2M (43 lbs)	-
319.0	3	Ericsson AIR 6419 B77G	-
317.0	1	Commscope NNH4-65B-R6H4	(2) 0.39" (10mm) Fiber Trunk (1) 0.76" (19.2mm) 8 AWG 6 (1) 0.82" (20.8mm) 8 AWG 6 (1) 0.92" (23.4mm) Cable (4) 1.19" (30.3mm) Cable
	1	Commscope NNHH-65B-R4 (77.4 lbs)	
	2	Commscope NNH4-65C-R6-V3 (102.5 lbs)	
	2	Commscope NNHH-65C-R4	
	2	Raycap DC9-48-60-24-8C-EV (Enclosure)	
	3	Ericsson RRUS 4478 B14 (18.1" Height)	
	3	Ericsson Radio 4490HP 44B5 44B12A C (17.5" Height)	
	3	Ericsson Radio 4890HP 48B2/B25 48B66 M01 (68.3lbs)	
	3	Light Sector Frame	
315.0	3	Ericsson AIR 6419 B77D/ C-Band	-
306.0	3	Site Pro 1 VFA12-HD	-
302.0	3	Ericsson AIR 6419 B41	(3) 1.99" (50.7mm) Hybrid
	3	Ericsson Radio 4460 B25+B66	
	3	Ericsson Radio 4480 B71+B85A	
	3	RFS APXVAALL24 43-U-NA20	
	3	RFS APXVLL19P_43-C-A20	

(If table breaks across pages, please see previous page for data in merged cells)



Standard Conditions

All engineering services performed by ATC Tower Services LLC are prepared on the basis that the information used is current and correct. This information may consist of, but is not limited to the following:

- Information supplied by the client regarding antenna, mounts, and feed line loading
- Information from drawings, design and analysis documents, and field notes in the possession of ATC Tower Services LLC

It is the responsibility of the client to ensure that the information provided to ATC Tower Services LLC and used in the performance of our engineering services is correct and complete.

All assets of American Tower Corporation, its affiliates, and subsidiaries (collectively "American Tower") are inspected at regular intervals. Based upon these inspections and in the absence of information to the contrary, American Tower assumes that all structures were constructed in accordance with the drawings and specifications.

Unless explicitly agreed by both the client and ATC Tower Services LLC, all services will be performed in accordance with the current revision of ANSI/TIA-222.

All services are performed, results obtained, and recommendations made in accordance with generally accepted engineering principles and practices. ATC Tower Services LLC is not responsible for the conclusions, opinions and recommendations made by others based on the information supplied herein.

ASSET: Mineral, 310370
CUSTOMER: VERIZON WIRELESS

CODE: ANSI/TIA-222-H
PROJECT: 14921176

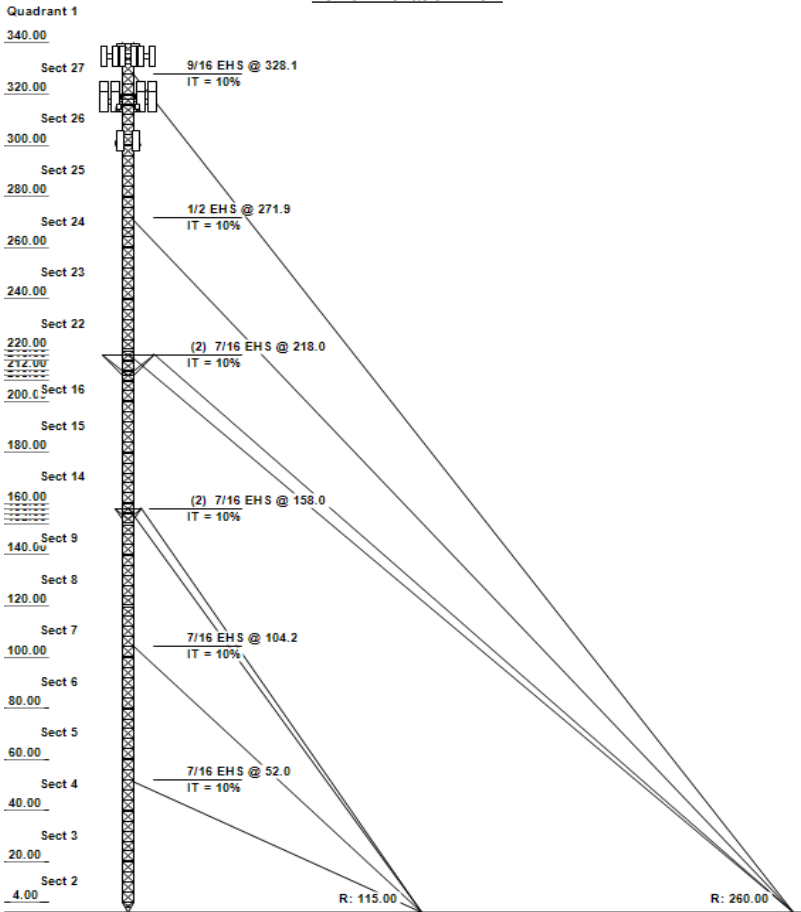
ANALYSIS PARAMETERS

Design Wind: 108 mph Ice Wind: 29 mph w/ 0.85" ice Service Wind: 60 mph
Risk Category: II Exposure: B S_s : 0.271 S_i : 0.059
Topo Factor: Method 1 Topo Feature: Topo Category: 1
Structure Height: 340 ft Base Elevation: 0 ft Shape: Triangle
Base Width: 3.00 ft Top Width: 3.00 ft Base Type: Pivot

TOWER SECTION PROPERTIES

Section	Leg Members	Diagonal Members	Horizontal Members
1	SOL 50 ksi 2 1/4" SOLID	PL 36 ksi PL 2 x 0.5"	SAE 36 ksi 2X2X0.25
2 - 7	SOL 50 ksi 2 1/4" SOLID	SOL 36 ksi 5/8" SOLID	SAE 36 ksi 2X2X0.125
8	SOL 50 ksi 2" SOLID	SOL 36 ksi 5/8" SOLID	SAE 36 ksi 2X2X0.125
9 - 15	SOL 50 ksi 2" SOLID	SOL 36 ksi 3/4" SOLID	SAU 36 ksi 2X1.5X0.1875
16 - 22	SOL 50 ksi 2" SOLID	SOL 36 ksi 7/8" SOLID	SAU 36 ksi 2X1.5X0.25
23 - 26	SOL 50 ksi 2" SOLID	SOL 36 ksi 5/8" SOLID	SAE 36 ksi 2X2X0.125
27	SOL 50 ksi 2" SOLID	SOL 36 ksi 3/4" SOLID	SAU 36 ksi 2X1.5X0.1875

Tower Elevation View



DISCRETE APPURTENANCE

Elev (ft)	Description
335.8	(3) Antel BXA-80080/8CF
335.6	(3) Andrew HBXX-6517DS-A2M (43 lbs)
335.0	(6) JMA Wireless MX06FHG865-HG
335.0	(3) Samsung MT6413-77A
335.0	(3) Samsung B2/B66A RRH ORAN (RF 4
335.0	(3) Samsung RF4461d-13A
335.0	(3) Generic Round Sector Frame
335.0	(2) Raycap RCMDC-6627-PF-48
319.0	(3) Ericsson AIR 6419 B77G
317.0	(3) Ericsson Radio 4890HP 48B2/B25 48
317.0	(2) Commscope NNH4-65C-R6-V3 (102.5
317.0	(3) Ericsson RRUS 4478 B14 (18.1" Heig
317.0	(2) Commscope NNHH-65C-R4
317.0	(3) Ericsson Radio 4490HP 44B5 44B12A
317.0	(2) Raycap DC9-48-60-24-8C-EV (Enclos
317.0	(3) Generic Flat Light Sector Frame
317.0	(1) Commscope NNH4-65B-R6H4
317.0	(1) Commscope NNHH-65B-R4 (77.4 lbs)
315.0	(3) Ericsson AIR 6419 B77D/ C-Band
306.0	(3) Site Pro 1 VFA12-HD
302.0	(3) Ericsson Radio 4480 B71+B85A
302.0	(3) Ericsson AIR 6419 B41
302.0	(3) Ericsson Radio 4460 B25+B66
302.0	(3) RFS APXVLL19P_43-C-A20
302.0	(3) RFS APXVAALL24 43-U-NA20
216.0	(1) Generic Torque Arm
160.0	(1) Generic Torque Arm

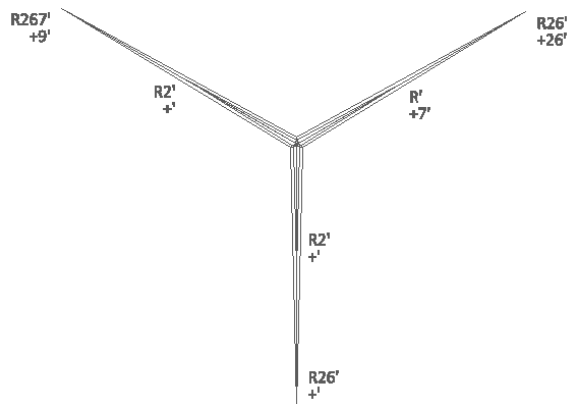
LINEAR APPURTENANCE

Elev (ft)	Description
335.8	(3) Antel BXA-80080/8CF
335.6	(3) Andrew HBXX-6517DS-A2M (43 lbs)
335.0	(6) JMA Wireless MX06FHG865-HG
335.0	(3) Samsung MT6413-77A
335.0	(3) Samsung B2/B66A RRH ORAN (RF 4
335.0	(3) Samsung RF4461d-13A
335.0	(3) Generic Round Sector Frame
335.0	(2) Raycap RCMDC-6627-PF-48
319.0	(3) Ericsson AIR 6419 B77G
317.0	(3) Ericsson Radio 4890HP 48B2/B25 48
317.0	(2) Commscope NNH4-65C-R6-V3 (102.5
317.0	(3) Ericsson RRUS 4478 B14 (18.1" Heig
317.0	(2) Commscope NNHH-65C-R4
317.0	(3) Ericsson Radio 4490HP 44B5 44B12A
317.0	(2) Raycap DC9-48-60-24-8C-EV (Enclos
317.0	(3) Generic Flat Light Sector Frame
317.0	(1) Commscope NNH4-65B-R6H4
317.0	(1) Commscope NNHH-65B-R4 (77.4 lbs)
315.0	(3) Ericsson AIR 6419 B77D/ C-Band
306.0	(3) Site Pro 1 VFA12-HD
302.0	(3) Ericsson Radio 4480 B71+B85A
302.0	(3) Ericsson AIR 6419 B41
302.0	(3) Ericsson Radio 4460 B25+B66
302.0	(3) RFS APXVLL19P_43-C-A20
302.0	(3) RFS APXVAALL24 43-U-NA20
216.0	(1) Generic Torque Arm
160.0	(1) Generic Torque Arm

BASE REACTIONS

Axial (k): 140.80
Shear (k): 0.64

Tower Plan View



GUY ANCHOR REACTIONS

Radius (ft)	Drop (ft)	Azimuth (°)	Uplift (k)	Shear (k)
115.0	17.00	120	10.30	12.66
125.0	5.00	0	10.47	12.40
125.0	11.00	240	10.00	12.51
260.0	11.00	0	27.00	27.32
260.0	26.00	120	25.66	27.48
267.0	19.00	240	25.52	27.31

ANALYSIS PARAMETERS			
Location:	Louisa County, VA	Height:	340 ft
Type and Shape:	Guyed, Triangle	Base Elevation:	0.00 ft
Manufacturer:	FWT	Bottom Face Width:	3.00 ft
Kd	0.85	Top Face Width:	3.00 ft
Ke:	0.98		

ICE & WIND PARAMETERS			
Exposure Category:	B	Design Wind Speed Without Ice:	108 mph
Risk Category:	II	Design Wind Speed with Ice:	29 mph
Topographic Factor Procedure:	Method 1	Operational Windspeed:	60 mph
Topographic Category:	1	Design Ice Thickness:	0.85 in
Crest Height:	ft	HMSL:	455 ft

SEISMIC PARAMETERS					
Analysis Method:	Equivalent Lateral Force Method				
Site Class:	D - Stiff Soil	Period Based on Rayleigh Method (sec):		1.79	
T _L (sec):	12	P:	1.3	C _s :	0.030
S _{ds} :	0.286	S _{d1} :	0.094	C _{s, Max} :	0.030
S _s :	0.271	S ₁ :	0.059	C _{s, Min} :	0.030
F _a :	1.583	F _v :	2.400		

LOAD CASES	
1.2D + 1.0W Normal	1.2D + 1.0W Normal - 108.19 mph Wind with No Ice
1.2D + 1.0W 60°	1.2D + 1.0W 60° - 108.19 mph Wind with No Ice
1.2D + 1.0W 90°	1.2D + 1.0W 90° - 108.19 mph Wind with No Ice
1.2D + 1.0W 120°	1.2D + 1.0W 120° - 108.19 mph Wind with No Ice
1.2D + 1.0W 180°	1.2D + 1.0W 180° - 108.19 mph Wind with No Ice
1.2D + 1.0W 210°	1.2D + 1.0W 210° - 108.19 mph Wind with No Ice
1.2D + 1.0W 240°	1.2D + 1.0W 240° - 108.19 mph Wind with No Ice
1.2D + 1.0W 300°	1.2D + 1.0W 300° - 108.19 mph Wind with No Ice
1.2D + 1.0W 330°	1.2D + 1.0W 330° - 108.19 mph Wind with No Ice
1.2D + 1.0Di + 1.0Wi Normal	1.2D + 1.0Di + 1.0Wi Normal - 29.24 mph Wind with 0.85" Radial Ice
1.2D + 1.0Di + 1.0Wi 60°	1.2D + 1.0Di + 1.0Wi 60° - 29.24 mph Wind with 0.85" Radial Ice
1.2D + 1.0Di + 1.0Wi 90°	1.2D + 1.0Di + 1.0Wi 90° - 29.24 mph Wind with 0.85" Radial Ice
1.2D + 1.0Di + 1.0Wi 120°	1.2D + 1.0Di + 1.0Wi 120° - 29.24 mph Wind with 0.85" Radial Ice
1.2D + 1.0Di + 1.0Wi 180°	1.2D + 1.0Di + 1.0Wi 180° - 29.24 mph Wind with 0.85" Radial Ice
1.2D + 1.0Di + 1.0Wi 210°	1.2D + 1.0Di + 1.0Wi 210° - 29.24 mph Wind with 0.85" Radial Ice
1.2D + 1.0Di + 1.0Wi 240°	1.2D + 1.0Di + 1.0Wi 240° - 29.24 mph Wind with 0.85" Radial Ice
1.2D + 1.0Di + 1.0Wi 300°	1.2D + 1.0Di + 1.0Wi 300° - 29.24 mph Wind with 0.85" Radial Ice
1.2D + 1.0Di + 1.0Wi 330°	1.2D + 1.0Di + 1.0Wi 330° - 29.24 mph Wind with 0.85" Radial Ice
1.2D + 1.0Ev + 1.0Eh Normal	1.2D + 1.0Ev + 1.0Eh Normal - Seismic
1.2D + 1.0Ev + 1.0Eh 60°	1.2D + 1.0Ev + 1.0Eh 60° - Seismic
1.2D + 1.0Ev + 1.0Eh 90°	1.2D + 1.0Ev + 1.0Eh 90° - Seismic
1.2D + 1.0Ev + 1.0Eh 120°	1.2D + 1.0Ev + 1.0Eh 120° - Seismic
1.2D + 1.0Ev + 1.0Eh 180°	1.2D + 1.0Ev + 1.0Eh 180° - Seismic
1.2D + 1.0Ev + 1.0Eh 210°	1.2D + 1.0Ev + 1.0Eh 210° - Seismic
1.2D + 1.0Ev + 1.0Eh 240°	1.2D + 1.0Ev + 1.0Eh 240° - Seismic
1.2D + 1.0Ev + 1.0Eh 300°	1.2D + 1.0Ev + 1.0Eh 300° - Seismic
1.2D + 1.0Ev + 1.0Eh 330°	1.2D + 1.0Ev + 1.0Eh 330° - Seismic

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LOAD CASES	
1.0D + 1.0W Service Normal	1.0D + 1.0W Service Normal - 60 mph Wind with No Ice
1.0D + 1.0W Service 60°	1.0D + 1.0W Service 60° - 60 mph Wind with No Ice
1.0D + 1.0W Service 90°	1.0D + 1.0W Service 90° - 60 mph Wind with No Ice
1.0D + 1.0W Service 120°	1.0D + 1.0W Service 120° - 60 mph Wind with No Ice
1.0D + 1.0W Service 180°	1.0D + 1.0W Service 180° - 60 mph Wind with No Ice
1.0D + 1.0W Service 210°	1.0D + 1.0W Service 210° - 60 mph Wind with No Ice
1.0D + 1.0W Service 240°	1.0D + 1.0W Service 240° - 60 mph Wind with No Ice
1.0D + 1.0W Service 300°	1.0D + 1.0W Service 300° - 60 mph Wind with No Ice
1.0D + 1.0W Service 330°	1.0D + 1.0W Service 330° - 60 mph Wind with No Ice

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Elev (ft)	Description	Qty	Wt. (lb)	EPA (sf)	Length (ft)	Width (in)	Depth (in)	K _a	Orient. Factor	Vert. Ecc. (ft)	M _u (lb-ft)	Q _z (psf)	F _a (WL) (lb)	P _a (DL) (lb)
317.0	Ericsson Radio 4490HP 44B5 44B	3	68	1.5	1.5	15.1	6.8	0.80	0.67	0.0	0.00	10.59	21	204
317.0	Ericsson RRUS 4478 B14 (18.1"	3	59	2.0	1.5	13.4	8.3	0.80	0.50	0.0	0.00	10.59	22	178
317.0	Ericsson Radio 4890HP 48B2/B25	3	68	2.2	1.5	15.1	6.9	0.80	0.50	0.0	0.00	10.59	24	205
317.0	Raycap DC9-48-60-24-8C-EV (Enc	2	19	2.7	2.2	12.4	9.7	0.80	0.67	0.0	0.00	10.59	26	37
317.0	Commscope NNH4-65B-R6H4	1	83	12.3	6.0	19.6	7.8	0.80	1.00	0.0	0.00	10.59	88	83
317.0	Commscope NNHH-65B-R4 (77.4 lb	1	77	12.3	6.0	19.6	7.8	0.80	0.73	0.7	45.18	10.60	65	77
317.0	Commscope NNHH-65C-R4	2	99	17.1	8.0	19.6	7.8	0.80	0.64	0.4	62.96	10.59	157	198
317.0	Commscope NNH4-65C-R6-V3 (102.	2	103	17.1	8.0	19.6	7.8	0.80	0.73	0.0	0.00	10.59	179	205
317.0	Generic Flat Light Sector Fram	3	800	17.9	0.0	0.0	0.0	0.75	0.67	0.0	0.00	10.59	243	2400
315.0	Ericsson AIR 6419 B77D/ C-Band	3	64	3.8	2.4	16.1	7.3	0.80	0.64	0.0	0.00	10.57	52	192
306.0	Site Pro 1 VFA12-HD	3	690	13.3	0.0	0.0	0.0	0.75	0.67	0.0	0.00	10.48	179	2070
302.0	Ericsson Radio 4460 B25+B66	3	109	2.6	1.6	15.7	12.1	0.80	0.50	0.0	0.00	10.44	27	327
302.0	Ericsson Radio 4480 B71+B85A	3	84	2.9	1.8	15.7	7.5	0.80	0.50	0.0	0.00	10.44	30	252
302.0	Ericsson AIR 6419 B41	3	69	5.6	2.8	20.0	6.3	0.80	0.60	0.0	0.00	10.44	72	206
302.0	RFS APXVLL19P_43-C-A20	3	41	8.2	6.3	11.3	4.6	0.80	0.65	0.0	0.00	10.44	114	123
302.0	RFS APXVAALL24 43-U-NA20	3	123	20.2	8.0	24.0	8.5	0.80	0.63	0.0	0.00	10.44	272	368
216.0	Generic Torque Arm	1	500	15.0	0.0	0.0	0.0	1.00	1.00	0.0	0.00	9.49	121	500
160.0	Generic Torque Arm	1	500	15.0	0.0	0.0	0.0	1.00	1.00	0.0	0.00	8.71	111	500
Totals		72	11,649	582.2									2,842	11,649

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TOWER LOADING - LINEAR APPURTENANCE

Linear Appurtenance Properties

Elev From (ft)	Elev To (ft)	Description	Qty	Width (in)	Weight (lb/ft)	% In Wind	Spread On Faces	Bundling	Cluster Dia (in)	Out of Zone	Spacing (in)	Orient. Factor	K _a Override
0.0	338.0	1 1/4" Hybriflex Cable	1	1.54	1.00	100	1	Individual	0.00	N	1.00	1.00	0.00
0.0	335.0	1 5/8" Hybriflex	2	1.98	1.30	100	1	Individual	0.00	N	1.00	1.00	0.00
0.0	317.0	0.76" (19.2mm) 8 AWG 6	1	0.76	0.53	100	2	Individual	0.00	N	1.00	1.00	0.00
0.0	317.0	0.82" (20.8mm) 8 AWG 6	1	0.82	0.62	100	2	Individual	0.00	N	1.00	1.00	0.00
0.0	317.0	1.19" (30.3mm) Cable	4	1.19	1.11	100	2	Individual	0.00	N	1.00	1.00	0.00
0.0	317.0	0.92" (23.4mm) Cable	1	0.92	0.89	100	2	Individual	0.00	N	1.00	1.00	0.00
0.0	317.0	0.39" (10mm) Fiber Trunk	2	0.39	0.06	100	2	Individual	0.00	N	1.00	1.00	0.00
0.0	302.0	1.99" (50.7mm) Hybrid	3	1.99	1.90	100	1	Individual	0.00	N	1.00	1.00	0.00

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EQUIVALENT LATERAL FORCE METHOD

Spectral Response Acceleration for Short Period (S_s):	0.27
Spectral Response Acceleration at 1.0 Second Period (S_1):	0.06
Long-Period Transition Period (T_L - Seconds):	12
Importance Factor (I_e):	1.00
Site Coefficient F_a :	1.58
Site Coefficient F_v :	2.40
Response Modification Coefficient (R):	3.00
Design Spectral Response Acceleration at Short Period (S_{ds}):	0.29
Design Spectral Response Acceleration at 1.0 Second Period (S_{d1}):	0.09
Seismic Response Coefficient (C_s):	0.03
Upper Limit C_s :	0.03
Lower Limit C_s :	0.03
Period based on Rayleigh Method (sec):	1.79
Redundancy Factor (p):	1.30
Seismic Force Distribution Exponent (k):	1.65
Total Unfactored Dead Load:	33.81 k
Seismic Base Shear (E):	1.32 k

SEISMIC FORCES

1.2D + 1.0Ev + 1.0Eh

Section/Appurtenance	Height Above Base (ft)	Weight (lb)	W_2 (lb-ft)	C_{vx}	Horizontal Force (lb)	Vertical Force (lb)
27	330.00	1,050	14,724,761	0.056	74	1,320
26	310.00	1,080	13,666,020	0.052	68	1,358
25	290.00	1,202	13,632,516	0.052	68	1,512
24	270.00	1,222	12,317,006	0.047	62	1,536
23	250.00	1,202	10,676,799	0.041	53	1,512
22	230.00	1,411	10,918,634	0.042	55	1,773
21	219.00	149	1,063,097	0.004	5	187
20	217.00	174	1,222,498	0.005	6	219
19	214.00	298	2,046,855	0.008	10	374
18	211.00	149	1,000,533	0.004	5	187
17	209.00	174	1,149,177	0.004	6	219
16	204.00	576	3,659,208	0.014	18	724
15	190.00	1,295	7,320,857	0.028	37	1,629
14	170.00	1,295	6,095,715	0.023	31	1,629
13	159.00	136	571,804	0.002	3	171
12	157.00	136	560,009	0.002	3	171
11	155.00	136	548,311	0.002	3	171
10	153.00	136	536,710	0.002	3	171
9	146.00	783	2,869,034	0.011	14	985
8	130.00	1,202	3,637,635	0.014	18	1,512
7	110.00	1,392	3,199,484	0.012	16	1,751
6	90.00	1,373	2,267,151	0.009	11	1,726
5	70.00	1,373	1,498,876	0.006	8	1,726
4	50.00	1,393	873,609	0.003	4	1,751
3	30.00	1,373	371,419	0.001	2	1,726
2	12.00	1,101	65,859	0.000	0	1,384
1	2.00	346	1,082	0.000	0	435
Antel BXA-80080/8CF	335.80	93	1,342,349	0.005	7	117
Andrew HBXX-6517DS-A2M (43 lbs)	335.60	129	1,860,142	0.007	9	162
Samsung B2/B66A RRR ORAN (RF 4439d-25A)	335.00	224	3,221,949	0.012	16	282
Samsung RF4461d-13A	335.00	237	3,411,730	0.013	17	298
Samsung MT6413-77A	335.00	172	2,471,455	0.009	12	216
Raycap RCMDC-6627-PF-48	335.00	64	920,146	0.004	5	80
JMA Wireless MX06FHG865-HG	335.00	306	4,399,449	0.017	22	385
Generic Round Sector Frame	335.00	2,100	30,192,297	0.115	151	2,640
Ericsson AIR 6419 B77G	319.00	198	2,630,286	0.010	13	249
Ericsson Radio 4490HP 44B5 44B12A C (17.5" Height)	317.00	204	2,678,015	0.010	13	256
Ericsson RRUS 4478 B14 (18.1" Height)	317.00	178	2,339,325	0.009	12	224
Ericsson Radio 4890HP 48B2/B25 48B66 M01 (68.3lbs)	317.00	205	2,689,830	0.010	13	258
Raycap DC9-48-60-24-8C-EV (Enclosure)	317.00	37	485,718	0.002	2	47
Commscope NNH4-65B-R6H4	317.00	83	1,093,523	0.004	5	105
Commscope NNH4-65B-R4 (77.4 lbs)	317.00	77	1,016,070	0.004	5	97

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Commscope NNHH-65C-R4	317.00	198	2,604,501	0.010	13	249
Commscope NNH4-65C-R6-V3 (102.5 lbs)	317.00	205	2,691,143	0.010	13	258
Generic Flat Light Sector Frame	317.00	2,400	31,506,060	0.120	158	3,017
Ericsson AIR 6419 B77D/ C-Band	315.00	192	2,494,354	0.010	12	241
Site Pro 1 VFA12-HD	306.00	2,070	25,638,835	0.097	128	2,602
Ericsson Radio 4460 B25+B66	302.00	327	3,963,386	0.015	20	411
Ericsson Radio 4480 B71+B85A	302.00	252	3,054,352	0.012	15	317
Ericsson AIR 6419 B41	302.00	206	2,490,752	0.010	12	258
RFS APXVLL19P_43-C-A20	302.00	123	1,487,179	0.006	7	154
RFS APXVAALL24 43-U-NA20	302.00	368	4,465,172	0.017	22	463
Generic Torque Arm	216.00	500	3,489,991	0.013	17	629
Generic Torque Arm	160.00	500	2,129,217	0.008	11	629
Totals		33,806	263,261,886	1.000	1,318	42,501

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FORCE/STRESS SUMMARY

Section 1 – 0.0' to 4.00'

Member Compression	Pu (kip)	Load Case	Len (ft)	Bracing %			KL/R	F'y (ksi)	Φc Pn (kip)	Shear	Bear	# Bolt	# Hole	Use %	Controls
	X			Y	Z	ΦRnv (kip)				ΦRn (kip)					
L SOL - 2 1/4" SOLID	-51.32	1.2D + 1.0Di + 1.0Wi 240°	2.179	100	100	100	46.49	50.00	152.77	0.00	0.00	0	0	34	Member X
D PL - PL 2 x 0.5"	-1.89	1.2D + 1.0W N	3.041	100	100	100	201.75	36.00	7.03	0.00	0.00	0	0	0	Member Y
Member Tension	Pu (kip)	Load Case	Fy (ksi)	Fu (ksi)	ΦcPn (kip)	Shear ΦRnv (kip)	Bear ΦRn (kip)	Blk Shear		# Bolt	# Hole	Use %	Controls		
	Φt Pn (kip)														
H SAE - 2X2X0.25	10.88	1.2D + 1.0Di + 1.0Wi 120°	36.0	58	30.46	0.00	0.00	0.00	0	0	36	Member			
Max Splice Forces	Pu (kip)	Load Case	ΦRnt (kip)	Use %	Num Bolts	Bolt Type									

Section 2 – 4.0' to 20.00'

Member Compression	Pu (kip)	Load Case	Len (ft)	Bracing %			KL/R	F'y (ksi)	Φc Pn (kip)	Shear	Bear	# Bolt	# Hole	Use %	Controls
	X			Y	Z	ΦRnv (kip)				ΦRn (kip)					
L SOL - 2 1/4" SOLID	-44.38	1.2D + 1.0Di + 1.0Wi 240°	3.865	100	100	100	82.45	50.00	108.84	0.00	0.00	0	0	41	Member X
D SOL - 5/8" SOLID	-1.41	1.2D + 1.0W N	4.893	50	50	50	169.36	36.00	2.42	0.00	0.00	0	0	0	Member X
Member Tension	Pu (kip)	Load Case	Fy (ksi)	Fu (ksi)	ΦcPn (kip)	Shear ΦRnv (kip)	Bear ΦRn (kip)	Blk Shear		# Bolt	# Hole	Use %	Controls		
	Φt Pn (kip)														
H SAE - 2X2X0.125	2.91	1.2D + 1.0Di + 1.0Wi 240°	36.0	58	15.55	0.00	0.00	0.00		0	0	19	Member		
Max Splice Forces	Pu (kip)	Load Case	ΦRnt (kip)	Use %	Num Bolts	Bolt Type									

FORCE/STRESS SUMMARY

Section 12 – 156.0' to 158.00'

Member Compression	Pu	Load Case	Len (ft)	Bracing %			KL/R	F _y (ksi)	Φ _c P _n (kip)	Shear	Bear	# Bolt	# Hole	Use %	Controls
	(kip)			X	Y	Z				ΦR _{nv} (kip)	ΦR _n (kip)				
L SOL - 2" SOLID	-42.51	1.2D + 1.0W 120°	1.73	100	100	100	41.52	50.00	124.63	0.00	0.00	0	0	34	Member X
H SAU - 2X1.5X0.1875	-0.06	1.2D + 1.0W 210°	3	100	100	100	115.90	36.00	12.89	0.00	0.00	0	0	0	Member Z
D SOL - 3/4" SOLID	-0.28	1.2D + 1.0W N	2.29	50	50	50	65.94	36.00	11.39	0.00	0.00	0	0	0	Member X

Member Tension	Pu	Load Case	F _y (ksi)	F _u (ksi)	Φ _c P _n (kip)	Shear	Bear	Blk Shear	# Bolt	# Hole	Use %	Controls
	(kip)					ΦR _{nv} (kip)	ΦR _n (kip)	Φ _t P _n (kip)				
H SAU - 2X1.5X0.1875	0.40	1.2D + 1.0W 60°	36.0	58	20.09	0.00	0.00	0.00	0	0	2	Member
D SOL - 3/4" SOLID	0.17	1.2D + 1.0W 300°	36.0	58	14.31	0.00	0.00	0.00	0	0	1	Member

Max Splice Forces	Pu	Load Case	ΦR _{nt} (kip)	Use %	Num Bolts	Bolt Type
	(kip)					

FORCE/STRESS SUMMARY

Section 17 – 208.0' to 210.00'

Member Compression	Pu	Load Case	Len (ft)	Bracing %			F' _y (ksi)	Φ _c P _n (kip)	Shear	Bear	# Bolt	# Hole	Use %	Controls	
	(kip)			ΦR _{nv}	ΦR _n										
	(kip)			(kip)	(kip)										
	(kip)			(kip)	(kip)										
	(kip)			(kip)	(kip)										
L SOL - 2" SOLID	-59.18	1.2D + 1.0W 120°	1.72	100	100	100	41.28	50.00	124.81	0.00	0.00	0	0	47	Member X
H SAU - 2X1.5X0.25	-1.52	1.2D + 1.0W 90°	1.5	100	100	100	88.12	36.00	22.04	0.00	0.00	0	0	7	Member Z
D SOL - 7/8" SOLID	-1.44	1.2D + 1.0W N	2.282	50	50	50	56.35	36.00	16.48	0.00	0.00	0	0	0	Member X
Member Tension	Pu	Load Case	F _y (ksi)	F _u (ksi)	Φ _c P _n (kip)	Shear ΦR _{nv} (kip)	Bear ΦR _n (kip)	Blk Shear	# Bolt	# Hole	Use %	Controls			
	(kip)							Φ _t P _n							
	(kip)							(kip)							
	(kip)							(kip)							
	(kip)							(kip)							
H SAU - 2X1.5X0.25	1.43	1.2D + 1.0W 240°	36.0	58	26.24	0.00	0.00	0.00	0	0	5	Member			
D SOL - 7/8" SOLID	0.20	1.2D + 1.0W 330°	36.0	58	19.48	0.00	0.00	0.00	0	0	1	Member			
Max Splice Forces	Pu	Load Case	ΦR _{nt} (kip)	Use %	Num Bolts	Bolt Type									
	(kip)														

ASSET: 310370, Mineral
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FORCE/STRESS SUMMARY

Section 18 – 210.0' to 212.00'

Member Compression	Pu (kip)	Load Case	Len (ft)	Bracing %			F' _y (ksi)	Φ _c P _n (kip)	Shear	Bear	# Bolt	# Hole	Use %	Controls	
	X			Y	Z	ΦR _{nv} (kip)			ΦR _n (kip)						
L SOL - 2" SOLID	-57.35	1.2D + 1.0W 120°	1.73	100	100	100	41.52	50.00	124.63	0.00	0.00	0	0	46	Member X
H SAU - 2X1.5X0.25	-0.66	1.2D + 1.0W 120°	3	100	100	100	116.25	36.00	16.77	0.00	0.00	0	0	4	Member Z
D SOL - 7/8" SOLID	-4.68	1.2D + 1.0W N	2.29	50	50	50	56.54	36.00	16.46	0.00	0.00	0	0	0	Member X
Member Tension	Pu (kip)	Load Case	F _y (ksi)	F _u (ksi)	Φ _c P _n (kip)	Shear ΦR _{nv} (kip)	Bear ΦR _n (kip)	Blk Shear	# Bolt	# Hole	Use %	Controls			
	Φ _t P _n (kip)														
L SOL - 2" SOLID	6.86	1.2D + 1.0W 180°	50.0	65	141.37	0.00	0.00		0	0	5	Member			
H SAU - 2X1.5X0.25	2.07	1.2D + 1.0W 210°	36.0	58	26.24	0.00	0.00	0.00	0	0	8	Member			
D SOL - 7/8" SOLID	0.48	1.2D + 1.0W 210°	36.0	58	19.48	0.00	0.00	0.00	0	0	2	Member			
Max Splice Forces	Pu (kip)	Load Case	ΦR _{nt} (kip)	Use %	Num Bolts	Bolt Type									

Section 19 – 212.0' to 216.00'

	Pu (kip)	Load Case	Len (ft)	Bracing %			F' _y (ksi)	Φ _c P _n (kip)	Shear ΦR _{nv} (kip)	Bear ΦR _n (kip)	# Bolt	# Hole	Use %	Controls	
Member Compression				X	Y	Z	KL/R								
L SOL - 2" SOLID	-64.12	1.2D + 1.0W 120°	3.44	100	100	100	82.56	50.00	85.89	0.00	0.00	0	0	75	Member X
H SAU - 2X1.5X0.25	-0.90	1.2D + 1.0W 120°	3	100	100	100	116.25	36.00	16.77	0.00	0.00	0	0	5	Member Z
D SOL - 7/8" SOLID	-0.36	1.2D + 1.0W N	4.564	50	50	50	112.70	36.00	9.98	0.00	0.00	0	0	0	Member X
	Pu (kip)	Load Case	F _y (ksi)	F _u (ksi)	Φ _c P _n (kip)	Shear ΦR _{nv} (kip)	Bear ΦR _n (kip)	Blk Shear Φ _t P _n (kip)	# Bolt	# Hole	Use %	Controls			
Member Tension															
L SOL - 2" SOLID	11.71	1.2D + 1.0W 180°	50.0	65	141.37	0.00	0.00		0	0	8	Member			
H SAU - 2X1.5X0.25	2.12	1.2D + 1.0W 210°	36.0	58	26.24	0.00	0.00	0.00	0	0	8	Member			
D SOL - 7/8" SOLID	1.02	1.2D + 1.0W 210°	36.0	58	19.48	0.00	0.00	0.00	0	0	5	Member			
Max Splice Forces	Pu (kip)	Load Case	ΦR _{nt} (kip)	Use %	Num Bolts	Bolt Type									

Section 20 – 216.0' to 218.00'

Member Compression	Pu (kip)	Load Case	Len (ft)	Bracing %			F' _y (ksi)	Φ _c P _n (kip)	Shear	Bear	# Bolt	# Hole	Use %	Controls	
	X			Y	Z	ΦR _{nv} (kip)			ΦR _n (kip)						
L SOL - 2" SOLID	-70.80	1.2D + 1.0W 120°	1.72	100	100	100	41.28	50.00	124.81	0.00	0.00	0	0	57	Member X
H SAU - 2X1.5X0.25	-6.17	1.2D + 1.0W 120°	1.5	100	100	100	88.12	36.00	22.04	0.00	0.00	0	0	28	Member Z
D SOL - 7/8" SOLID	-0.36	1.2D + 1.0W N	2.282	50	50	50	56.35	36.00	16.48	0.00	0.00	0	0	0	Member X
Member Tension	Pu (kip)	Load Case	F _y (ksi)	F _u (ksi)	Φ _c P _n (kip)	Shear ΦR _{nv} (kip)	Bear ΦR _n (kip)	Blk Shear	# Bolt	# Hole	Use %	Controls			
	Φ _t P _n (kip)														
L SOL - 2" SOLID	15.63	1.2D + 1.0W 180°	50.0	65	141.37	0.00	0.00		0	0	11	Member			
H SAU - 2X1.5X0.25	7.40	1.2D + 1.0W 210°	36.0	58	26.24	0.00	0.00	0.00	0	0	28	Member			
D SOL - 7/8" SOLID	1.46	1.2D + 1.0W 210°	36.0	58	19.48	0.00	0.00	0.00	0	0	8	Member			
Max Splice Forces	Pu (kip)	Load Case	ΦR _{nt} (kip)	Use %	Num Bolts	Bolt Type									

Section 21 – 218.0' to 220.00'

Member Compression	Pu (kip)	Load Case	Len (ft)	Bracing %			F'y (ksi)	Φc Pn (kip)	Shear	Bear	# Bolt	# Hole	Use %	Controls	
	X			Y	Z	ΦRnv (kip)			ΦRn (kip)						
L SOL - 2" SOLID	-70.79	1.2D + 1.0W 120°	1.72	100	100	100	41.28	50.00	124.81	0.00	0.00	0	0	57	Member X
H SAU - 2X1.5X0.25	-0.57	1.2D + 1.0W 120°	3	100	100	100	116.25	36.00	16.77	0.00	0.00	0	0	3	Member Z
D SOL - 7/8" SOLID	-1.41	1.2D + 1.0W N	2.282	50	50	50	56.35	36.00	16.48	0.00	0.00	0	0	0	Member X

Member Tension	Pu (kip)	Load Case	Fy (ksi)	Fu (ksi)	ΦcPn (kip)	Shear ΦRnv (kip)	Bear ΦRn (kip)	Blk Shear Φt Pn (kip)	# Bolt	# Hole	Use %	Controls
L SOL - 2" SOLID	15.66	1.2D + 1.0W 180°	50.0	65	141.37	0.00	0.00		0	0	11	Member
H SAU - 2X1.5X0.25	1.81	1.2D + 1.0W 210°	36.0	58	26.24	0.00	0.00	0.00	0	0	7	Member

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FORCE/STRESS SUMMARY											
D SOL - 7/8" SOLID	1.31	1.2D + 1.0W 90°	36.0	58	19.48	0.00	0.00	0.00	0	0	7 Member
Max Splice Forces	Pu (kip)	Load Case	ΦR_{nt} (kip)	Use %	Num Bolts	Bolt Type					

ASSET: 310370, Mineral
CUSTOMER: VERIZON WIRELESS

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FORCE/STRESS SUMMARY												
D SOL - 5/8" SOLID	4.79	1.2D + 1.0W 330°	36.0	58	9.94	0.00	0.00	0.00	0	0	48	Member
Max Splice Forces	Pu (kip)	Load Case	ΦR _{nt} (kip)	Use %	Num Bolts	Bolt Type						

Section 26 – 300.0' to 320.00'

Member Compression	Pu (kip)	Load Case	Len (ft)	Bracing %			F _y (ksi)	Φ _c P _n (kip)	Shear ΦR _{nv} (kip)	Bear ΦR _n (kip)	# Bolt	# Hole	Use %	Controls	
				X	Y	Z	KL/R								
L SOL - 2" SOLID	-26.28	1.2D + 1.0W 180°	3.892	100	100	100	93.41	50.00	74.70	0.00	0.00	0	0	35	Member X
H SAE - 2X2X0.125	-1.26	1.2D + 1.0W 300°	3	100	100	100	105.23	36.00	11.26	0.00	0.00	0	0	11	Member Z
D SOL - 5/8" SOLID	-1.19	1.2D + 1.0W N	4.914	50	50	50	170.10	36.00	2.40	0.00	0.00	0	0	0	Member X

Member Tension	Pu (kip)	Load Case	F _y (ksi)	F _u (ksi)	Φ _c P _n (kip)	Shear ΦR _{nv} (kip)	Bear ΦR _n (kip)	Blk Shear Φ _t P _n (kip)	# Bolt	# Hole	Use %	Controls
L SOL - 2" SOLID	2.73	1.2D + 1.0W 240°	50.0	65	141.37	0.00	0.00		0	0	2	Member
H SAE - 2X2X0.125	1.60	1.2D + 1.0W 240°	36.0	58	15.55	0.00	0.00	0.00	0	0	10	Member
D SOL - 5/8" SOLID	3.99	1.2D + 1.0W 330°	36.0	58	9.94	0.00	0.00	0.00	0	0	40	Member

Max Splice Forces	Pu (kip)	Load Case	ΦR _{nt} (kip)	Use %	Num Bolts	Bolt Type
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Section 27 – 320.0' to 340.00'

Member Compression	Pu (kip)	Load Case	Len (ft)	Bracing %			F _y (ksi)	Φ _c P _n (kip)	Shear ΦR _{nv} (kip)	Bear ΦR _n (kip)	# Bolt	# Hole	Use %	Controls	
	-13.01	1.2D + 1.0W 210°	3.892	X	Y	Z	93.41	50.00	74.70	0.00	0.00	0	0	17	Member X
	-0.45	1.2D + 1.0W 60°	3	100	100	100	115.90	36.00	12.89	0.00	0.00	0	0	3	Member Z
	-0.69	1.2D + 1.0W N	4.914	50	50	50	141.52	36.00	4.98	0.00	0.00	0	0	0	Member X
Member Tension	Pu (kip)	Load Case	F _y (ksi)	F _u (ksi)	Φ _c P _n (kip)	Shear ΦR _{nv} (kip)	Bear ΦR _n (kip)	Blk Shear Φ _t P _n (kip)	# Bolt	# Hole	Use %	Controls			
	6.46	1.2D + 1.0W 60°	50.0	65	141.37	0.00	0.00		0	0	5	Member			
	0.96	1.2D + 1.0W 120°	36.0	58	20.09	0.00	0.00	0.00	0	0	5	Member			
	2.15	1.2D + 1.0W 330°	36.0	58	14.31	0.00	0.00	0.00	0	0	15	Member			
Max Splice Forces	Pu (kip)	Load Case	ΦR _{nt} (kip)	Use %	Num Bolts	Bolt Type									

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DETAILED CABLE FORCES							
Load Case	Elevation (ft)	Cable	Anchor Node	Tower Node	Available Tension (kip)	Applied Tension (kip)	Use (%)
1.2D + 1.0W Normal	51.95	7/16 EHS	A1	20	12.48	0.65	5
		7/16 EHS	A1b	20a	12.48	2.94	24
		7/16 EHS	A1a	20b	12.48	2.92	23
	104.16	7/16 EHS	A1	39	12.48	0.19	2
		7/16 EHS	A1b	39a	12.48	3.03	24
		7/16 EHS	A1a	39b	12.48	2.97	24
	158.00	7/16 EHS	A1	T3	12.48	0.83	7
		7/16 EHS	A1b	T3	12.48	3.05	24
		7/16 EHS	A1a	T3a	12.48	3.06	25
		7/16 EHS	A1b	T3a	12.48	3.08	25
		7/16 EHS	A1a	T3b	12.48	3.02	24
		7/16 EHS	A1	T3b	12.48	0.83	7
	218.00	7/16 EHS	A2	T4	12.48	0.36	3
		7/16 EHS	A2b	T4	12.48	4.27	34
		7/16 EHS	A2a	T4a	12.48	4.59	37
		7/16 EHS	A2b	T4a	12.48	4.57	37
		7/16 EHS	A2	T4b	12.48	0.36	3
		7/16 EHS	A2a	T4b	12.48	4.24	34
	271.95	1/2 EHS	A2	111	16.14	0.58	4
		1/2 EHS	A2b	111a	16.14	8.39	52
		1/2 EHS	A2a	111b	16.14	8.38	52
	328.05	9/16 EHS	A2	131	21	0.87	4
		9/16 EHS	A2b	131a	21	14.71	70
		9/16 EHS	A2a	131b	21	14.7	70
1.2D + 1.0W 60°	51.95	7/16 EHS	A1	20	12.48	1.41	11
		7/16 EHS	A1b	20a	12.48	1.41	11
		7/16 EHS	A1a	20b	12.48	3.75	30
	104.16	7/16 EHS	A1	39	12.48	1.36	11
		7/16 EHS	A1b	39a	12.48	1.34	11
		7/16 EHS	A1a	39b	12.48	4.26	34
	158.00	7/16 EHS	A1	T3	12.48	1.67	13
		7/16 EHS	A1b	T3	12.48	1.61	13
		7/16 EHS	A1b	T3a	12.48	1.59	13
		7/16 EHS	A1a	T3a	12.48	4.26	34
		7/16 EHS	A1a	T3b	12.48	4.29	34
		7/16 EHS	A1	T3b	12.48	1.64	13
	218.00	7/16 EHS	A2b	T4	12.48	2.12	17
		7/16 EHS	A2	T4	12.48	2.16	17
		7/16 EHS	A2a	T4a	12.48	5.45	44
		7/16 EHS	A2b	T4a	12.48	2.13	17
		7/16 EHS	A2	T4b	12.48	2.16	17
		7/16 EHS	A2a	T4b	12.48	5.49	44
	271.95	1/2 EHS	A2	111	16.14	2.51	16
		1/2 EHS	A2b	111a	16.14	2.44	15
		1/2 EHS	A2a	111b	16.14	10.22	63
	328.05	9/16 EHS	A2	131	21	3.04	14
		9/16 EHS	A2b	131a	21	2.96	14
		9/16 EHS	A2a	131b	21	16.85	80
1.2D + 1.0W 90°	51.95	7/16 EHS	A1	20	12.48	2.11	17
		7/16 EHS	A1b	20a	12.48	0.78	6
		7/16 EHS	A1a	20b	12.48	3.47	28
	104.16	7/16 EHS	A1	39	12.48	2.06	17
		7/16 EHS	A1b	39a	12.48	0.67	5
		7/16 EHS	A1a	39b	12.48	3.82	31
	158.00	7/16 EHS	A1	T3	12.48	2.29	18
		7/16 EHS	A1b	T3	12.48	1.06	9
		7/16 EHS	A1b	T3a	12.48	1.04	8
		7/16 EHS	A1a	T3a	12.48	3.81	30
		7/16 EHS	A1	T3b	12.48	2.28	18

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DETAILED CABLE FORCES							
Load Case	Elevation (ft)	Cable	Anchor Node	Tower Node	Available Tension (kip)	Applied Tension (kip)	Use (%)
	218.00	7/16 EHS	A1a	T3b	12.48	3.9	31
		7/16 EHS	A2b	T4	12.48	0.94	8
		7/16 EHS	A2	T4	12.48	3.38	27
		7/16 EHS	A2b	T4a	12.48	0.88	7
		7/16 EHS	A2a	T4a	12.48	4.98	40
		7/16 EHS	A2	T4b	12.48	3.54	28
	271.95	7/16 EHS	A2a	T4b	12.48	5.38	43
		1/2 EHS	A2	111	16.14	5.63	35
		1/2 EHS	A2b	111a	16.14	0.96	6
	328.05	1/2 EHS	A2a	111b	16.14	10.02	62
		9/16 EHS	A2	131	21	9.24	44
		9/16 EHS	A2b	131a	21	1.2	6
		9/16 EHS	A2a	131b	21	17.11	81
1.2D + 1.0W 120°	51.95	7/16 EHS	A1	20	12.48	2.89	23
		7/16 EHS	A1b	20a	12.48	0.59	5
		7/16 EHS	A1a	20b	12.48	2.85	23
	104.16	7/16 EHS	A1	39	12.48	2.95	24
		7/16 EHS	A1b	39a	12.48	0.12	1
		7/16 EHS	A1a	39b	12.48	2.9	23
	158.00	7/16 EHS	A1	T3	12.48	3.05	24
		7/16 EHS	A1b	T3	12.48	0.78	6
		7/16 EHS	A1b	T3a	12.48	0.78	6
		7/16 EHS	A1a	T3a	12.48	2.95	24
		7/16 EHS	A1a	T3b	12.48	3.01	24
		7/16 EHS	A1	T3b	12.48	3.07	25
	218.00	7/16 EHS	A2	T4	12.48	4.32	35
		7/16 EHS	A2b	T4	12.48	0.26	2
		7/16 EHS	A2a	T4a	12.48	4.15	33
		7/16 EHS	A2b	T4a	12.48	0.26	2
		7/16 EHS	A2a	T4b	12.48	4.55	36
		7/16 EHS	A2	T4b	12.48	4.63	37
	271.95	1/2 EHS	A2	111	16.14	8.56	53
		1/2 EHS	A2b	111a	16.14	0.49	3
		1/2 EHS	A2a	111b	16.14	8.29	51
	328.05	9/16 EHS	A2	131	21	15.02	72
		9/16 EHS	A2b	131a	21	0.77	4
		9/16 EHS	A2a	131b	21	14.61	70
1.2D + 1.0W 180°	51.95	7/16 EHS	A1	20	12.48	3.79	30
		7/16 EHS	A1b	20a	12.48	1.37	11
		7/16 EHS	A1a	20b	12.48	1.37	11
	104.16	7/16 EHS	A1	39	12.48	4.3	34
		7/16 EHS	A1b	39a	12.48	1.3	10
		7/16 EHS	A1a	39b	12.48	1.3	10
	158.00	7/16 EHS	A1	T3	12.48	4.34	35
		7/16 EHS	A1b	T3	12.48	1.56	13
		7/16 EHS	A1a	T3a	12.48	1.57	13
		7/16 EHS	A1b	T3a	12.48	1.6	13
		7/16 EHS	A1a	T3b	12.48	1.55	12
		7/16 EHS	A1	T3b	12.48	4.33	35
	218.00	7/16 EHS	A2	T4	12.48	5.66	45
		7/16 EHS	A2b	T4	12.48	2.1	17
		7/16 EHS	A2a	T4a	12.48	2.09	17
		7/16 EHS	A2b	T4a	12.48	2.11	17
		7/16 EHS	A2	T4b	12.48	5.62	45
		7/16 EHS	A2a	T4b	12.48	2.1	17
	271.95	1/2 EHS	A2	111	16.14	10.5	65
		1/2 EHS	A2b	111a	16.14	2.41	15
		1/2 EHS	A2a	111b	16.14	2.41	15
	328.05	9/16 EHS	A2	131	21	17.28	82

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DETAILED CABLE FORCES							
Load Case	Elevation (ft)	Cable	Anchor Node	Tower Node	Available Tension (kip)	Applied Tension (kip)	Use (%)
1.2D + 1.0W 210°	51.95	9/16 EHS	A2b	131a	21	2.89	14
		9/16 EHS	A2a	131b	21	2.91	14
		7/16 EHS	A1	20	12.48	3.53	28
	104.16	7/16 EHS	A1b	20a	12.48	2.11	17
		7/16 EHS	A1a	20b	12.48	0.79	6
		7/16 EHS	A1	39	12.48	3.87	31
	158.00	7/16 EHS	A1b	39a	12.48	2.03	16
		7/16 EHS	A1a	39b	12.48	0.66	5
		7/16 EHS	A1b	T3	12.48	2.21	18
	218.00	7/16 EHS	A1	T3	12.48	3.94	32
		7/16 EHS	A1b	T3a	12.48	2.21	18
		7/16 EHS	A1a	T3a	12.48	1.04	8
	271.95	7/16 EHS	A1	T3b	12.48	3.89	31
		7/16 EHS	A1a	T3b	12.48	1.01	8
		7/16 EHS	A2	T4	12.48	5.54	44
	328.05	7/16 EHS	A2b	T4	12.48	3.49	28
		7/16 EHS	A2a	T4a	12.48	0.95	8
		7/16 EHS	A2b	T4a	12.48	3.31	27
	271.95	7/16 EHS	A2a	T4b	12.48	0.9	7
		7/16 EHS	A2	T4b	12.48	5.19	42
		1/2 EHS	A2	111	16.14	10.35	64
	328.05	1/2 EHS	A2b	111a	16.14	5.48	34
		1/2 EHS	A2a	111b	16.14	0.98	6
		9/16 EHS	A2	131	21	17.61	84
1.2D + 1.0W 240°	51.95	9/16 EHS	A2b	131a	21	9	43
		9/16 EHS	A2a	131b	21	1.22	6
		7/16 EHS	A1	20	12.48	2.93	24
	104.16	7/16 EHS	A1b	20a	12.48	2.91	23
		7/16 EHS	A1a	20b	12.48	0.65	5
		7/16 EHS	A1	39	12.48	2.96	24
	158.00	7/16 EHS	A1b	39a	12.48	2.96	24
		7/16 EHS	A1a	39b	12.48	0.11	1
		7/16 EHS	A1b	T3	12.48	3.02	24
	218.00	7/16 EHS	A1	T3	12.48	3.06	25
		7/16 EHS	A1a	T3a	12.48	0.77	6
		7/16 EHS	A1b	T3a	12.48	2.98	24
	271.95	7/16 EHS	A1a	T3b	12.48	0.77	6
		7/16 EHS	A1	T3b	12.48	3.04	24
		7/16 EHS	A2b	T4	12.48	4.54	36
	328.05	7/16 EHS	A2	T4	12.48	4.64	37
		7/16 EHS	A2b	T4a	12.48	4.17	33
		7/16 EHS	A2a	T4a	12.48	0.27	2
	271.95	7/16 EHS	A2	T4b	12.48	4.32	35
		7/16 EHS	A2a	T4b	12.48	0.27	2
		1/2 EHS	A2	111	16.14	8.57	53
	328.05	1/2 EHS	A2b	111a	16.14	8.31	52
		1/2 EHS	A2a	111b	16.14	0.5	3
		9/16 EHS	A2	131	21	15.02	72
1.2D + 1.0W 300°	51.95	9/16 EHS	A2b	131a	21	14.62	70
		9/16 EHS	A2a	131b	21	0.79	4
		7/16 EHS	A1	20	12.48	1.48	12
	104.16	7/16 EHS	A1b	20a	12.48	3.84	31
		7/16 EHS	A1a	20b	12.48	1.47	12
		7/16 EHS	A1	39	12.48	1.41	11
	158.00	7/16 EHS	A1b	39a	12.48	4.4	35
		7/16 EHS	A1a	39b	12.48	1.38	11
		7/16 EHS	A1	T3	12.48	1.67	13
		7/16 EHS	A1b	T3	12.48	4.36	35
		7/16 EHS	A1a	T3a	12.48	1.61	13

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DETAILED CABLE FORCES							
Load Case	Elevation (ft)	Cable	Anchor Node	Tower Node	Available Tension (kip)	Applied Tension (kip)	Use (%)
1.2D + 1.0W 330°	218.00	7/16 EHS	A1b	T3a	12.48	4.33	35
		7/16 EHS	A1	T3b	12.48	1.7	14
		7/16 EHS	A1a	T3b	12.48	1.63	13
		7/16 EHS	A2b	T4	12.48	5.56	45
		7/16 EHS	A2	T4	12.48	2.19	18
		7/16 EHS	A2b	T4a	12.48	5.48	44
	271.95	7/16 EHS	A2a	T4a	12.48	2.16	17
		7/16 EHS	A2a	T4b	12.48	2.15	17
		7/16 EHS	A2	T4b	12.48	2.21	18
		1/2 EHS	A2	111	16.14	2.56	16
		1/2 EHS	A2b	111a	16.14	10.28	64
		1/2 EHS	A2a	111b	16.14	2.49	15
	328.05	9/16 EHS	A2	131	21	3.08	15
		9/16 EHS	A2b	131a	21	16.91	81
		9/16 EHS	A2a	131b	21	3.02	14
	51.95	7/16 EHS	A1	20	12.48	0.87	7
		7/16 EHS	A1b	20a	12.48	3.57	29
		7/16 EHS	A1a	20b	12.48	2.17	17
	104.16	7/16 EHS	A1	39	12.48	0.75	6
		7/16 EHS	A1b	39a	12.48	3.97	32
		7/16 EHS	A1a	39b	12.48	2.09	17
	158.00	7/16 EHS	A1b	T3	12.48	3.92	31
		7/16 EHS	A1	T3	12.48	1.11	9
		7/16 EHS	A1b	T3a	12.48	3.96	32
	218.00	7/16 EHS	A1a	T3a	12.48	2.26	18
		7/16 EHS	A1	T3b	12.48	1.14	9
		7/16 EHS	A1a	T3b	12.48	2.25	18
	271.95	7/16 EHS	A2	T4	12.48	0.96	8
		7/16 EHS	A2b	T4	12.48	5.11	41
		7/16 EHS	A2b	T4a	12.48	5.38	43
1.2D + 1.0Di + 1.0Wi Normal	51.95	7/16 EHS	A2a	T4a	12.48	3.54	28
		7/16 EHS	A2	T4b	12.48	1.03	8
		7/16 EHS	A2a	T4b	12.48	3.34	27
	104.16	1/2 EHS	A2	111	16.14	1.06	7
		1/2 EHS	A2b	111a	16.14	10.12	63
		1/2 EHS	A2a	111b	16.14	5.53	34
	158.00	9/16 EHS	A2	131	21	1.31	6
		9/16 EHS	A2b	131a	21	17.21	82
		9/16 EHS	A2a	131b	21	9.08	43
	218.00	7/16 EHS	A1	20	12.48	2.74	22
		7/16 EHS	A1b	20a	12.48	3.09	25
		7/16 EHS	A1a	20b	12.48	3.08	25
	271.95	7/16 EHS	A1	39	12.48	2.53	20
		7/16 EHS	A1b	39a	12.48	2.98	24
		7/16 EHS	A1a	39b	12.48	2.94	24
	328.05	7/16 EHS	A1	T3	12.48	2.44	20
		7/16 EHS	A1b	T3	12.48	2.9	23
		7/16 EHS	A1a	T3a	12.48	2.87	23
	51.95	7/16 EHS	A1b	T3a	12.48	2.88	23
		7/16 EHS	A1a	T3b	12.48	2.89	23
		7/16 EHS	A1	T3b	12.48	2.45	20
	104.16	7/16 EHS	A2	T4	12.48	3.81	30
		7/16 EHS	A2b	T4	12.48	4.33	35
		7/16 EHS	A2a	T4a	12.48	4.32	35
	158.00	7/16 EHS	A2b	T4a	12.48	4.33	35
		7/16 EHS	A2	T4b	12.48	3.81	31
		7/16 EHS	A2a	T4b	12.48	4.33	35
	218.00	1/2 EHS	A2	111	16.14	4.31	27
		1/2 EHS	A2b	111a	16.14	5.28	33

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DETAILED CABLE FORCES							
Load Case	Elevation (ft)	Cable	Anchor Node	Tower Node	Available Tension (kip)	Applied Tension (kip)	Use (%)
1.2D + 1.0Di + 1.0Wi 60°	328.05	1/2 EHS	A2a	111b	16.14	5.29	33
		9/16 EHS	A2	131	21	4.91	23
		9/16 EHS	A2b	131a	21	6.49	31
		9/16 EHS	A2a	131b	21	6.52	31
	51.95	7/16 EHS	A1	20	12.48	2.85	23
		7/16 EHS	A1b	20a	12.48	2.82	23
		7/16 EHS	A1a	20b	12.48	3.17	25
		7/16 EHS	A1	39	12.48	2.67	21
	104.16	7/16 EHS	A1b	39a	12.48	2.65	21
		7/16 EHS	A1a	39b	12.48	3.04	24
		7/16 EHS	A1	T3	12.48	2.61	21
		7/16 EHS	A1b	T3	12.48	2.51	20
1.2D + 1.0Di + 1.0Wi 90°	158.00	7/16 EHS	A1a	T3a	12.48	3.05	24
		7/16 EHS	A1b	T3a	12.48	2.48	20
		7/16 EHS	A1a	T3b	12.48	3.06	24
		7/16 EHS	A1	T3b	12.48	2.58	21
	218.00	7/16 EHS	A2	T4	12.48	3.95	32
		7/16 EHS	A2b	T4	12.48	3.88	31
		7/16 EHS	A2a	T4a	12.48	4.44	36
		7/16 EHS	A2b	T4a	12.48	3.88	31
	271.95	7/16 EHS	A2	T4b	12.48	3.95	32
		7/16 EHS	A2a	T4b	12.48	4.45	36
		1/2 EHS	A2	111	16.14	4.62	29
		1/2 EHS	A2b	111a	16.14	4.49	28
	328.05	1/2 EHS	A2a	111b	16.14	5.58	35
		9/16 EHS	A2	131	21	5.44	26
		9/16 EHS	A2b	131a	21	5.28	25
		9/16 EHS	A2a	131b	21	7.03	33
	51.95	7/16 EHS	A1	20	12.48	2.97	24
		7/16 EHS	A1b	20a	12.48	2.73	22
		7/16 EHS	A1a	20b	12.48	3.15	25
	104.16	7/16 EHS	A1	39	12.48	2.83	23
		7/16 EHS	A1b	39a	12.48	2.53	20
		7/16 EHS	A1a	39b	12.48	3.03	24
	158.00	7/16 EHS	A1	T3	12.48	2.81	23
		7/16 EHS	A1b	T3	12.48	2.39	19
		7/16 EHS	A1a	T3a	12.48	2.99	24
		7/16 EHS	A1b	T3a	12.48	2.39	19
	218.00	7/16 EHS	A1	T3b	12.48	2.79	22
		7/16 EHS	A1a	T3b	12.48	3	24
		7/16 EHS	A2	T4	12.48	4.19	34
		7/16 EHS	A2b	T4	12.48	3.76	30
1.2D + 1.0Di + 1.0Wi 120°	271.95	7/16 EHS	A2b	T4a	12.48	3.77	30
		7/16 EHS	A2a	T4a	12.48	4.42	35
		7/16 EHS	A2a	T4b	12.48	4.44	36
		7/16 EHS	A2	T4b	12.48	4.18	33
	328.05	1/2 EHS	A2	111	16.14	5.03	31
		1/2 EHS	A2b	111a	16.14	4.26	26
		1/2 EHS	A2a	111b	16.14	5.52	34
		9/16 EHS	A2	131	21	6.06	29
	51.95	9/16 EHS	A2b	131a	21	4.88	23
		9/16 EHS	A2a	131b	21	6.91	33
		7/16 EHS	A1	20	12.48	3.11	25
		7/16 EHS	A1b	20a	12.48	2.7	22
1.2D + 1.0Di + 1.0Wi 120°	104.16	7/16 EHS	A1a	20b	12.48	3.07	25
		7/16 EHS	A1	39	12.48	3	24
		7/16 EHS	A1b	39a	12.48	2.5	20
		7/16 EHS	A1a	39b	12.48	2.93	23
	158.00	7/16 EHS	A1	T3	12.48	3	24

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DETAILED CABLE FORCES							
Load Case	Elevation (ft)	Cable	Anchor Node	Tower Node	Available Tension (kip)	Applied Tension (kip)	Use (%)
	218.00	7/16 EHS	A1b	T3	12.48	2.35	19
		7/16 EHS	A1a	T3a	12.48	2.89	23
		7/16 EHS	A1b	T3a	12.48	2.35	19
		7/16 EHS	A1a	T3b	12.48	2.88	23
		7/16 EHS	A1	T3b	12.48	2.99	24
		7/16 EHS	A2b	T4	12.48	3.74	30
		7/16 EHS	A2	T4	12.48	4.42	35
		7/16 EHS	A2a	T4a	12.48	4.32	35
	271.95	7/16 EHS	A2b	T4a	12.48	3.75	30
		7/16 EHS	A2a	T4b	12.48	4.33	35
		7/16 EHS	A2	T4b	12.48	4.42	35
		1/2 EHS	A2	111	16.14	5.44	34
	328.05	1/2 EHS	A2b	111a	16.14	4.19	26
		1/2 EHS	A2a	111b	16.14	5.29	33
		9/16 EHS	A2	131	21	6.68	32
		9/16 EHS	A2b	131a	21	4.75	23
1.2D + 1.0Di + 1.0Wi 180°	51.95	9/16 EHS	A2a	131b	21	6.52	31
		7/16 EHS	A1	20	12.48	3.21	26
		7/16 EHS	A1b	20a	12.48	2.82	23
	104.16	7/16 EHS	A1a	20b	12.48	2.81	23
		7/16 EHS	A1	39	12.48	3.13	25
		7/16 EHS	A1b	39a	12.48	2.63	21
	158.00	7/16 EHS	A1a	39b	12.48	2.59	21
		7/16 EHS	A1	T3	12.48	3.14	25
		7/16 EHS	A1b	T3	12.48	2.5	20
	218.00	7/16 EHS	A1a	T3a	12.48	2.51	20
		7/16 EHS	A1b	T3a	12.48	2.52	20
		7/16 EHS	A1a	T3b	12.48	2.5	20
	271.95	7/16 EHS	A1	T3b	12.48	3.14	25
		7/16 EHS	A2	T4	12.48	4.55	36
		7/16 EHS	A2b	T4	12.48	3.88	31
	328.05	7/16 EHS	A2a	T4a	12.48	3.87	31
		7/16 EHS	A2b	T4a	12.48	3.88	31
		7/16 EHS	A2	T4b	12.48	4.55	36
1.2D + 1.0Di + 1.0Wi 210°	51.95	7/16 EHS	A2a	T4b	12.48	3.87	31
		1/2 EHS	A2	111	16.14	5.75	36
		1/2 EHS	A2b	111a	16.14	4.49	28
	104.16	1/2 EHS	A2a	111b	16.14	4.5	28
		9/16 EHS	A2	131	21	7.23	34
		9/16 EHS	A2b	131a	21	5.27	25
	158.00	9/16 EHS	A2a	131b	21	5.3	25
		7/16 EHS	A1	20	12.48	3.19	26
		7/16 EHS	A1b	20a	12.48	2.95	24
	218.00	7/16 EHS	A1a	20b	12.48	2.73	22
		7/16 EHS	A1	39	12.48	3.1	25
		7/16 EHS	A1b	39a	12.48	2.8	22
	271.95	7/16 EHS	A1a	39b	12.48	2.5	20
		7/16 EHS	A1	T3	12.48	3.1	25
		7/16 EHS	A1b	T3	12.48	2.69	22
	328.05	7/16 EHS	A1b	T3a	12.48	2.71	22
		7/16 EHS	A1a	T3a	12.48	2.38	19
		7/16 EHS	A1	T3b	12.48	3.11	25
	218.00	7/16 EHS	A1a	T3b	12.48	2.39	19
		7/16 EHS	A2b	T4	12.48	4.1	33
		7/16 EHS	A2	T4	12.48	4.53	36
	218.00	7/16 EHS	A2a	T4a	12.48	3.75	30
		7/16 EHS	A2b	T4a	12.48	4.11	33
		7/16 EHS	A2	T4b	12.48	4.53	36
	218.00	7/16 EHS	A2a	T4b	12.48	3.76	30

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Load Case	Elevation (ft)	Cable	Anchor Node	Tower Node	Available Tension (kip)	Applied Tension (kip)	Use (%)
1.2D + 1.0Di + 1.0Wi 240°	271.95	1/2 EHS	A2	111	16.14	5.68	35
		1/2 EHS	A2b	111a	16.14	4.89	30
		1/2 EHS	A2a	111b	16.14	4.26	26
	328.05	9/16 EHS	A2	131	21	7.1	34
		9/16 EHS	A2b	131a	21	5.88	28
		9/16 EHS	A2a	131b	21	4.91	23
	51.95	7/16 EHS	A1	20	12.48	3.12	25
		7/16 EHS	A1b	20a	12.48	3.09	25
		7/16 EHS	A1a	20b	12.48	2.71	22
	104.16	7/16 EHS	A1	39	12.48	3	24
		7/16 EHS	A1b	39a	12.48	2.98	24
		7/16 EHS	A1a	39b	12.48	2.47	20
	158.00	7/16 EHS	A1	T3	12.48	2.98	24
		7/16 EHS	A1b	T3	12.48	2.89	23
		7/16 EHS	A1b	T3a	12.48	2.89	23
		7/16 EHS	A1a	T3a	12.48	2.34	19
		7/16 EHS	A1a	T3b	12.48	2.35	19
	218.00	7/16 EHS	A1	T3b	12.48	3	24
		7/16 EHS	A2b	T4	12.48	4.33	35
		7/16 EHS	A2	T4	12.48	4.41	35
		7/16 EHS	A2a	T4a	12.48	3.74	30
		7/16 EHS	A2b	T4a	12.48	4.33	35
1.2D + 1.0Di + 1.0Wi 300°	271.95	7/16 EHS	A2a	T4b	12.48	3.74	30
		7/16 EHS	A2	T4b	12.48	4.42	35
		1/2 EHS	A2	111	16.14	5.44	34
		1/2 EHS	A2b	111a	16.14	5.28	33
		1/2 EHS	A2a	111b	16.14	4.21	26
	328.05	9/16 EHS	A2	131	21	6.69	32
		9/16 EHS	A2b	131a	21	6.49	31
		9/16 EHS	A2a	131b	21	4.79	23
	51.95	7/16 EHS	A1	20	12.48	2.86	23
		7/16 EHS	A1b	20a	12.48	3.2	26
		7/16 EHS	A1a	20b	12.48	2.82	23
	104.16	7/16 EHS	A1	39	12.48	2.67	21
		7/16 EHS	A1b	39a	12.48	3.12	25
		7/16 EHS	A1a	39b	12.48	2.61	21
	158.00	7/16 EHS	A1a	39b	12.48	2.61	21
		7/16 EHS	A1	T3	12.48	2.6	21
		7/16 EHS	A1b	T3	12.48	3.05	24
		7/16 EHS	A1a	T3a	12.48	2.5	20
		7/16 EHS	A1b	T3a	12.48	3.04	24
	218.00	7/16 EHS	A1a	T3b	12.48	2.52	20
		7/16 EHS	A1	T3b	12.48	2.62	21
		7/16 EHS	A2	T4	12.48	3.94	32
		7/16 EHS	A2b	T4	12.48	4.46	36
		7/16 EHS	A2a	T4a	12.48	3.87	31
1.2D + 1.0Di + 1.0Wi 330°	271.95	7/16 EHS	A2b	T4a	12.48	4.45	36
		7/16 EHS	A2	T4b	12.48	3.96	32
		7/16 EHS	A2a	T4b	12.48	3.88	31
	328.05	9/16 EHS	A2	T4b	12.48	3.88	31
		9/16 EHS	A2	131	21	5.45	26
		9/16 EHS	A2b	131a	21	7.02	33
	51.95	9/16 EHS	A2a	131b	21	5.32	25
		7/16 EHS	A1	20	12.48	2.77	22
		7/16 EHS	A1b	20a	12.48	3.18	25
	104.16	7/16 EHS	A1a	20b	12.48	2.95	24
		7/16 EHS	A1	39	12.48	2.56	21
		7/16 EHS	A1b	39a	12.48	3.09	25

ASSET: 310370, Mineral
CUSTOMER: VERIZON WIRELESS

CODE: ANSI/TIA-222-H
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DETAILED CABLE FORCES							
Load Case	Elevation (ft)	Cable	Anchor Node	Tower Node	Available Tension (kip)	Applied Tension (kip)	Use (%)
	158.00	7/16 EHS	A1a	39b	12.48	2.77	22
		7/16 EHS	A1	T3	12.48	2.49	20
		7/16 EHS	A1b	T3	12.48	3.01	24
		7/16 EHS	A1b	T3a	12.48	3	24
		7/16 EHS	A1a	T3a	12.48	2.68	22
	218.00	7/16 EHS	A1a	T3b	12.48	2.71	22
		7/16 EHS	A1	T3b	12.48	2.49	20
		7/16 EHS	A2	T4	12.48	3.83	31
		7/16 EHS	A2b	T4	12.48	4.43	35
		7/16 EHS	A2a	T4a	12.48	4.1	33
	271.95	7/16 EHS	A2b	T4a	12.48	4.44	36
		7/16 EHS	A2a	T4b	12.48	4.12	33
		7/16 EHS	A2	T4b	12.48	3.83	31
		1/2 EHS	A2	111	16.14	4.39	27
		1/2 EHS	A2b	111a	16.14	5.51	34
	328.05	1/2 EHS	A2a	111b	16.14	4.91	30
		9/16 EHS	A2	131	21	5.05	24
		9/16 EHS	A2b	131a	21	6.88	33
		9/16 EHS	A2a	131b	21	5.93	28
1.2D + 1.0Ev + 1.0Eh Normal	51.95	7/16 EHS	A1	20	12.48	2.02	16
		7/16 EHS	A1b	20a	12.48	2.01	16
		7/16 EHS	A1a	20b	12.48	2.01	16
	104.16	7/16 EHS	A1	39	12.48	1.89	15
		7/16 EHS	A1b	39a	12.48	1.89	15
		7/16 EHS	A1a	39b	12.48	1.86	15
	158.00	7/16 EHS	A1	T3	12.48	1.79	14
		7/16 EHS	A1b	T3	12.48	1.79	14
		7/16 EHS	A1a	T3a	12.48	1.77	14
		7/16 EHS	A1b	T3a	12.48	1.79	14
		7/16 EHS	A1a	T3b	12.48	1.77	14
	218.00	7/16 EHS	A1	T3b	12.48	1.79	14
		7/16 EHS	A2	T4	12.48	1.9	15
		7/16 EHS	A2b	T4	12.48	1.99	16
		7/16 EHS	A2a	T4a	12.48	2	16
		7/16 EHS	A2b	T4a	12.48	2	16
	271.95	7/16 EHS	A2	T4b	12.48	1.9	15
		7/16 EHS	A2a	T4b	12.48	1.99	16
		1/2 EHS	A2	111	16.14	2.25	14
		1/2 EHS	A2b	111a	16.14	2.65	16
		1/2 EHS	A2a	111b	16.14	2.66	16
	328.05	9/16 EHS	A2	131	21	2.7	13
		9/16 EHS	A2b	131a	21	3.58	17
		9/16 EHS	A2a	131b	21	3.58	17
1.2D + 1.0Ev + 1.0Eh 60°	51.95	7/16 EHS	A1	20	12.48	2.03	16
		7/16 EHS	A1b	20a	12.48	2	16
		7/16 EHS	A1a	20b	12.48	2.01	16
	104.16	7/16 EHS	A1	39	12.48	1.89	15
		7/16 EHS	A1b	39a	12.48	1.87	15
		7/16 EHS	A1a	39b	12.48	1.87	15
	158.00	7/16 EHS	A1	T3	12.48	1.8	14
		7/16 EHS	A1b	T3	12.48	1.77	14
		7/16 EHS	A1a	T3a	12.48	1.79	14
		7/16 EHS	A1b	T3a	12.48	1.77	14
		7/16 EHS	A1a	T3b	12.48	1.79	14
	218.00	7/16 EHS	A1	T3b	12.48	1.8	14
		7/16 EHS	A2	T4	12.48	1.94	16
		7/16 EHS	A2b	T4	12.48	1.9	15
		7/16 EHS	A2a	T4a	12.48	2.03	16
		7/16 EHS	A2b	T4a	12.48	1.91	15

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DETAILED CABLE FORCES							
Load Case	Elevation (ft)	Cable	Anchor Node	Tower Node	Available Tension (kip)	Applied Tension (kip)	Use (%)
	271.95	7/16 EHS	A2	T4b	12.48	1.95	16
		7/16 EHS	A2a	T4b	12.48	2.03	16
		1/2 EHS	A2	111	16.14	2.41	15
	328.05	1/2 EHS	A2b	111a	16.14	2.34	15
		1/2 EHS	A2a	111b	16.14	2.8	17
		9/16 EHS	A2	131	21	3.01	14
		9/16 EHS	A2b	131a	21	2.93	14
		9/16 EHS	A2a	131b	21	3.88	18
	51.95	7/16 EHS	A1	20	12.48	2.03	16
		7/16 EHS	A1b	20a	12.48	2	16
		7/16 EHS	A1a	20b	12.48	2.01	16
	104.16	7/16 EHS	A1	39	12.48	1.9	15
		7/16 EHS	A1b	39a	12.48	1.87	15
		7/16 EHS	A1a	39b	12.48	1.87	15
	158.00	7/16 EHS	A1	T3	12.48	1.81	15
		7/16 EHS	A1b	T3	12.48	1.76	14
		7/16 EHS	A1a	T3a	12.48	1.78	14
	218.00	7/16 EHS	A1b	T3a	12.48	1.76	14
		7/16 EHS	A1	T3b	12.48	1.81	15
		7/16 EHS	A1a	T3b	12.48	1.78	14
		7/16 EHS	A2	T4	12.48	1.98	16
		7/16 EHS	A2b	T4	12.48	1.87	15
		7/16 EHS	A2b	T4a	12.48	1.88	15
		7/16 EHS	A2a	T4a	12.48	2.01	16
		7/16 EHS	A2	T4b	12.48	2	16
		7/16 EHS	A2a	T4b	12.48	2.02	16
	271.95	1/2 EHS	A2	111	16.14	2.56	16
		1/2 EHS	A2b	111a	16.14	2.23	14
		1/2 EHS	A2a	111b	16.14	2.76	17
	328.05	9/16 EHS	A2	131	21	3.33	16
		9/16 EHS	A2b	131a	21	2.7	13
		9/16 EHS	A2a	131b	21	3.79	18
1.2D + 1.0Ev + 1.0Eh 120°	51.95	7/16 EHS	A1	20	12.48	2.04	16
		7/16 EHS	A1b	20a	12.48	1.99	16
		7/16 EHS	A1a	20b	12.48	2.01	16
	104.16	7/16 EHS	A1	39	12.48	1.91	15
		7/16 EHS	A1b	39a	12.48	1.86	15
		7/16 EHS	A1a	39b	12.48	1.86	15
	158.00	7/16 EHS	A1	T3	12.48	1.82	15
		7/16 EHS	A1b	T3	12.48	1.76	14
		7/16 EHS	A1b	T3a	12.48	1.76	14
		7/16 EHS	A1a	T3a	12.48	1.77	14
		7/16 EHS	A1a	T3b	12.48	1.78	14
		7/16 EHS	A1	T3b	12.48	1.83	15
	218.00	7/16 EHS	A2	T4	12.48	2.02	16
		7/16 EHS	A2b	T4	12.48	1.86	15
		7/16 EHS	A2a	T4a	12.48	1.98	16
		7/16 EHS	A2b	T4a	12.48	1.86	15
		7/16 EHS	A2a	T4b	12.48	1.99	16
1.2D + 1.0Ev + 1.0Eh 180°	271.95	7/16 EHS	A2	T4b	12.48	2.04	16
		1/2 EHS	A2	111	16.14	2.71	17
		1/2 EHS	A2b	111a	16.14	2.19	14
	328.05	1/2 EHS	A2a	111b	16.14	2.65	16
		9/16 EHS	A2	131	21	3.65	17
		9/16 EHS	A2b	131a	21	2.62	12
	51.95	9/16 EHS	A2a	131b	21	3.56	17
		7/16 EHS	A1	20	12.48	2.04	16
		7/16 EHS	A1b	20a	12.48	2	16
		7/16 EHS	A1a	20b	12.48	2	16

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DETAILED CABLE FORCES							
Load Case	Elevation (ft)	Cable	Anchor Node	Tower Node	Available Tension (kip)	Applied Tension (kip)	Use (%)
	104.16	7/16 EHS	A1	39	12.48	1.91	15
		7/16 EHS	A1b	39a	12.48	1.87	15
		7/16 EHS	A1a	39b	12.48	1.85	15
	158.00	7/16 EHS	A1	T3	12.48	1.84	15
		7/16 EHS	A1b	T3	12.48	1.77	14
		7/16 EHS	A1b	T3a	12.48	1.77	14
		7/16 EHS	A1a	T3a	12.48	1.75	14
		7/16 EHS	A1a	T3b	12.48	1.75	14
		7/16 EHS	A1	T3b	12.48	1.84	15
	218.00	7/16 EHS	A2	T4	12.48	2.08	17
		7/16 EHS	A2b	T4	12.48	1.91	15
		7/16 EHS	A2a	T4a	12.48	1.89	15
		7/16 EHS	A2b	T4a	12.48	1.9	15
		7/16 EHS	A2a	T4b	12.48	1.91	15
		7/16 EHS	A2	T4b	12.48	2.08	17
	271.95	1/2 EHS	A2	111	16.14	2.88	18
		1/2 EHS	A2b	111a	16.14	2.33	14
		1/2 EHS	A2a	111b	16.14	2.34	14
	328.05	9/16 EHS	A2	131	21	3.99	19
		9/16 EHS	A2b	131a	21	2.91	14
		9/16 EHS	A2a	131b	21	2.92	14
		9/16 EHS	A2a	131b	21	2.92	14
1.2D + 1.0Ev + 1.0Eh 210°	51.95	7/16 EHS	A1	20	12.48	2.04	16
		7/16 EHS	A1b	20a	12.48	2	16
		7/16 EHS	A1a	20b	12.48	1.99	16
	104.16	7/16 EHS	A1	39	12.48	1.91	15
		7/16 EHS	A1b	39a	12.48	1.88	15
		7/16 EHS	A1a	39b	12.48	1.84	15
	158.00	7/16 EHS	A1	T3	12.48	1.83	15
		7/16 EHS	A1b	T3	12.48	1.78	14
		7/16 EHS	A1a	T3a	12.48	1.74	14
		7/16 EHS	A1b	T3a	12.48	1.78	14
		7/16 EHS	A1	T3b	12.48	1.83	15
		7/16 EHS	A1a	T3b	12.48	1.74	14
	218.00	7/16 EHS	A2	T4	12.48	2.07	17
		7/16 EHS	A2b	T4	12.48	1.96	16
		7/16 EHS	A2b	T4a	12.48	1.94	16
		7/16 EHS	A2a	T4a	12.48	1.87	15
		7/16 EHS	A2	T4b	12.48	2.06	17
		7/16 EHS	A2a	T4b	12.48	1.88	15
	271.95	1/2 EHS	A2	111	16.14	2.83	18
		1/2 EHS	A2b	111a	16.14	2.49	15
		1/2 EHS	A2a	111b	16.14	2.24	14
	328.05	9/16 EHS	A2	131	21	3.89	19
		9/16 EHS	A2b	131a	21	3.24	15
		9/16 EHS	A2a	131b	21	2.71	13
		9/16 EHS	A2a	131b	21	2.71	13
1.2D + 1.0Ev + 1.0Eh 240°	51.95	7/16 EHS	A1	20	12.48	2.04	16
		7/16 EHS	A1b	20a	12.48	2.01	16
		7/16 EHS	A1a	20b	12.48	1.99	16
	104.16	7/16 EHS	A1	39	12.48	1.91	15
		7/16 EHS	A1b	39a	12.48	1.89	15
		7/16 EHS	A1a	39b	12.48	1.84	15
	158.00	7/16 EHS	A1b	T3	12.48	1.79	14
		7/16 EHS	A1	T3	12.48	1.82	15
		7/16 EHS	A1a	T3a	12.48	1.74	14
		7/16 EHS	A1b	T3a	12.48	1.79	14
		7/16 EHS	A1a	T3b	12.48	1.74	14
		7/16 EHS	A1	T3b	12.48	1.82	15
	218.00	7/16 EHS	A2	T4	12.48	2.04	16
		7/16 EHS	A2b	T4	12.48	2	16
		7/16 EHS	A2b	T4	12.48	2	16
		7/16 EHS	A2b	T4	12.48	2	16

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DETAILED CABLE FORCES							
Load Case	Elevation (ft)	Cable	Anchor Node	Tower Node	Available Tension (kip)	Applied Tension (kip)	Use (%)
1.2D + 1.0Ev + 1.0Eh 300°	271.95	7/16 EHS	A2a	T4a	12.48	1.86	15
		7/16 EHS	A2b	T4a	12.48	1.99	16
		7/16 EHS	A2a	T4b	12.48	1.86	15
		7/16 EHS	A2	T4b	12.48	2.03	16
	328.05	1/2 EHS	A2	111	16.14	2.72	17
		1/2 EHS	A2b	111a	16.14	2.65	16
		1/2 EHS	A2a	111b	16.14	2.2	14
		9/16 EHS	A2	131	21	3.66	17
	51.95	9/16 EHS	A2b	131a	21	3.57	17
		9/16 EHS	A2a	131b	21	2.63	13
		7/16 EHS	A1	20	12.48	2.03	16
		7/16 EHS	A1b	20a	12.48	2.01	16
	104.16	7/16 EHS	A1a	20b	12.48	2	16
		7/16 EHS	A1	39	12.48	1.89	15
		7/16 EHS	A1b	39a	12.48	1.89	15
		7/16 EHS	A1a	39b	12.48	1.85	15
	158.00	7/16 EHS	A1	T3	12.48	1.8	14
		7/16 EHS	A1b	T3	12.48	1.81	14
		7/16 EHS	A1b	T3a	12.48	1.81	14
		7/16 EHS	A1a	T3a	12.48	1.75	14
	218.00	7/16 EHS	A1a	T3b	12.48	1.75	14
		7/16 EHS	A1	T3b	12.48	1.8	14
		7/16 EHS	A2	T4	12.48	1.95	16
		7/16 EHS	A2b	T4	12.48	2.04	16
	271.95	7/16 EHS	A2a	T4a	12.48	1.91	15
		7/16 EHS	A2b	T4a	12.48	2.04	16
		7/16 EHS	A2a	T4b	12.48	1.9	15
		7/16 EHS	A2	T4b	12.48	1.94	16
1.2D + 1.0Ev + 1.0Eh 330°	328.05	1/2 EHS	A2	111	16.14	2.41	15
		1/2 EHS	A2b	111a	16.14	2.8	17
		1/2 EHS	A2a	111b	16.14	2.35	15
		9/16 EHS	A2	131	21	3.02	14
	51.95	9/16 EHS	A2b	131a	21	3.89	19
		9/16 EHS	A2a	131b	21	2.94	14
		7/16 EHS	A1	20	12.48	2.02	16
		7/16 EHS	A1b	20a	12.48	2.01	16
	104.16	7/16 EHS	A1a	20b	12.48	2	16
		7/16 EHS	A1	39	12.48	1.89	15
		7/16 EHS	A1b	39a	12.48	1.89	15
		7/16 EHS	A1a	39b	12.48	1.86	15
	158.00	7/16 EHS	A1	T3	12.48	1.79	14
		7/16 EHS	A1b	T3	12.48	1.8	14
		7/16 EHS	A1a	T3a	12.48	1.76	14
		7/16 EHS	A1b	T3a	12.48	1.8	14
	218.00	7/16 EHS	A1a	T3b	12.48	1.76	14
		7/16 EHS	A1	T3b	12.48	1.79	14
		7/16 EHS	A2	T4	12.48	1.92	15
		7/16 EHS	A2b	T4	12.48	2.02	16
	271.95	7/16 EHS	A2b	T4a	12.48	2.03	16
		7/16 EHS	A2a	T4a	12.48	1.95	16
		7/16 EHS	A2	T4b	12.48	1.91	15
		7/16 EHS	A2a	T4b	12.48	1.94	16
1.0D + 1.0W Service Normal	328.05	1/2 EHS	A2	111	16.14	2.3	14
		1/2 EHS	A2b	111a	16.14	2.76	17
		1/2 EHS	A2a	111b	16.14	2.5	16
		9/16 EHS	A2	131	21	2.79	13
	51.95	9/16 EHS	A2b	131a	21	3.81	18
		9/16 EHS	A2a	131b	21	3.25	15
		7/16 EHS	A1	20	12.48	1.56	12

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DETAILED CABLE FORCES							
Load Case	Elevation (ft)	Cable	Anchor Node	Tower Node	Available Tension (kip)	Applied Tension (kip)	Use (%)
	104.16	7/16 EHS	A1b	20a	12.48	2.3	18
		7/16 EHS	A1a	20b	12.48	2.29	18
		7/16 EHS	A1	39	12.48	1.32	11
	158.00	7/16 EHS	A1b	39a	12.48	2.26	18
		7/16 EHS	A1a	39b	12.48	2.23	18
		7/16 EHS	A1b	T3	12.48	2.16	17
	218.00	7/16 EHS	A1	T3	12.48	1.34	11
		7/16 EHS	A1a	T3a	12.48	2.11	17
		7/16 EHS	A1b	T3a	12.48	2.13	17
	271.95	7/16 EHS	A1	T3b	12.48	1.34	11
		7/16 EHS	A1a	T3b	12.48	2.13	17
		7/16 EHS	A2b	T4	12.48	2.44	20
	328.05	7/16 EHS	A2	T4	12.48	1.37	11
		7/16 EHS	A2b	T4a	12.48	2.45	20
		7/16 EHS	A2a	T4a	12.48	2.45	20
	1.0D + 1.0W Service 60°	7/16 EHS	A2a	T4b	12.48	2.42	19
		7/16 EHS	A2	T4b	12.48	1.38	11
		1/2 EHS	A2	111	16.14	1.09	7
	51.95	1/2 EHS	A2b	111a	16.14	3.47	22
		1/2 EHS	A2a	111b	16.14	3.47	21
		9/16 EHS	A2	131	21	0.74	4
	104.16	9/16 EHS	A2b	131a	21	4.92	23
		9/16 EHS	A2a	131b	21	4.92	23
		7/16 EHS	A1	20	12.48	1.8	14
	158.00	7/16 EHS	A1b	20a	12.48	1.78	14
		7/16 EHS	A1a	20b	12.48	2.49	20
		7/16 EHS	A1	39	12.48	1.64	13
	218.00	7/16 EHS	A1b	39a	12.48	1.61	13
		7/16 EHS	A1a	39b	12.48	2.5	20
		7/16 EHS	A1	T3	12.48	1.63	13
	271.95	7/16 EHS	A1b	T3	12.48	1.59	13
		7/16 EHS	A1a	T3a	12.48	2.41	19
		7/16 EHS	A1b	T3a	12.48	1.58	13
	328.05	7/16 EHS	A1a	T3b	12.48	2.42	19
		7/16 EHS	A1	T3b	12.48	1.61	13
		7/16 EHS	A2	T4	12.48	1.79	14
	1.0D + 1.0W Service 90°	7/16 EHS	A2b	T4	12.48	1.75	14
		7/16 EHS	A2a	T4a	12.48	2.77	22
		7/16 EHS	A2b	T4a	12.48	1.76	14
	51.95	7/16 EHS	A2	T4b	12.48	1.79	14
		7/16 EHS	A2a	T4b	12.48	2.78	22
		1/2 EHS	A2	111	16.14	2.06	13
	104.16	1/2 EHS	A2b	111a	16.14	2	12
		1/2 EHS	A2a	111b	16.14	4.35	27
		9/16 EHS	A2	131	21	2.44	12
	158.00	9/16 EHS	A2b	131a	21	2.37	11
		9/16 EHS	A2a	131b	21	6.57	31
		7/16 EHS	A1	20	12.48	2.05	16
	218.00	7/16 EHS	A1b	20a	12.48	1.58	13
		7/16 EHS	A1a	20b	12.48	2.43	19
		7/16 EHS	A1	39	12.48	1.93	15
	1.0D + 1.0W Service 90°	7/16 EHS	A1b	39a	12.48	1.38	11
		7/16 EHS	A1a	39b	12.48	2.42	19
		7/16 EHS	A1	T3	12.48	1.88	15
	51.95	7/16 EHS	A1b	T3	12.48	1.4	11
		7/16 EHS	A1a	T3a	12.48	2.33	19
		7/16 EHS	A1b	T3a	12.48	1.41	11
	104.16	7/16 EHS	A1a	T3b	12.48	2.33	19
		7/16 EHS	A1	T3b	12.48	1.86	15
		7/16 EHS	A1	T3b	12.48	1.86	15

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DETAILED CABLE FORCES							
Load Case	Elevation (ft)	Cable	Anchor Node	Tower Node	Available Tension (kip)	Applied Tension (kip)	Use (%)
	218.00	7/16 EHS	A2	T4	12.48	2.14	17
		7/16 EHS	A2b	T4	12.48	1.43	11
		7/16 EHS	A2a	T4a	12.48	2.65	21
		7/16 EHS	A2b	T4a	12.48	1.46	12
		7/16 EHS	A2	T4b	12.48	2.15	17
	271.95	7/16 EHS	A2a	T4b	12.48	2.7	22
		1/2 EHS	A2	111	16.14	2.81	17
		1/2 EHS	A2b	111a	16.14	1.31	8
	328.05	1/2 EHS	A2a	111b	16.14	4.1	25
		9/16 EHS	A2	131	21	3.74	18
		9/16 EHS	A2b	131a	21	1.28	6
		9/16 EHS	A2a	131b	21	6.11	29
		7/16 EHS	A1	20	12.48	2.29	18
		7/16 EHS	A1b	20a	12.48	1.5	12
1.0D + 1.0W Service 120°	104.16	7/16 EHS	A1a	20b	12.48	2.26	18
		7/16 EHS	A1	39	12.48	2.25	18
		7/16 EHS	A1b	39a	12.48	1.27	10
	158.00	7/16 EHS	A1a	39b	12.48	2.2	18
		7/16 EHS	A1b	T3	12.48	1.3	10
		7/16 EHS	A1	T3	12.48	2.18	17
	218.00	7/16 EHS	A1a	T3a	12.48	2.11	17
		7/16 EHS	A1b	T3a	12.48	1.3	10
		7/16 EHS	A1a	T3b	12.48	2.1	17
		7/16 EHS	A1	T3b	12.48	2.16	17
		7/16 EHS	A2b	T4	12.48	1.32	11
	271.95	7/16 EHS	A2	T4	12.48	2.49	20
		7/16 EHS	A2b	T4a	12.48	1.34	11
		7/16 EHS	A2a	T4a	12.48	2.41	19
		7/16 EHS	A2a	T4b	12.48	2.45	20
		7/16 EHS	A2	T4b	12.48	2.5	20
	328.05	1/2 EHS	A2	111	16.14	3.56	22
		1/2 EHS	A2b	111a	16.14	1.01	6
		1/2 EHS	A2a	111b	16.14	3.46	21
1.0D + 1.0W Service 180°	104.16	9/16 EHS	A2	131	21	5.05	24
		9/16 EHS	A2b	131a	21	0.7	3
		9/16 EHS	A2a	131b	21	4.92	23
	158.00	7/16 EHS	A1	20	12.48	2.52	20
		7/16 EHS	A1b	20a	12.48	1.76	14
		7/16 EHS	A1a	20b	12.48	1.77	14
	218.00	7/16 EHS	A1	39	12.48	2.54	20
		7/16 EHS	A1b	39a	12.48	1.6	13
		7/16 EHS	A1a	39b	12.48	1.58	13
		7/16 EHS	A1b	T3	12.48	1.56	13
		7/16 EHS	A1	T3	12.48	2.46	20
	271.95	7/16 EHS	A1a	T3a	12.48	1.56	13
		7/16 EHS	A1b	T3a	12.48	1.58	13
		7/16 EHS	A1a	T3b	12.48	1.55	12
		7/16 EHS	A1	T3b	12.48	2.46	20
		7/16 EHS	A2	T4	12.48	2.85	23
	328.05	7/16 EHS	A2b	T4	12.48	1.74	14
		7/16 EHS	A2a	T4a	12.48	1.73	14
		7/16 EHS	A2b	T4a	12.48	1.74	14
		7/16 EHS	A2	T4b	12.48	2.84	23
		7/16 EHS	A2a	T4b	12.48	1.74	14
		1/2 EHS	A2	111	16.14	4.47	28
		1/2 EHS	A2b	111a	16.14	1.98	12
		1/2 EHS	A2a	111b	16.14	1.98	12
		9/16 EHS	A2	131	21	6.72	32
		9/16 EHS	A2b	131a	21	2.33	11

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DETAILED CABLE FORCES							
Load Case	Elevation (ft)	Cable	Anchor Node	Tower Node	Available Tension (kip)	Applied Tension (kip)	Use (%)
1.0D + 1.0W Service 210°	51.95	9/16 EHS	A2a	131b	21	2.34	11
		7/16 EHS	A1	20	12.48	2.47	20
		7/16 EHS	A1b	20a	12.48	2.02	16
		7/16 EHS	A1a	20b	12.48	1.59	13
	104.16	7/16 EHS	A1	39	12.48	2.47	20
		7/16 EHS	A1b	39a	12.48	1.91	15
		7/16 EHS	A1a	39b	12.48	1.36	11
		7/16 EHS	A1b	T3	12.48	1.81	14
	158.00	7/16 EHS	A1	T3	12.48	2.37	19
		7/16 EHS	A1a	T3a	12.48	1.38	11
		7/16 EHS	A1b	T3a	12.48	1.83	15
		7/16 EHS	A1	T3b	12.48	2.38	19
	218.00	7/16 EHS	A1a	T3b	12.48	1.38	11
		7/16 EHS	A2	T4	12.48	2.76	22
		7/16 EHS	A2b	T4	12.48	2.1	17
		7/16 EHS	A2a	T4a	12.48	1.43	11
	271.95	7/16 EHS	A2b	T4a	12.48	2.09	17
		7/16 EHS	A2a	T4b	12.48	1.45	12
		7/16 EHS	A2	T4b	12.48	2.73	22
		1/2 EHS	A2	111	16.14	4.2	26
	328.05	1/2 EHS	A2b	111a	16.14	2.72	17
		1/2 EHS	A2a	111b	16.14	1.32	8
		9/16 EHS	A2	131	21	6.25	30
		9/16 EHS	A2b	131a	21	3.62	17
	1.0D + 1.0W Service 240°	9/16 EHS	A2a	131b	21	1.29	6
		7/16 EHS	A1	20	12.48	2.31	19
		7/16 EHS	A1b	20a	12.48	2.28	18
		7/16 EHS	A1a	20b	12.48	1.53	12
	104.16	7/16 EHS	A1	39	12.48	2.26	18
		7/16 EHS	A1b	39a	12.48	2.24	18
		7/16 EHS	A1a	39b	12.48	1.27	10
	158.00	7/16 EHS	A1	T3	12.48	2.16	17
		7/16 EHS	A1b	T3	12.48	2.12	17
		7/16 EHS	A1a	T3a	12.48	1.28	10
		7/16 EHS	A1b	T3a	12.48	2.13	17
	218.00	7/16 EHS	A1	T3b	12.48	2.18	17
		7/16 EHS	A1a	T3b	12.48	1.28	10
		7/16 EHS	A2b	T4	12.48	2.45	20
		7/16 EHS	A2	T4	12.48	2.5	20
	271.95	7/16 EHS	A2a	T4a	12.48	1.33	11
		7/16 EHS	A2b	T4a	12.48	2.42	19
		7/16 EHS	A2	T4b	12.48	2.48	20
		7/16 EHS	A2a	T4b	12.48	1.33	11
	328.05	1/2 EHS	A2	111	16.14	3.57	22
		1/2 EHS	A2b	111a	16.14	3.47	21
		1/2 EHS	A2a	111b	16.14	1.04	6
		9/16 EHS	A2	131	21	5.06	24
	1.0D + 1.0W Service 300°	9/16 EHS	A2b	131a	21	4.92	23
		9/16 EHS	A2a	131b	21	0.74	4
		7/16 EHS	A1	20	12.48	1.82	15
		7/16 EHS	A1b	20a	12.48	2.52	20
		7/16 EHS	A1a	20b	12.48	1.8	14
	104.16	7/16 EHS	A1	39	12.48	1.65	13
		7/16 EHS	A1b	39a	12.48	2.56	20
		7/16 EHS	A1a	39b	12.48	1.61	13
	158.00	7/16 EHS	A1	T3	12.48	1.62	13
		7/16 EHS	A1b	T3	12.48	2.45	20
		7/16 EHS	A1a	T3a	12.48	1.57	13
		7/16 EHS	A1b	T3a	12.48	2.44	20

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DETAILED CABLE FORCES							
Load Case	Elevation (ft)	Cable	Anchor Node	Tower Node	Available Tension (kip)	Applied Tension (kip)	Use (%)
	218.00	7/16 EHS	A1a	T3b	12.48	1.58	13
		7/16 EHS	A1	T3b	12.48	1.64	13
		7/16 EHS	A2	T4	12.48	1.79	14
		7/16 EHS	A2b	T4	12.48	2.8	22
		7/16 EHS	A2a	T4a	12.48	1.76	14
		7/16 EHS	A2b	T4a	12.48	2.78	22
	271.95	7/16 EHS	A2	T4b	12.48	1.8	14
		7/16 EHS	A2a	T4b	12.48	1.75	14
		1/2 EHS	A2	111	16.14	2.07	13
		1/2 EHS	A2b	111a	16.14	4.39	27
		1/2 EHS	A2a	111b	16.14	2.02	13
	328.05	9/16 EHS	A2	131	21	2.46	12
		9/16 EHS	A2b	131a	21	6.62	32
		9/16 EHS	A2a	131b	21	2.4	11
1.0D + 1.0W Service 330°	51.95	7/16 EHS	A1	20	12.48	1.64	13
		7/16 EHS	A1b	20a	12.48	2.46	20
		7/16 EHS	A1a	20b	12.48	2.05	16
	104.16	7/16 EHS	A1	39	12.48	1.42	11
		7/16 EHS	A1b	39a	12.48	2.48	20
		7/16 EHS	A1a	39b	12.48	1.91	15
	158.00	7/16 EHS	A1	T3	12.48	1.44	12
		7/16 EHS	A1b	T3	12.48	2.37	19
		7/16 EHS	A1b	T3a	12.48	2.36	19
	218.00	7/16 EHS	A1a	T3a	12.48	1.81	15
		7/16 EHS	A1a	T3b	12.48	1.83	15
		7/16 EHS	A1	T3b	12.48	1.45	12
		7/16 EHS	A2	T4	12.48	1.49	12
		7/16 EHS	A2b	T4	12.48	2.69	22
		7/16 EHS	A2a	T4a	12.48	2.12	17
		7/16 EHS	A2b	T4a	12.48	2.7	22
		7/16 EHS	A2a	T4b	12.48	2.1	17
		7/16 EHS	A2	T4b	12.48	1.49	12
	271.95	1/2 EHS	A2	111	16.14	1.39	9
		1/2 EHS	A2b	111a	16.14	4.13	26
		1/2 EHS	A2a	111b	16.14	2.76	17
	328.05	9/16 EHS	A2	131	21	1.36	6
		9/16 EHS	A2b	131a	21	6.15	29
		9/16 EHS	A2a	131b	21	3.68	18

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MAXIMUM CABLE FORCES SUMMARY

Load Case	Elevation (ft)	Cable	Anchor Node	Tower Node	Available Tension (kip)	Applied Tension (kip)	Use (%)
1.2D + 1.0W 300°	51.95	7/16 EHS	A1b	20a	12.48	3.84	31
1.2D + 1.0W 300°	104.16	7/16 EHS	A1b	39a	12.48	4.40	35
1.2D + 1.0W 180°	158.00	7/16 EHS	A1	T3	12.48	4.34	35
1.2D + 1.0W 180°	218.00	7/16 EHS	A2	T4	12.48	5.66	45
1.2D + 1.0W 180°	271.95	1/2 EHS	A2	111	16.14	10.50	65
1.2D + 1.0W 210°	328.05	9/16 EHS	A2	131	21.00	17.61	84

MAXIMUM TORQUE ARM STRESS SUMMARY

Load Case	Elevation (ft)	Member	Type	Compression (%)	Tension (%)
1.2D + 1.0Di + 1.0Wi Normal	52.00	PL 3 x 0.375	Horiz	0	10
1.2D + 1.0Di + 1.0Wi Normal	104.00	PL 3 x 0.375	Horiz	0	8.7
1.2D + 1.0W 180°	158.00	3.5X3.5X0.375	Lower Kicker	7.9	0
1.2D + 1.0W 300°	158.00	3.5X3.5X0.375	Torque Arm	0	3.6
1.2D + 1.0W 210°	218.00	3X3X0.25	Lower Kicker	21	0
1.2D + 1.0W 330°	218.00	3X3X0.25	Torque Arm	0	16.6
1.2D + 1.0W Normal	272.00	PL 3 x 0.375	Horiz	0	10.2
1.2D + 1.0W Normal	328.00	PL 3 x 0.375	Horiz	0	15.4

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DEFLECTIONS AND ROTATIONS					
Load Case	Elevation (ft)	Deflection (ft)	Twist (deg)	Sway (deg)	Resultant (deg)
1.0D + 1.0W Service 330° 60 mph Wind with No Ice	160.00	0.0549	0.0016	0.0492	0.0492
1.0D + 1.0W Service 330° 60 mph Wind with No Ice	216.00	0.0935	-0.0068	0.0501	0.0506
1.0D + 1.0W Service 330° 60 mph Wind with No Ice	300.27	0.3404	-0.0869	0.2316	0.2472
1.0D + 1.0W Service 330° 60 mph Wind with No Ice	304.16	0.3539	-0.0920	0.1904	0.2115
1.0D + 1.0W Service 330° 60 mph Wind with No Ice	315.84	0.3913	-0.1047	0.1849	0.2123
1.0D + 1.0W Service 330° 60 mph Wind with No Ice	319.73	0.4023	-0.1047	0.1281	0.1652
1.0D + 1.0W Service 330° 60 mph Wind with No Ice	335.84	0.4489	-0.1054	0.1753	0.2045
1.0D + 1.0W Service 300° 60 mph Wind with No Ice	160.00	0.0637	-0.0095	0.0615	0.0622
1.0D + 1.0W Service 300° 60 mph Wind with No Ice	216.00	0.1141	-0.0178	0.0621	0.0642
1.0D + 1.0W Service 300° 60 mph Wind with No Ice	300.27	0.3696	-0.1216	0.2255	0.2562
1.0D + 1.0W Service 300° 60 mph Wind with No Ice	304.16	0.3828	-0.1278	0.1837	0.2238
1.0D + 1.0W Service 300° 60 mph Wind with No Ice	315.84	0.4191	-0.1431	0.1690	0.2208
1.0D + 1.0W Service 300° 60 mph Wind with No Ice	319.73	0.4296	-0.1433	0.1183	0.1857
1.0D + 1.0W Service 300° 60 mph Wind with No Ice	335.84	0.4742	-0.1444	0.1662	0.2202
1.0D + 1.0W Service 240° 60 mph Wind with No Ice	160.00	0.0503	-0.0056	0.0423	0.0426
1.0D + 1.0W Service 240° 60 mph Wind with No Ice	216.00	0.0806	-0.0086	0.0398	0.0408
1.0D + 1.0W Service 240° 60 mph Wind with No Ice	300.27	0.3221	-0.0527	0.2221	0.2283
1.0D + 1.0W Service 240° 60 mph Wind with No Ice	304.16	0.3352	-0.0554	0.1818	0.1901
1.0D + 1.0W Service 240° 60 mph Wind with No Ice	315.84	0.3711	-0.0621	0.1676	0.1784
1.0D + 1.0W Service 240° 60 mph Wind with No Ice	319.73	0.3816	-0.0616	0.1187	0.1336
1.0D + 1.0W Service 240° 60 mph Wind with No Ice	335.84	0.4259	-0.0614	0.1651	0.1761
1.0D + 1.0W Service 210° 60 mph Wind with No Ice	160.00	0.0581	0.0078	0.0565	0.0571
1.0D + 1.0W Service 210° 60 mph Wind with No Ice	216.00	0.1054	0.0101	0.0596	0.0602
1.0D + 1.0W Service 210° 60 mph Wind with No Ice	300.27	0.3695	0.0330	0.2390	0.2413
1.0D + 1.0W Service 210° 60 mph Wind with No Ice	304.16	0.3838	0.0343	0.2003	0.2032
1.0D + 1.0W Service 210° 60 mph Wind with No Ice	315.84	0.4232	0.0371	0.1924	0.1957
1.0D + 1.0W Service 210° 60 mph Wind with No Ice	319.73	0.4348	0.0373	0.1383	0.1433
1.0D + 1.0W Service 210° 60 mph Wind with No Ice	335.84	0.4842	0.0390	0.1842	0.1883
1.0D + 1.0W Service 180° 60 mph Wind with No Ice	160.00	0.0662	0.0042	0.0694	0.0695
1.0D + 1.0W Service 180° 60 mph Wind with No Ice	216.00	0.1261	0.0098	0.0719	0.0724
1.0D + 1.0W Service 180° 60 mph Wind with No Ice	300.27	0.4	0.0693	0.2369	0.2469
1.0D + 1.0W Service 180° 60 mph Wind with No Ice	304.16	0.4141	0.0730	0.1965	0.2096
1.0D + 1.0W Service 180° 60 mph Wind with No Ice	315.84	0.4529	0.0819	0.1912	0.2077
1.0D + 1.0W Service 180° 60 mph Wind with No Ice	319.73	0.4643	0.0820	0.1290	0.1529
1.0D + 1.0W Service 180° 60 mph Wind with No Ice	335.84	0.5124	0.0834	0.1785	0.197
1.0D + 1.0W Service 120° 60 mph Wind with No Ice	160.00	0.0448	0.0090	0.0448	0.0457
1.0D + 1.0W Service 120° 60 mph Wind with No Ice	216.00	0.0778	0.0173	0.0421	0.0455
1.0D + 1.0W Service 120° 60 mph Wind with No Ice	300.27	0.3218	0.1218	0.2257	0.2565
1.0D + 1.0W Service 120° 60 mph Wind with No Ice	304.16	0.335	0.1280	0.1828	0.2231
1.0D + 1.0W Service 120° 60 mph Wind with No Ice	315.84	0.3712	0.1435	0.1682	0.2209
1.0D + 1.0W Service 120° 60 mph Wind with No Ice	319.73	0.3817	0.1438	0.1188	0.1865
1.0D + 1.0W Service 120° 60 mph Wind with No Ice	335.84	0.4262	0.1449	0.1659	0.2203
1.0D + 1.0W Service 90° 60 mph Wind with No Ice	160.00	0.0501	0.0165	0.0528	0.0553
1.0D + 1.0W Service 90° 60 mph Wind with No Ice	216.00	0.0936	0.0233	0.0561	0.0601
1.0D + 1.0W Service 90° 60 mph Wind with No Ice	300.27	0.3496	0.1235	0.2344	0.2649
1.0D + 1.0W Service 90° 60 mph Wind with No Ice	304.16	0.3633	0.1290	0.1924	0.2317
1.0D + 1.0W Service 90° 60 mph Wind with No Ice	315.84	0.4014	0.1431	0.1740	0.2251
1.0D + 1.0W Service 90° 60 mph Wind with No Ice	319.73	0.4125	0.1434	0.1313	0.1944
1.0D + 1.0W Service 90° 60 mph Wind with No Ice	335.84	0.4597	0.1446	0.1763	0.228
1.0D + 1.0W Service 60° 60 mph Wind with No Ice	160.00	0.0582	0.0055	0.0631	0.0633
1.0D + 1.0W Service 60° 60 mph Wind with No Ice	216.00	0.1115	0.0089	0.0663	0.0666
1.0D + 1.0W Service 60° 60 mph Wind with No Ice	300.27	0.3683	0.0528	0.2236	0.2298
1.0D + 1.0W Service 60° 60 mph Wind with No Ice	304.16	0.3816	0.0554	0.1852	0.1933
1.0D + 1.0W Service 60° 60 mph Wind with No Ice	315.84	0.4181	0.0620	0.1716	0.1821
1.0D + 1.0W Service 60° 60 mph Wind with No Ice	319.73	0.4288	0.0615	0.1211	0.1355
1.0D + 1.0W Service 60° 60 mph Wind with No Ice	335.84	0.4741	0.0612	0.1690	0.1798
1.0D + 1.0W Service Normal 60 mph Wind with No Ice	160.00	0.0461	-0.0036	0.0361	0.0363
1.0D + 1.0W Service Normal 60 mph Wind with No Ice	216.00	0.0692	-0.0093	0.0324	0.0334
1.0D + 1.0W Service Normal 60 mph Wind with No Ice	300.27	0.2947	-0.0687	0.2109	0.2218

ASSET: 310370, Mineral
CUSTOMER: VERIZON WIRELESS

CODE: ANSI/TIA-222-H
PROJECT: 14921176_C3_03

DEFLECTIONS AND ROTATIONS					
Load Case	Elevation (ft)	Deflection (ft)	Twist (deg)	Sway (deg)	Resultant (deg)
1.0D + 1.0W Service Normal 60 mph Wind with No Ice	304.16	0.307	-0.0723	0.1706	0.1853
1.0D + 1.0W Service Normal 60 mph Wind with No Ice	315.84	0.3408	-0.0813	0.1670	0.1858
1.0D + 1.0W Service Normal 60 mph Wind with No Ice	319.73	0.3506	-0.0816	0.1052	0.1332
1.0D + 1.0W Service Normal 60 mph Wind with No Ice	335.84	0.3921	-0.0830	0.1552	0.176
1.2D + 1.0Ev + 1.0Eh 330° Seismic	160.00	0.0047	-0.0001	0.0067	0.0067
1.2D + 1.0Ev + 1.0Eh 330° Seismic	216.00	0.0116	-0.0004	0.0166	0.0166
1.2D + 1.0Ev + 1.0Eh 330° Seismic	300.27	0.0794	-0.0002	0.0659	0.0659
1.2D + 1.0Ev + 1.0Eh 330° Seismic	304.16	0.0833	-0.0003	0.0553	0.0553
1.2D + 1.0Ev + 1.0Eh 330° Seismic	315.84	0.0941	-0.0003	0.0515	0.0515
1.2D + 1.0Ev + 1.0Eh 330° Seismic	319.73	0.0974	-0.0002	0.0396	0.0396
1.2D + 1.0Ev + 1.0Eh 330° Seismic	335.84	0.1105	-0.0002	0.0484	0.0484
1.2D + 1.0Ev + 1.0Eh 300° Seismic	160.00	0.0057	-0.0001	0.0091	0.0091
1.2D + 1.0Ev + 1.0Eh 300° Seismic	216.00	0.0143	-0.0003	0.0161	0.0161
1.2D + 1.0Ev + 1.0Eh 300° Seismic	300.27	0.0806	-0.0003	0.0643	0.0643
1.2D + 1.0Ev + 1.0Eh 300° Seismic	304.16	0.0844	-0.0004	0.0535	0.0535
1.2D + 1.0Ev + 1.0Eh 300° Seismic	315.84	0.0948	-0.0004	0.0496	0.0496
1.2D + 1.0Ev + 1.0Eh 300° Seismic	319.73	0.0979	-0.0003	0.0371	0.0371
1.2D + 1.0Ev + 1.0Eh 300° Seismic	335.84	0.1105	-0.0002	0.0463	0.0463
1.2D + 1.0Ev + 1.0Eh 240° Seismic	160.00	0.0065	0.0000	0.0125	0.0125
1.2D + 1.0Ev + 1.0Eh 240° Seismic	216.00	0.02	-0.0002	0.0205	0.0205
1.2D + 1.0Ev + 1.0Eh 240° Seismic	300.27	0.0961	-0.0002	0.0718	0.0718
1.2D + 1.0Ev + 1.0Eh 240° Seismic	304.16	0.1004	-0.0003	0.0608	0.0608
1.2D + 1.0Ev + 1.0Eh 240° Seismic	315.84	0.1124	-0.0003	0.0568	0.0568
1.2D + 1.0Ev + 1.0Eh 240° Seismic	319.73	0.116	-0.0002	0.0453	0.0453
1.2D + 1.0Ev + 1.0Eh 240° Seismic	335.84	0.1306	-0.0001	0.0535	0.0535
1.2D + 1.0Ev + 1.0Eh 210° Seismic	160.00	0.0064	0.0000	0.0132	0.0132
1.2D + 1.0Ev + 1.0Eh 210° Seismic	216.00	0.0211	0.0002	0.0219	0.0219
1.2D + 1.0Ev + 1.0Eh 210° Seismic	300.27	0.0979	-0.0001	0.0709	0.0709
1.2D + 1.0Ev + 1.0Eh 210° Seismic	304.16	0.1022	-0.0002	0.0600	0.06
1.2D + 1.0Ev + 1.0Eh 210° Seismic	315.84	0.1139	-0.0002	0.0558	0.0558
1.2D + 1.0Ev + 1.0Eh 210° Seismic	319.73	0.1174	0.0001	0.0441	0.0441
1.2D + 1.0Ev + 1.0Eh 210° Seismic	335.84	0.1316	-0.0001	0.0523	0.0523
1.2D + 1.0Ev + 1.0Eh 180° Seismic	160.00	0.006	0.0001	0.0145	0.0145
1.2D + 1.0Ev + 1.0Eh 180° Seismic	216.00	0.0217	0.0003	0.0232	0.0232
1.2D + 1.0Ev + 1.0Eh 180° Seismic	300.27	0.0986	0.0002	0.0694	0.0694
1.2D + 1.0Ev + 1.0Eh 180° Seismic	304.16	0.1027	0.0003	0.0583	0.0583
1.2D + 1.0Ev + 1.0Eh 180° Seismic	315.84	0.1141	0.0003	0.0538	0.0538
1.2D + 1.0Ev + 1.0Eh 180° Seismic	319.73	0.1175	0.0002	0.0411	0.0411
1.2D + 1.0Ev + 1.0Eh 180° Seismic	335.84	0.1311	0.0001	0.0499	0.0499
1.2D + 1.0Ev + 1.0Eh 120° Seismic	160.00	0.0035	0.0001	0.0147	0.0147
1.2D + 1.0Ev + 1.0Eh 120° Seismic	216.00	0.0175	0.0003	0.0231	0.0231
1.2D + 1.0Ev + 1.0Eh 120° Seismic	300.27	0.0931	0.0003	0.0696	0.0696
1.2D + 1.0Ev + 1.0Eh 120° Seismic	304.16	0.0973	0.0003	0.0588	0.0588
1.2D + 1.0Ev + 1.0Eh 120° Seismic	315.84	0.1088	0.0004	0.0546	0.0546
1.2D + 1.0Ev + 1.0Eh 120° Seismic	319.73	0.1122	0.0003	0.0428	0.0428
1.2D + 1.0Ev + 1.0Eh 120° Seismic	335.84	0.1262	0.0002	0.0513	0.0513
1.2D + 1.0Ev + 1.0Eh 90° Seismic	160.00	0.0019	0.0000	0.0138	0.0138
1.2D + 1.0Ev + 1.0Eh 90° Seismic	216.00	0.0146	0.0002	0.0218	0.0218
1.2D + 1.0Ev + 1.0Eh 90° Seismic	300.27	0.0861	0.0003	0.0661	0.0661
1.2D + 1.0Ev + 1.0Eh 90° Seismic	304.16	0.0901	0.0004	0.0555	0.0555
1.2D + 1.0Ev + 1.0Eh 90° Seismic	315.84	0.1009	0.0004	0.0514	0.0514
1.2D + 1.0Ev + 1.0Eh 90° Seismic	319.73	0.1041	0.0003	0.0394	0.0394
1.2D + 1.0Ev + 1.0Eh 90° Seismic	335.84	0.1172	0.0002	0.0481	0.0481
1.2D + 1.0Ev + 1.0Eh 60° Seismic	160.00	0.0008	0.0000	0.0122	0.0122
1.2D + 1.0Ev + 1.0Eh 60° Seismic	216.00	0.0117	0.0002	0.0200	0.02
1.2D + 1.0Ev + 1.0Eh 60° Seismic	300.27	0.0799	0.0002	0.0637	0.0637
1.2D + 1.0Ev + 1.0Eh 60° Seismic	304.16	0.0836	0.0003	0.0530	0.053
1.2D + 1.0Ev + 1.0Eh 60° Seismic	315.84	0.0939	0.0003	0.0490	0.049
1.2D + 1.0Ev + 1.0Eh 60° Seismic	319.73	0.097	0.0002	0.0362	0.0362

ASSET: 310370, Mineral
CUSTOMER: VERIZON WIRELESS

CODE: ANSI/TIA-222-H
PROJECT: 14921176_C3_03

DEFLECTIONS AND ROTATIONS					
Load Case	Elevation (ft)	Deflection (ft)	Twist (deg)	Sway (deg)	Resultant (deg)
1.2D + 1.0Ev + 1.0Eh 60° Seismic	335.84	0.1093	0.0001	0.0456	0.0456
1.2D + 1.0Ev + 1.0Eh Normal Seismic	160.00	0.0033	-0.0001	0.0078	0.0078
1.2D + 1.0Ev + 1.0Eh Normal Seismic	216.00	0.0106	-0.0003	0.0188	0.0188
1.2D + 1.0Ev + 1.0Eh Normal Seismic	300.27	0.0829	-0.0002	0.0691	0.0691
1.2D + 1.0Ev + 1.0Eh Normal Seismic	304.16	0.087	-0.0002	0.0583	0.0583
1.2D + 1.0Ev + 1.0Eh Normal Seismic	315.84	0.0985	-0.0002	0.0544	0.0544
1.2D + 1.0Ev + 1.0Eh Normal Seismic	319.73	0.1019	-0.0002	0.0424	0.0424
1.2D + 1.0Ev + 1.0Eh Normal Seismic	335.84	0.1159	-0.0001	0.0515	0.0515
1.2D + 1.0Di + 1.0Wi 330° 29.24 mph Wind with 0.85" Radial Ice	160.00	0.0349	0.0082	0.0258	0.0271
1.2D + 1.0Di + 1.0Wi 330° 29.24 mph Wind with 0.85" Radial Ice	216.00	0.0437	0.0074	0.0118	0.0139
1.2D + 1.0Di + 1.0Wi 330° 29.24 mph Wind with 0.85" Radial Ice	300.27	0.1115	-0.0020	0.0651	0.0652
1.2D + 1.0Di + 1.0Wi 330° 29.24 mph Wind with 0.85" Radial Ice	304.16	0.115	-0.0029	0.0524	0.0525
1.2D + 1.0Di + 1.0Wi 330° 29.24 mph Wind with 0.85" Radial Ice	315.84	0.1245	-0.0052	0.0487	0.049
1.2D + 1.0Di + 1.0Wi 330° 29.24 mph Wind with 0.85" Radial Ice	319.73	0.1272	-0.0047	0.0287	0.0291
1.2D + 1.0Di + 1.0Wi 330° 29.24 mph Wind with 0.85" Radial Ice	335.84	0.1385	-0.0042	0.0446	0.0448
1.2D + 1.0Di + 1.0Wi 300° 29.24 mph Wind with 0.85" Radial Ice	160.00	0.0414	-0.0034	0.0342	0.0343
1.2D + 1.0Di + 1.0Wi 300° 29.24 mph Wind with 0.85" Radial Ice	216.00	0.057	-0.0056	0.0190	0.0196
1.2D + 1.0Di + 1.0Wi 300° 29.24 mph Wind with 0.85" Radial Ice	300.27	0.1427	-0.0322	0.0706	0.0776
1.2D + 1.0Di + 1.0Wi 300° 29.24 mph Wind with 0.85" Radial Ice	304.16	0.1467	-0.0338	0.0570	0.0663
1.2D + 1.0Di + 1.0Wi 300° 29.24 mph Wind with 0.85" Radial Ice	315.84	0.1573	-0.0379	0.0507	0.0631
1.2D + 1.0Di + 1.0Wi 300° 29.24 mph Wind with 0.85" Radial Ice	319.73	0.1603	-0.0378	0.0317	0.0491
1.2D + 1.0Di + 1.0Wi 300° 29.24 mph Wind with 0.85" Radial Ice	335.84	0.1726	-0.0380	0.0478	0.0611
1.2D + 1.0Di + 1.0Wi 240° 29.24 mph Wind with 0.85" Radial Ice	160.00	0.0347	-0.0034	0.0409	0.041
1.2D + 1.0Di + 1.0Wi 240° 29.24 mph Wind with 0.85" Radial Ice	216.00	0.0546	-0.0037	0.0253	0.0255
1.2D + 1.0Di + 1.0Wi 240° 29.24 mph Wind with 0.85" Radial Ice	300.27	0.1435	-0.0158	0.0647	0.0665
1.2D + 1.0Di + 1.0Wi 240° 29.24 mph Wind with 0.85" Radial Ice	304.16	0.1471	-0.0165	0.0509	0.0535
1.2D + 1.0Di + 1.0Wi 240° 29.24 mph Wind with 0.85" Radial Ice	315.84	0.1566	-0.0183	0.0422	0.046
1.2D + 1.0Di + 1.0Wi 240° 29.24 mph Wind with 0.85" Radial Ice	319.73	0.1591	-0.0182	0.0236	0.0296
1.2D + 1.0Di + 1.0Wi 240° 29.24 mph Wind with 0.85" Radial Ice	335.84	0.1693	-0.0180	0.0389	0.0428
1.2D + 1.0Di + 1.0Wi 210° 29.24 mph Wind with 0.85" Radial Ice	160.00	0.0349	0.0084	0.0479	0.0485
1.2D + 1.0Di + 1.0Wi 210° 29.24 mph Wind with 0.85" Radial Ice	216.00	0.0657	0.0106	0.0361	0.0374
1.2D + 1.0Di + 1.0Wi 210° 29.24 mph Wind with 0.85" Radial Ice	300.27	0.1694	0.0271	0.0724	0.0773
1.2D + 1.0Di + 1.0Wi 210° 29.24 mph Wind with 0.85" Radial Ice	304.16	0.1737	0.0278	0.0587	0.065
1.2D + 1.0Di + 1.0Wi 210° 29.24 mph Wind with 0.85" Radial Ice	315.84	0.1848	0.0294	0.0521	0.0595
1.2D + 1.0Di + 1.0Wi 210° 29.24 mph Wind with 0.85" Radial Ice	319.73	0.1878	0.0298	0.0314	0.0433
1.2D + 1.0Di + 1.0Wi 210° 29.24 mph Wind with 0.85" Radial Ice	335.84	0.2002	0.0306	0.0463	0.0555
1.2D + 1.0Di + 1.0Wi 180° 29.24 mph Wind with 0.85" Radial Ice	160.00	0.0366	0.0003	0.0526	0.0526
1.2D + 1.0Di + 1.0Wi 180° 29.24 mph Wind with 0.85" Radial Ice	216.00	0.0731	0.0022	0.0407	0.0408
1.2D + 1.0Di + 1.0Wi 180° 29.24 mph Wind with 0.85" Radial Ice	300.27	0.1839	0.0167	0.0776	0.0794
1.2D + 1.0Di + 1.0Wi 180° 29.24 mph Wind with 0.85" Radial Ice	304.16	0.1885	0.0177	0.0640	0.0664
1.2D + 1.0Di + 1.0Wi 180° 29.24 mph Wind with 0.85" Radial Ice	315.84	0.2005	0.0199	0.0581	0.0613
1.2D + 1.0Di + 1.0Wi 180° 29.24 mph Wind with 0.85" Radial Ice	319.73	0.2039	0.0199	0.0350	0.0401
1.2D + 1.0Di + 1.0Wi 180° 29.24 mph Wind with 0.85" Radial Ice	335.84	0.2176	0.0201	0.0515	0.0553
1.2D + 1.0Di + 1.0Wi 120° 29.24 mph Wind with 0.85" Radial Ice	160.00	0.0138	0.0035	0.0437	0.0438
1.2D + 1.0Di + 1.0Wi 120° 29.24 mph Wind with 0.85" Radial Ice	216.00	0.0397	0.0056	0.0284	0.029
1.2D + 1.0Di + 1.0Wi 120° 29.24 mph Wind with 0.85" Radial Ice	300.27	0.1271	0.0321	0.0659	0.0733
1.2D + 1.0Di + 1.0Wi 120° 29.24 mph Wind with 0.85" Radial Ice	304.16	0.1308	0.0337	0.0525	0.0623
1.2D + 1.0Di + 1.0Wi 120° 29.24 mph Wind with 0.85" Radial Ice	315.84	0.1404	0.0378	0.0450	0.0587
1.2D + 1.0Di + 1.0Wi 120° 29.24 mph Wind with 0.85" Radial Ice	319.73	0.143	0.0377	0.0255	0.0455
1.2D + 1.0Di + 1.0Wi 120° 29.24 mph Wind with 0.85" Radial Ice	335.84	0.1538	0.0379	0.0422	0.0567
1.2D + 1.0Di + 1.0Wi 90° 29.24 mph Wind with 0.85" Radial Ice	160.00	0.0093	0.0138	0.0384	0.0406
1.2D + 1.0Di + 1.0Wi 90° 29.24 mph Wind with 0.85" Radial Ice	216.00	0.0288	0.0164	0.0246	0.0292
1.2D + 1.0Di + 1.0Wi 90° 29.24 mph Wind with 0.85" Radial Ice	300.27	0.1186	0.0539	0.0692	0.0878
1.2D + 1.0Di + 1.0Wi 90° 29.24 mph Wind with 0.85" Radial Ice	304.16	0.1226	0.0558	0.0561	0.0791
1.2D + 1.0Di + 1.0Wi 90° 29.24 mph Wind with 0.85" Radial Ice	315.84	0.1333	0.0604	0.0492	0.0776
1.2D + 1.0Di + 1.0Wi 90° 29.24 mph Wind with 0.85" Radial Ice	319.73	0.1362	0.0609	0.0317	0.0686
1.2D + 1.0Di + 1.0Wi 90° 29.24 mph Wind with 0.85" Radial Ice	335.84	0.1487	0.0616	0.0479	0.078
1.2D + 1.0Di + 1.0Wi 60° 29.24 mph Wind with 0.85" Radial Ice	160.00	0.0197	0.0067	0.0320	0.0326
1.2D + 1.0Di + 1.0Wi 60° 29.24 mph Wind with 0.85" Radial Ice	216.00	0.0319	0.0054	0.0240	0.0244

ASSET: 310370, Mineral
CUSTOMER: VERIZON WIRELESS

CODE: ANSI/TIA-222-H
PROJECT: 14921176_C3_03

DEFLECTIONS AND ROTATIONS					
Load Case	Elevation (ft)	Deflection (ft)	Twist (deg)	Sway (deg)	Resultant (deg)
1.2D + 1.0Di + 1.0Wi 60° 29.24 mph Wind with 0.85" Radial Ice	300.27	0.1223	0.0184	0.0731	0.0754
1.2D + 1.0Di + 1.0Wi 60° 29.24 mph Wind with 0.85" Radial Ice	304.16	0.1267	0.0192	0.0614	0.0643
1.2D + 1.0Di + 1.0Wi 60° 29.24 mph Wind with 0.85" Radial Ice	315.84	0.1384	0.0211	0.0565	0.0602
1.2D + 1.0Di + 1.0Wi 60° 29.24 mph Wind with 0.85" Radial Ice	319.73	0.1418	0.0209	0.0367	0.0422
1.2D + 1.0Di + 1.0Wi 60° 29.24 mph Wind with 0.85" Radial Ice	335.84	0.156	0.0208	0.0542	0.0581
1.2D + 1.0Di + 1.0Wi Normal 29.24 mph Wind with 0.85" Radial Ice	160.00	0.0222	0.0005	0.0135	0.0135
1.2D + 1.0Di + 1.0Wi Normal 29.24 mph Wind with 0.85" Radial Ice	216.00	0.0175	-0.0020	0.0041	0.0043
1.2D + 1.0Di + 1.0Wi Normal 29.24 mph Wind with 0.85" Radial Ice	300.27	0.0802	-0.0162	0.0610	0.0631
1.2D + 1.0Di + 1.0Wi Normal 29.24 mph Wind with 0.85" Radial Ice	304.16	0.0837	-0.0171	0.0487	0.0516
1.2D + 1.0Di + 1.0Wi Normal 29.24 mph Wind with 0.85" Radial Ice	315.84	0.093	-0.0194	0.0463	0.0502
1.2D + 1.0Di + 1.0Wi Normal 29.24 mph Wind with 0.85" Radial Ice	319.73	0.0956	-0.0193	0.0241	0.0309
1.2D + 1.0Di + 1.0Wi Normal 29.24 mph Wind with 0.85" Radial Ice	335.84	0.1065	-0.0196	0.0419	0.0462
1.2D + 1.0W 330° 108.19 mph Wind with No Ice	160.00	0.2412	0.0021	0.2397	0.2397
1.2D + 1.0W 330° 108.19 mph Wind with No Ice	216.00	0.542	-0.0290	0.4562	0.4571
1.2D + 1.0W 330° 108.19 mph Wind with No Ice	300.27	2.0935	-0.7375	1.3816	1.5656
1.2D + 1.0W 330° 108.19 mph Wind with No Ice	304.16	2.1788	-0.7536	1.2291	1.4378
1.2D + 1.0W 330° 108.19 mph Wind with No Ice	315.84	2.4259	-0.7753	1.2158	1.442
1.2D + 1.0W 330° 108.19 mph Wind with No Ice	319.73	2.5011	-0.7295	1.0551	1.2827
1.2D + 1.0W 330° 108.19 mph Wind with No Ice	335.84	2.8275	-0.7190	1.1936	1.3935
1.2D + 1.0W 300° 108.19 mph Wind with No Ice	160.00	0.2739	-0.0339	0.2547	0.2569
1.2D + 1.0W 300° 108.19 mph Wind with No Ice	216.00	0.5107	-0.0559	0.2904	0.2949
1.2D + 1.0W 300° 108.19 mph Wind with No Ice	300.27	1.5146	-0.6266	0.8465	1.0532
1.2D + 1.0W 300° 108.19 mph Wind with No Ice	304.16	1.5654	-0.6428	0.7103	0.958
1.2D + 1.0W 300° 108.19 mph Wind with No Ice	315.84	1.7061	-0.6797	0.6462	0.9362
1.2D + 1.0W 300° 108.19 mph Wind with No Ice	319.73	1.7448	-0.6757	0.4793	0.8274
1.2D + 1.0W 300° 108.19 mph Wind with No Ice	335.84	1.9206	-0.6745	0.6514	0.9377
1.2D + 1.0W 240° 108.19 mph Wind with No Ice	160.00	0.2026	-0.0164	0.2182	0.2188
1.2D + 1.0W 240° 108.19 mph Wind with No Ice	216.00	0.5578	-0.0277	0.5463	0.547
1.2D + 1.0W 240° 108.19 mph Wind with No Ice	300.27	2.4527	-0.2700	1.6702	1.6906
1.2D + 1.0W 240° 108.19 mph Wind with No Ice	304.16	2.5578	-0.2799	1.5105	1.5341
1.2D + 1.0W 240° 108.19 mph Wind with No Ice	315.84	2.8639	-0.2937	1.4768	1.5048
1.2D + 1.0W 240° 108.19 mph Wind with No Ice	319.73	2.9614	-0.2939	1.3331	1.3651
1.2D + 1.0W 240° 108.19 mph Wind with No Ice	335.84	3.3688	-0.2895	1.4740	1.502
1.2D + 1.0W 210° 108.19 mph Wind with No Ice	160.00	0.2548	0.0271	0.2563	0.2575
1.2D + 1.0W 210° 108.19 mph Wind with No Ice	216.00	0.5866	0.0285	0.4933	0.4936
1.2D + 1.0W 210° 108.19 mph Wind with No Ice	300.27	2.2174	-0.2757	1.4453	1.4712
1.2D + 1.0W 210° 108.19 mph Wind with No Ice	304.16	2.3068	-0.2764	1.2924	1.3215
1.2D + 1.0W 210° 108.19 mph Wind with No Ice	315.84	2.5664	-0.2572	1.2697	1.2955
1.2D + 1.0W 210° 108.19 mph Wind with No Ice	319.73	2.646	-0.2120	1.1175	1.1374
1.2D + 1.0W 210° 108.19 mph Wind with No Ice	335.84	2.9899	-0.2004	1.2561	1.272
1.2D + 1.0W 180° 108.19 mph Wind with No Ice	160.00	0.289	0.0165	0.2726	0.2731
1.2D + 1.0W 180° 108.19 mph Wind with No Ice	216.00	0.5535	0.0314	0.3250	0.3261
1.2D + 1.0W 180° 108.19 mph Wind with No Ice	300.27	1.6278	0.3653	0.9040	0.975
1.2D + 1.0W 180° 108.19 mph Wind with No Ice	304.16	1.6827	0.3749	0.7713	0.8575
1.2D + 1.0W 180° 108.19 mph Wind with No Ice	315.84	1.8361	0.3977	0.7556	0.8528
1.2D + 1.0W 180° 108.19 mph Wind with No Ice	319.73	1.8822	0.3959	0.5518	0.6762
1.2D + 1.0W 180° 108.19 mph Wind with No Ice	335.84	2.0758	0.3968	0.7140	0.8169
1.2D + 1.0W 120° 108.19 mph Wind with No Ice	160.00	0.1956	0.0341	0.2216	0.2241
1.2D + 1.0W 120° 108.19 mph Wind with No Ice	216.00	0.5586	0.0609	0.5575	0.5608
1.2D + 1.0W 120° 108.19 mph Wind with No Ice	300.27	2.4815	0.5458	1.6886	1.7721
1.2D + 1.0W 120° 108.19 mph Wind with No Ice	304.16	2.5881	0.5650	1.5307	1.6268
1.2D + 1.0W 120° 108.19 mph Wind with No Ice	315.84	2.8986	0.6016	1.4954	1.6095
1.2D + 1.0W 120° 108.19 mph Wind with No Ice	319.73	2.9973	0.6012	1.3537	1.4812
1.2D + 1.0W 120° 108.19 mph Wind with No Ice	335.84	3.4101	0.5973	1.4935	1.6077
1.2D + 1.0W 90° 108.19 mph Wind with No Ice	160.00	0.234	0.0594	0.2474	0.2539
1.2D + 1.0W 90° 108.19 mph Wind with No Ice	216.00	0.5533	0.0748	0.4838	0.4881
1.2D + 1.0W 90° 108.19 mph Wind with No Ice	300.27	2.1393	0.1332	1.4016	1.407
1.2D + 1.0W 90° 108.19 mph Wind with No Ice	304.16	2.2271	0.1486	1.2627	1.2705
1.2D + 1.0W 90° 108.19 mph Wind with No Ice	315.84	2.4815	0.1913	1.2141	1.2285

ASSET: 310370, Mineral
CUSTOMER: VERIZON WIRELESS

CODE: ANSI/TIA-222-H
PROJECT: 14921176_C3_03

DEFLECTIONS AND ROTATIONS					
Load Case	Elevation (ft)	Deflection (ft)	Twist (deg)	Sway (deg)	Resultant (deg)
1.2D + 1.0W 90° 108.19 mph Wind with No Ice	319.73	2.5616	0.2373	1.0902	1.1141
1.2D + 1.0W 90° 108.19 mph Wind with No Ice	335.84	2.8977	0.2444	1.2261	1.2487
1.2D + 1.0W 60° 108.19 mph Wind with No Ice	160.00	0.2705	0.0204	0.2615	0.2623
1.2D + 1.0W 60° 108.19 mph Wind with No Ice	216.00	0.5183	0.0292	0.3053	0.3064
1.2D + 1.0W 60° 108.19 mph Wind with No Ice	300.27	1.5268	0.2623	0.8497	0.8893
1.2D + 1.0W 60° 108.19 mph Wind with No Ice	304.16	1.5783	0.2694	0.7218	0.7704
1.2D + 1.0W 60° 108.19 mph Wind with No Ice	315.84	1.7213	0.2865	0.6767	0.733
1.2D + 1.0W 60° 108.19 mph Wind with No Ice	319.73	1.764	0.2830	0.5106	0.5815
1.2D + 1.0W 60° 108.19 mph Wind with No Ice	335.84	1.9441	0.2796	0.6667	0.7229
1.2D + 1.0W Normal 108.19 mph Wind with No Ice	160.00	0.2068	-0.0154	0.2157	0.2162
1.2D + 1.0W Normal 108.19 mph Wind with No Ice	216.00	0.55	-0.0349	0.5264	0.5271
1.2D + 1.0W Normal 108.19 mph Wind with No Ice	300.27	2.3866	-0.3193	1.6197	1.6493
1.2D + 1.0W Normal 108.19 mph Wind with No Ice	304.16	2.4886	-0.3315	1.4631	1.4974
1.2D + 1.0W Normal 108.19 mph Wind with No Ice	315.84	2.7852	-0.3523	1.4628	1.502
1.2D + 1.0W Normal 108.19 mph Wind with No Ice	319.73	2.8796	-0.3528	1.2756	1.3235
1.2D + 1.0W Normal 108.19 mph Wind with No Ice	335.84	3.2742	-0.3525	1.4287	1.4707

ASSET: 310370, Mineral
CUSTOMER: VERIZON WIRELESS

CODE: ANSI/TIA-222-H
PROJECT: 14921176_C3_03

DETAILED REACTIONS

Load Case	Radius (ft)	Elevation (ft)	Azimuth (deg)	Node	*(-) Uplift and (+) Down		
					FX* (kip)	FY* (kip)	FZ* (kip)
1.2D + 1.0W Normal	0.00	0.00		1	-0.02	103.84	-0.61
	125.00	5.00	0	A1	0.00	-1.55	1.61
	125.00	11.00	240	A1a	-7.71	-7.10	-4.77
	115.00	17.00	120	A1b	7.72	-7.24	-4.76
	260.00	11.00	0	A2	0.00	-1.34	0.99
	267.00	19.00	240	A2a	-19.24	-21.46	-12.18
	260.00	26.00	120	A2b	19.27	-21.48	-12.18
1.2D + 1.0W 60°	0.00	0.00		1	-0.43	98.73	-0.23
	125.00	5.00	0	A1	-0.27	-3.80	4.31
	125.00	11.00	240	A1a	-10.83	-10.00	-6.26
	115.00	17.00	120	A1b	3.58	-3.61	-2.37
	260.00	11.00	0	A2	-0.81	-6.53	6.61
	267.00	19.00	240	A2a	-23.65	-25.52	-13.66
	260.00	26.00	120	A2b	5.38	-6.17	-4.03
1.2D + 1.0W 90°	0.00	0.00		1	-0.55	102.66	0.06
	125.00	5.00	0	A1	-0.34	-5.39	6.37
	125.00	11.00	240	A1a	-9.89	-9.00	-5.56
	115.00	17.00	120	A1b	2.05	-2.20	-1.32
	260.00	11.00	0	A2	-1.07	-14.95	15.00
	267.00	19.00	240	A2a	-23.50	-25.23	-13.00
	260.00	26.00	120	A2b	1.93	-2.47	-1.54
1.2D + 1.0W 120°	0.00	0.00		1	-0.56	104.25	0.32
	125.00	5.00	0	A1	-0.28	-7.36	8.85
	125.00	11.00	240	A1a	-7.80	-6.94	-4.19
	115.00	17.00	120	A1b	1.27	-1.38	-0.74
	260.00	11.00	0	A2	-0.93	-22.54	22.56
	267.00	19.00	240	A2a	-19.97	-21.25	-10.46
	260.00	26.00	120	A2b	0.67	-1.03	-0.39
1.2D + 1.0W 180°	0.00	0.00		1	-0.01	99.79	0.48
	125.00	5.00	0	A1	0.00	-10.47	12.40
	125.00	11.00	240	A1a	-3.78	-3.49	-1.87
	115.00	17.00	120	A1b	3.76	-3.54	-1.87
	260.00	11.00	0	A2	0.00	-27.00	27.32
	267.00	19.00	240	A2a	-6.09	-6.08	-2.58
	260.00	26.00	120	A2b	6.10	-6.07	-2.60
1.2D + 1.0W 210°	0.00	0.00		1	0.30	103.61	0.44
	125.00	5.00	0	A1	0.13	-9.47	11.29
	125.00	11.00	240	A1a	-2.17	-2.13	-1.10
	115.00	17.00	120	A1b	5.64	-5.12	-2.89
	260.00	11.00	0	A2	0.50	-26.81	26.98
	267.00	19.00	240	A2a	-2.33	-2.51	-0.91
	260.00	26.00	120	A2b	13.59	-14.15	-6.62
1.2D + 1.0W 240°	0.00	0.00		1	0.54	104.44	0.33
	125.00	5.00	0	A1	0.28	-7.38	8.89
	125.00	11.00	240	A1a	-1.32	-1.36	-0.76
	115.00	17.00	120	A1b	7.84	-7.09	-4.22
	260.00	11.00	0	A2	0.93	-22.55	22.58
	267.00	19.00	240	A2a	-0.70	-1.07	-0.41
	260.00	26.00	120	A2b	20.00	-21.29	-10.49
1.2D + 1.0W 300°	0.00	0.00		1	0.40	99.52	-0.23
	125.00	5.00	0	A1	0.27	-3.91	4.46
	125.00	11.00	240	A1a	-3.72	-3.66	-2.46
	115.00	17.00	120	A1b	10.97	-10.30	-6.33
	260.00	11.00	0	A2	0.81	-6.64	6.73
	267.00	19.00	240	A2a	-5.47	-6.29	-4.10
	260.00	26.00	120	A2b	23.79	-25.66	-13.74
1.2D + 1.0W 330°	0.00	0.00		1	0.20	102.89	-0.48
	125.00	5.00	0	A1	0.13	-2.43	2.62
	125.00	11.00	240	A1a	-5.52	-5.21	-3.57

ASSET: 310370, Mineral
CUSTOMER: VERIZON WIRELESS

CODE: ANSI/TIA-222-H
PROJECT: 14921176_C3_03

DETAILED REACTIONS

Load Case	Radius (ft)	Elevation (ft)	Azimuth (deg)	Node	*(-) Uplift and (+) Down		
					FX* (kip)	FY* (kip)	FZ* (kip)
1.2D + 1.0Di + 1.0Wi Normal	115.00	17.00	120	A1b	9.94	-9.33	-5.88
	260.00	11.00	0	A2	0.39	-2.81	2.60
	267.00	19.00	240	A2a	-12.65	-14.30	-8.54
	260.00	26.00	120	A2b	23.23	-25.45	-13.97
	0.00	0.00		1	-0.03	140.57	-0.07
	125.00	5.00	0	A1	0.00	-5.47	7.25
	125.00	11.00	240	A1a	-7.49	-6.23	-4.44
	115.00	17.00	120	A1b	7.48	-6.35	-4.43
	260.00	11.00	0	A2	0.00	-9.38	11.11
	267.00	19.00	240	A2a	-12.18	-11.37	-7.36
1.2D + 1.0Di + 1.0Wi 60°	260.00	26.00	120	A2b	12.20	-11.39	-7.36
	0.00	0.00		1	-0.09	139.81	-0.03
	125.00	5.00	0	A1	-0.10	-5.81	7.67
	125.00	11.00	240	A1a	-7.88	-6.56	-4.55
	115.00	17.00	120	A1b	6.55	-5.50	-3.89
	260.00	11.00	0	A2	-0.29	-10.14	11.93
	267.00	19.00	240	A2a	-12.99	-12.07	-7.50
	260.00	26.00	120	A2b	10.27	-9.56	-6.25
	0.00	0.00		1	-0.10	140.28	0.02
	125.00	5.00	0	A1	-0.12	-6.24	8.19
1.2D + 1.0Di + 1.0Wi 90°	125.00	11.00	240	A1a	-7.82	-6.47	-4.46
	115.00	17.00	120	A1b	6.30	-5.25	-3.69
	260.00	11.00	0	A2	-0.35	-11.12	13.05
	267.00	19.00	240	A2a	-12.93	-11.91	-7.31
	260.00	26.00	120	A2b	9.79	-8.99	-5.80
	0.00	0.00		1	-0.09	140.74	0.05
	125.00	5.00	0	A1	-0.10	-6.67	8.71
	125.00	11.00	240	A1a	-7.57	-6.21	-4.26
	115.00	17.00	120	A1b	6.22	-5.16	-3.59
	260.00	11.00	0	A2	-0.29	-12.10	14.17
1.2D + 1.0Di + 1.0Wi 120°	267.00	19.00	240	A2a	-12.47	-11.37	-6.86
	260.00	26.00	120	A2b	9.71	-8.82	-5.60
	0.00	0.00		1	-0.03	140.05	0.08
	125.00	5.00	0	A1	0.00	-7.01	9.12
	125.00	11.00	240	A1a	-6.66	-5.41	-3.73
	115.00	17.00	120	A1b	6.64	-5.51	-3.73
	260.00	11.00	0	A2	0.00	-12.88	14.99
	267.00	19.00	240	A2a	-10.53	-9.53	-5.75
	260.00	26.00	120	A2b	10.54	-9.54	-5.76
	0.00	0.00		1	0.02	140.42	0.07
1.2D + 1.0Di + 1.0Wi 180°	125.00	5.00	0	A1	0.05	-6.93	9.03
	125.00	11.00	240	A1a	-6.36	-5.15	-3.62
	115.00	17.00	120	A1b	7.11	-5.92	-3.97
	260.00	11.00	0	A2	0.14	-12.70	14.82
	267.00	19.00	240	A2a	-9.89	-8.96	-5.55
	260.00	26.00	120	A2b	11.55	-10.47	-6.26
	0.00	0.00		1	0.04	140.80	0.05
	125.00	5.00	0	A1	0.10	-6.67	8.73
	125.00	11.00	240	A1a	-6.25	-5.07	-3.61
	115.00	17.00	120	A1b	7.57	-6.35	-4.26
1.2D + 1.0Di + 1.0Wi 240°	260.00	11.00	0	A2	0.29	-12.10	14.17
	267.00	19.00	240	A2a	-9.70	-8.82	-5.60
	260.00	26.00	120	A2b	12.48	-11.40	-6.88
	0.00	0.00		1	0.03	139.93	-0.02
	125.00	5.00	0	A1	0.10	-5.83	7.69
	125.00	11.00	240	A1a	-6.59	-5.43	-3.92
	115.00	17.00	120	A1b	7.90	-6.70	-4.56
	260.00	11.00	0	A2	0.29	-10.15	11.93
	267.00	19.00	240	A2a	-10.26	-9.55	-6.26

ASSET: 310370, Mineral
CUSTOMER: VERIZON WIRELESS

CODE: ANSI/TIA-222-H
PROJECT: 14921176_C3_03

DETAILED REACTIONS

Load Case	Radius (ft)	Elevation (ft)	Azimuth (deg)	Node	*(-) Uplift and (+) Down		
					FX* (kip)	FY* (kip)	FZ* (kip)
1.2D + 1.0Di + 1.0Wi 330°	260.00	26.00	120	A2b	13.04	-12.12	-7.52
	0.00	0.00		1	0.00	140.24	-0.05
	125.00	5.00	0	A1	0.05	-5.56	7.36
	125.00	11.00	240	A1a	-7.03	-5.83	-4.20
	115.00	17.00	120	A1b	7.79	-6.61	-4.55
	260.00	11.00	0	A2	0.14	-9.56	11.29
	267.00	19.00	240	A2a	-11.20	-10.48	-6.88
1.2D + 1.0Ev + 1.0Eh Normal	260.00	26.00	120	A2b	12.81	-11.93	-7.55
	0.00	0.00		1	-0.01	76.87	0.01
	125.00	5.00	0	A1	0.00	-4.49	5.55
	125.00	11.00	240	A1a	-4.86	-4.28	-2.81
	115.00	17.00	120	A1b	4.85	-4.36	-2.80
	260.00	11.00	0	A2	0.00	-5.55	6.07
	267.00	19.00	240	A2a	-6.28	-6.43	-3.63
1.2D + 1.0Ev + 1.0Eh 60°	260.00	26.00	120	A2b	6.30	-6.44	-3.64
	0.00	0.00		1	-0.01	76.83	0.01
	125.00	5.00	0	A1	0.00	-4.51	5.57
	125.00	11.00	240	A1a	-4.88	-4.31	-2.82
	115.00	17.00	120	A1b	4.81	-4.31	-2.78
	260.00	11.00	0	A2	0.00	-5.96	6.44
	267.00	19.00	240	A2a	-6.60	-6.80	-3.81
1.2D + 1.0Ev + 1.0Eh 90°	260.00	26.00	120	A2b	5.61	-5.62	-3.24
	0.00	0.00		1	-0.01	76.84	0.01
	125.00	5.00	0	A1	0.00	-4.54	5.59
	125.00	11.00	240	A1a	-4.88	-4.30	-2.81
	115.00	17.00	120	A1b	4.79	-4.29	-2.77
	260.00	11.00	0	A2	0.00	-6.36	6.82
	267.00	19.00	240	A2a	-6.51	-6.69	-3.75
1.2D + 1.0Ev + 1.0Eh 120°	260.00	26.00	120	A2b	5.37	-5.33	-3.10
	0.00	0.00		1	-0.01	76.85	0.01
	125.00	5.00	0	A1	0.00	-4.56	5.62
	125.00	11.00	240	A1a	-4.86	-4.28	-2.80
	115.00	17.00	120	A1b	4.79	-4.28	-2.76
	260.00	11.00	0	A2	0.00	-6.78	7.20
	267.00	19.00	240	A2a	-6.26	-6.40	-3.61
1.2D + 1.0Ev + 1.0Eh 180°	260.00	26.00	120	A2b	5.28	-5.23	-3.05
	0.00	0.00		1	-0.01	76.87	0.01
	125.00	5.00	0	A1	0.00	-4.59	5.64
	125.00	11.00	240	A1a	-4.81	-4.23	-2.78
	115.00	17.00	120	A1b	4.81	-4.30	-2.78
	260.00	11.00	0	A2	0.00	-7.22	7.60
	267.00	19.00	240	A2a	-5.59	-5.60	-3.22
1.2D + 1.0Ev + 1.0Eh 210°	260.00	26.00	120	A2b	5.60	-5.60	-3.23
	0.00	0.00		1	-0.01	76.89	0.01
	125.00	5.00	0	A1	0.00	-4.58	5.63
	125.00	11.00	240	A1a	-4.80	-4.22	-2.77
	115.00	17.00	120	A1b	4.83	-4.33	-2.79
	260.00	11.00	0	A2	0.00	-7.09	7.48
	267.00	19.00	240	A2a	-5.36	-5.33	-3.10
1.2D + 1.0Ev + 1.0Eh 240°	260.00	26.00	120	A2b	5.94	-6.01	-3.43
	0.00	0.00		1	-0.01	76.90	0.01
	125.00	5.00	0	A1	0.00	-4.56	5.62
	125.00	11.00	240	A1a	-4.79	-4.21	-2.77
	115.00	17.00	120	A1b	4.85	-4.35	-2.80
	260.00	11.00	0	A2	0.00	-6.79	7.21
	267.00	19.00	240	A2a	-5.28	-5.24	-3.05
1.2D + 1.0Ev + 1.0Eh 300°	260.00	26.00	120	A2b	6.28	-6.42	-3.63
	0.00	0.00		1	-0.01	76.88	0.01
	125.00	5.00	0	A1	0.00	-4.51	5.57

ASSET: 310370, Mineral
CUSTOMER: VERIZON WIRELESS

CODE: ANSI/TIA-222-H
PROJECT: 14921176_C3_03

DETAILED REACTIONS

Load Case	Radius (ft)	Elevation (ft)	Azimuth (deg)	Node	*(-) Uplift and (+) Down		
					FX* (kip)	FY* (kip)	FZ* (kip)
1.2D + 1.0Ev + 1.0Eh 330°	125.00	11.00	240	A1a	-4.82	-4.23	-2.78
	115.00	17.00	120	A1b	4.88	-4.38	-2.82
	260.00	11.00	0	A2	0.00	-5.97	6.46
	267.00	19.00	240	A2a	-5.61	-5.63	-3.24
	260.00	26.00	120	A2b	6.63	-6.83	-3.82
	0.00	0.00		1	-0.01	76.88	0.01
	125.00	5.00	0	A1	0.00	-4.50	5.55
	125.00	11.00	240	A1a	-4.84	-4.26	-2.79
	115.00	17.00	120	A1b	4.87	-4.38	-2.81
	260.00	11.00	0	A2	0.00	-5.67	6.18
1.0D + 1.0W Service Normal	267.00	19.00	240	A2a	-5.94	-6.02	-3.43
	260.00	26.00	120	A2b	6.54	-6.72	-3.77
	0.00	0.00		1	-0.01	69.92	-0.19
	125.00	5.00	0	A1	0.00	-3.30	4.07
	125.00	11.00	240	A1a	-5.71	-5.10	-3.39
	115.00	17.00	120	A1b	5.71	-5.20	-3.39
	260.00	11.00	0	A2	0.00	-2.64	3.08
	267.00	19.00	240	A2a	-8.10	-8.47	-4.96
	260.00	26.00	120	A2b	8.12	-8.48	-4.97
	0.00	0.00		1	-0.17	70.83	-0.09
1.0D + 1.0W Service 60°	125.00	5.00	0	A1	-0.08	-4.01	4.91
	125.00	11.00	240	A1a	-6.44	-5.76	-3.72
	115.00	17.00	120	A1b	4.19	-3.82	-2.51
	260.00	11.00	0	A2	-0.25	-5.14	5.52
	267.00	19.00	240	A2a	-10.20	-10.69	-5.89
	260.00	26.00	120	A2b	4.69	-4.84	-2.99
	0.00	0.00		1	-0.20	70.54	0.01
	125.00	5.00	0	A1	-0.10	-4.65	5.70
	125.00	11.00	240	A1a	-6.25	-5.57	-3.57
	115.00	17.00	120	A1b	3.69	-3.35	-2.17
1.0D + 1.0W Service 90°	260.00	11.00	0	A2	-0.31	-7.06	7.50
	267.00	19.00	240	A2a	-9.71	-10.06	-5.47
	260.00	26.00	120	A2b	3.26	-3.20	-2.01
	0.00	0.00		1	-0.18	70.14	0.10
	125.00	5.00	0	A1	-0.08	-5.38	6.58
	125.00	11.00	240	A1a	-5.73	-5.05	-3.21
	115.00	17.00	120	A1b	3.45	-3.10	-1.99
	260.00	11.00	0	A2	-0.25	-8.98	9.47
	267.00	19.00	240	A2a	-8.33	-8.45	-4.52
	260.00	26.00	120	A2b	2.65	-2.42	-1.53
1.0D + 1.0W Service 120°	0.00	0.00		1	-0.01	71.05	0.19
	125.00	5.00	0	A1	0.00	-6.09	7.40
	125.00	11.00	240	A1a	-4.24	-3.72	-2.35
	115.00	17.00	120	A1b	4.23	-3.79	-2.35
	260.00	11.00	0	A2	0.00	-11.32	11.75
	267.00	19.00	240	A2a	-4.88	-4.79	-2.53
	260.00	26.00	120	A2b	4.88	-4.78	-2.54
	0.00	0.00		1	0.09	70.70	0.17
	125.00	5.00	0	A1	0.04	-5.89	7.19
	125.00	11.00	240	A1a	-3.72	-3.27	-2.10
1.0D + 1.0W Service 210°	115.00	17.00	120	A1b	4.96	-4.41	-2.75
	260.00	11.00	0	A2	0.12	-10.64	11.10
	267.00	19.00	240	A2a	-3.37	-3.20	-1.81
	260.00	26.00	120	A2b	6.65	-6.63	-3.49
	0.00	0.00		1	0.16	70.26	0.11
	125.00	5.00	0	A1	0.08	-5.39	6.60
	125.00	11.00	240	A1a	-3.48	-3.05	-2.01
	115.00	17.00	120	A1b	5.74	-5.15	-3.22
	260.00	11.00	0	A2	0.25	-8.99	9.48

ASSET: 310370, Mineral
CUSTOMER: VERIZON WIRELESS

CODE: ANSI/TIA-222-H
PROJECT: 14921176_C3_03

DETAILED REACTIONS							
Load Case	Radius (ft)	Elevation (ft)	Azimuth (deg)	Node	*(-) Uplift and (+) Down		
					FX* (kip)	FY* (kip)	FZ* (kip)
1.0D + 1.0W Service 300°	267.00	19.00	240	A2a	-2.67	-2.47	-1.54
	260.00	26.00	120	A2b	8.35	-8.47	-4.54
	0.00	0.00		1	0.15	71.10	-0.08
	125.00	5.00	0	A1	0.08	-4.04	4.94
	125.00	11.00	240	A1a	-4.23	-3.78	-2.54
	115.00	17.00	120	A1b	6.47	-5.90	-3.74
	260.00	11.00	0	A2	0.25	-5.17	5.56
	267.00	19.00	240	A2a	-4.71	-4.88	-3.00
	260.00	26.00	120	A2b	10.29	-10.79	-5.94
	0.00	0.00		1	0.08	70.64	-0.16
1.0D + 1.0W Service 330°	125.00	5.00	0	A1	0.04	-3.56	4.35
	125.00	11.00	240	A1a	-4.93	-4.40	-2.96
	115.00	17.00	120	A1b	6.27	-5.71	-3.66
	260.00	11.00	0	A2	0.12	-3.48	3.87
	267.00	19.00	240	A2a	-6.41	-6.72	-4.06
	260.00	26.00	120	A2b	9.67	-10.14	-5.72

MAXIMUM GUY ANCHOR REACTIONS				
Radius (ft)	Drop (ft)	Azimuth (deg)	Uplift (kip)	Shear (kip)
115.00	17.00	120	10.30	12.66
125.00	5.00	0	10.47	12.40
125.00	11.00	240	10.00	12.51
260.00	11.00	0	27.00	27.32
260.00	26.00	120	25.66	27.48
267.00	19.00	240	25.52	27.31

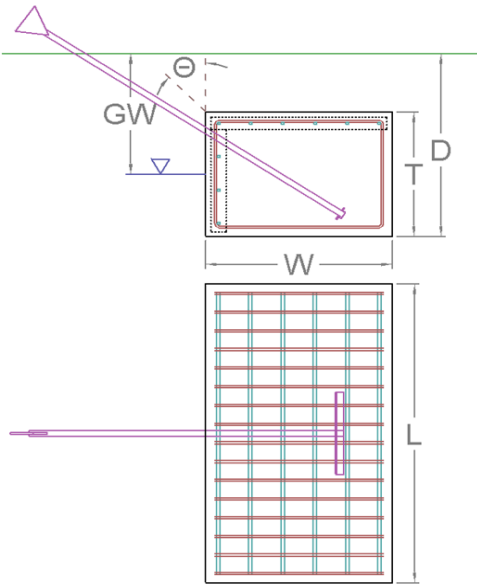
MAXIMUM REACTIONS SUMMARY		
Base / Anchor Group	Vertical Load <i>(Compression for Base; Uplift for Anchor)</i>	Horizontal Shear
Guyed – Pivot Base	140.80 (kip)	0.64 (kip)
Guyed Anchor - A1	10.47 (kip)	12.66 (kip)
Guyed Anchor - A2	27.00 (kip)	27.48 (kip)

GUY ANCHOR BLOCK FOUNDATION ANALYSIS (NODE A1 @ r = 125 ft)

APPLIED REACTIONS	
Uplift (k)	Shear (k)
10.47	12.40

FOUNDATION PARAMETERS			
Base Depth:	D	6.5	ft
Block Width:	W	6	ft
Block Length:	L	28	ft
Block Thickness:	T	6	ft
Concrete Compressive Strength:		3,000	psi
Top Rebar Quantity, Size, & Yield:		(5) #6 bars [60 ksi]	
Side Rebar Quantity, Size, & Yield:		(4) #6 bars [60 ksi]	
Anchor Rod Quantity & Shape:		(1) Solid Rod	
Anchor Rod Area (gross/net):		1.770 // 1.770	in ²
Anchor Rod Strength (fy/fu):		42 // 58	ksi

SOIL PARAMETERS			
Water Table Depth [BGL]:	GW	4	ft
Soil Unit Weight:		107	pcf
Friction Angle:		27	°
Cohesion:		0	psf
Ultimate Skin Friction		150	psf
Coefficient of Shear Friction:		0.3	
Uplift Pullout Angle:	θ	30	°
Uplift at ____ of Anchor:		Top	



SOIL STRENGTH ANALYSIS		
Uplift Strength Reduction Factor, Φ _u	Shear Strength Reduction Factor, Φ _v	Dead Load Factor
0.75	0.75	0.9

SOIL UPLIFT ANALYSIS			
Uplift Resistance from Skin Friction and Soil Shear (k)	Additional Uplift Resistance (k)	Uplift Capacity, ΦT _n (k)	Soil Uplift Usage, T _u / ΦT _n
32.17	0	145.10	7.2%

SOIL SHEAR ANALYSIS						
Skin Friction Resistance (k)	Normal Force Resistance (k)	Passive Pressure (psf)	Passive Pressure Resistance (k)	Additional Shear Resistance (k)	Shear Capacity, ΦV _n (k)	Soil Shear Usage, V _u / ΦV _n
8.25	33.03	997.27	167.54	0	156.62	7.9%

ANCHOR ROD STRENGTH ANALYSIS				
Yield Strength Reduction Factor, Φ _y	Tensile Strength Reduction Factor, Φ _t	Resultant Tensile Load, T _u (k)	Tensile Capacity, ΦT _n (k-ft)	Anchor Rod Tensile Usage, T _u / ΦT _n
0.8	0.65	16.2	59.47	27.3%

REINFORCING STEEL STRENGTH ANALYSIS

Strength Shear Reduction Factor, Φ_v	Strength Reduction Factor for Lateral Flexure, Φ_{BV}	Strength Reduction Factor for Vertical Flexure, Φ_{BT}	Compression Zone Factor, β_1
0.75	0.9	0.9	0.65

REINFORCING ONE WAY SHEAR ANALYSIS - SHEAR

One Way Shear due to Shear, V_u (k)	One Way Shear Capacity due to Shear, $\Phi_c V_n$ (k)	Rebar One Way Shear Usage, $V_u / \Phi_c V_n$
4.95	402.99	1.2% ✓

REINFORCING ONE WAY SHEAR ANALYSIS - UPLIFT

One Way Shear due to Uplift, V_u (k)	One Way Shear Capacity due to Uplift, $\Phi_c V_n$ (k)	Rebar One Way Shear Usage, $V_u / \Phi_c V_n$
4.18	402.99	1.0% ✓

REINFORCING FLEXURE ANALYSIS - SHEAR

Flexure Load, M_{uv} (k-ft)	Distance to steel, d_v (in)	Whitney Block, a_v (in)	Strain in Rebar, ϵ_t (in/in)	Flexural Capacity, $\Phi_{bv} M_{nv}$ (k-ft)	Rebar Flexural Usage, $M_{uv} / \Phi_{bv} M_{nv}$
43.40	68.125	0.575	0.2990	537.27	8.1% ✓

REINFORCING FLEXURE ANALYSIS - UPLIFT

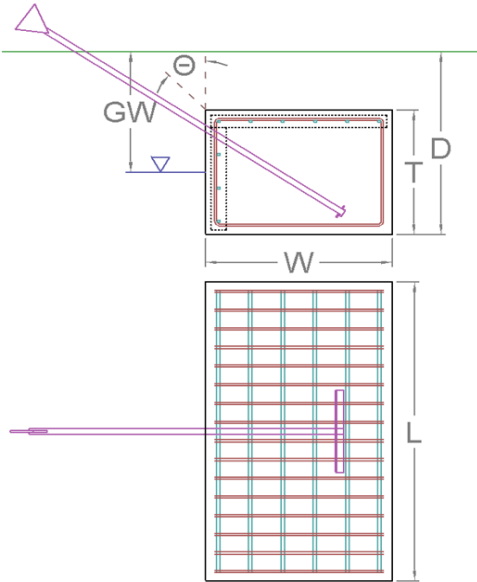
Flexure Load, M_{ut} (k-ft)	Depth to steel, d_t (in)	Whitney Block, a_t (in)	Strain in Rebar, ϵ_t (in/in)	Flexural Capacity, $\Phi_{bt} M_{nt}$ (k-ft)	Rebar Flexural Usage, $M_{ut} / \Phi_{bt} M_{nt}$
36.64	68.125	0.719	0.2386	670.88	5.5% ✓

GUY ANCHOR BLOCK FOUNDATION ANALYSIS (NODE A1a @ r = 125 ft)

APPLIED REACTIONS	
Uplift (k)	Shear (k)
10.00	12.51

FOUNDATION PARAMETERS			
Base Depth:	D	6.5	ft
Block Width:	W	6	ft
Block Length:	L	28	ft
Block Thickness:	T	6	ft
Concrete Compressive Strength:		3,000	psi
Top Rebar Quantity, Size, & Yield:		(5) #6 bars [60 ksi]	
Side Rebar Quantity, Size, & Yield:		(4) #6 bars [60 ksi]	
Anchor Rod Quantity & Shape:		(1) Solid Rod	
Anchor Rod Area (gross/net):		1.770 // 1.770	in ²
Anchor Rod Strength (fy//fu):		42 // 58	ksi

SOIL PARAMETERS			
Water Table Depth [BGL]:	GW	4	ft
Soil Unit Weight:		107	pcf
Friction Angle:		27	°
Cohesion:		0	psf
Ultimate Skin Friction		150	psf
Coefficient of Shear Friction:		0.3	
Uplift Pullout Angle:	θ	30	°
Uplift at ____ of Anchor:		Top	



SOIL STRENGTH ANALYSIS		
Uplift Strength Reduction Factor, Φ _u	Shear Strength Reduction Factor, Φ _v	Dead Load Factor
0.75	0.75	0.9

SOIL UPLIFT ANALYSIS			
Uplift Resistance from Skin Friction and Soil Shear (k)	Additional Uplift Resistance (k)	Uplift Capacity, ΦT _n (k)	Soil Uplift Usage, T _u / ΦT _n
31.94	0	144.94	6.9%

SOIL SHEAR ANALYSIS						
Skin Friction Resistance (k)	Normal Force Resistance (k)	Passive Pressure (psf)	Passive Pressure Resistance (k)	Additional Shear Resistance (k)	Shear Capacity, ΦV _n (k)	Soil Shear Usage, V _u / ΦV _n
8.43	33.17	997.27	167.54	0	156.86	8.0%

ANCHOR ROD STRENGTH ANALYSIS				
Yield Strength Reduction Factor, Φ _y	Tensile Strength Reduction Factor, Φ _t	Resultant Tensile Load, T _u (k)	Tensile Capacity, ΦT _n (k-ft)	Anchor Rod Tensile Usage, T _u / ΦT _n
0.8	0.65	16.0	59.47	26.9%

REINFORCING STEEL STRENGTH ANALYSIS

Strength Shear Reduction Factor, Φ_v	Strength Reduction Factor for Lateral Flexure, Φ_{BV}	Strength Reduction Factor for Vertical Flexure, Φ_{BT}	Compression Zone Factor, β_1
0.75	0.9	0.9	0.65

REINFORCING ONE WAY SHEAR ANALYSIS - SHEAR

One Way Shear due to Shear, V_u (k)	One Way Shear Capacity due to Shear, $\Phi_c V_n$ (k)	Rebar One Way Shear Usage, $V_u / \Phi_c V_n$
4.99	402.99	1.2%



REINFORCING ONE WAY SHEAR ANALYSIS - UPLIFT

One Way Shear due to Uplift, V_u (k)	One Way Shear Capacity due to Uplift, $\Phi_c V_n$ (k)	Rebar One Way Shear Usage, $V_u / \Phi_c V_n$
3.99	402.99	1.0%



REINFORCING FLEXURE ANALYSIS - SHEAR

Flexure Load, M_{uv} (k-ft)	Distance to steel, d_v (in)	Whitney Block, a_v (in)	Strain in Rebar, ϵ_t (in/in)	Flexural Capacity, $\Phi_{bv} M_{nv}$ (k-ft)	Rebar Flexural Usage, $M_{uv} / \Phi_{bv} M_{nv}$
43.78	68.125	0.575	0.2990	537.27	8.1%



REINFORCING FLEXURE ANALYSIS - UPLIFT

Flexure Load, M_{ut} (k-ft)	Depth to steel, d_t (in)	Whitney Block, a_t (in)	Strain in Rebar, ϵ_t (in/in)	Flexural Capacity, $\Phi_{bt} M_{nt}$ (k-ft)	Rebar Flexural Usage, $M_{ut} / \Phi_{bt} M_{nt}$
35.00	68.125	0.719	0.2386	670.88	5.2%

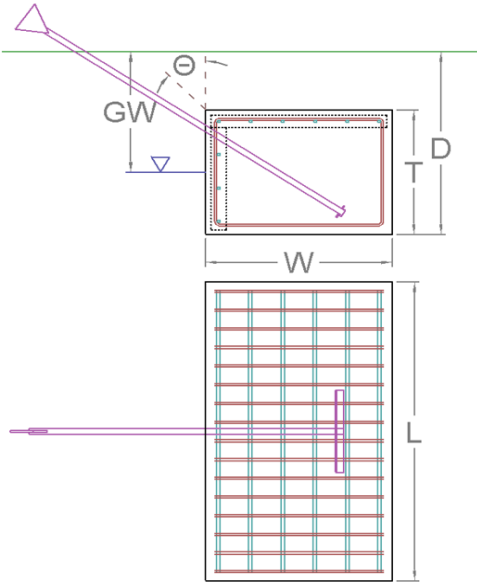


GUY ANCHOR BLOCK FOUNDATION ANALYSIS (NODE A1b @ r = 115 ft)

APPLIED REACTIONS	
Uplift (k)	Shear (k)
10.30	12.66

FOUNDATION PARAMETERS			
Base Depth:	D	6.5	ft
Block Width:	W	6	ft
Block Length:	L	28	ft
Block Thickness:	T	6	ft
Concrete Compressive Strength:		3,000	psi
Top Rebar Quantity, Size, & Yield:		(5) #6 bars [60 ksi]	
Side Rebar Quantity, Size, & Yield:		(4) #6 bars [60 ksi]	
Anchor Rod Quantity & Shape:		(1) Solid Rod	
Anchor Rod Area (gross/net):		1.770 // 1.770	in ²
Anchor Rod Strength (fy/fu):		42 // 58	ksi

SOIL PARAMETERS			
Water Table Depth [BGL]:	GW	4	ft
Soil Unit Weight:		107	pcf
Friction Angle:		27	°
Cohesion:		0	psf
Ultimate Skin Friction		150	psf
Coefficient of Shear Friction:		0.3	
Uplift Pullout Angle:	θ	30	°
Uplift at ____ of Anchor:		Top	



SOIL STRENGTH ANALYSIS		
Uplift Strength Reduction Factor, Φ _u	Shear Strength Reduction Factor, Φ _v	Dead Load Factor
0.75	0.75	0.9

SOIL UPLIFT ANALYSIS			
Uplift Resistance from Skin Friction and Soil Shear (k)	Additional Uplift Resistance (k)	Uplift Capacity, ΦT _n (k)	Soil Uplift Usage, T _u / ΦT _n
32.02	0	144.99	7.1%

SOIL SHEAR ANALYSIS						
Skin Friction Resistance (k)	Normal Force Resistance (k)	Passive Pressure (psf)	Passive Pressure Resistance (k)	Additional Shear Resistance (k)	Shear Capacity, ΦV _n (k)	Soil Shear Usage, V _u / ΦV _n
8.38	33.08	997.27	167.54	0	156.75	8.1%

ANCHOR ROD STRENGTH ANALYSIS				
Yield Strength Reduction Factor, Φ _y	Tensile Strength Reduction Factor, Φ _t	Resultant Tensile Load, T _u (k)	Tensile Capacity, ΦT _n (k-ft)	Anchor Rod Tensile Usage, T _u / ΦT _n
0.8	0.65	16.3	59.47	27.4%

REINFORCING STEEL STRENGTH ANALYSIS

Strength Shear Reduction Factor, Φ_v	Strength Reduction Factor for Lateral Flexure, Φ_{BV}	Strength Reduction Factor for Vertical Flexure, Φ_{BT}	Compression Zone Factor, β_1
0.75	0.9	0.9	0.65

REINFORCING ONE WAY SHEAR ANALYSIS - SHEAR

One Way Shear due to Shear, V_u (k)	One Way Shear Capacity due to Shear, $\Phi_c V_n$ (k)	Rebar One Way Shear Usage, $V_u / \Phi_c V_n$
5.05	402.99	1.3%



REINFORCING ONE WAY SHEAR ANALYSIS - UPLIFT

One Way Shear due to Uplift, V_u (k)	One Way Shear Capacity due to Uplift, $\Phi_c V_n$ (k)	Rebar One Way Shear Usage, $V_u / \Phi_c V_n$
4.11	402.99	1.0%



REINFORCING FLEXURE ANALYSIS - SHEAR

Flexure Load, M_{uv} (k-ft)	Distance to steel, d_v (in)	Whitney Block, a_v (in)	Strain in Rebar, ϵ_t (in/in)	Flexural Capacity, $\Phi_{bv} M_{nv}$ (k-ft)	Rebar Flexural Usage, $M_{uv} / \Phi_{bv} M_{nv}$
44.31	68.125	0.575	0.2990	537.27	8.2%



REINFORCING FLEXURE ANALYSIS - UPLIFT

Flexure Load, M_{ut} (k-ft)	Depth to steel, d_t (in)	Whitney Block, a_t (in)	Strain in Rebar, ϵ_t (in/in)	Flexural Capacity, $\Phi_{bt} M_{nt}$ (k-ft)	Rebar Flexural Usage, $M_{ut} / \Phi_{bt} M_{nt}$
36.05	68.125	0.719	0.2386	670.88	5.4%

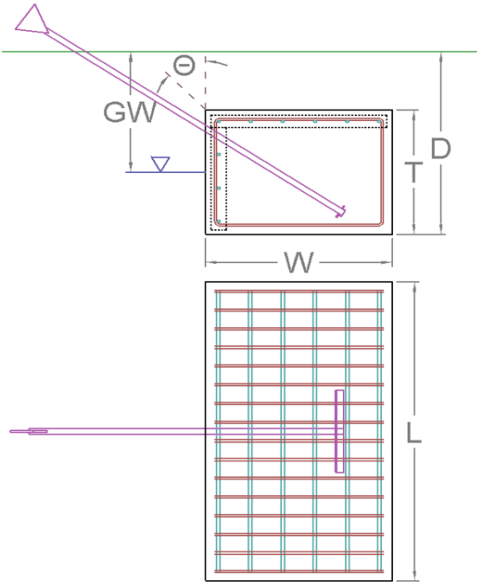


GUY ANCHOR BLOCK FOUNDATION ANALYSIS (NODE A2 @ r = 260 ft)

APPLIED REACTIONS	
Uplift (k)	Shear (k)
27.00	27.32

FOUNDATION PARAMETERS			
Base Depth:	D	7	ft
Block Width:	W	6.5	ft
Block Length:	L	32	ft
Block Thickness:	T	6.5	ft
Concrete Compressive Strength:		3,000	psi
Top Rebar Quantity, Size, & Yield:		(5) #6 bars [60 ksi]	
Side Rebar Quantity, Size, & Yield:		(4) #6 bars [60 ksi]	
Anchor Rod Quantity & Shape:		(1) Solid Rod	
Anchor Rod Area (gross/net):		2.410 // 2.410	in ²
Anchor Rod Strength (fy/fu):		42 // 58	ksi

SOIL PARAMETERS			
Water Table Depth [BGL]:	GW	4	ft
Soil Unit Weight:		110	pcf
Friction Angle:		0	°
Cohesion:		900	psf
Ultimate Skin Friction		450	psf
Coefficient of Shear Friction:		0.3	
Uplift Pullout Angle:	θ	30	°
Uplift at ____ of Anchor:		Top	



SOIL STRENGTH ANALYSIS		
Uplift Strength Reduction Factor, Φ _u	Shear Strength Reduction Factor, Φ _v	Dead Load Factor
0.75	0.75	0.9

SOIL UPLIFT ANALYSIS			
Uplift Resistance from Skin Friction and Soil Shear (k)	Additional Uplift Resistance (k)	Uplift Capacity, ΦT _n (k)	Soil Uplift Usage, T _u / ΦT _n
120.33	0	206.99	13.0%

SOIL SHEAR ANALYSIS						
Skin Friction Resistance (k)	Normal Force Resistance (k)	Passive Pressure (psf)	Passive Pressure Resistance (k)	Additional Shear Resistance (k)	Shear Capacity, ΦV _n (k)	Soil Shear Usage, V _u / ΦV _n
27.05	39.23	2,212.50	460.20	0	394.86	6.9%

ANCHOR ROD STRENGTH ANALYSIS				
Yield Strength Reduction Factor, Φ _y	Tensile Strength Reduction Factor, Φ _t	Resultant Tensile Load, T _u (k)	Tensile Capacity, ΦT _n (k-ft)	Anchor Rod Tensile Usage, T _u / ΦT _n
0.8	0.65	38.4	80.98	47.4%

REINFORCING STEEL STRENGTH ANALYSIS

Strength Shear Reduction Factor, Φ_v	Strength Reduction Factor for Lateral Flexure, Φ_{BV}	Strength Reduction Factor for Vertical Flexure, Φ_{BT}	Compression Zone Factor, β_1
0.75	0.9	0.9	0.65

REINFORCING ONE WAY SHEAR ANALYSIS - SHEAR

One Way Shear due to Shear, V_u (k)	One Way Shear Capacity due to Shear, $\Phi_c V_n$ (k)	Rebar One Way Shear Usage, $V_u / \Phi_c V_n$	
11.03	475.02	2.3%	

REINFORCING ONE WAY SHEAR ANALYSIS - UPLIFT

One Way Shear due to Uplift, V_u (k)	One Way Shear Capacity due to Uplift, $\Phi_c V_n$ (k)	Rebar One Way Shear Usage, $V_u / \Phi_c V_n$	
10.90	475.02	2.3%	

REINFORCING FLEXURE ANALYSIS - SHEAR

Flexure Load, M_{uv} (k-ft)	Distance to steel, d_v (in)	Whitney Block, a_v (in)	Strain in Rebar, ϵ_t (in/in)	Flexural Capacity, $\Phi_{bv} M_{nv}$ (k-ft)	Rebar Flexural Usage, $M_{uv} / \Phi_{bv} M_{nv}$	
109.28	74.125	0.531	0.3530	584.97	18.7%	

REINFORCING FLEXURE ANALYSIS - UPLIFT

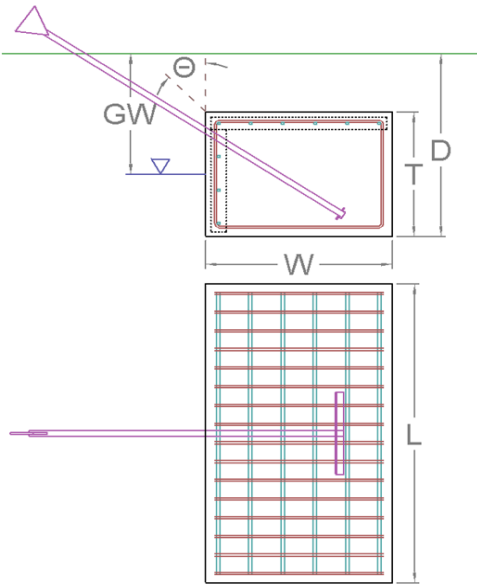
Flexure Load, M_{ut} (k-ft)	Depth to steel, d_t (in)	Whitney Block, a_t (in)	Strain in Rebar, ϵ_t (in/in)	Flexural Capacity, $\Phi_{bt} M_{nt}$ (k-ft)	Rebar Flexural Usage, $M_{ut} / \Phi_{bt} M_{nt}$	
108.00	74.125	0.664	0.2818	730.55	14.8%	

GUY ANCHOR BLOCK FOUNDATION ANALYSIS (NODE A2a @ r = 267 ft)

APPLIED REACTIONS	
Uplift (k)	Shear (k)
25.52	27.31

FOUNDATION PARAMETERS			
Base Depth:	D	7	ft
Block Width:	W	6.5	ft
Block Length:	L	32	ft
Block Thickness:	T	6.5	ft
Concrete Compressive Strength:		3,000	psi
Top Rebar Quantity, Size, & Yield:		(5) #6 bars [60 ksi]	
Side Rebar Quantity, Size, & Yield:		(4) #6 bars [60 ksi]	
Anchor Rod Quantity & Shape:		(1) Solid Rod	
Anchor Rod Area (gross/net):		2.410 // 2.410	in ²
Anchor Rod Strength (fy/fu):		42 // 58	ksi

SOIL PARAMETERS			
Water Table Depth [BGL]:	GW	4	ft
Soil Unit Weight:		110	pcf
Friction Angle:		0	°
Cohesion:		900	psf
Ultimate Skin Friction		450	psf
Coefficient of Shear Friction:		0.3	
Uplift Pullout Angle:	θ	30	°
Uplift at ____ of Anchor:		Top	



SOIL STRENGTH ANALYSIS		
Uplift Strength Reduction Factor, Φ _u	Shear Strength Reduction Factor, Φ _v	Dead Load Factor
0.75	0.75	0.9

SOIL UPLIFT ANALYSIS			
Uplift Resistance from Skin Friction and Soil Shear (k)	Additional Uplift Resistance (k)	Uplift Capacity, ΦT _n (k)	Soil Uplift Usage, T _u / ΦT _n
119.56	0	206.99	12.3%

SOIL SHEAR ANALYSIS						
Skin Friction Resistance (k)	Normal Force Resistance (k)	Passive Pressure (psf)	Passive Pressure Resistance (k)	Additional Shear Resistance (k)	Shear Capacity, ΦV _n (k)	Soil Shear Usage, V _u / ΦV _n
27.78	39.68	2,212.50	460.20	0	395.74	6.9%

ANCHOR ROD STRENGTH ANALYSIS				
Yield Strength Reduction Factor, Φ _y	Tensile Strength Reduction Factor, Φ _t	Resultant Tensile Load, T _u (k)	Tensile Capacity, ΦT _n (k-ft)	Anchor Rod Tensile Usage, T _u / ΦT _n
0.8	0.65	37.4	80.98	46.2%

REINFORCING STEEL STRENGTH ANALYSIS

Strength Shear Reduction Factor, Φ_v	Strength Reduction Factor for Lateral Flexure, Φ_{BV}	Strength Reduction Factor for Vertical Flexure, Φ_{BT}	Compression Zone Factor, β_1
0.75	0.9	0.9	0.65

REINFORCING ONE WAY SHEAR ANALYSIS - SHEAR

One Way Shear due to Shear, V_u (k)	One Way Shear Capacity due to Shear, $\Phi_c V_n$ (k)	Rebar One Way Shear Usage, $V_u / \Phi_c V_n$
11.02	475.02	2.3%



REINFORCING ONE WAY SHEAR ANALYSIS - UPLIFT

One Way Shear due to Uplift, V_u (k)	One Way Shear Capacity due to Uplift, $\Phi_c V_n$ (k)	Rebar One Way Shear Usage, $V_u / \Phi_c V_n$
10.30	475.02	2.2%



REINFORCING FLEXURE ANALYSIS - SHEAR

Flexure Load, M_{uv} (k-ft)	Distance to steel, d_v (in)	Whitney Block, a_v (in)	Strain in Rebar, ϵ_t (in/in)	Flexural Capacity, $\Phi_{bv} M_{nv}$ (k-ft)	Rebar Flexural Usage, $M_{uv} / \Phi_{bv} M_{nv}$
109.24	74.125	0.531	0.3530	584.97	18.7%



REINFORCING FLEXURE ANALYSIS - UPLIFT

Flexure Load, M_{ut} (k-ft)	Depth to steel, d_t (in)	Whitney Block, a_t (in)	Strain in Rebar, ϵ_t (in/in)	Flexural Capacity, $\Phi_{bt} M_{nt}$ (k-ft)	Rebar Flexural Usage, $M_{ut} / \Phi_{bt} M_{nt}$
102.08	74.125	0.664	0.2818	730.55	14.0%

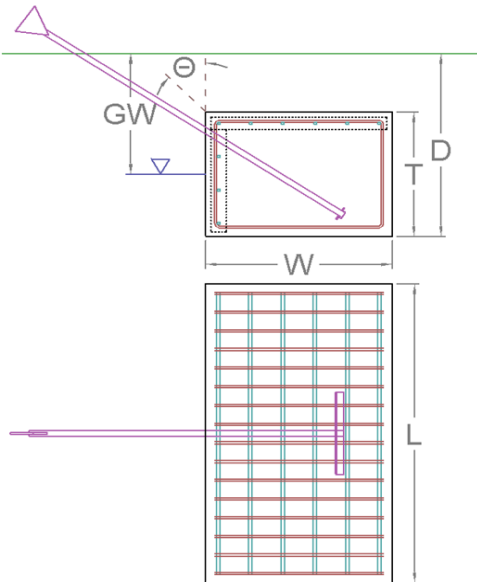


GUY ANCHOR BLOCK FOUNDATION ANALYSIS (NODE A2b @ r = 260 ft)

APPLIED REACTIONS	
Uplift (k)	Shear (k)
25.66	27.48

FOUNDATION PARAMETERS			
Base Depth:	D	7	ft
Block Width:	W	6.5	ft
Block Length:	L	32	ft
Block Thickness:	T	6.5	ft
Concrete Compressive Strength:		3,000	psi
Top Rebar Quantity, Size, & Yield:		(5) #6 bars [60 ksi]	
Side Rebar Quantity, Size, & Yield:		(4) #6 bars [60 ksi]	
Anchor Rod Quantity & Shape:		(1) Solid Rod	
Anchor Rod Area (gross/net):		2.410 // 2.410	in ²
Anchor Rod Strength (fy/fu):		42 // 58	ksi

SOIL PARAMETERS			
Water Table Depth [BGL]:	GW	4	ft
Soil Unit Weight:		110	pcf
Friction Angle:		0	°
Cohesion:		900	psf
Ultimate Skin Friction		450	psf
Coefficient of Shear Friction:		0.3	
Uplift Pullout Angle:	θ	30	°
Uplift at ____ of Anchor:		Top	



SOIL STRENGTH ANALYSIS		
Uplift Strength Reduction Factor, Φ _u	Shear Strength Reduction Factor, Φ _v	Dead Load Factor
0.75	0.75	0.9

SOIL UPLIFT ANALYSIS			
Uplift Resistance from Skin Friction and Soil Shear (k)	Additional Uplift Resistance (k)	Uplift Capacity, ΦT _n (k)	Soil Uplift Usage, T _u / ΦT _n
119.55	0	206.99	12.4%

SOIL SHEAR ANALYSIS						
Skin Friction Resistance (k)	Normal Force Resistance (k)	Passive Pressure (psf)	Passive Pressure Resistance (k)	Additional Shear Resistance (k)	Shear Capacity, ΦV _n (k)	Soil Shear Usage, V _u / ΦV _n
27.79	39.63	2,212.50	460.20	0	395.72	6.9%

ANCHOR ROD STRENGTH ANALYSIS				
Yield Strength Reduction Factor, Φ _y	Tensile Strength Reduction Factor, Φ _t	Resultant Tensile Load, T _u (k)	Tensile Capacity, ΦT _n (k-ft)	Anchor Rod Tensile Usage, T _u / ΦT _n
0.8	0.65	37.6	80.98	46.4%

REINFORCING STEEL STRENGTH ANALYSIS			
Strength Shear Reduction Factor, Φ _v	Strength Reduction Factor for Lateral Flexure, Φ _{BV}	Strength Reduction Factor for Vertical Flexure, Φ _{BT}	Compression Zone Factor, β ₁
0.75	0.9	0.9	0.65

REINFORCING ONE WAY SHEAR ANALYSIS - SHEAR

One Way Shear due to Shear, V_u (k)	One Way Shear Capacity due to Shear, $\Phi_c V_n$ (k)	Rebar One Way Shear Usage, $V_u / \Phi_c V_n$	
11.09	475.02	2.3%	

REINFORCING ONE WAY SHEAR ANALYSIS - UPLIFT

One Way Shear due to Uplift, V_u (k)	One Way Shear Capacity due to Uplift, $\Phi_c V_n$ (k)	Rebar One Way Shear Usage, $V_u / \Phi_c V_n$	
10.36	475.02	2.2%	

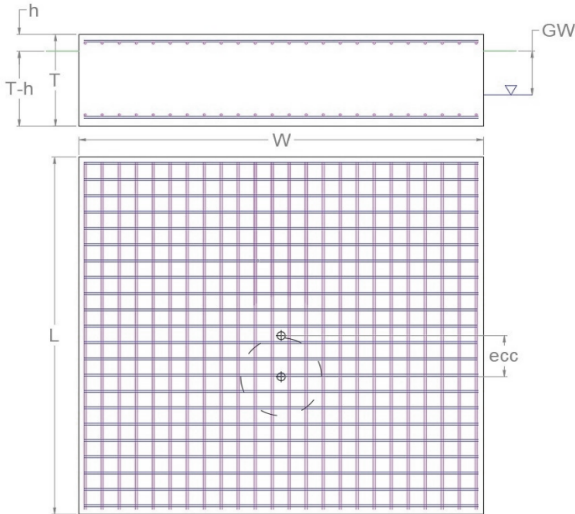
REINFORCING FLEXURE ANALYSIS - SHEAR

Flexure Load, M_{uv} (k-ft)	Distance to steel, d_v (in)	Whitney Block, a_v (in)	Strain in Rebar, ϵ_t (in/in)	Flexural Capacity, $\Phi_{bv} M_{nv}$ (k-ft)	Rebar Flexural Usage, $M_{uv} / \Phi_{bv} M_{nv}$	
109.92	74.125	0.531	0.3530	584.97	18.8%	

REINFORCING FLEXURE ANALYSIS - UPLIFT

Flexure Load, M_{ut} (k-ft)	Depth to steel, d_t (in)	Whitney Block, a_t (in)	Strain in Rebar, ϵ_t (in/in)	Flexural Capacity, $\Phi_{bt} M_{nt}$ (k-ft)	Rebar Flexural Usage, $M_{ut} / \Phi_{bt} M_{nt}$	
102.64	74.125	0.664	0.2818	730.55	14.0%	

MAT & PIER FOUNDATION ANALYSIS (NODE 1)

APPLIED GLOBAL REACTIONS							
Moment (k-ft)		Axial (k)		Shear (k)			
0.00		140.80		0.07			
FOUNDATION PARAMETERS							
Mat Length:	L	10	ft				
Mat Width:	W	10	ft				
Mat Thickness:	T	5.5	ft				
Base Depth:	L+T-h	5	ft				
Concrete Compressive Strength:		3,000	psi				
Mat Top Rebar:		(10) #6 bars [60 ksi]					
Mat Bottom Rebar:		(10) #6 bars [60 ksi]					
Rebar Clear Cover:		3.0	in				
Tower Eccentricity:	ecc	0	ft				
Tower Leg Count		1					
SOIL PARAMETERS							
Water Table Depth [BGL]:	GW	7	ft				
Soil Unit Weight:		107	pcf				
Ultimate Skin Friction:		50	psf				
Ultimate Bearing Pressure:		4,700	psf				
Bearing Pressure Type:		Gross					
Coefficient of Shear Friction:		0.3					
SOIL STRENGTH ANALYSIS							
Soil Strength Reduction Factor, Φ_s	Uplift Strength Reduction Factor, Φ_s	Asset Dead Load Factor		Dead Load Factor			
0.6	0.75	1.2		1.2			
SOIL OVERTURNING ANALYSIS							
Design Moment, $M_{u,Design}$ (k-ft)	Nominal Overturning Capacity, $\Phi_m M_n$ (k-ft)		Soil Overturning Usage, $M_{u,Design} / \Phi_m M_n$				
0.38	1,248.14		0.0%				
SOIL BEARING ANALYSIS							
Net Bearing Pressure, $P_{u,Net}$ (psf)	Nominal Bearing Capacity, $\Phi_b P_n$ (psf)	Bearing Pressure Controlling Load Direction		Soil Bearing Usage, $P_{u,net} / \Phi_b P_n$			
2,399.00	2,820.00	Parallel to Pad Edge		85.1%			
SOIL SLIDING SHEAR ANALYSIS							
Applied Shear Force, V_u (k)	Friction Resistance (k)	Passive Pressure (psf)	Passive Pressure Resistance (k)	Nominal Shear Capacity, $\Phi_s V_n$ (k)	Soil Sliding Shear Usage, $V_u / \Phi_s V_n$		
0.07	59.95	240.8	13.24	43.91	0.0%		
MAT REINFORCING STEEL STRENGTH ANALYSIS							
Steel Elastic Modulus, E (ksi)	Strength Bending/Tension Reduction Factor, Φ_b	Strength Shear Reduction Factor, Φ_v		Strength Compression Reduction Factor, Φ_c			
29,000	0.9	0.75		0.65			

MAT REINFORCING ONE WAY SHEAR ANALYSIS				
One Way Design Shear, V_u (k)	Nominal One Way Shear Capacity, $\Phi_c V_n$ (k)	One Way Shear Controlling Load Direction	Mat One Way Shear Usage, $V_u / \Phi_c V_n$	
5.78	231.20	Diagonal to Pad Edge	2.5%	✓

MAT REINFORCING PUNCHING SHEAR ANALYSIS			
Punching Shear Design Stress, v_u (psi)	Nominal Punching Shear Capacity, $\Phi_c V_n$ (psi)	Mat Punching Shear Usage, $v_u / \Phi_c V_n$	
9.1	164.3	5.5%	✓

MAT REINFORCING MOMENT TRANSFER ANALYSIS				
Moment Transfer Effective Flexural Width, w_t (in)	Neutral Axis Depth (in)	Pier Moment at Joint, M_{ut} (k-in)	Nominal Moment Transfer Capacity, $\Phi M_{sc,f}$ (k-in)	Mat Moment Transfer Usage, $0.6 M_{ut} / \Phi M_{sc,f}$
16.50	0.87	0.00	24,528.4	0.0%

MAT REINFORCING FLEXURE ANALYSIS - UPPER STEEL			
Factored Moment, M_u (k-ft)	Nominal Flexural Capacity, ΦM_n (k-ft)	Flexural Steel Controlling Load Direction	Mat Upper Rebar Flexure Usage, $M_u / \Phi M_n$
0.04	1,644.74	Diagonal to Pad Edge	0.0%

MAT REINFORCING FLEXURE ANALYSIS - LOWER STEEL			
Factored Moment, M_u (k-ft)	Nominal Flexural Capacity, ΦM_n (k-ft)	Flexural Steel Controlling Load Direction	Mat Lower Rebar Flexure Usage, $M_u / \Phi M_n$
176.10	1,225.29	Parallel to Pad Edge	14.4%