

AGENDA | REGULAR TOWN COUNCIL MEETING

April 12, 2022 at 6:00 PM Council Chambers - Apex Town Hall, 73 Hunter Street The meeting will adjourn when all business is concluded or 10:00 PM, whichever comes first

Town Council and Administration

Mayor: Jacques K. Gilbert | Mayor Pro Tem: Audra Killingworth Council Members: Brett D. Gantt; Cheryl F. Stallings; Terry Mahaffey; Edward Gray Town Manager: Catherine Crosby | Assistant Town Managers: Shawn Purvis and Marty Stone Interim Town Clerk: Julie Reid | Town Attorney: Laurie L. Hohe

COMMENCEMENT

Call to Order | Invocation | Pledge of Allegiance

CONSENT AGENDA

All Consent Agenda items are considered routine, to be enacted by one motion with the adoption of the Consent Agenda, and without discussion. If a Council Member requests discussion of an item, the item may be removed from the Consent Agenda and considered separately. The Mayor will present the Consent Agenda to be set prior to taking action on the following items:

<u>CN1</u> Julie Reid, Interim Town Clerk

Motion to approve the minutes of the March 8, 2022 and March 22, 2022 meetings of the Regular Town Council Meeting.

- <u>CN2</u> Colleen Merays, Downtown & Small Business Coordinator Motion to approve Town Co-Sponsored Special Event Requests for 2022.
- CN3 Adam Stephenson, Transportation Engineering Manager

Motion to approve revisions to the Town Standard Specifications and Details.

CN4 Lauren Staudenmaier, Planner II

Motion to set Public Hearing for the April 26, 2022 Town Council meeting regarding Rezoning Application #21CZ26 Humie Olive Commercial. The applicant, Jeff Roach, Peak Engineering & Design PLLC., seeks to rezone approximately 7.69 acres from Rural Residential (RR) to Neighborhood Business-Conditional Zoning (B1-CZ). The proposed rezoning is located at 0 & 7525 Humie Olive Road.

<u>CN5</u> Amanda Bunce, Current Planning Manager

Motion to set Public Hearing for the April 26, 2022 Town Council meeting regarding Rezoning Application #22CZ03 Sweetwater PUD Amendment. The applicant, David Schmidt, ExperienceOne Homes, LLC, seeks to rezone approximately 44.76 acres from Planned Unit

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Development-Conditional Zoning (PUD-CZ #18CZ01) to Planned Unit Development-Conditional Zoning (PUD-CZ). The proposed rezoning is located at 0 & 3233 US 64 Hwy W, 0 Core Banks St, and 1051 & 1075 Newland Ave.

<u>CN6</u> Lauren Staudenmaier, Planner II Motion to adopt a Resolution Directing the Town Clerk to Investigate Petition Received, to accept the Certificate of Sufficiency by the Town Clerk, and to adopt a Resolution Setting

Date of Public Hearing for April 26, 2022, on the Question of Annexation - Apex Town Council's intent to annex the Jessica and Abel Figueroa property containing 5.88 acres located at 804 and 808 Wimberly Road, Annexation #723 into the Town's corporate limits.

<u>CN7</u> Lauren Staudenmaier, Planner II

Motion to set Public Hearing for the April 26, 2022 Town Council meeting regarding Rezoning Application #22CZ04 804 & 808 Wimberly Road and Ordinance. The applicant, Zak Shipman, Shipman Engineering, PLLC., seeks to rezone approximately 5.84 acres from Wake County Residential-80W (R-80W) to Rural Residential-Conditional Zoning (RR-CZ). The proposed rezoning is located at 804 & 808 Wimberly Road.

CN8 Liz Loftin, Senior Planner

Motion to approve Statement of the Town Council and Ordinance for Rezoning Case #21CZ32 Chapel Ridge Towns PUD, Toll Bros., Inc., petitioner, for the properties located at 1412 Olive Chapel Road; 1400, 1401, 1408, 1409 Barnside Lane; and Barnside Lane right-of-way.

- CN9 Dianne Khin, Director of Planning and Community Development Motion to adopt a Resolution Directing the Town Clerk to Investigate Petition Received, to accept the Certificate of Sufficiency by the Town Clerk, and to adopt a Resolution Setting Date of Public Hearing for April 26, 2022, on the Question of Annexation - Apex Town Council's intent to annex the Tony C. Sears and Judy T. Sears property containing 1.6209 acres located at 0 Kelly Road, Annexation #731 into the Town's corporate limits.
- CN10 Dianne Khin, Director of Planning and Community Development Motion to adopt a Resolution Directing the Town Clerk to Investigate Petition Received, to accept the Certificate of Sufficiency by the Town Clerk, and to adopt a Resolution Setting Date of Public Hearing for April 26, 2022, on the Question of Annexation - Apex Town Council's intent to annex the WFINV, LLC property containing 1.910 acres located at 1016 N. Salem Street, Annexation #730 into the Town's corporate limits.
- <u>CN11</u> Michael S. Deaton, PE, Director Motion to approve a 3-year agreement with Buckhorn Vegetation Control, LLC., and to authorize the Town Manager to execute the agreement on behalf of the Town.

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<u>CN12</u> Russell H. Dalton, PE, Traffic Engineering Manager

Motion to approve an amendment to Ordinance 20-61, with the addition of part (2) under subsection (a) prohibiting the left turn movement on Knollwood Drive approaching Laura Duncan Road on days that school is in session for Apex High School between the hours of 6:45 a.m. and 7:30 a.m.

- <u>CN13</u> Russell H. Dalton, PE, Traffic Engineering Manager Motion to approve installation of a traffic calming speed hump device on Blackburn Road.
- <u>CN14</u> Marty Stone, Assistant Town Manager

Motion to approve an encroachment agreement between the Town and property owner Lennar Carolinas, LLC to install a driveway that will encroach 334 square feet (SF) onto the Public Utility Easement and a sidewalk that will encroach 14 square feet (SF) onto the Public Drainage Easement and authorize the Town Manager to execute the same.

<u>CN15</u> Marty Stone, Assistant Town Manager

Motion to approve an encroachment agreement between the Town and property owners Colin John McGinley and spouse Melissa Beth McGinley to install a fence that will encroach 370 square (SF) onto the Town's Public Utility Easement and authorize the Town Manager to execute the same.

- <u>CN16</u> Matt Echols, PE, Utilities Engineer Motion to adopt the enclosed resolution to apply for an Asset Inventory and Assessment (AIA) grant from the NC Division of Water Infrastructure (DWI).
- <u>CN17</u> Marty Stone, PE, Assistant Town Manager Motion to amend the electric / finance policies to remove the solar capacity limit.
- <u>CN18</u> Vance Holloman, Finance Director A motion to approve Budget Ordinance Amendment No. 18 which appropriates insurance proceeds to be used for the purchase of a replacement Police vehicle.
- <u>CN19</u> Dennis Brown, PE Senior Capital Projects Manager Approval of Duke Energy Progress (DEP) easement and authorization for Town Manager to sign easement.
- <u>CN20</u> Matt Echols, PE, Utilities Engineer Motion to award a sewer rehabilitation contract to Pipeline Utilities, Inc and to authorize the Town Manager to execute the contract on behalf of the Town and approve Budget Ordinance Amendment 17 and Capital Project Ordinance Amendment 2022-03.
- <u>CN21</u> Marty Stone, PE, Assistant Town Manager Motion to approve amendment to Section 12-21 of the Apex Town Code.

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<u>CN22</u> Chad Lemasters, Operations Manager

Motion to approve Apex Yard Waste Agreement with Greenway Waste Solution of Apex LLC.

- CN23 Amanda Grogan, Budget and Performance Manager Motion to approve the American Rescue Plan Act policies (Nondiscrimination, Cost Principles, Eligible Use, Project Review, ARPA Real Property, Record Retention, Providing Pandemic Recovery Grants to Nonprofit Agencies) Uniform Guidance Procurement and Conflict of Interest Policy.
- <u>CN24</u> Mary Beth Manville, Human Resources Director Motion to approve the authorization of seven (7) full-time positions, increasing the FTE of the Lab Supervisor position from .875 FTE to 1.0 FTE, and corresponding Budget Ordinance Amendment 19.

PRESENTATIONS

- PR1Jason Armstrong, Chief of PolicePresentation of National Telecommunicator Week Proclamation
- <u>PR2</u> Jacques Gilbert, Mayor Presentation of the 7th Annual "Think Apex" Awards
- PR3 Donald Gintzig, President and CEO, WakeMed Health and Hospitals Rick Shrum, Vice President and Chief Strategy Officer, WakeMed Health & Hospitals WakeMed Mental Health Presentation
- PR4 Mayor and Council

Presentation of National Science Appreciation Day Proclamation

PR5 Mayor and Town Council

Presentation of the Autism Awareness & Acceptance Month Proclamation and encourages the community to join advocacy efforts.

REGULAR MEETING AGENDA

Mayor Gilbert will call for additional Agenda items from Council or Staff and set the Regular Meeting Agenda prior to Council actions.

PUBLIC FORUM

Public Forum allows the public an opportunity to address the Town Council. The speaker is requested not to address items that appear as Public Hearings scheduled on the Regular Agenda. The Mayor will recognize those who would like to speak at the appropriate time. Large groups are asked to select a representative to speak for the entire group. Comments must be limited to 3 minutes to allow others the opportunity to speak.

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PUBLIC HEARINGS

PH1 Jenna Shouse, Senior Long Range Planner Public hearing and possible motion regarding an amendment to the Transportation Plan for Pristine Water Drive.

PH2 Jenna Shouse, Senior Long Range Planner Public hearing and possible motion to amend the Bicycle and Pedestrian System Plan map to add a proposed greenway connection from the proposed Huxley subdivision to the proposed

PH3 Jenna Shouse, Senior Long Range Planner

Reedy Branch Greenway.

Public hearing and possible motion to amend the Bicycle and Pedestrian System Plan map to remove a segment of proposed greenway from the future Felton Grove High School site, realign and extend a proposed greenway through the future Felton Grove High School site, and add proposed side path along the south side of a proposed extension of Thriftwood Drive.

PH4 Jenna Shouse, Senior Long Range Planner

Public hearing and possible motion to amend the Bicycle and Pedestrian System Plan map to add a proposed greenway between Termini Drive and Humie Olive Road.

OLD BUSINESS

UNFINISHED BUSINESS

NEW BUSINESS

UPDATES BY TOWN MANAGER

CLOSED SESSION

<u>CS1</u> Joanna Helms, Economic Development Director

Possible motion to go into Closed Session pursuant to NCGS 143-318.11(a)(4) to discuss matters related to the location or expansion of business in the area.

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<u>CS2</u> Possible motion to go into closed session pursuant to NCGS 143-6318.11(a)(3) to preserve attorney-client privilege.

WORK SESSION

ADJOURNMENT

|Agenda Item | cover sheet

for consideration by the Apex Town Council

Item Type:CONSENT AGENDAMeeting Date:April 12, 2022

Item Details

Presenter(s): Julie Reid, Interim Town Clerk

Department(s): Office of the Town Clerk

Requested Motion

Motion to approve the minutes of the March 8, 2022 and March 22, 2022 meetings of the Regular Town Council Meeting.

Approval Recommended?

Yes

<u>Item Details</u>

N/A

<u>Attachments</u>

- Minutes of the March 8, 2022 Regular Town Council Meeting
- Minutes of the March 22, 2022 Regular Town Council Meeeting





MINUTES - REGULAR TOWN COUNCIL MEETING

MARCH 8, 2022 AT 6:00 PM

COUNCIL CHAMBERS – APEX TOWN HALL, 73 HUNTER STREET

WELCOME AND COMMENCEMENT

The regular meeting of the Apex Town Council was called to ordered by Mayor Gilbert. The Mayor began the meeting with a welcome and invocation saying

"The Town of Apex values and celebrates diversity and inclusion. We see diversity as a strength that binds the community together. Inviting members from different faith communities to deliver an invocation at the beginning of our council meetings supports this unity, recognizes that not everyone practices the same traditions, we welcome you to have a private moment of silence. I would like to reflect on something that affects our entire community, nation and world. As we reflect on recent events and the crisis in the Ukraine, let us amplify our message of unity showing respect, love and prayers for Ukrainians impacted, even here in our community, and showing we stand in solidarity with them. At this time to show our support, please join in a moment of silence."

The mayor asked that all attending join him in the Pledge of Allegiance. He also asked that members of the audience wishing to speak to please use the signup sheet in the front of the room.

Town Council and Administration:

In attendance were Mayor Jacques K. Gilbert. Mayor Pro Tem Audra M. Killingsworth, and Council Members Brett D. Gantt, Terry Mahaffey, Cheryl F. Stallings and Edward Gray. Also, in attendance were Town Manager Catherine Crosby, Assistant Town Managers Shawn Purvis and Marty Stone, Interim Town Clerk Julie Reid, and Town Attorney Laurie L. Hohe.

CONSENT AGENDA

Items CN5 and CN9 were removed from the consent agenda. A motion was to made to approve the revised consent agenda. (Motion: Mayor Pro Tem Killingsworth, second: Council Member Gant) Approved 5-0).

Item CN1 Approval for one "Police Officer" badge, one handgun, and one motorcycle helmet be declared "surplus," that the price for such handgun and helmet be set at \$1.00 (One Dollar), and the badge, handgun, and helmet be awarded to Retiring Police Officer Darrell L. Roberson

- Item CN2Approval of the Minutes of the February 18, 2022 Budget Retreat Meeting and the
February 22, 2022 Regular Town Council Meeting as presented.
- Item CN3 Approval of the Statement of the Apex Town Council pursuant to G.S. 160D-605(a) addressing action on the Unified Development Ordinance (UDO) Amendments of February 22, 2022.

Amendments approved on February 22, 2022, were:

1. The amendment to UDO Secs. 4.2.2 Use Table and 4.4.2 Supplemental Standards, Public and Civic Uses require a neighborhood meeting to be held prior to the submittal of any Minor or Major Site Plan for the use "School, public or private" to allow nearby owners and residents a chance to review the proposed plan and offer comments to the applicant prior to submittal.

2. The amendment to UDO Sec. 2.1.9 Apex Environmental Advisory Board removes a reference to the Environmental Committee of Town Council which was dissolved in December 2021.

3. The amendment to UDO Sec. 4.3.5 Use Classifications, Commercial Uses expands the definition of glass sales to allow for a wholesale business option in addition to retail sales. 4. The amendment to UDO Sec. 8.2.8.B.1 Screening Methods, Dumpsters allows wood as a material for the gates of dumpster enclosures associated with Wake County Landmark or other historic structures so that the material may be consistent with the historic nature of the property.

5. The amendments to UDO Sec. 8.2.6.C.4 General Buffering Requirements, No Development Within the Required Buffer corrects a typographical error to a section reference and require buffers along Fully- and Limited-Controlled Access Highways that contain a public utility easement to have a minimum 20-foot-wide planting area consistent with the requirement for Thoroughfare and Street front buffers.

Item CN4 Approval to Set a Public Hearing for March 22, 2022 Town Council meeting.

Rezoning Application #21CZ32

From Rural Residential (RR) to Planned Unit Development- Conditional Zoning (PUD-CZ) Name of Development: Chapel Ridge Towns PUD. Applicant: Toll Brothers, Inc Location: 1412 Olive Chapel Road; 1400, 1401, 1408, 1409 Barnside Lane and Barnside Lane right-of-way (approximately 21.60 acres) PINs 0732333570, 0732337537, 07323470080, 0732345135, 0732430661 and Barnside Lane right-of-way

Item CN5 Removed from the Consent Agenda

Item CN6 Approval of Resolution Number 2022-0308-3 to Abandon certain portions of existing greenway easements, located in Sweetwater Subdivision upon dedication of new greenway easements also located in Sweetwater Subdivision.

- Item CN7 Approval of an encroachment agreement between the Town and property owners Christopher Adkins and spouse Christina Adkins to install a private driveway that will encroach 575 square (SF) onto the Town's Public Utility Easement and authorize the Town Manager to execute the same. The location of the Public Utility Easement is on a residential lot know as 1861 Blue Jay Point (also known as Wake County Pin # 0721-34-8491, Book of Maps 2016, Page 00542).
- Item CN8 Approval and authorization for the Town Manager to execute Contract Amendment #3 for GMP 4 with Construction Manager at Risk, J M Thompson, in the amount of \$4,234,090.53 for the new Pleasant Park Project and approve corresponding Capital Project Ordinance Amendment No. 2022-03.
- Item CN9 Removed from the Consent Agenda

PRESENTATIONS

- PR1 Mayor Gilbert and members of the Council read a Proclamation declaring March 18, 2022 Arbor Day in the Town of Apex. The Town Council and members of the Tree Citizen Advisory Panel will commemorate Arbor Day by planting seven trees at Hunter Street Park on March 18, 2022. The seven trees represent the seven years Apex has been designated as a Tree City USA.
- PR2 Mayor Gilbert and members of the Council read a Proclamation declaring March 2022 as Women's History Month. The Mayor called upon all citizens to celebrate the numerous contributions women have made to our community, state, nation and the world.

REGULAR MEETING AGENDA

PUBLIC FORUM

There were no requests to speak on this item.

PUBLIC HEARINGS

Item PH1Rezoning Request #21CZ14 Public Hearing and Possible Action
From Rural Residential (RR) to Planned Unit Development- Conditional Zoning (PUD-CZ)
Name of Development: Holland Road Mixed Use Assembly PUD
Applicant: Gebo Ray, LG Investments Inc.
Location: 7528 Humie Olive Road, 2236 Old US 1 Highway, 1001, 1004, 1005 Red
Cardinal Lane, 3104, 3116 Holland Road (approximately 28.68 acres) PINs 0720992587,
0720998487, 070095707, 0731001087, 0791003359, 0731004075, 0730091779)

Staff member, Amanda Bunce, gave a briefing to the Council. Information regarding surrounding land uses (largely residential) and existing use of the site (two residential structures, out buildings and the remainder wooded). The staff reviewed the existing 2045 land use designations for the site. Permitted uses within the proposed development were reviewed. The proposed design controls were also reviewed, including maximum density, height, setbacks, buffers built upon area and Resource Conservation Area (RCA). She noted that the developer has requested a reduction in the RCA to 25% for the entire site.

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2045 LAND USE MAP:

The 2045 Land Use Map designates the subject properties as Medium Density Residential, Medium/High Density Residential, and Commercial Services. The proposed rezoning to Planned Unit Development-Conditional Zoning (PUD-CZ) is generally consistent with those Land Use Map designations. The proposed rezoning includes a mix of residential uses and commercial uses. If the properties are rezoned as proposed, the 2045 LUM will automatically be amended to remove the Medium/High Density Residential area, expand the Medium Density Residential area and reduce the Commercial Services area per NCGS 160D-605(a).

Reviews and coordination

Wake County Public School (WCPSS) coordination: WCPSS indicates there is insufficient capacity for elementary, middle school and high school students within the current assignment area. Further, they indicated that transportation would be required. They did indicate that School expansion or construction within the next five years would address concerns at the elementary and high school levels.

Public Facilities: The project's construction will consist of the extension of public facilities to serve the site. All public facilities and infrastructure shall comply with the Town of Apex Sewer and Water Master Plans and the Town of Apex Standards and Specifications.

Stormwater Management: The development shall meet all stormwater management requirements for quality and quantity treatment per Section 6.1.7 of the Uniform Development Ordinance.

Affordable Housing: The applicant met with Senior Planner Sarah Van Every and Housing Program Manager Christopher "C.J." Valenzuela to discuss possible options to contribute to affordable housing and has proposed the following:

At least two (2) residential restricted median-income affordable housing townhome ownership units (Affordable Housing Units) shall be constructed on-site and sold at a mutually agreeable maximum affordable housing median-income ownership initial sales price (includes unit price and lot price) that is calculated based upon the one-hundred percent (100%) of the Raleigh, NC Metropolitan Statistical Area (MSA) Area Median Income (AMI) as published by the U.S. Department of Housing and Urban Development (HUD).

Apex Transportation Plan/Access and Circulation: Based on the recommendation of the Transportation (TIA and approval by Town Staff and the NCDOT, the final transportation improvement zoning conditions shall be provided:

1. Developer shall widen Holland Road along the project frontage as development occurs based on a minimum 41-foot curb and gutter roadway section with 5-foot sidewalk and

dedication based on a minimum 80-foot right-of-way.

- 2. Developer shall propose a maximum of two (2) access points to Holland Road. A fullmovement access shall be located approximately 950 feet north of Old US 1. A rightin/right-out access shall be located approximately 350 feet north of Old US 1 with rightturn channelization designed according to Apex and NCDOT standards.
- 3. Developer shall provide additional frontage widening along Holland Road to extend the exclusive southbound right turn lane at Old US 1 to the right-in/right-out access when that right-in/right-out access is constructed for an approximate total length of 350 feet.
- 4. Developer shall propose a maximum of one (1) access point to Old US 1. The right-in/rightout access point shall be proposed approximately 275 feet west of Holland Road and restricted by installation of a concrete median along the center of Old US 1, based on NCDOT standards.
- 5. Developer shall widen Old US 1 at the time the access point is constructed by adding a second westbound through-lane starting at Holland Road and terminating at the westbound right-turn lane at Humie Olive Road, and a 6-foot paved shoulder for a future bike lane, with a 5-foot sidewalk, and dedication based on a minimum 110-foot right-ofway.
- 6. Developer shall widen Humie Olive Road along the project frontage as development occurs based on a minimum 41-foot curb and gutter roadway section with 10-foot side path and dedication based on a minimum 80-foot right-of-way.
- 7. Developer shall propose a maximum of one (1) access point to Humie Olive Road. The full-movement access point shall be proposed approximately 600 feet west of Old US 1 Highway and Developer shall provide additional widening to construct a westbound right turn lane with 75 feet of storage and an eastbound left-turn lane with 175 feet of storage, plus applicable full-width deceleration and taper length.
- 8. Developer shall provide separate left- and right-turn lanes exiting the access point with 150 feet of internal protected storage, measured from the edge of Humie Olive Road to the first crossing internal access.
- 9. Developer shall extend the eastbound left-turn lane on Old US 1 at Humie Olive Road to provide a minimum of 225 feet of storage plus applicable full-width deceleration and taper length prior to the first certificate of occupancy in the commercial phase.
- 10. Developer shall extend the northbound left-turn lane on Friendship Road at Old US 1 to provide a minimum of 150 feet of storage plus applicable full-width deceleration and taper length prior to the first certificate of occupancy in the commercial phase.

Environmental Advisory Board: Met on April 15, 2021 and the following conditions were discussed:

The Apex Environmental Advisory Board (EAB) held a pre-application meeting for this rezoning on April 15, 2021. The zoning conditions suggested by the EAB are listed below along with the applicant's response to each condition.

EAB Suggested Condition	Applicant's Response
Increase design storm for retention basins in flood-prone areas.	Added
Option 2: Increase design storm pre- and post-attenuation	
requirement to the 25-year storm.	

Install signage near environmental sensitive areas in order to:	Added
Reduce pet waste near SCM drainage areas; and	
Eliminate fertilizer near SCM drainage areas.	
Increase biodiversity:	Added
Plant pollinator-friendly flora	
Plant native flora (Refer to the Apex Design & Development Manual for	
approved native species).	
Improve soil quality to be amenable for a variety of native and non-	Added condition for
invasive plantings	native plantings
Install pet waste stations in neighborhoods	Added
Include solar conduit in building design	Added
Install timers or light sensors or smart lighting technology for exterior	Added
lighting.	
Include International Dark Sky Association compliance standards.	Added
Outdoor lighting shall be shielded in a way that focuses lighting to the	
ground.	
Lighting that minimizes the emission of blue light to reduce glare shall	
be used.	
Incorporate natural lighting techniques into building design whether	Added
residential or non-residential.	
Maintain connections between RCAs to preserve habitat if possible.	Added
Move play area to residential side (north side) for better accessibility	Added
of open green space.	

Parks, Recreation, and Cultural Resources Advisory Commission: The Commission made a unanimous recommendation for a fee-in-lieu of dedication with a credit for construction of a greenway trail if an opportunity is identified at the time of the Master Subdivision Plan review and approval. The recommendation is based on the 2022 rates and proposed maximum lot county provided:

Single-family detached Units:	\$3,753.89 x 10 = \$37,538.90
Single-family attached Units:	\$2,528.25 x 100 - \$252,825.00
Total residential fee in lieu per current unit count:	\$290,363.90

Staff note: The fee-in-lieu rate is based on the date of the PUD approval, not on the date of the Commission's recommendation.

MEETINGS

A neighborhood meeting was held on April 27, 2021. After meeting with the neighborhood, the developer agreed to install 30-foot type E buffers along the roadways and along Holland Road in the residential areas and would increase to a type B buffer. Along the western boundary a 10-foot type B buffer is proposed and continues as the property line turns west to Humie Olive Road. The applicant agreed to place a 20-foot type A or type B buffer or a 30-foot type A buffer at different

locations along the northern boundary. All buffers the applicant agreed to exceed the requirements of the USO.

RECOMMENDATIONS:

Planning and Community Development Department: Recommends approval with the additional conditions offered by the applicant. The additional conditions include:

- 1. To increase the width of the Thoroughfare Buffers the two roads
- 2. To conduct a signal warrant analysis, and install a traffic signal if warranted
- 3. To provide two homes at 100% of the Wake County AMI.

Planning Board Recommendation: Recommends approval with the additional conditions offered by the applicant. A public hearing was held by the Planning Board on February 14, 2022.

The additional conditions include:

- 1. To increase the width of the Thoroughfare Buffers along two roads.
- 2. To conduct a signal warrant analysis, and install a traffic signal if warranted
- 3. To provide two homes at 100% of the Wake County AMI.

ANALYSIS STATEMENT OF THE REASONABLENESS OF THE PROPOSED REZONING:

This Statement will address consistency with the Town's comprehensive and other applicable plans, reasonableness, and effect on public interest:

The 2045 Land Use Map designates the site as Medium Density Residential, Medium/High Density Residential, and Commercial Services. The proposed PUD is generally consistent with that land use classification. The proposed rezoning includes a mix of residential uses and commercial uses. If the properties are rezoned as proposed, the 2045 LUM will automatically be amended to remove the Medium/High Density Residential area, expand the Medium Density Residential area, and reduce the Commercial Services area per NCGS 160D-605(a).

Approval of the rezoning is reasonable and in the public interest because the petition provides a transition between housing types and lower and higher residential densities, provides for a mix of neighborhood-level non-residential uses to develop along the three thoroughfares that will serve existing development, provides two units of median-income affordable housing, and provides pedestrian accommodations.

PUBLIC HEARING

The Mayor declared the Public Hearing opened and asked for comments. Public comment received via email had been distributed to Council members. Several speakers had prepared handouts illustrating their issues. The following individuals asked to address the Council:

Jeff Roach 1125 Peakway

Jodi Clarke	2219 Vasari Drive
Nidaa Hossenlopp	2212 Vasari Drive
Melissa McGurk	2216 Vasari Drive
Kerry Joyce	2140 Vecchio Lane
Kenton Kaplan	2208 Vasari Drive
Rynal Stephenson	Farrington Place, Raleigh

There were questions about the housing set aside. Mr. Valenzuela reviewed the agreement and explained how the formula for establishing the cost of units was calculated. In response to a question whether 2 units was a "big deal", he compared the cost benefits of the requirements versus the two units. He also referred to NCGS 157-3 relating to requirements where actual funds are contributed by the Town, which is not the case with this development. He also explained how the Town would assist in the provision of a list of qualified buyers.

There were questions about the offset intersection at the corner of this development, the configuration of streets within the development, and the improvements that will be made to adjacent roads. There was concern expressed that there was no plan for the land created between this development and the new Holland Road alignment. There were also concerns expressed about the proximity of the school and the traffic generated at certain times of the day. Mr. Dalton addressed many of these questions. The developer indicated he has asked for a mini round about at the south end of Vasari Drive to be included in the design.

Concerns were expressed about commercial traffic and new residents using Vasari Drive. A citizen reminded the developer that he had committed to a two-car garage and additional two car parking for each housing unit.

Concern was expressed that a homeowner's association, in charge of storm water improvement maintenance, might hire an unqualified company. Further, that as residents of Vasari Drive, they have no influence on the Home Owner's association maintenance. There was discussion about the possible use of Bioretention cells, wet pond with fencing or wetlands with mosquito control. Ms. Bolin explained the requirements for storm water structures, the required quarterly inspections and maintenance of them. She also explained the enforcement tools available to the Town.

There was discussion of increasing the height of the berms adjacent to Bella Casa to 5 feet. The developer explained that for each foot in rise there must be an increase in the width of the base. There is not enough room for an increase in the base. He expressed his belief that the density of plantings would resolve the issue.

A comparison was made between the Humie Olive Development Concept based on the Apex 2045 plan and the proposed development. The older plan incorporated the realignment of Holland Road, lower density residential development and smaller commercial area. The Council was asked to reduce the density of the development by incorporating more single-family homes and decreasing the number of town homes.

The developer discussed the request for reduction in the RCA. He explained there were no streams, no valuable vegetation and the northern part of the site had been previously cleared. He said they have purchased a second piece of land and will use it as offsite RCA. He said the conservation quality would be much better on the offsite parcel.

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The developer was asked to delete daycare and nursing homes from his permitted uses. He agreed that a full-time daily daycare not be allowed, but a drop in (short term) day care be allowed. He agreed to drop the nursing care.

The developer was commended for continuing to work with the neighborhood and staff throughout the process.

There being no further comment, the public hearing was closed.

A motion was made to approve Rezoning Application # 21CZ14 Holland Road Mixed Use Assembly PUD as amended and agreed to by the applicant:

- 1. A signal warrant analysis for the intersection of Holland Road and Old US 1HWY shall be performed by the developer prior to the platting of the 100th lot within the development and developer shall install a traffic signal if permitted by NCDOT at that time. If a traffic signal is not permitted by NCDOT at that time then the developer shall pay a fee in lieu for the anticipated signal design and construction costs based upon an engineer's estimate for the same, excluding any potential right-of-way acquisition costs.
- 2. the developer shall construct and install a sidewalk from the westernmost edge of the property's Humie Olive Road frontage to Friendship Village. In the event there is not sufficient right-of-way for the sidewalk, then the developer shall pay a fee-in-lieu for such construction
- 3. To demonstrate the project's commitment to preserving and re-establishing tree canopy in our region, the developer seeks to replant and restore existing tree canopy that is removed from those portions of the property that are anticipated to contain single family and townhome lots. Prior to recording the first subdivision plat for the property, the developer will provide a donation of \$5,500 to a local non-profit organization with a mission towards tree preservation and replacement.
- 4. Every residential dwelling shall have a minimum two car garage.
- 5. Remove nursing home/convalescent use

and finds the PUD-CZ designation demonstrates compliance with the standards Section 2.3.3.F. (Motion: Mayor Pro Tem Killingsworth / Second: Councilmember Gray/ Vote: 5-0)

REGULAR MEETING AGENDA – TO BE CONTINUED AFTER CLOSED SESSION.

OLD BUSINESS

No old business was brought before the Council.

UNFINISHED BUSINESS

No unfinished business was brought before the Council.

NEW BUSINESS

No new business was brought before the Town Council.

UPDATES BY TOWN MANAGER

The Town Manager introduced the new Diversity, Equity and Inclusion Director, Linda Jones. She was welcomed by Council.

Ms. Crosby stated that Apex Day is April 30, 2022. She said there was lots of opportunities to volunteer in the community on that day. Anyone wishing to volunteer can sign up on the Town website.

She also said the video of the State of the Town presentation by the Mayor will be available March 10, 2022 after he presents the address to the Chamber of Commerce. It will be on the Town's website.

She also said we have received information about the Wake County Property Tax Relief for 65+ and veterans. In order to spread the word, residents will be able to see the information on our website and information will be included with the April utility bills.

She said a virtual question and answer session regarding the Downtown Festival District will be held on March 22, 2022. Amanda Bunce will be primary contact on that. More information will be forthcoming.

She asked Mr. Purvis to brief the Council on a grant opportunity to participate with the NCDOT and the Virginia DOT to purchase railroad right-of-way to develop potential inner city and commuter rail including Apex. This is a very large transportation grant. They will be looking for a commitment from Apex for \$30,000. The project has been worked on for several years.

The Town Manager introduced the Interim Town Clerk, Julie Reid.

Ms. Crosby then discussed the first Art Reception held in the lobby of Town Hall just this evening. She said that Lisa Raschke has been working with area schools to highlight art exhibits.

Friday, we held one of the final steps for the Strategic Planning process which will be included in the budget. Sixteen staff members from across the organization met with Zealous to operationalize the priorities set by Council. We are really eager to share that with you.

CLOSED SESSION

A motion was made to enter a closed session. (Motion: Council member Gant /Second: Councilmember Stalling/ Vote: 5-0)

CS1 Steve Adams, Real Estate & Public Utilities

Possible motion to go into closed session pursuant to NCGS 143-318.11(a)(5) to discuss the town's negotiating position with respect to acquisition of real property.

CS2 Joanna Helms, Economic Development Director

Possible motion to go into Closed Session pursuant to NCGS 143-318.11(a)(4) to discuss matters related to the location or expansion of business in the area.

REGULAR MEETING AGENDA – CONTINUED AFTER CLOSED SESSION.

Items 5 and 9 had been removed from the Consent Agenda.

Item CN5 Submitted by Amanda Bunce, Current Planning Manager

Motion to set Public Hearing for the March 22, 2022 Town Council meeting regarding Rezoning Application #22CZ02 Project Real and Ordinance. The applicant, Maggie Houston, Beacon Development, seeks to rezone approximately 132.11 acres from R1 (Chatham County) to Light Industrial-Conditional Zoning (LI-CZ). The proposed rezoning is located at 104 NC Hwy 751, NC Hwy 751, 106 Off NC Hwy 751, Off NC Hwy 751.

AND

Item CN9 Amanda Bunce, Current Planning Manager

Motion to adopt a Resolution Directing the Town Clerk to Investigate Petition Received, to accept the Certificate of Sufficiency by the Town Clerk, and to adopt a Resolution Setting Date of Public Hearing for March 22, 2022, on the Question of Annexation – Apex Town Council's intent to annex Peggy G. Gray property containing 35.22 acres and Reginald and William Mills property containing 96.88 acres located off NC Hwy 751, Annexation #726 into the Town's corporate limits

There being no public comment, a motion was made to set a public hearing for March 22, 2022 regarding Rezoning Application #22CZ02 Project Real and to adopt a Resolution Directing the Town Clerk to Investigate Petition Received, to accept the Certificate of Sufficiency by the Town Clerk, and to adopt a Resolution Setting Date of Public Hearing for March 22, 2022, on the Question of Annexation – Apex Town Council's intent to annex Peggy G. Gray property containing 35.22 acres and Reginald and William Mills property containing 96.88 acres located off NC Hwy 751, Annexation #726 into the Town's corporate limits. (Motion: Mayor Pro Tem Killingsworth / Second: Councilmember Gant/ Vote: 5-0)

Item CS1 A motion was made to approve a resolution authorizing eminent domain proceedings related to Beaver Creek Commons Drive and Zeno Road Traffic Signal Project for the improvement of the Apex street system. (Motion: Mayor Pro Tem Killingsworth/Second: Council Member Gray /Vote: 5-0)

WORK SESSION

There was no work session.

ADJOURNMENT

With no further business and no objections for the Council, Mayor Gilbert adjourned the meeting.

Julie A. Reid, Interim Town Clerk

ATTEST:

Jacques K. Gilbert, Mayor



MINUTES - REGULAR TOWN COUNCIL MEETING

MARCH 22, 2022 AT 6:00 PM

COUNCIL CHAMBERS – APEX TOWN HALL, 73 HUNTER STREET

WELCOME AND COMMENCEMENT

The regular meeting of the Apex Town Council was called to ordered by Mayor Gilbert. The Mayor began the meeting with a welcome and invocation saying

"The Town of Apex values and celebrates diversity and inclusion. We see diversity as a strength that binds the community together. Inviting members from different faith communities to deliver an invocation at the beginning of our council meetings supports this unity, recognizes that not everyone practices the same traditions, we welcome you to have a private moment of silence." He expressed a desire for peace at this chaotic time.

The mayor asked Councilman Gray to lead those attending in the Pledge of Allegiance. Council member Gray asked the audience to join in reaffirming our commitment to freedom in America. Mayor Gilbert also asked that members of the audience wishing to speak to please use the signup sheets in the front of the room.

Town Council and Administration:

In attendance were Mayor Jacques K. Gilbert. Mayor Pro Tem Audra M. Killingsworth, and Council Members Brett D. Gantt, Terry Mahaffey, Cheryl F. Stallings and Edward Gray. Also, in attendance were Town Manager Catherine Crosby, Assistant Town Managers Shawn Purvis and Marty Stone, Interim Town Clerk Julie Reid, and Town Attorney Laurie L. Hohe.

CONSENT AGENDA

A motion was made to remove Item CN1 from the consent agenda. A motion was to made to approve the amended consent agenda. (Motion: Mayor Pro Tem Killingsworth\Second: Council Member Stallings, Vote: Approved 5-0).

- CN1 Removed
- CN2 Approval of the Apex Tax Report dated February 5, 2022
- **CN3** Approval of a donation of public art from CAPS-Citizen for Apex Parks and approval of placement at its current location.
- CN4 Approval to appoint Jennifer Arey and Kimberly Brugh to the Bee City Committee
- CN5 Approved and authorized the Town Manager to execute a Funding Agreement between the Town of Apex and Wake County for the Apex West Greenway, subject to terms and conditions

acceptable to the Town Attorney; and approve and authorize the Town Manager to execute a Maintenance Agreement between the Town of Apex and Wake County for the Apex West Greenway, subject to terms and conditions acceptable to the Town Attorney.

- CN6 Approved and authorized the Town Manager to execute a Funding Agreement between the Town of Apex and Wake County for the Middle Creek Greenway (PHI and PHII), subject to terms and conditions acceptable to the Town Attorney.
- CN7 Approved the Statement of the Town Council and Ordinance for Rezoning Case #21CZ14 Holland Road Mixed Use Assembly PUD, Geno Ray, LG Investments Inc., petitioner, for the properties located at 7528 Humie Olive Rd; 2236 Old US 1 Hwy, 1001, 1004, 1005 Red Cardinal Lane 3104; & 3116 Holland Rd (PINs 0720992587, 0720998487, 0730095707, 0731001087, 0731003359, 0731004075, 0730091779).
- CN8 Awarded a sewer rehabilitation contract to Tri-State Utilities, LLC, and authorized the Town Manager to execute the contract on behalf of the Town.
- CN9 Approves amendments to the Apex/Western Wake Crisis Ministry, Inc. Agreement for Utility Customer Assistance Program Administration Services, Exhibit A – Apex Customer Assistance Program Guidelines and delegated authority to the Town Manager to sign this amendment. (Two additional handouts explaining AMI for qualifying potential buyers)
- CN10 Approved the extension of the Emergency Sick Leave and Quarantine Leave provisions of the COVID-19 Vaccine Incentive Policy for Town employees, until such time as deemed appropriate by the Town Manager.

PRESENTATIONS

PR1 Julie Coco, PE, North Carolina Department of Environment Quality, gave a brief overview of the Sedimentation and Erosion Control Program. She explained that erosion and the resulting sedimentation is the largest threat to the quality of water supplies in the State. She explained that the State established the program, determined the goals and objectives of the program and established the rules and regulations to meet those goals and objectives. The local governments have implemented the program. The local governments are audited for compliance with the regulations. The State seeks to recognize outstanding local programs. The Apex Erosion and Sedimentation is being recognized for its excellence for Small Programs for 2021. They are recognized for their excellence in education and training, meticulous site inspections, effective pre-construction conferences with developers, enforcement and outstanding outreach program with a website featuring checklists, flowcharts and easily understood requirements for compliance. The group has also given presentations to public groups and to the schools. The group meets and coordinates with other municipalities in the area to improve their response to issues. This joint effort is recognized as setting the standard for the rest of the State. The State has been impressed that with a staff of only three and recently with the addition of a fourth, monitors 90 active sites and just under 2000 acres. She recognized James Misciagno, Anthony Scott, Jimmy McClure and Rachel Gamble as responsible for the excellence of the program in Apex and awarded the Town of Apex Erosion and Sedimentation program the Award of Excellence for Small Programs for 2021. The staff was recognized by the Town Council for their work in the community.

REGULAR MEETING AGENDA

PUBLIC FORUM

Mayor Gilbert called for members of the public that wished to address the Town Council. Mr. Jeff Hastings wished to thank the Town and specifically the fire fighters that saved his livestock and limited the spread of a fire that destroyed his home. He said he appreciates the money spent on Public Safety in the Town of Apex. He also asked for an update on the Tunstall house on behalf of the Historical Society.

PUBLIC HEARINGS

PH1 Rezoning Request #21CZ32 Public Hearing and Possible Action
From Rural Residential (RR) to Planned Unit Development- Conditional Zoning (PUD-CZ)
Name of Development: Chapel Ridge Townhome PUD
Applicant: Toll Brothers, Inc.
Location: 1412 Olive Chapel Road; 1400, 1401, 1408, 1409 Barnside Lane and Barnside Lane
right-of-way (21.5 acres).
PINs

Staff member, Amanda Bunce, gave a briefing to the Council. Information regarding surrounding land uses (large lot residential) and existing use of the site (large lot residential) with office type development across the street. The staff reviewed the existing 2045 land use designations for the site. Permitted uses within the proposed development were reviewed. The proposed design controls were also reviewed, including maximum density, height, setbacks, buffers built upon area and Resource Conservation Area (RCA). Additional 20-foot type B buffer and fencing is proposed along Chapel Ridge Road. Parks and Recreation unanimous recommends a fee in-lieu of land dedication. Staff indicated that it did not recommend the earlier proposal due to the impact on the neighborhood and the likelihood that additional development would closely follow.

The developer noted the project had been substantially revised. The proposed use will be age restricted housing, reducing the impact of the school system. The units will be single family detached houses and two-story town homes that will blend better with the existing neighborhood. He also indicated that two housing unit will be dedicated to affordable housing using the AMI formula. It also will reduce traffic in peak times. He discussed the possible use of the play area teamed with adult programming combining these efforts for both of their senior developments.

Mayor Gilbert invited the public to address the Town Council. They expressed their disappointment that several of their neighbors had consolidated their land and offered it for sale. They expressed that this has been a very stable neighborhood with a country like setting employing large lots.

There was discussion of a cross walk across Chapel Ridge Road to connect the neighborhood with the commercia area. The Town's traffic engineer said that the grades in the areas make it difficult to provide a crossing for walking traffic. The developer agreed to explore the possibility of the

crosswalk, but was unable to agree to construction as a condition because it may not be feasible to build. He understands that a crosswalk would still need both Town and NCDOT approval.

There was discussion of ramps or other accessibility issues. The developer stated grading around the project and movement both in and outside the units take into consideration the mobility of the residents. There was a question relating to the timing of the development and whether the entire neighborhood should be re-developed at one time. The representative said that the land owners should be able to develop consistent with the Town's adopted plans.

The general consensus was that senior housing is needed.

A motion was made to approve the rezoning with the agreed upon conditions. (Motion: Mayor Pro Tem Killingsworth, Second: Council Member Stallings, Vote: 4-1 with Council Member Gant casting the dissenting vote, citing the continuity of the neighborhood.

PH2 Mr. Shawn Purvis, Assistant City Manager presented the request for providing an economic development incentive for "Project Real" in accordance with the Town's policy (Development Investment Grant). This is a request for the standard incentive policy of nine percent grant back for three years for a distribution center. There will be job creation of approximately 200 positions with slightly higher than average salary threshold. This took into consideration that the project is located in Chatham County and averaged the salaries with Wake County. There will be an investment of 25.5 million dollars. The project meets the criteria for the award of the incentive. The award is dependent on the actual construction and implementation of the project. The mayor asked for any public comment. Hearing none he closed the public hearing.

A motion was made to approve the incentive for the Real Project. (Motion: Mayor Pro Tem Killingsworth, Second: Council Member Stallings, Vote: 5-0)

PH3 The next three items related to the same development. Amanda Bunce, Current Planning Manager presented the first of the three items, regarding an amendment to the 2045 Land Use Map in the vicinity of NC 751 and US 64. She noted this was the first development in Chatham County for the Town of Apex. The Chatham County Land Use Plan had been designated for a job creation center. The amendment would allow for a similar designation as there had been no joint Land Use Plan for the area. No formal plan for a joint land use plan or transportation plan at this time.

AND

PH4 Amanda Bunce, Current Planning Manager, presented the annexation request for the proposed project containing 132.11 acres located at 104, 106 and Unassigned Off NC Hwy 751, Chatham County, Annexation 726 into the Town's corporate limits. This would be the first annexation into Chatham County.

AND

PH5 Rezoning Request #22CZ02 Public Hearing and Possible Action From R-1 to Light Industrial-Conditional Zoning (LI-CZ) Name of Development: Beacon Development Applicant: Maggie Houston

Location: 104 NC Hwy 751, NC Hwy 751, 106 Off NC Hwy 751, Off NC Hwy 751. (approximately 132.11 acres)

Amanda Bunce briefed the council of the rezoning request including potential uses of the property. The thirty-three uses proposed include outdoor storage of materials. All storage uses will be screened from the road. She reviewed the surrounding existing uses. Three uses are proposed as conditional uses. They are machine shop or welding shop allowed except welding associated with automotive, building supply wholesale storage not exceeding 200,000 square feet and not more than 15% of the square footage of the building in outside storage, and glass sales shall be all inside except what is on a truck in the truck storage.

The Environmental Board recommendations include tree replanting and management of a 25year stormwater. Additional conditions include architectural design conditions, dedication of right-of-way at the intersection of US Highway 64 and NC 751 per NCDOT plan. Dedicate a sixtyfoot right-of-way with a 30-foot easement on either side for a public roadway extending from NC 751 to the eastern boundary of the site. The final transportation condition is that all parcels have frontage on a public street. The development will construct a minimum of two stub street connections to adjacent parcels that have no frontage along public roads. An increased fee-inlieu as agreed.

The developer said there have been issues of timing and the complexity of the process. The project is to be a master planned business park. Their emphasis has been on life sciences and research. The first anchor would be Coca Cola of Durham. The first building is \$25 million and \$75 million for the second building. There are a projected 500 plus jobs. There are \$9.8 million in infrastructure costs including additional capacity. There will be 15 acres dedicated to public use and an additional three acres for a collector road. He proposed the payment of \$1,000,000 inlieu of constructing the public road across the property because the NCDOT does not have finalized plans yet and it does not make sense to construct a road only to have it removed, relocated or destroyed in the near future.

The CEO of Coke Cola of Durham stated they have four coke territories in their organization and have been in business for 116 years. This site is good for them because of its access to US Highway 64 and NC 751. They are a zero-waste facility permanently. They have agreed to move their building approximately 600 feet to accommodate buffers for the existing residents and to provide adequate buffering for streams.

Discussion followed regarding the ability to extend a road across the property. This is complicated due to the stream crossings and wetland designations.

The mayor asked for public comment. There was concern expressed about the proximity to the lake and streams, the large amount of wildlife in the area and the impacts of noise and traffic on these features. There was concern expressed about the proximity of large truck traffic to the school across the road. There was also concern expressed about a historic property in the area. The neighbors would like a traffic study to be done before the zoning is approved. Being no further public comment, the mayor closed the public hearing. There was discussion of the water and sewer lines are being extended and oversized to the site. It was said that no residential connections to these lines would be allowed. Water extensions are predicated on annexation.

The Town of Apex has not had interest in annexing residential properties in Chatham County. Future land use plans for Chatham County may include such provisions.

A motion was made to approve the amendment to the 2045 Land Use Plan, to adopt an Ordinance on the Question of Annexation- Apex Town Council's intent to annex the William Stephen Mills, Ronald Horton Mills, Jr and Peggy Gray, Trustee property, to rezone the subject property to LI-CZ. (Motion: Mayor Pro Tem Killingsworth, Second: Council Member Mahaffey, Vote: 5-0)

PH6 Shannon Cox, Long Range Planning Manager presented amendments to the Transportation Plan for North Salem Street between Davis Drive and Laura Duncan Road. The proposed amendment would show proposed widening from a existing two lane road to a three lane throughfare for North Salem Street between Davis Drive and Laura Duncan Road.

They mayor asked for public comment. There being none, he closed the public hearing.

A motion was made to approve the proposed amendments to the Transportation Plan. (Motion: Council Member Gant, Second: Council Member Mahaffey, Vote: 5-0)

OLD BUSINESS

There was no Old Business.

UNFINISHED BUSINESS

There was not Unfinished Business.

NEW BUSINESS

There was no New Business.

UPDATES BY TOWN MANAGER

Town Manager Catherine Crosby remarked on the seven trees planted, one for each year Apex has been a Tree City, on Arbor Day by the Town Council and the public.

She briefed the Council on the installation of bee hives in the electrical easements and noted there are four certified bee keepers amongst the Town staff. An addition two employees are also bee keepers, but are not certified.

She talked about the coming Earth Fest Event, April 23, 2022, the first time it will be held on the Town campus.

Town Manager Catherine Crosby commended employees for the recent 2021 Excellence Award for the Erosion and Sedimentation program.

She briefed the Council on the progress of the Tunstall house. She said they had received estimates for the work on the exterior of the house. She said there has been the issuance of the RFQ for work on the exterior and repair any structural issues of the house.

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CLOSED SESSION

There was no Closed Session.

WORK SESSION

There was no Work Session.

ADJOURNMENT

With no further business and no objections for the Council, Mayor Gilbert adjourned the meeting.

Julie A. Reid, Interim Town Clerk

ATTEST:

Jacques K. Gilbert, Mayor

|Agenda Item | cover sheet

for consideration by the Apex Town Council

		Item Type:	CONSENT AGENDA
		Meeting Date:	April 12, 2022
Item Det	<u>tails</u>		
Presenter(s):	Colleen Merays, Downtown & Small Bu	siness Coordinator	
Department(s):	Economic Development		
	Requested Mot	tion	

Motion to approve Town Co-Sponsored Special Event Requests for 2022.

Approval Recommended?

Yes

<u>Item Details</u>

Name Of Event	Event Date(s)	Event Times	Event Description
Apex Farmers'	Begins Thursday, April 14, 2022	6PM - 9PM	(Saunders St. Parking Lot)
Night Market	(Recurrs 2nd Thursday of the		Monthly makers & craft
	month to December 8, 2022)		market.
			www.raleighnightmarket.com
Apex PeakFest	Saturday, May 7, 2022	9AM - 5PM	(Downtown Apex) PeakFest
			is an arts and craft festival
			with live music all day,
			entertainment for the kids,
			and so much more!
			www.apexpeakfest.com
Bone Suckin'	Thursday 7/21/2022 - Saturday	Fri., 5PM - 11PM	(Saunders St. Parking Lot) -
Sauce Peak City	7/23/2022	& Sat., 9AM -	Held in July enjoy a Carolina
Pig Fest		8PM	BBQ festival courtesy of the
			Apex Sunrise Rotary
			Foundation. Enjoy live music,
			a beer garden, food and kids

			area.
			www.peakcitypigfest.com
Apex Christmas	Saturday, December 3, 2022	5 PM - 8 PM	(Salem St & Apex Fire Station
Parade			1, The Depot Parking Lot &
			Plaza) Hosted by the Apex
			Rotary Club, the day begins
			with a pancake breakfast in
			the historic Salem Street Fire
			Station and a Winter
			Wonderland in the Depot
			Parking lot, and continues
			with the parade at 5PM.
			www.apexrotary.org

Estimated Town Expenditures \$96,863.83

These Co-Sponsored special event requests total \$96,863.83 and include such services as Police, Public Works, Electric and Park, Recreation and Cultural Services. These events include closure of public streets, parking lots and use of Halle Cultural Arts Center and Historic Union Depot as detailed in the attachment. Approval of Co-Sponsorship is contingent upon event coordinators adhering to all rules and regulations as details in the Town of Apex Special Events Guide and Special Event Permit Application.

Additionally included is full list of all Apex Community Special Events and Town of Apex organized events for 2022. Community Special Events are events organized by a not-for-profit organization and where little to no in-kind services are being requested from the Town of Apex. Attachments

- Co-Sponsored Special Event TOA Cost Breakdown Spreadsheet
- Co-Sponsored Special Event Application Cover Sheets
- List of Town of Apex Special Events, Co-Sponsored Events, & Community Special Events for 2022



						COSTS						TOTALS			
											Police		PW		
	Projected					Elec.			Parks		Equip.	Public	Equipment	Special	
Name Of Event	Attendance	Event Date(s)	Event Times	Event Organizer	Elec.	(In-Kind)	Fire	Parks	(In-Kind)	Police	(In-Kind)	Works	(In-Kind)	Programs	2022 TOTAL
		Begins Thursday, April 14, 2022													
Apex Farmers' Night	1500 - 2000	(Recurrs 2nd Thursday of the				\$138.00							\$150.00		
Market	Per Month	month to December 8, 2022)	6PM - 9PM	Apex Farmers Market	\$141.00	(In-Kind)							(In-Kind)		\$141.00
						í í									
				Apex Festival		\$368.00			\$1,193.44		\$706.05	i	\$7,003.73		
Apex Peakfest	30,000	Saturday, May 7, 2022	9:00 AM - 5 PM	Commission	\$1,082.68	(In-Kind)	\$0.00	\$5,168.64	(In-Kind)	\$16,376.33	(In-Kind)	\$19,217.82	(In-Kind)		\$41,845.47
Bone Suckin' Sauce			Fri. 5PM - 10PM &	Apex Sunrise Rotary		\$920.00			\$4,200		\$1,427.79		\$9,690.00		
Peak City Pig Fest	20,000	Thurs. 7/21 - Sat. 7/23/2022	Sat. 11AM - 10PM	Foundation	\$3,357.94	(In-Kind)	\$0.00	\$0.00	(In-Kind)	\$9,463.58	(In-Kind)	\$12,855.00	(In-Kind)		\$25,676.52
Apex Christmas						ľ í					\$658.98		\$5,288.10		
Parade	10,000	Saturday, December 3, 2022	5PM - 8PM	Apex Rotary Club	\$0.00		\$0.00	\$0.00		\$15,562.00	(In-Kind)	\$13,638.84	(In-Kind)		\$29,200.84
															\$96,863.83

Town of Apex Proposed - Town Co-Sponsored Special Events 2022



Town of Apex 2022 Co-Sponsored Special Event Applications

Event Name: The Apex Farmers' Night Market

Event Date & Time:

- Apex Night Market (6 PM 9 PM):
 - Recurs the 2nd Thursday of the month
 - Event starts Thursday, April 14, 2022 Thursday, December 8, 2022

Roads & Parking Closed Date & Time: Saunders Street Public Parking Lot (Across from APD)

• Apex Night Market *Portion of Saunders St. Parking Lot Closed (6AM - 10 PM)

Rain Date: NA

Event Organizer: Apex Farmers' Market

2022 Co-Sposonsorship Request: (6) trash bins and liners, electric and water hookups, APD to close parking lot monthly.

2022 Estimated Town of Apex Cost: \$141/Month

Event Description:

• Apex Night Market – Monthly Makers' Market with 50+ Artisan vendors, live music, and entertainment. Family-friendly event.

One Thursday evening a month we will need portion of Saunders Street parking closed all day and cleared of cars by 4:00pm.



Town of Apex 2022 Co-Sponsored Special Event Applications

Event Name: Apex Peakfest

Event Date & Time: Saturday, May 7, 8:00 AM to 5:00 PM - N. Salem St.

Roads & Parking Closed Date & Time:

- Friday, May 6, 2022 from 6:00 AM to 10:00 PM Depot Parking Lot & Plaza (Setup for music)
- Saturday, May 7, 2022 on N. Salem St. (Hunter to Williams) from 6:00 AM to 7:00 PM

Rain Date: NA

Event Organizer: Apex Festival Commission

2022 Co-Sposonsorship Request: Banner hanging, trash bins and liners, trash pickup by Town Parks & Rec, water barricades to block Salem St. and (2) portable electric panels

2022 Estimated Town of Apex Cost: \$41,845.47

Event Description: This is an annual one day arts and crafts festival celebrating it's 41st year.



Town of Apex 2022 Co-Sponsored Special Event Applications

Event Name: Bone Suckin' Sauce Peak City Pig Fest

Event Date & Time:

- Thursday, July 21 Cook teams begin to arrive & setup
- Friday, July 22 Competion and beer garden begins 5 PM 11 PM
- Saturday, July 23 Festival 11 AM 10 PM

Roads & Parking Closed Date & Time:

- Thursday, July 21 24 Close the Saunders St. Gravel Parking Lot Cook Teams Arrival (6 AM)
- Friday, July 22 24 Close all of Saunders/Temleton Lot for cook teams & beer garden setup (6 AM)
- Saturday, July 23 Saunders St. from N. Salem to Hinton St. (10 AM 11 PM)

Saunders/Templeton Parking Lot will reopen Sunday, July 24, 2022 following cook team departure and tent removal.

Rain Date: NA

Event Organizer: Apex Sunrise Rotary Foundation

2022 Co-Sposonsorship Request: Banner hanging, trash bins and liners, trash pickup by Town Public Works, water barricades to block parking lot and Saunders St., and (2) portable electric panels. As agreed in the past, Apex Rotary Foundation will rent trash dumpsters and the use of the Halle in exchange for the town covering the cost of Police staffing during the event. Town will provide electric and water hookups in cook team area.

2022 Estimated Town of Apex Cost: \$25,676.52

Event Description: Thursday, July 21 – Saturday, 23 – A BBQ festival will take place in the Saunders/Templeton Parking Lot. Thursday – Saturday BBQ cook teams will be set up in the Saunders/Templeton parking lot behind the Halle and across from Apex PD. Friday evening & Saturday a beer garden with music and vendors will be held in the Saunders/Templeton parking lot.

This event will involve closing the entire Saunders/Templeton Parking Lots including both Temple St. and Templeton St. and a portion of Saunders St. from N. Salem to Hinton St.



Town of Apex 2022 Cosponsored Special Event Applications

Event Name: Apex Christmas Parade

Event Organizer: Apex Rotary Club

Event Date & Time: Saturday, December 3, 2022 from 5:00 PM to 8:00 PM

Roads & Parking Closed Date & Time: Saturday, December 3, 2022 from 2:30 PM to 8:00 PM

- N. Salem from (Peakway to Williams)
- Peakway from (Laura Duncan to N. Salem)
- Hunter from (Laura Duncan to Salem)
- Ambergate Station from (Hunter to Peakway)
- Upchurch Street (Willams to Holleman)
- W. Moore St (N. Salem to Upchurch St.)

Rain Date: N/A

2022 Co-Sposonsorship Request: Barricades to block N. Salem St from (Hunter to Chatham) and Depot Parking Lot

2022 Estimated Town of Apex Cost: \$29,200.84

Event Description: Staging on Ambergate Station and Apex Peakway. Parade proceeds down Salem St to the Public Works parking lot and disbands there.

Proposed Town of Apex Special Events, Co-Sponsored Events, & Community Special Events for 2022

Construction Name Of Event Event Data Event Data Event Data Event Data Event Data Event Data Co-Sponsored (Monthy Recurring Event (Monthy Community & Community & Co	TOA Event /					
Co-Sponsore (Monthy Monthy Recurring Event) Apex Farmers Night Matikat Begins Thurday, April 14 (Recurring 2nd Thursday, difficient nonth to Docomber 8, 2022) SPM - SPM Apex Farmers Market Sounders SL Parking Lot) Monthy makes & Call matket. Community Apex Farmers Market Begins Statuday, April 16, 2002 SMM - 12PM Apex Farmers Market Weex y Farmers Market - Weex y Farmers Market - Week y Farmers Mar	Community	Name Of Event	Event Date(s)	Event Times	Event Organizer	Event Description
Community & TOA Event Regins Saturday, April 16 (Weetly manket with 44 weeks) SMM 12PM Apex Farmers' Market (Tow Campus Courtyerd & Parking) Weekly Farmers' Market Community Show 2022 American Legion Spring Car Show Saturday, April 16, 2022 SAM - 12PM Apex American Legion Post 124 (Tow Hall Parking Let) Car Show TOA Event Show Saturday, April 16, 2022 SAM - 12PM Apex American Legion Post 124 (Tow Campus A one-day event, with the hope to draw hundreds of Noch Carcinans to the Teak of Good Ling' by providing a wide array of sastanability-related eductoriang target and obio information. EarthFest is an and shine event - Please pin in the full wave approx.org/1661/Apex- EarthFest TOA Event Think Apex Day Saturday, April 30, 2022 12PM - 4PM Town of Apex - Economic (Partous Locations) Day of Community Saturday) TOA Event Think Apex Day Saturday, April 30, 2022 12PM - 4PM Town of Apex - Economic (Partous Locations) Day of Community Saturday)	Co-Sponsored (Monthly Recurring Event)	Apex Farmers' Night Market	Begins Thursday, April 14 (Recurrs 2nd Thursday of the month to December 8, 2022)	6PM - 9PM	Apex Farmers' Market	(Saunders St. Parking Lot) Monthly makers & craft market. www.raleighnightmarket.com
2022 Pamerican Legion Spring Car Saturday, April 16, 2022 BAM - 12PM Post 124 (Town Hall Parking Lot) Car Show Show Saturday, April 16, 2022 BAM - 12PM Post 124 (Town Campus) A one-day overt, with the hops to draw hundreds of hops t	Community & TOA Event	Apex Farmers' Market	Begins Saturday, April 16 (Weekly market with 44 weeks)	9AM - 12PM	Apex Farmers' Market	(Town Campus Courtyard & Parking) Weekly Farmers' Market - www.apexfarmersmarket.com
TOA Event EarthFest Saturday, April 23, 2022 12PM - 4PM Town of Apex - Statistical Hilly-related education, article and crafts, entertainment, service and chic information. EarthFest is a rain or shine event - Please join in the fund www.apexc.org/168/1Apex- EarthFest TOA Event Taink Apex Day Saturday, April 23, 2022 12PM - 4PM Town of Apex - Statistical Hilly-related education, article and crafts, entertainment, service and chic information. EarthFest is a rain or shine event - Please join in the fund www.apexc.org/168/1Apex- EarthFest TOA Event Think Apex Day Saturday, April 30, 2022 12PM - 4PM Town of Apex - Economic Development (Various Locations) Day of Community Service back to Apex. www.apexcconomicdevelopment.org/ 1554/Think-Apex-Day Co-Sponsored Apex Peakfest Saturday, May 7, 2022 9:00 AM - 5 PM Apex Festival Commission (Various Locations) Day of Community Service back to Apex. www.apexcconomicdevelopment.org/ 1554/Think-Apex-Day TOA Event Fishing Derby and Specialized TOA Event Saturday, May 7, 2022 9:00 AM - 5 PM Apex Festival Commission (Downtown Apex) PeakFest is an arts and craft festival with ive musical day, entertainment for the kds, and so much more! TOA Event Fishing Derby and Specialized Receasion Fishing Derby and Specialized Apex American Legion Town of Apex - Parks, Receasion Fishing Derby Saturday, May 14, 2022 9:00 AM - 5 PM Town of Apex - Parks, Rece. & Cultural Apex American Legion (Apex American Legion Menoral in Downtown Apex. Www.apercencementsthis the Apex	Community	2022 American Legion Spring Car Show	Saturday, April 16, 2022	8AM - 12PM	Apex American Legion Post 124	(Town Hall Parking Lot) Car Show
TOA Event Think Apex Day Saturday, April 30, 2022 Town of Apex - Esonomic Community Service back to Apex, www.apexeconomicdevelopment.org/ 1554/Think-Apex-Day Co-Sponsored Apex Peak/est Saturday, May 7, 2022 9:00 AM - 5 PM Apex Festival Commission Community Apex Peak/est is an arts and craft festival with live music all day, entrationment the kids, and so much more! TOA Event Fishing Derby and Specialized Recreation Fishing Derby Saturday, May 14, 2022 9:00 AM - 5 PM Town of Apex - Parks, required - Free Event - www.apexnc.org/1140/Special-Needs-Rec. & Cultural Resources TOA Event Fishing Derby and Specialized Recreation Fishing Derby Saturday, May 14, 2022 9AM - 11AM Town of Apex - Parks, required - Free Event - www.apexnc.org/1140/Special-Needs-Resources TOA Event Fishing Derby and Specialized Recreation Fishing Derby Saturday, May 14, 2022 9AM - 11AM Resources (Apex Service Memorial Downhow), Hosted by the Apex Police Department and Apex American Legion Post 124, the ceremony honors and mounts the US. military personnel who have dide uties. The annual ceremony takes place at 9am the Apex Service Memorial Downhown Apex. TOA Event Apex Memorial Dow Ceremony Monday, May 30, 2022 Apex American Legion Memorial Downhown Apex.	TOA Event	EarthFest	Saturday, April 23, 2022	12PM - 4PM	Town of Apex - Sustainability Committee	(Town Campus) A one-day event, with the hope to draw hundreds of North Carolinians to the "Peak of Good Living" by providing a wide array of sustainability-related education, arts and crafts, entertainment, service and civic information. EarthFest is a rain or shine event – Please join in the fun! www.apexnc.org/1661/Apex- EarthFest
Co-Sponsored Apex Peakfest Saturday, May 7, 2022 9:00 AM - 5 PM Apex Festival Commission (Downtown Apex) PeakFest is an arts and craft festival with live music all day, entertainment for the kids, and so much more! TOA Event Fishing Derby and Specialized Recreation Fishing Derby Saturday, May 14, 2022 9AM - 11AM Town of Apex - Parks, Rec. & Cultural Resources (Seagroves Farm Park) Registration required – Free Event - www.apexnc.org/1140/Special-Needs- Fishing-Derby TOA Event Recreation Fishing Derby Saturday, May 14, 2022 9AM - 11AM Resources (Apex Service Memorial Downtown). Hosted by the Apex Police Department, Apex File Department and Apex American Legion Post 124, the ceremony honors and mounts the U.S. military personnel who have died in the course of carrying out their duties. The annual ceremony takes place at 9am the Apex Service Memorial IDay Ceremony.	TOA Event	Think Apex Day	Saturday, April 30, 2022		Town of Apex - Economic Development	(Various Locations) Day of Community Service back to Apex. www.apexeconomicdevelopment.org/ 1554/Think-Apex-Day
TOA Event Fishing Derby and Specialized Recreation Fishing Derby Saturday, May 14, 2022 9AM - 11AM Town of Apex - Parks, Rec. & Cultural Resources (Seagroves Farm Park) Registration required – Free Event - www.apexnc.org/1140/Special-Needs- Fishing-Derby TOA Event Kare and the comparison of the comparison	Co-Sponsored	Apex Peakfest	Saturday, May 7, 2022	9:00 AM - 5 PM	Apex Festival Commission	(Downtown Apex) PeakFest is an arts and craft festival with live music all day, entertainment for the kids, and so much more!
Community & TOA Event Apex Memorial Day Ceremony Monday May 30, 2022 Monday May 30, 2022	TOA Event	Fishing Derby and Specialized Recreation Fishing Derby	Saturday, May 14, 2022	9AM - 11AM	Town of Apex - Parks, Rec. & Cultural Resources	(Seagroves Farm Park) Registration required – Free Event - www.apexnc.org/1140/Special-Needs- Fishing-Derby
	Community & TOA Event	Apex Memorial Day Ceremony	Monday, May 30, 2022		Apex American Legion Post 124	(Apex Service Memorial Downtown). Hosted by the Apex Police Department, Apex Fire Department and Apex American Legion Post 124, the ceremony honors and mourns the U.S. military personnel who have died in the course of carrying out their duties. The annual ceremony takes place at 9am the Apex Service Memorial in Downtown Apex. www.apexlegionpost124.org
TOA Event Summer Outdoor Concert and Movie Series June to September Town of Apex - Parks, Rec. & Cultural Resources (Apex Nature Park Amphitheatre)	TOA Event	Summer Outdoor Concert and Movie Series	June to September		I own ot Apex - Parks, Rec. & Cultural Resources	(Apex Nature Park Amphitheatre)

Proposed Town of Apex Special Events, Co-Sponsored Events, & Community Special Events for 2022

Co-Sponsored / Community	Name Of Event	Event Date(s)	Event Times	Event Organizer	Event Description
TOA Event	Latino Arts Festival	Wednesday, June 1, 2022		Apex Latino Arts Festival Association & Town of Apex	(Halle Cultural Arts Center, Depot Parking Lot & N Salem St. Center to Saunders) - Annual Latino Apex Arts Festival. It includes an arts and crafts bazaar, crafts workshops, live dance music and food from Central America, South America and the Caribbean. www.apexlatinofest.com
Community & TOA Event	Apex Pride Month Celebration	Saturday, June 11, 2022	10 PM - 7 PM	Apex Pride, Apex Festival Commission & Town of Apex	(Town Campus) Held in June, the annual Apex Pride Celebration brings awareness to the LGBTQIA Community within the Town of Apex. www.apexnc.org
Community & TOA Event	Apex Juneteenth	Saturday, June 18, 2022	11 AM - 4 PM	Apex First Baptist Church & Town of Apex	(Halle Cultural Arts Center, Depot Parking Lot/Plaza & Seaboard St N Salem St. to AFD) Celebrations commemorate the end of slavery in the USA. www.apexnc.org/1606/Juneteenth
TOA Event	Pollinator Week Celebration	Monday, June 20 - 26, 2022		Town of Apex - Parks, Rec. & Cultural Resources / Sustainability	(Apex Nature Park Pollinator Garden & Lot) www.apexnc.org/1608/Pollinator- Week
TOA Event	National Parks and Recreation Month	Friday, July 1, 2022		Town of Apex - Parks, Rec. & Cultural Resources	Local Town parks with varying events throughout the month. Registration required – Free Event
TOA Event	Apex July 4th Celebration	Monday, July 4, 2022	8:30AM - 12PM	Town of Apex - Parks, Rec. & Cultural Resources	(N Salem St.) - Apex celebrates the 4th of July in a big "Olde Fashioned" way with a parade of decorated cars through the downtown; Uncle Sam's Parade on Wheels for kids on bikes, wagons, tricycles and other non-motorized vehicle in patriotic colors; cooling off under a fire hose.
Co-Sponsored	Bone Suckin' Sauce Peak City Pig Fest	Thursday 7/21/2022 - Saturday 7/23/2022	Fri. 5PM - 10PM & Sat. 11AM - 10PM	Apex Sunrise Rotary Foundation	(Saunders St. Parking Lot) – Held in July enjoy a Carolina BBQ festival courtesy of the Apex Sunrise Rotary Foundation. Enjoy live music, a beer garden, food and kids area. www.peakcitypigfest.com
Community & TOA Event	Patriot Day	Sunday, September 11 - Pag	e 34 - 11:30AM	Apex American Legion Post 124	(Apex Service Memorial Downtown) –The Apex American Legion Post 124 lays a wreath to honor our first responders. www.apexlegionpost124.org

Co-Sponsored /					
Community	Name Of Event	Event Date(s)	Event Times	Event Organizer	Event Description
TOA Event	2022 Apex Night Out/Touch a Truck Combined Event	Tuesday, October 4, 2022		Town of Apex - APD / Parks, Rec. & Cultural Resources	(Apex Town Campus) A combined event the annual Touch-A-Truck and Apex Night Out will work to enhance the relationship between neighbors and law enforcement while providing safety information, displays and interactive activities where children will be allowed to touch, climb on, and ask questions about their favorite trucks and cars in a safe and supervised environment.
TOA Event	Indigenous Peoples Day	Monday, October 10, 2022		Town of Apex - Parks, Rec. & Cultural Resources	(Town of Apex Halle Cultural Arts – Apex Nature Park Amphitheatre) Aday to recognize and celebrate the cultures and contributions of Indigenous Peoples.
TOA Event	Hispanic Heritage Month Celebration	Saturday, October 15, 2022	6PM - 10PM	Town of Apex	(The Depot Plaza & Parking Lot) Celebrate and recognize the contributions and influence of Hispanic Americans to the history, culture, and achievements of the United States. The event will feature music, family dance party, and food trucks.
Community & TOA Event	Veterans Day	Friday, November 11, 2022	9:30AM - 10:30AM	Apex American Legion Post 124	The Apex American Legion Post 124 hosts a wreath laying ceremony to honor all our veterans who served in the Armed Forces as well as our police officers, fire fighters and EMS personnel.
TOA Event	Turkey Trot 5K Run	Saturday, November 19, 2022	10AM	Town of Apex - Parks, Rec. & Cultural Resources	(Apex Community Park) - Annual 5k
TOA Promotion	Small Business Saturday	Saturday, November 26, 2022	ALL DAY	Town of Apex - Economic Development	(Inside participating businesses) - Held in November on the Saturday after Thanksgiving, the Apex Chamber of Commerce and the Town of Apex encourage businesses to create in-store specials, contests, discounts and events, all aimed at boosting local excitement for the day. (The Depot Parking Lot & Plaza) -
TOA Event	Annual Apex Christmas Tree Lighting	Friday, December 2, 2022	4:30PM - 6PM	Town of Apex	The first Friday in December is the annual lighting of the Apex Christmas Tree by the mayor with sing-along caroling.
TOA Event	Annual Christmas Tree & Wreath Auction & Exhibit	Friday, December 2, 2022	e 35 - on Friday, IDecember 2, 5PM-8PM	Town of Apex - Parks, Rec. & Cultural Resources	In December, drift into the whimsical wonderland in the gallery.

Co-Sponsored / Community	Name Of Event	Event Date(s)	Event Times	Event Organizer	Event Description
Co-Sponsored	Apex Christmas Parade	Saturday, December 3, 2022	5PM - 8PM	Apex Rotary Club	(Salem St & Apex Fire Station 1, The Depot Parking Lot & Plaza) Hosted by the Apex Rotary Club, the day begins with a pancake breakfast in the historic Salem Street Fire Station and a Winter Wonderland in the Depot Parking lot, and continues with the parade at 5PM.
Community	Chanukah Festival	Sunday, December 18, 2022	5:30PM – 7PM	Chabad of Cary	(The Depot Parking Lot & Plaza, JMB Community Center) - Hosted by Chabad of Cary is a Menorah lighting with entertainment outdoors. The Depot parking lot will be closed all day for setup and event at 5pm. The JMB Community Center is used earlier in the day for family event.
TOA Event	Ham Toss	Monday, December 19, 2022	6PM - 8PM	Town of Apex - Parks, Rec. & Cultural Resources	(JMB Community Center) - Basketball free throw shooting contest. Free event - All ages.

Proposed Town of Apex Special Events, Co-Sponsored Events, & Community Special Events for 2022

Indicates Co- Sponsored Event	
Indicates Small Community Event	
Indicates Town Event	
|Agenda Item | cover sheet

for consideration by the Apex Town Council

Item Type:CONSENT AGENDAMeeting Date:April 12, 2022

<u>Item Details</u>

Presenter(s):Adam Stephenson, Transportation Engineering ManagerDepartment(s):Public Works & Transportation; Water Resources

Requested Motion

Motion to approve revisions to the Town Standard Specifications and Details.

Approval Recommended?

Yes

<u>Item Details</u>

Proposed revisions to the Town Standard Specifications and Details have been drafted to include revisions to Standard Specification Sections 100 Preliminary Considerations & Instructions, 450 Utility Trenches, 500 Storm Drainage, 600 Water Distribution System, 700 Wastewater Collection Systems, and 800 Wastewater Pumping Stations & Force Mains; and Standard Details Sections 300 Streets, 600 Water Distribution System, and 700 Wastewater Collection Systems.

Following approval of these revisions, the files will be updated on the Town website.

<u>Attachments</u>

- Summary of Revisions
- Standard Specifications
- Standard Details



Town of Apex Standard Specifications & Standard Details Summary of Revisions April 12, 2022

Section 100 Preliminary Considerations & Instructions

101 General

Revise the last sentence of the second paragraph to read "Such deviations from the TOWN'S minimum standards receiving such preliminary approval **by the Department Director** shall be clearly indicated at one location on the construction drawings, and labeled, "Exceptions to the Standard Specifications of the Town of Apex"."

102 Submittal Requirements

Revise last sentence to read "Submittal of the construction drawings shall be made only after the project has received Site Plan approval."

A. Initial Submittal,

1) Final Construction Plans

Revise to read "1 electronic file submittal through IDT Plans. The plan size and content shall conform to the requirements outlined in Section 103 hereof."

2) Storm Drainage Computations

Revise to read "1 **electronic** copy of complete storm drainage calculations, maps, and other supporting material shall be submitted, addressing the following special issues as applicable:"

5) Soil Erosion and Sedimentation Control Plan

Revise to read "1 **electronic** copy of the "Request for Plan Approval Form" and 1 **electronic** copy of the "Financial Responsibility / Ownership Form" shall be submitted."

B. Second Submittal1) Final Construction PlansRevise to read "1 electronic file copy submittal through IDT Plans."

2) "Water Distribution Extension Permit Application" Revise "1 original and 2 copies for review" to "1 original for review".

3) "Gravity Sanitary Sewer Extension Permit Application" Revise "1 original and 2 copies for review" to "1 original for review".

5) Storm Drainage Computations Revise to read "1 **electronic** copy of computations, if revised after initial review as per Section 501."

6) Wastewater Pump Station & Force Main Computations Revise to read "1 **electronic** copy of computations, if revised after initial review."

7) Soil Erosion and Sedimentation Control Plan

Revise to read "1 **electronic** copy of the *Request for Plan Approval Form* and 1 **electronic** copy of the *Financial Responsibility / Ownership Form* shall be submitted, if revised after initial review."

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Revise second paragraph, first sentence to read "The Town of Apex will review the revised plans and, if they are satisfactory, the submitter will be requested to **upload final plans to IDT Plans** for approval signatures and **upload final CAD design file to IDT**."

106 Record Drawings

Replace with the following.

"Record drawings which reflect "AS-BUILT" conditions must be submitted **electronically through IDTPlans** prior to start of warranty for roadways and/or public utilities to be maintained by the Town of Apex. The record drawings must be labeled "RECORD DRAWINGS" and signed by the Project Engineer of Record **and/or PLS**. An electronic file in AutoCAD format shall be submitted to the Town Engineer **through IDTPlans**. A survey data file (.txt) denoting the coordinates and description for **each utility feature in the project scope shall be submitted to the Town Development Services group**. All applicable information listed below shall be included on all "AS-BUILT" drawings:

NOTE: Record drawings of roadways and utilities are required prior to the beginning of the one-year warranty or acceptance by the TOWN.

All pdf sheets shall show base file (approved CD) in a transparent manner, surveyed data will be shown in a bold/solid color.

The "Record Drawing" plans shall be the certified plans sealed by a professional land surveyor locating the various features applicable to the project.

The "Construction Drawing" shall be the construction document designed and certified by a professional engineer who has periodically monitored the project throughout construction and agrees with the "Record Drawing" plan as defined above.

Record drawings are required for:

- Water and/or sanitary sewer service connections
- Doghouse manhole for service connections
- Irrigation system connections
- Water main extensions
- Fire lines (sprinkler lines)
- Fire hydrants (including relocations of existing hydrants)
- Sewer main extensions
- Sewer outfalls
- Pump stations and force mains

The following PE and PLS Certifications are required on each sheet of the Record Drawings:

I certify that these as-builts are accurate and that each of the items listed on the Town's "Record Drawing Checklist" as contained in the Town of Apex Standard Specifications is provided on this set of record drawings ([#] total sheets in this set).

I certify that all of the information provided is field-verified record drawing information.

Name: _____ Date: _____

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(Seal) ______ Signature Registered Land Surveyor

Name: _____ Date: _____

(Seal) _____ Signature Professional Engineer

The following Field Survey Certification Statement is required on the cover sheet of the Record Drawings and the Survey data file:

I, ______, as a duly registered Professional Land Surveyor in the State of North Carolina, hereby certify that the data shown on this drawing, obtained under my supervision, is an accurate and complete representation of what was constructed in the field, that the physical dimensions or elevations shown thus are as-built conditions and the facility was constructed according to the approved plans, except otherwise noted hereon.

Name: _____ Date: _____ (Seal) _____ Signature Registered Land Surveyor"

D. Water Distribution System

Revise part 3. to read "Location of valves, fire hydrants, meters, blow-off assemblies, bore and jack casings with distance locations, **provided in a survey .txt file that includes location data x,y,z**." Add part 6. to read "**6. Copy of the PLS certification indicating accuracy of data.**"

E. Sanitary Sewer System

Revise part 4. to read "Clean-out locations with distance locations **provided in a survey .txt file that includes location data x,y,z.**"

Add part 12. "Copy of the PLS certification indicating accuracy of data."

Add the following paragraph to the end of the Section: "For all structures and appurtenances an electronic coordinate survey text file (.txt) shall be submitted in the format of P,N,E,Z,D (Point Number, Northing, Easting, Elevation, Description). The descriptions used shall be common industry abbreviated terms (MH, CB, FH, WV, WM, CO, etc.) that are correctly labeled as they are in the CD file with any applicable reference numbers."

Section 450 Utility Trenches

452 Pipe Laying and Backfill

A. General Requirements

Delete the last sentence of part 6. a) 1).

Replace part 6. a) 2) with "Specifications: The marking tape shall be made of polyethylene (or approved equivalent) material, 3-inches wide and a minimum of 3 millimeters thick, manufactured specifically for identification of buried utilities. The tape color shall be in accordance with the utility being installed:".

Section 500 Storm Drainage

506 Stormwater Control Measures (SCMs) within the Primary and Secondary Watershed Protection Overlay Districts

Revise the second bullet to read "The outlet **structure** shall be constructed of precast reinforced concrete and the outlet pipe shall be either reinforced concrete pipe (RCP) or corrugated polypropylene pipe (CPP)."

Delete the third bullet "All water quality drawdown devices that penetrate the dam embankment shall be constructed of ductile iron pipe."

Section 600 Water Distribution System

601 Water Distribution Pipe

A. Design

Add the following to part 1. Location, end of the first paragraph, "All private water mains that connect to the Town's water system shall also be designed in accordance with these specifications. Any private commercial water connection shall be metered and protected by a reduce pressure assembly listed on the most current Manual of Cross-Connection Control issued by the USC Foundation for Cross-Connection Control and Hydraulic Research. See Section 620."

Add to part 1. Location, end of the seventh paragraph, "If water main is located within road right-of-way or on Town owned property there shall be no permanent structures, equipment, retaining walls, embankments, impoundments, landscaping, or other elements that would inhibit maintenance operations unless approved by the Water Resources Director."

Add to the end of part 1., "All retaining walls shall have a separation from the easement boundary of at least a 1:1 ratio, vertical to horizontal. For example, if the retaining wall is 10 feet tall, it shall be placed no closer than 10 feet from the adjacent easement boundary."

602 Fire Protection

A. Fire Hydrants

2. Location

Revise part c), first sentence to read "In business, office and institutional, and industrial zoning the maximum distance between hydrants, measured along street centerline, shall be **in accordance with the latest version of the NC Fire Code**."

Revise part d) to read "All premises where buildings or portions of the building are located **at distances** from a fire hydrant **that exceed those specified by Fire Code** shall be provided with approved on-site fire hydrants and water mains capable of supplying the fire flow required by the Fire Department."

3. Specifications

Revise "Hydrants shall be furnished with a 5-inch Storz steamer" to "Hydrants shall be furnished with a **4.5-inch** steamer".

603 Valves and Appurtenances

A. Valves

1. General

Add to the end of part a) "Valves are required regardless of whether tee connection is cut-in or made by tapping sleeve and valve. Valve requirements are not enforced unless the branch line serves more than one parcel or has more than one connected service."

604 Water Main Taps and Services

A. Design

Revise part 11., first sentence to read "No services shall be made directly to water mains that are **18**" or larger."

Add "19. There shall be no size-on-size taps allowed. All taps must be at least one size smaller than the main being tapped.

606 Testing and Inspections

B. Testing

5. Bacteriological and Turbidity Sampling

Revise part c) to read "Samples for laboratory analysis shall be collected by a Town Representative after flushing is completed. The Contractor shall set up sampling stations. A Town Seal sticker shall be placed on the sample bottle. The Town is responsible for the delivery of the sample(s) to a testing laboratory certified by the North Carolina Department of Human Resources, Division of Health Services. The testing lab will document the condition of the seal upon receipt. The Town shall furnish the Contractor with a copy of the results prior to tapping any services. All costs for laboratory testing shall be borne by the Contractor. Samples shall be taken at 2000 feet intervals, at the end of the main, at each branch connection, and each side of all cut-in connections."

Add "m) If the Inspector or any Town representative does not approve of the sampling location, equipment, or setup then the sample shall not be taken. Contractor shall only take samples when approved by the Inspector or Town Representative."

6. Tracer Wire and Marker Tape Testing

Add to the end of this part "The contractor shall submit a report of all tracer wire and marker tape testing. The Town reserves the right to require a third-party testing company at any time, at the expense of the contractor."

607 Repair and Abandonment

Add "8. <u>Abandonment of Existing Water Services</u> Contractors abandoning water services shall remove the entire service stub. When available, a mechanical plug shall be used to abandon the corporation stop. If equipment necessary to plug the main is not available, the corporation stop shall be turned off and capped. A ½" PVC pipe shall extend a minimum of 12" above the capped corporation stop, wrapped at least 3 times with caution tape to identify an abandoned tap. All remaining portions of the service stub shall be removed from the main to the right of way line and shall be disposed of properly."

Section 700 Wastewater Collection Systems

701 Gravity Sewer

A. Design

1. Main Location

Add to end of part h) "If sewer main is located within road right-of-way or on Town owned property there shall be no permanent structures, equipment, retaining walls, embankments, impoundments, landscaping, or other elements that would inhibit maintenance operations unless approved by the Water Resources Director."

Add "x) All retaining walls shall have a separation from the easement boundary of at least 1:1, vertical to horizontal. For example, if the retaining wall is 10 feet tall, it shall be placed no closer than 10 feet from the adjacent easement boundary."

B. Materials

Replace materials table with the following:

Diameter (in)	Depth (ft)*	Material
Any	≤ 4	DIP
8 – 15	4 ≤ 13	PVC SDR 35 or C900 DR 18
8 – 20	4 < D ≤ 20	PVC C900 DR 18 or DIP
> 20	Any	DIP
Any	> 20	DIP

702 Manholes

A. Design

1. Manhole Location, Siting, and Design

Revise part f), first two sentences to read "In certain isolated circumstances standard free drops may be allowed, not exceeding 24-inches. **If different size pipes,** the smaller diameter pipe crown shall be positioned no higher than the larger diameter pipe crown to limit the drop."

2. Manhole Sizing

Remove "with Extended Base" from Manhole Sizing Guide table.

C. Installation

5. Epoxy Coating

Add "c) Manholes manufactured by Armorock (or approved equal) may be used as an approved alternate to manholes that require epoxy coating."

703 Service Connection

A. Design

1. General Requirements

Revise g), second sentence to read "Service lines shall be installed **so that the crown of the service line matches the crown of** the invert **line (or higher)** or shall be installed with a standard drop."

Add to the end of part g) "All services shall be made via a boot connection when at a manhole."

704 Testing and Inspections

B. Sewer Main and Service Connection Testing

5. Video Assessment and Cleaning

Add to the end of part d) "Dye may be required in order to see dips in the pipe and for approval by the Inspector."

Revise in part f) "(flash drives and CD/DVD are also acceptable)."

Section 800 Wastewater Pumping Stations & Force Mains

801 Pump Station General A. Design Requirements Delete the last sentence of part 5.

802 Pump Station Site and Structures

C. Structures

1. General

Add "f) Structures manufactured by Armorock (or approved equal) may be used as an approved alternate for any structure that requires epoxy coating."

807 Wastewater Force Mains

A. Design

Add to end of part 2. "If sewer main is located within road right-of-way or on Town owned property there shall be no permanent structures, equipment, retaining walls, embankments, impoundments, or other elements that would inhibit maintenance operations unless approved by the Water Resources Director."

Add "15. All retaining walls shall have a separation from the easement boundary of at least 1:1, vertical to horizontal. For example, if the retaining wall is 10 feet tall, it shall be placed no closer than 10 feet from the easement."

Standard Details

Section 300 Streets

Detail 300.01 Street Typical Sections

Add 3:1 maximum slopes for grading tie-ins. Revise sidewalk cross slope to 1% to allow margin of error while still remaining ADA compliant.

Detail 300.04 Method of Removing Existing Curb Expand removal to include both curb and gutter.

Detail 300.07 Driveway Apron

Add to Note 1: "EXCEPT WHEN CONNECTING TO AN ALLEY WIDTH MAY BE INCREASED TO ALLOW AN ADDITIONAL 9' WIDE PARKING PAD IF DISTANCE FROM THE ALLEY TO THE STRUCTURE IS LESS THAN 18'." Add sheet 2 of 2, new detail for shoulder typical section.

Detail 300.08 Concrete Sidewalk

Revise sidewalk cross slope to 1% to allow margin of error while still remaining ADA compliant.

Detail 300.10 Street Cross Section Showing Utility Locations

Revise sewer depth of cover dimension to 3' from roadway subgrade, consistent with specification section 700.

Replace note with table:

VERTICAL SEPARATION	
UTILITY	DISTANCE (INCHES)
WATER & SEWER	18
WATER ABOVE STORM	24
WATER BELOW STORM DRAIN	18
SEWER & STORM	24
ALL OTHER UTILITIES	12

Detail 300.14 Street Geometric Standards

Add separate standards for Minor Collector Street, new row separate from Residential Street.

Detail 300.16 Pavement Widening Taper & Marking Revise label "NCDOT W23-10 DELINEATOR" to "OBJECT MARKER OM3-R".

Detail 300.32 Bus Stop (NEW)

Section 600 Water Distribution System

Detail 600.01, ¾" & 1" Water Service & Meter Box, Sheet 2 of 2 Delete from note 6 "CAST IRON, ASTM A48, CLASS 25".

Detail 600.12 Air Release Manhole For Water Mains

Add "OR APPROVED EQUAL" to A.R.I D-040 Combination Air Valve callout.

Detail 600.14 Multiple Branch Services

Add "AND 1" (FOR RESIDENTIAL ONLY)" to note 1 regarding multiple service connections.

Section 700 Wastewater Collection Systems

<u>Detail 700.02 Sanitary Sewer Tap & Service</u> Revise sewer depth of cover to 3' from roadway subgrade, consistent with specification section 700.

Detail 700.04, Sheet 1 of 3

Remove all references to steps in the manholes. Steps are no longer required.

Detail 700.04, Sheet 2 of 3

Remove all references to steps in the manholes. Steps are no longer required.

Detail 700.04, Sheet 3 of 3

Remove all references to steps in the manholes. Steps are no longer required.

<u>Detail 700.07</u>

Remove all references to steps in the manholes. Steps are no longer required.

Detail 700.08

Change "NON-SHRINK GROUT" callout to "BOOT CONNECTION". Where pipe enters manhole wall, non-shrink grout is no longer allowed.

Detail 700.09 (DELETE) Manhole steps are no longer required.

<u>Detail 700.20</u> Change minimum gate width from 12'-0" to 14"'-0". Add the following notes:

3. GATES MAY BE SINGLE OR DOUBLE PANEL AS LONG AS CENTERED ON THE PIPE.

4. FOR COMMERCIAL SITES, THE GATE WIDTH MUST BE AT LEAST 20'-0".

SECTION 100 PRELIMINARY CONSIDERATIONS & INSTRUCTIONS

- 101 General
- 102 Submittal Requirements A. Initial Submittal B. Second Submittal
- 103 Plan Requirements A. Subdivisions B. Site Plans
- **104** Approval of Materials
- 105 Permits
- 106 Record Drawings
 - A. Site Data
 - B. Public Roadway System
 - C. Storm Water Drainage System
 - D. Water Distribution System
 - E. Sanitary Sewer System

101 General

The Standard Specifications as contained herein are to be utilized as a minimum standard for all subdivision and utility construction projects within the jurisdiction of the Town of Apex.

The purpose of these Specifications is to present standards for typical conditions encountered. All subdivision roadway construction and utility extension projects require that the design services be performed by, or under the direct supervision of, a Professional Engineer licensed to practice in the State of North Carolina. The existence of these Standard Specifications and Details does in no way relieve the Professional Engineer of the responsibility to correctly adapt these standards to the actual site conditions encountered on any project. The PROJECT ENGINEER preparing construction drawings for a specific project must review the applicable portions of these specifications and determine that these minimum standards will function correctly for the project. There may be circumstances whereby the engineer may wish to increase pipe strength classification, bedding requirements, reinforcing, etc. In such situations where changes or modifications are proposed, the Town of Apex should be consulted prior to completion of final design and plan submittal. This will serve to help ensure that the plan

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review time is minimized. Such deviations from the TOWN'S minimum standards receiving such preliminary approval <u>by the Department Director</u> shall be clearly indicated at one location on the construction drawings, and labeled, "**Exceptions to the Standard Specifications of the Town of Apex**".

Each set of plans for subdivision construction and/or utility extension which is submitted to the Town of Apex for review shall have affixed to the cover sheet or first sheet, the following note and certification:

These improvements shall be following drawings and with Town of Apex.	constructed in accordance with the Standard Specifications	ith the of the
I,	, PE, certify that the Sta Apex have been thoroughly ch o this project. All exceptions we been previously approved acceptions are shown on sh gs.	indard ecked to the by the neet(s)
SEAL	By:, Date:	PE

Projects shall be constructed according to the Standard Specifications in effect at the time the project is submitted to the TOWN for initial review.

If construction of the project or phase of the project does not commence within 12 months after the date on which the final construction plans were approved, the approval shall be null and void. If a project approval is deemed null and void, all preliminary submittal procedures shall be repeated, and the resubmittal shall reflect any revisions in the Apex Standard Specifications and Details in effect on the date of the resubmittal. Upon written request, the TOWN may extend the approval of any project 12 months if the request is made within 12 months of the original approval.

The project contractor shall have at least 1 complete set of approved plans signed by the Town of Apex and specifications (including Town of Apex Standard Specifications and Details) at the job site at all times that work is being performed.

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102 Submittal Requirements

Persons desiring to construct subdivisions or other utility extensions within the jurisdiction of the Town of Apex must submit **final** construction drawings **sealed** by a Professional Engineer licensed to practice in the State of North Carolina. The submittal shall be made to the Development Services office. Submittal of the construction drawings shall be made only after the project has received Site Plan approval from the Planning Board and the Town Council.

The submittal process shall be as described below:

A. Initial Submittal

For the initial review, the following items shall be submitted:

- <u>Final Construction Plans</u> <u>4 paper copies and an 1</u> electronic file submittal through IDT Plans. The plan size and content shall conform to the requirements outlined in <u>Section 103</u> hereof.
- 2) <u>Storm Drainage Computations</u> 1 <u>electronic</u> copy of complete storm drainage calculations, maps, and other supporting material shall be submitted, addressing the following special issues as applicable:

* Design calculations and proof of compliance with the TOWN'S Watershed Protection Overlay District.

* Impact of concentrated run-off from upstream areas released onto the property being developed, and the measures selected to mitigate these impacts, i.e. either piping of this run-off into the storm water collection system, or the enhancement of existing drainage channels by enlargement, armoring, etc.

* Impact of concentrated run-off from the property being developed onto downstream private property. In such cases, the discharge velocity must be reduced to non-eroding levels. Refer to <u>Section 501</u>.

- 3) <u>Wastewater Pump Station & Force Main Computations</u> (if applicable) 1 copy. These calculations shall include the basis for sizing and any other calculations requested by the Town (i.e. flotation calculations, wet well sizing, drainage area, suction-lift calculations).
- 4) The Town of Apex may require "utility easements" for the conveyance of water, sewer, electric power, and communications. All "utility easements" shall specifically allow for water, sewer, electric power, and communications utilities maintenance and conveyance.
- 5) <u>Soil Erosion and Sedimentation Control Plan</u> 1 <u>electronic</u> copy of the "Request

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for Plan Approval Form" and 1 <u>electronic</u> copy of the "Financial Responsibility / Ownership Form" shall be submitted.

6) <u>Additional Design Data</u> - As may be requested.

B. Second Submittal

The Town of Apex staff will review the initial items and will comment on any items needing correction or attention. The submitter shall then make the corrections, additions, or changes to the construction drawings, pursuant to the initial review comments. The second submittal shall then be made to include the following items:

- 1) <u>*Final Construction Plans*</u> <u>4 paper copies and an 1</u> electronic <u>file copy</u> submittal through IDT Plans.
- 2) "<u>Water Distribution Extension Permit Application</u>" Form provided by the Town of Apex - 1 original and 2 copies for review by the Town Engineer. All Water Distribution Extension Permit Applications shall be accompanied by a Sealed Engineer's Report per the Town of Apex Water System Management Plan. Refer to Appendix A of these Specifications.
- 3) "<u>Gravity Sanitary Sewer Extension Permit Application</u>" Form provided by the Town of Apex - 1 original and 2 copies for review by the Town Engineer. All pump stations and force mains shall still require permitting by the North Carolina Department of Environment and Natural Resources (NCDENR). Refer to Appendix A of these Specifications.
- <u>NC Department of Transportation (NCDOT) Encroachment Forms, Driveway</u> <u>Permits, etc</u>. - Sufficient copies as required and prepared to conform to the NCDOT requirements.
- 5) <u>Storm Drainage Computations</u> 1 <u>electronic</u> copy of computations, if revised after initial review as per <u>Section 501</u>.
- 6) <u>Wastewater Pump Station & Force Main Computations</u> 1 <u>electronic</u> copy of computations, if revised after initial review.
- 7) <u>Soil Erosion and Sedimentation Control Plan</u> 1 <u>electronic</u> copy of the "Request for Plan Approval Form" and 1 <u>electronic</u> copy of the "Financial Responsibility / Ownership Form" shall be submitted, if revised after initial review.

The Town of Apex will review the revised plans and, if they are satisfactory, the submitter will be requested to bring the originals upload final plans to IDT Plans to Development Services for approval signatures and upload final CAD design file to IDT. At that time, the executed forms will also be returned to the applicant or the design engineer so that the applications and proper number of plans may be submitted to the various state regulatory

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agencies.

Erosion and sedimentation control plans should be submitted directly by the owner to *Development Services* along with the "Request for Plan Approval" and permit fees. NPDES Storm Water Notice of Intent for all sites greater than 1 acre is also required.

103 Plan Requirements

A. Subdivisions

All plan submittals for subdivision construction shall include the following elements:

- Plans <u>sealed and signed</u> by a professional engineer registered to practice in North Carolina. Plan size shall be 24" x 36" at a scale of not less than:
 1" = 50' horizontal, 1" = 5' vertical
- 2) Plan/profile drawings shall be provided for all street improvements, off-street sanitary sewers and storm sewers, water mains, sanitary sewer force mains, and for all utility extensions. All plan/profile drawings shall be prepared at a scale of not less than: 1" = 50' horizontal, 1" = 5' vertical
- 3) Boundary of the tract with all courses and distances indicated. 1 corner of the tract shall be tied to the NC Plane Coordinate System if within 2000 feet of a USGS or NCGS monument.
- 4) Vicinity Map, scale of drawings, and north arrow.
- 5) Master Plan(s) showing all improvements including: existing contour elevations (2foot intervals) and USGS datum with benchmarks indicated. Existing and proposed elevation contours shall be based on Town of Apex LIDAR topography within the corporate limits and ETJ or topography verified by a professional land surveyor.
- 6) 100-year flood plain as required by Section 6.2 of the Town's Unified Development Ordinance.
- 7) Owner and zoning of all properties adjoining the site.
- 8) Tract area and specific data required by the Apex Subdivision Ordinance or Unified Development Ordinance number of lots, average and minimum lot size, etc.
- 9) <u>Public Streets</u>
 - Street width (back-to-back of curbs).
 - Right-of-way width.
 - Horizontal curve data for each curve (centerline only).



- Vertical curve alignment.
- Sight Triangles.
- Entrance Islands with turn radii and turn paths.
- Distances to existing streets and intersections.
- Centerline linear footage (intersection to intersection, intersection to center of cul-de-sacs).
- Cross sections.

10) <u>Wastewater Facilities</u>

- Outfall lines drawings stream location, ability to serve adjoining property.
- Pipe material, size, length, slope, invert elevations at all manholes, distance(s) from other utilities.
- 100-year flood elevations and manhole top elevations, vent elevations.
- Special construction details piers, boring, encasement, drop manholes, etc.
- Easement widths.
- Pump station and force main calculations.
- Location of service laterals.
- Capacity of downstream facilities.
- Capacity of upstream facilities (existing and predicted future).

11) <u>Water Distribution Facilities</u>

- Pipe material (DIP), size, location and separation from other utilities.
- Valves, fittings, blow-offs, air release valves.
- Fire hydrant locations conforming to maximum spacing.
- Service lateral locations.
- Special details boring, etc.



- Easement widths.

- Test pressures and flow rates for any existing line to be tapped (upon request).

12) <u>Storm Drainage</u>

- Complete storm drainage calculations (Note special requirement to address impact of off-site drainage, per <u>Section 102(A)(2)</u>.
- Invert elevations and top elevations at each structure catch basin, curb inlet, yard inlet, etc.
- Invert elevation at each inlet and outlet point flared end section, head walls, etc.
- Pipe material, length, slope, etc.
- Exit velocity and details of velocity reduction facilities at each open outlet.
- Complete hydraulic calculations including hydraulic grade line analysis.
- Storm water easements and widths.
- Special details easement widths, open channels, etc.
- 13) <u>Miscellaneous Data</u>
 - OWNER/DEVELOPER: name, address, and telephone number.
 - PROJECT ENGINEER: name, address, and telephone number.
 - Utility easements as required by the TOWN.

14) <u>Review Certification By Town Of Apex</u>

The design engineer shall affix certificates to the cover sheet of the construction drawings and a signature block to the lower right hand corner of each sheet of the construction drawings except the cover page. Refer to the Construction Plan Application requirements provided by Development Services.

B. Site Plans

All site plans submittals should include, but not limited to, the following elements: Reference the Unified Development Ordinance for additional Site Plan requirements.

- 1) Plans <u>sealed and signed</u> by an engineer registered to practice in North Carolina, where public utilities, streets and pavement designs are involved, or where otherwise required by North Carolina General Statutes. Plan sheet size shall be 24" x 36".
- 2) Boundary of the tract with all courses and distances indicated. One corner of the tract shall be tied to the NC Plane Coordinate System if tract is located within 2000 feet of a USGS or NCGS monument. Total gross area of tract shall be indicated.



- 3) Vicinity map, scale of drawing, and north arrow.
- 4) Existing and proposed contour elevations at a maximum interval of 2 feet. Elevations based on USGS Datum with benchmark indicated.
- 5) 100 year flood plain as required by <u>Section 6.2</u> of the Town's Unified Development Ordinance.
- 6) Owner and zoning of all properties adjoining the site.
- 7) Benchmark elevation and location.
- 8) <u>Data on Adjoining Streets</u>
 - Street name.
 - Street width and right-of-way dimensions.
 - Existing utilities and storm drainage (size, material type, location).
 - Driveway entrances onto site and adjoining properties.
- 9) Building Site Data
 - Landscape plan including tree protection buffers.
 - Number of buildings and dwelling units in each.
 - Building footprint dimensions and finished ground floor elevation.
 - Front, side, and rear yard set backs.
- 10) Parking Data
 - Number of parking spaces provided and required.
 - Location and dimensions of parking areas angle of parking, typical width, length, aisle width, etc.
 - Number of handicap spaces provided and required.

11) <u>Storm Drainage</u>

- Pipe material, size, length, slope, etc.
- Drainage areas and run-off for each storm drain pipe.
- Invert elevation, and top elevation for each structure catch basin, yard inlet. Invert elevations for each flared end section, head wall, etc.
- Exit velocity and details of velocity reduction facilities at each outlet.
- Complete hydraulic calculations including hydraulic grade line analysis.



- Complete Storm Drainage Calculations (Note special requirement to address impact of off-site drainage, per <u>Section 102(A)(2)</u> and <u>Section 500</u>.
- Special details and storm drainage easements widths as required.

12) <u>Utilities</u>

- Waterline location, profile, type of material, and size.
- Water meter location and size; size of service branch.
- Sewer line location, profile, type of material, and size.
- Sewer service lateral size and location.
- Water and sewer easements and required utility easements.
- Fire hydrant location.
- Valve vault for fire sprinkler line (if applicable).
- Suggested transformer location.
- Electric power easements (if required).
- Storm Water Drainage Structures yard inlets, impoundments, catch basins, etc.

104 Approval of Materials

All materials to be used in the project shall conform to TOWN Specifications. Any variation from the pre-approved materials shall be submitted to the TOWN prior to beginning construction. The list shall include the manufacturer, model number and such other additional information as may be requested by the TOWN to determine compliance with these Specifications.

105 Permits

The owner shall be responsible for all applicable permits and associated fees.

106 Record Drawings

Record drawings which reflect "AS-BUILT" conditions must be submitted <u>electronically</u> <u>through IDTPlans</u> prior to start of warranty for roadways and/or public utilities to be maintained by the Town of Apex. The record drawings must be labeled "RECORD DRAWINGS" and signed by the Project Engineer of Record <u>and/or PLS</u>. The record drawings submitted to the Town of Apex shall consist of 1 permanent, reproducible drawing. An electronic file in AutoCAD format shall be submitted to the Town Engineer through IDTPlans. A survey data file (.txt) denoting the coordinates and description for each utility feature in the project scope shall be submitted to the Town Development Services group. All applicable information listed below shall be included on all "AS-BUILT"



drawings:

NOTE: Record drawings of roadways and utilities are required prior to the beginning of the one-year warranty or acceptance by the TOWN.

All PDF sheets shall show the base file (approved CD) in a transparent manner, surveyed data will be shown in a bold/solid color.

"Record Drawing" plans shall be the certified plans sealed by a professional land surveyor locating the various features applicable to the project.

The "Construction Drawing" shall be the construction document designed and certified by a professional engineer who has periodically monitored the project throughout construction and agrees with the "Record Drawing" plan as defined above.

Record Drawings are required for:

- Water and/or sanitary sewer service connections
- Doghouse manhole for service connections
- Irrigation system connections
- Water main extensions
- Fire lines (sprinkler lines)
- Fire Hydrants (including relocations of existing hydrants)
- Sewer main extensions
- Sewer outfalls
- Pump stations and force mains

The following PE and PLS Certifications are required on each sheet of the Record Drawings:

I certify that these as-builts are accurate and that each of the items listed on the Town's "Record Drawing Checklist" as contained in the Town of Apex Standard Specifications is provided on this set of record drawings (<u>total sheets in this set</u>).

I certify that all of the information provided is field-verified record drawing information.

<u>Name:</u>	
(Seal)	

Date:

Signature Registered Land Surveyor

<u>Name:</u> (Seal) Date:

Signature Professional Engineer

The following Field Survey Certification Statement is required on the cover sheet of the

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Record Drawings and the Survey data file:

I, ______, as a duly registered Professional Land Surveyor in the State of North Carolina, hereby certify that the data shown on this drawing, obtained under my supervision, is an accurate and complete representation of what was constructed in the field, that the physical dimensions or elevations shown thus are as-built conditions and the facility was constructed according to the approved plans, except otherwise noted herein.

Name:	Date:
(Seal)	
Signature Registered Land Surveyor	

A. <u>Site Data</u>

- 1. Boundary of tract with all courses and distances indicated. 1 corner of the tract shall be tied to the NC Plane Coordinate System if within 2000 feet of a USGS or NCGS monument.
- 2. Vicinity map, scale of drawings, and north arrow.
- 3. Master plan(s) showing all improvements and including existing contour elevations (2-foot intervals) and USGS datum with benchmarks indicated.
- 4. All easements identified and dimensioned.
- 5. Tract total acreage.
- 6. Total number of lots and average size.
- 7. Benchmark location and elevation.

B. Public Roadway System

- 1. Street widths (back-to-back of curb) and right-of-way dimensions.
- 2. Horizontal alignment with radii, PC's, and PT's of all curves and curve data.
- 3. Vertical alignment with centerline grades, vertical curve lengths, station numbers, and elevation of all PVC's and PVT's, and centerline profile and curve data.
- 4. Pavement sections and typical cross sections.
- 5. Geotextile fabric locations, type, and manufacturer.
- 6. Engineer's certification indicating construction of the pavement in accordance with the pavement design and specifications.

C. Storm Water Drainage System

- 1. 100-year flood limits and elevations.
- 2. Structure top and invert elevations.
- 3. Pipe size and type material.



- 4. Pipe grades and distances.
- 5. Structural BMP's (see Section 500 for detailed As-Built requirements).
- 6. Include all outlet structure details and invert elevations.
- 7. Include any applicable maintenance clauses from homeowner covenants.
- 8. Storm water easements.

D. Water Distribution System

- 1. Pipe size, location, and type material.
- 2. Separation from sanitary and storm sewer systems.
- 3. Location of valves, fire hydrants, meters, blow-off assemblies, bore and jack casings with distance locations <u>provided in a survey .txt file that includes location</u> <u>data x,y,z</u>.
- 4. Easement locations and widths.
- 5. Copy of PROJECT ENGINEER'S certification indicating construction of the water system in accordance with the approved plans and specifications.
- 5.6. Copy of the PLS certification indicating accuracy of data.

E. <u>Sanitary Sewer System</u>

- 1. Pipe size, location, and type material.
- 2. Manhole top and invert (in & out) elevations.
- 3. Pipe grades and manhole to manhole distances.
- 4. Clean-out locations with distance references <u>provided in a survey .txt file that</u> <u>includes location data x,y,z</u>.
- 5. Horizontal control (at manholes).
- 6. Easement location and widths.
- 7. Separation from water distribution and storm water systems.
- 8. Pump station test results.
- 9. Force main location, size, material type, location of air release valves and check valves, etc.
- 10. Pump station and associated appurtenances operation and maintenance manuals per <u>Section 800</u> of these specifications.
- <u>11.</u>Copy of the PROJECT ENGINEER'S certification indicating construction in accordance with the approved plans and specifications.
- 12. Copy of the PLS certification indicating accuracy of data.



For all structures and appurtenances, an electronic coordinate survey text tile (.txt) shall be submitted in the format of P,N,E,Z,D (Point Number, Northing, Easting, Elevation, Description). The descriptions used shall be common industry abbreviated terms (MH, CB, FH, WV, WM, CO, etc.) that are correctly labeled as they are in the CD file with any applicable reference numbers.



SECTION 450 UTILITY TRENCHES

- 451 Excavation and Preparation A. Preparation B. Trenching
- 452 Pipe Laying and Backfilling A. General Requirements
- 453 Pavement Repairs A. Open Trench Pavement Repair
- 454 Trenchless Pipe Installation A. Design B. Materials C. Installation
- 455 External Corrosion Protection
- 456 Rock Excavation

451 Excavation and Preparation

A. Preparation

- 1. General Requirements
 - a) Trenching for pipelines (water, gravity sewer, and force main), shall be excavated to the required depth to permit the installation of the pipe (inclusive of pipes and structures) along the lines and grades shown on the construction drawings.
 - b) Prior to trenching for the construction of any utility mains or connections, the Contractor shall locate all existing utilities within the construction zone. This may include at a minimum contacting the North Carolina One Call Center at 811 or 1-800-632-4949. Where critical Town water and sewer utilities cannot be located by traditional means, specialized utility locating, such as vacuum excavation or ground penetrating radar (GPR) may be required to locate existing utilities before excavating.
 - c) In all cases where trenchless methods are planned to cross an existing utility corridor with water, sewer, force main, and/or other Town maintained pipelines, an SUE (subsurface utility exploration) services firm shall be contracted to verify the depths of existing utilities prior to boring.
 - d) The Contractor shall be responsible for implementing all required safety provisions for trenching in compliance with the Occupational Safety and Health Administration (OSHA) regulations and all other applicable safety requirements and procedures.
 - e) Refer to Section 500 for all Stormwater installations.

B. Trenching

- 1. Trench Dimensions
 - a) The minimum trench width at the top of the pipe shall be at least 16 inches greater than the outside diameter of the pipe, the maximum shall be 24 inches greater than the outside diameter. Rock shall be removed to a depth of at least 6 inches below the bottom of the pipe and the trench backfilled with suitable material.
 - b) Open trenches shall not exceed 100-ft.
 - c) All trenches shall be confined to the limits of the right-of-way or utility easement. Trenches in paved areas shall not be sloped.

- d) All trenches shall be properly backfilled at the end of each working day.
- 2. Trench Protection
 - a) Wet gravity sewer trenches shall be stabilized with a base layer of #57 stone. The bottom of the trench shall be shaped to provide uniform support along the entire length of the pipeline. Severely unstable trench bottoms requiring undercut excavation shall receive a foundation support system for the pipeline designed by a registered Geotechnical Engineer licensed in the State of NC.
 - b) A space shall be excavated at each bell to provide ample space to join the pipes with no misalignment.
 - c) The Contractor shall take all necessary measures to prevent water from entering the trench.
- 3. Dewatering
 - a) The ground adjacent to the excavation shall be graded to prevent surface water from entering the trench. The Contractor will, at his expense, remove by pumping or other means approved by the Town, any water accumulated in the trench and shall keep the trench dewatered until bedding and pipe laying are complete. When water is pumped from the trench, the discharge shall follow natural drainage channels. Proper erosion control measures shall be employed. Direct discharge into stream is not permissible.
 - b) In gravity sewer trenches where water is present or where dewatering is required, the trench bottom shall be undercut and stabilized with No. 57 or No. 67 stone, having a minimum depth of 8-inches.

452 Pipe Laying and Backfilling

A. General Requirements

- 1. Embedment Material
 - a) Bedding and embedment material classifications shall be defined as follows:
 - 1) CLASS I Angular, (1/4 to 1-1/2 inch) graded stone, including a number of fill materials that have regional significance such

as coral, slag, cinders, crushed stone, crushed gravel, and crushed shells.

- CLASS II Coarse sands and gravels with maximum particle size of 1-1/2 inch, including variously graded sands and gravels containing small percentages of fines, generally granular and non-cohesive, either wet or dry. Soil types GW, GP, SW and SP are included in this class.
- CLASS III Fine sand and clayey gravels, including fine sands, sand-clay mixtures, and gravel-clay mixtures, Soil Types GM, GC, SM, and SC are included in this class.
- 4) CLASS IV Silt, silty clays, and clays, including inorganic clays and silts of medium to high plasticity and liquid limits. Soil Types MH, ML, CH and CL are included in this class. These materials shall not be used for embedment.
- b) Class I foundation material consisting of ¼-inch to 1½ -inch graded stone shall be required in addition to standard bedding and embedment for all sewer installations, regardless of pipe material, when the trench bottom is unstable due to water, rock, infiltration or soil type.
- c) All bedding, embedment and backfill materials shall be compacted to a minimum of 95% Standard Proctor density regardless of material. In instances where compliance with compaction requirements is questionable as determined by the Town, testing shall be provided by the Contractor and a reputable licensed Geotechnical Engineer to verify compliance.
- d) The minimum trench width shall be one pipe diameter plus 8 inches on each side of the pipe, with a maximum of 12 inches on each side of the pipe.
- e) In any area where the pipe will be installed below existing or future ground water levels or where the trench could be subject to inundation, additional Class I material shall be used for bedding.
- f) If hydraulic jack shoring is utilized for trench walls, it shall be restricted to the area just above the top of the pipe. This will ensure the embedment materials and pipe will not be disturbed when the shoring is removed.

2. Pipe Laying

- a) Open ends of pipe shall be plugged when pipe laying is not in progress to prevent trench water, soil, and debris from entering.
- b) All pipe shall be laid in accordance with the manufacturer's recommendations, all applicable Town Standards, Specifications and Details, and in accordance with construction drawings.
- c) Pipe laying shall be accomplished in a manner and with the required resources to provide a properly aligned and sealed pipeline and joints.
- d) Pipe deflection limits shall not be exceeded in accordance with manufacturer requirements.
- e) All gravity mains shall be installed beginning with the downhill section at the lowest elevation, and advanced upgrade to the terminus of the main. All bell ends shall be oriented facing the uphill direction.
- f) Laying conditions shall be defined as follows:

Type 1:

Flat Bottom Trench with Pipe Resting on Stable Undisturbed Earth. Unstable conditions such as wet trench bottoms, intermediate rock layering, partially weathered rock, and other unsuitable soil conditions shall require utilizing more stringent laying conditions. At a minimum, Type 4 laying condition shall be utilized with a minimum of 4-inches of bedding to overcome unstable conditions. For severe unstable soil conditions, undercut excavation and an engineer designed foundation plan shall be provided prior to pipeline installation.



Type 1*

Type 4:

Pipe bedded in Class 1 material, No. 67 or No 57 crushed stone to a depth of 1/8 pipe diameter or a minimum of 6-inches. Embedment material, consisting of Class 1, Class 2 or Class 3 materials, shall be compacted greater than 95% Proctor to the top of the pipe. Careful attention must be allocated to compacting embedment material under the bottom edges of the pipe.



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Type 5:

Pipe bedded in Class 1 material, No. 67 or No. 57 crushed stone to the center of the pipe and extending a minimum of 6-inches under the pipe. Granular or select embedment, consisting of Class 1 or Class 2 materials, compacted to greater than 95% Proctor installed to the top of the pipe.



g) For installations below the water table, a single layer of engineering fabric shall be installed between the pipe and trench floor/trench wall. The fabric shall fully encapsulate the waterline, bedding, and embedment material with a minimum of 12-inch overlap at the top of the embedment material.

- 3. DIP Specific Installation Requirements
 - a) Ductile iron pipe shall be installed in accordance with the requirements of AWWA C600 and the Ductile Iron Pipe Handbook published by the Ductile Iron Pipe Research Association. Materials at all times shall be handled with mechanical equipment or in such a manner to protect them from damage. At no time shall pipe and fittings be dropped or pushed into ditches.
 - b) Pipe shall be installed at laying conditions as specified herein and identified by the plan drawings. Laying conditions for ductile iron pipe shall be as described in AWWA C151 and the Ductile Iron Pipe Research Association.
- 4. PVC Specific Installation Requirements

The installation of PVC Pipe shall satisfy the requirements of the manufacturer, and/or the following, whichever is more stringent:

- a) For PVC pipe, the pipe shall be produced with bell and spigot end construction. Joining shall be accomplished by rubber gasket in accordance with manufacturer's recommendation. Flexible watertight elastomeric seals in accordance with ASTM D3212-1 may also be used. Each pipe length shall be clearly marked with information including pipe size, profile number and class number.
- b) Installation of PVC pipe shall follow the recommendations of ASTM D-2321 "Underground Installation of Thermoplastic Pipe for Sewers and other Gravity-Flow Applications". For PVC pipe installation, bedding and embedment material shall be Class I, typically No. 67 or No. 57 washed stone. Bedding and embedment materials for PVC gravity sewers other than No. 67 or No. 57 washed stone shall be approved by the Town of Apex prior to use.
- c) Bedding for gravity sewer shall consist of minimum 4-inches of No. 67 or No. 57 stone installed under the pipe (Type 4). Embedment shall extend to the top of the pipe. Bedding and embedment shall be compacted to 95% standard proctor density. Careful attention shall be placed on compacting embedment under the haunches of the pipe to prevent any potential voids.
- d) The bedding and embedment materials shall be in accordance with ASTM D-2321. The embedment materials shall be installed from trench wall to trench wall.
- e) The maximum allowable deflection after installation shall BE LESS THAN 5% for PVC pipe.

- f) All PVC pipe shall be stored properly to prevent UV damage prior to installation. Any PVC pipe with visible fading caused by UV radiation from sunlight shall be rejected.
- g) All PVC pipe shall be free from nicks, scratches and gouges at the time of installation. Such defects can impact the strength of PVC pipe and all pipes with visible gouges shall be rejected.
- 5. Backfill
 - a) Backfill material shall be free from construction material, frozen material, organic material, or unstable material. Backfill with a high clay content or high shrink-swell potential that cannot meet compaction requirements shall be deemed unsuitable and replaced.
 - b) Backfill materials that have been allowed to become saturated or with moisture contents non-conducive to meeting compaction requirements shall be deemed unsuitable and replaced.
 - c) When original excavated materials have been deemed unsuitable, granular material must be imported to the site to backfill utility trenches and meet compaction requirements. The following materials shall be acceptable forms of granular backfill: aggregate base course, soil type base course, select backfill material, sand or screenings in accordance with NCDOT Specifications.
 - d) In all open utility trenches, backfill shall be compacted to 95% maximum dry density as measured by AASHTO method T99. The Contractor shall be responsible for verifying that compaction requirements have been met or exceeded by providing soils testing data from an approved Geotechnical Firm. The soil test results shall be certified by a licensed Geotechnical Engineer.
 - e) Backfill for utility trenches shall be placed in lifts of uncompacted soil in accordance with the standard detail and compacted with a mechanical tamp before placing additional layers.
 - f) No rocks, boulders, or stones shall be included in the backfill material for at least 2 feet above the top of the pipe. In traffic areas, the final backfill shall be placed and compacted in 6-inch layers. Backfill shall be of such density as to ensure no settlement of the trench.
 - g) A compaction test shall be performed every 1,000 feet for utility installations, with a minimum of one test per utility by a licensed Professional Engineer and shall be coordinated and submitted at the Contractor's expense. The location of tests shall be determined by the Town. The Town may request

additional testing. Additional tests that are deemed passing will be at the Town's expense, failed tests shall be paid for by the Contractor. Organic material shall not be permitted for backfill.

- h) Should any water line trench exhibit settlement, the Contractor shall correct the deficiency to the complete satisfaction of the Town. Where a utility line is in or crosses existing State roads or other public roads, the backfill shall be compacted to at least 95% standard density as measured by <u>AASHTO</u> <u>Method T-99</u>, or in accordance with NCDOT specifications, whichever is more stringent.
- i) For permitted open-cut utility installations and/or tie-ins, the Town may require that "flowable fill" be used for backfill material. If required, 1 foot of approved natural backfill material shall be compacted over the main per Apex Specifications, the remaining excavated trench shall be backfilled with "flowable fill". Within seven (7) days after the excavation has been filled, the open-cut area shall be repaired per the Standard Detail.
- 6. Pipe Identification and Marking
 - a) Marking Tape
 - Installation: Marking tape shall be installed continuously and longitudinally along all mains and services for new construction and for any repair or retrofit construction using open trench methods. For service connections, the marking tape shall extend from the main line to the meter or first cleanout off the main/manhole. Marking tape shall be installed directly above the center of the pipe and at least 18-inches deep from final grade to a maximum depth of 24-inches below final grade.
 - 2) Specifications: The marking tape shall be made of polyethylene (or approved equivalent) material, 63-inches wide and a minimum of 6-3 millimeters thick, manufactured specifically for identification of buried utilities. The marking tape shall have detectable markers embedded in the tape and spaced adequately to provide continuous detection along the tape from above the buried pipe at final grade. The tape color shall be in accordance with the utility being installed:
 - a. Blue for water and shall be marked with words "CAUTION WATER LINE BURIED BELOW" (or an approved equivalent wording).

- b. Green for gravity sewer and force mains and shall be marked with words "CAUTION SEWER LINE BURIED BELOW" (or an approved equivalent wording).
- 3) The wording shall be repetitive along the full length of the tape.

b) Tracer Wire

- 1) Tracer wire shall be installed with all water and forcemain piping and color coded blue for water or green for forcemain.
- 2) Tracer wire access must be provided utilizing an approved grade level/in-ground trace wire access box, located in line over the utility to be located. The grade level/in-ground trace wire access box shall be delineated using a concrete marker with a brass plate per Standard Detail.
- 3) All tracer wire and trace wire products shall be domestically manufactured in the U.S.A.
- 4) All tracer wire shall have HDPE insulation intended for direct bury, blue in color for water and green in color for sewer, coated per APWA standard.
- 5) Tracer wire systems must be installed as a single continuous wire, except where using approved connectors. No looping or coiling of wire is allowed.
- 6) Wire installation method requirements are:
 - a. Open Trench Trace wire shall be #12 AWG Copper Clad Steel, High Strength with minimum 450 lb. break load, with minimum 30 mil HDPE insulation thickness.
 - b. Directional Drilling/Boring Trace wire shall be #12 AWG Copper Clad Steel, Extra High Strength with minimum 1,150 lb. break load, with minimum 30 mil HDPE insulation thickness.
 - c. Pipe Bursting/Slip Lining Trace wire shall be 7 x 7 Stranded Copper Clad Steel, Extreme Strength with 4,700 lb. break load, with minimum 50 ml HDPE insulation thickness.
- 7) Direct bury wire connectors shall include 3-way lockable connectors and mainline to lateral lug connectors specifically

manufactured for use in underground trace wire installation. Connectors shall be dielectric silicon filled to seal out moisture and corrosion, and shall be installed in a manner so as to prevent any uninsulated wire exposure.

- 8) Non locking friction fit, twist on or taped connectors are prohibited.
- 9) Termination and access requirements as follows:
 - a. Tracer wire access points are to be no more than 500' apart.
 - All tracer wire termination points must utilize an approved tracer wire access box (grade level/inground access box as applicable), per Standard Detail.
 - c. All grade level/in-ground access boxes shall be appropriately identified with "water" or "sewer" cast into the cap, per Standard Detail.
 - d. A minimum of 2 ft. of excess/slack wire is required in all trace wire access boxes after meeting final elevation.
 - e. All tracer wire access boxes must include a manually interruptible conductive/connective link between the terminal(s) for the tracer wire connection and the terminal for the grounding anode wire connection.
 - f. Grounding anode wire shall be connected to the identified (or bottom) terminal on all access boxes.
 - 10) Test Stations shall be 2 ½" diameter with 2 terminals, green and be equivalent to Bingham and Taylor model P225 SR or Copperhead model LD12 TP and shall be installed in a valve box per Standard Detail.
- 11) A grounding anode shall be installed at each test station equivalents to Copperhead model ANO-1005.
- c) Marker Tape and Tracer Wire Testing
 - Testing of the marker tape and tracer wire shall be performed by the Contractor at the completion of the project to assure they are all working properly. It is the Contractor's

responsibility to provide the necessary equipment to perform all testing. Any defective, missing, or otherwise non-locatable units shall be replaced.

453 Pavement Repairs

A. Open Trench Pavement Repair

- 1. General Requirements
 - a) All pavement cuts shall be repaired within a maximum of three (3) days from the date the cut is made. If conditions do not permit a permanent repair within the given time limit, permission to make a temporary repair must be obtained from the Town.
 - b) Pavement repairs shall be made in accordance with the Details.
 - c) All asphalt pavement utilized to repair open trenches shall comply with all applicable Town of Apex asphalt pavement material and installation Specifications.
 - d) All pavement patches shall be provided in such a manner that a uniform and smooth driving surface free of depressions and/or bumps is obtained. Pavement patches not meeting this standard shall be milled and replaced.
 - e) All utility mains installed by open cut across Town or NCDOT roadways shall include steel encasement, sized in accordance with tables found in this specification.

454 Trenchless Pipe Installation

A. Design

- 1. General Requirements
 - a) All utility crossings within Town streets shall be made by trenchless methods. State maintained streets within the Town ETJ should also be crossed using trenchless methods. In cases where utility conflicts, rock, or other obstructions prevent trenchless crossings, the Town may consider approving other methods.
 - b) The preferred trenchless method shall be auger boring. Alternate trenchless methods including microtunneling, guided boring,

conventional tunneling, horizontal directional drilling or hand tunneling may be approved after thorough evaluation by the Water Resources Department.

- c) In addition to meeting or exceeding all Town requirements, all trenchless crossings shall be approved by and meet the requirements of all controlling legal authorities, such as NCDOT, Norfolk Southern Railway, CSX Corporation, Colonial Pipeline, Cardinal Pipeline, and Dixie Pipeline.
- d) Direct bores may be made without a casing pipe on pipelines 6-inches in diameter and smaller.
- e) Encasement pipe shall be installed with all trenchless construction methods (excluding horizontal directional drilling when it is approved and as noted above). There shall be a minimum cover of 4-ft between the pavement subgrade and the top of the casing pipe. Under no circumstances shall the pavement subgrade be disturbed.
- f) Permanent easements shall be provided at all trenchless pits to allow for future access to casing pipes.

B. Materials

- 1. Encasement Pipe
 - a) Encasement pipe shall be new and manufactured of grade 'B' steel with minimum yield strength of 35,000-psi in accordance with ASTM A139 and A283.
 - b) All casing pipe shall have machine cut, bevel ends that are perpendicular to the longitudinal axis of the casing. Ends shall be plumb and welded without the use of filler material.
 - c) Size and minimum wall thickness of smooth wall or spiral welded steel encasement pipe shall be as shown in the below table. Actual wall thicknesses shall be determined by the casing installer based on their evaluation of the required forces to be exerted on the casing when it is installed.
| Encasement Pipe | Minimum Wall |
|------------------|--------------|
| Outside Diameter | Thickness |
| (inches) | (inches) |
| 14 | 0.375 |
| 16 | 0.375 |
| 18 | 0.375 |
| 20 | 0.375 |
| 24 | 0.375 |
| 26 | 0.500 |
| 28 | 0.500 |
| 30 | 0.500 |
| 36 | 0.625 |
| 42 | 0.625 |
| 48 | 0.750 |
| 54 | 0.750 |
| 60 | 0.750 |
| 66 | 0.750 |

Minimum Wall Thickness of Steel Encasement Pipe

- d) Encasement pipe installed for railroad bores shall meet the requirements of the American Railway Engineering Association (AREA) for boring under railroads.
- e) Encasement pipe shall be sized in accordance with the standard detail.
- 2. Casing Pipe Spacers and End Closures
 - a) The carrier pipe shall rest on steel pipe alignment spacers. The spacers shall have either a bituminous or epoxy coating. A minimum of 3 steel spacers per joint shall be required on carrier pipe less than 36-inches. Carrier pipe greater than or equal to 36-inches shall have a fourth spacer. The steel spacers shall be located evenly along the carrier pipe alignment in such a manner that each spacer supports the same unit weight of carrier main. The spacing interval of the steel spacers shall assure the necessary grade, clearance, and support of the carrier main. The spacers shall be manufactured for the specific carrier pipe and casing pipe diameters being used such that the risers do not allow the pipe to float within the casing.
 - b) In cases where the encasement pipe is installed in within the easement of facilities with stray current, such as gas lines, high voltage power transmission lines, petroleum lines, railroad tracks, etc., the spacers shall be a composite material such as an ultra-high molecular weight polyethylene plastic to prevent transmitting the stray current to the carrier pipe.

- c) In cases where PVC carrier pipe is installed in an encasement pipe, steel spiders with soft contact surfaces rated for use with PVC pipe shall be used.
- d) The carrier pipe bells shall not be allowed to contact the interior of the encasement pipe under any circumstances.
- e) No blocks or temporary spacers shall be wedged between the carrier pipe and the top of the encasement pipe.
- f) The ends of the encasement pipe shall be sealed using solid 8-inch bricks and a non-shrink grout.
- g) A 2-inch galvanized vent pipe shall be provided on the upper end of the casing on all stream and railroad crossings.
- 3. Carrier Pipe
 - a) All carrier pipe shall be manufacturer provided restrained joint ductile iron pipe except for sewer force mains in which restrained PVC C900 may be utilized in compliance with Section 0800.
- 4. Polyethylene (PE) Pressure Pipe
 - a) Pipe shall be certified and listed for potable water distribution products in accordance with NSF 61 and bear the NSF seal on each section of pipe.
 - b) Outside diameter shall conform with ductile-iron pipe.
 - c) Material for pipe manufacturing shall be PE 3408 high density polyethylene (HDPE) meeting ASTM D3350 cell classification of 345444C.
 - d) Pipe shall be pressure class PC 250 with a standard dimension ratio (DR) of 9.
 - e) Fittings shall be made of material meeting the same requirements as the pipe.
- 5. Fusible Polyvinylchloride Pipe
 - a) Fusible polyvinylchloride pipe shall conform to AWWA C900. Testing shall be in accordance with AWWA standards.

- b) Pipe shall be DIPS standard dimensions with a minimum pressure rating of 235 psi (DR18) and the size as indicated on the Drawings.
- c) Piping shall be made from a PVC compound conforming to cell classification 12454 per ASTM D1784.
- d) Fusible polyvinylchloride pipe shall be extruded with plain ends. The ends shall be square to the pipe and free of any bevel or chamfer. There shall be no bell or gasket of any kind incorporated into the pipe.
- e) Fusible polyvinylchloride pipe shall be manufactured in standard 40 foot nominal lengths.
- f) Fusible polyvinylchloride pipe shall be blue in color for water use or green in color for wastewater use.
- g) Pipe generally shall be marked per industry standards, and shall include as a minimum:
 - 1. Nominal pipe size
 - 2. PVC
 - 3. Dimension Ratio
 - 4. Pipe legend or stiffness designation, or AWWA pressure class
 - 5. AWWA Standard designation number
 - 6. Extrusion production-record code
 - 7. Trademark or trade name
 - 8. Cell Classification 12454 and/or PVC material code 1120 may also be included.
- h) Pipe shall be homogeneous throughout and be free of visible cracks, holes, foreign material, blisters, or other visible deleterious faults.

C. Installation

- 1. General Requirements
 - a) As the trenchless operation progresses, each new section of encasement pipe shall be joined using full penetration seal welds prior to installation of the casing. Joints shall be electric-fusion welded by operators qualified in accordance with the American Welding Society's standard procedure for arc welds. The welds shall be capable of transmitting all thrust and other loads across the joints.
 - b) If voids are encountered while installing encasement pipe thirty (30) inches and larger, 2-inch or larger grout holes shall be installed at ten (10) foot centers in the top section of the encasement pipe. The grout

holes shall be used to fill the void spaces with 1:3 Portland cement grout at sufficient pressure to prevent settlement of the roadway, unless NCDOT approval stipulates otherwise. Other grout mixtures may be submitted for approval.

- c) In the event that an obstruction is encountered during the trenchless operations, the equipment shall be withdrawn. The pipe shall be cut off, capped, and filled with 1:3 Portland cement grout at a sufficient pressure to fill all voids before moving to another boring site.
- d) Restrained joint ductile iron carrier pipe shall be <u>pulled</u> into the casing pipe. Pipe lined with Protecto 401 for sewer application shall never be pushed into a casing.
- 2. Settlement Surveying
 - a) For all trenchless operations of 100-ft or more, the ground surface elevations shall be recorded prior to beginning work.
 - 1. At a minimum, survey points shall be identified with a nail or hub located as follows:
 - i. Road crossings: Centerline and each shoulder/curb
 - ii. Utility and Pipeline Crossings: Directly above and 10-ft each side of the crossing
 - iii. All locations: Points shall not exceed 50-ft spacing
 - 2. Elevations at each point shall be recorded with an accuracy of 0.01-ft.
 - b) Settlement observations shall be made each day until the pipe/casing is fully installed. Once installed, observations shall be made weekly for a period of at least four (4) weeks.
 - c) Readings shall be reported to the Infrastructure Inspector.
 - d) In the case of observed settlement, the monitoring points and observation frequency shall be increased as determined by the Town.

- 3. Horizontal Directional Drilling
 - a) General
 - 1. Drill pilot hole along the path shown on the Drawings to the following tolerances:
 - a. Vertical Location Plus or minus 1 foot
 - b. Horizontal Location Plus or minus 3 feet.
 - 2. At the completion of the pilot hole drilling, provide a tabulation of coordinates referenced to the drilled entry point which accurately describes the location of the pilot hole.
 - 3. Perform reaming diameter to 1.25 to 1.5 times the outside diameter of the pipe being installed. Prepare pipe to facilitate connection to the remainder of the pipeline being installed.
 - 4. Use care to protect the pipe from scarring, gouging, or excessive abrasion.
 - 5. Method of connection between HDD pipe and other pipe materials shall be as indicated on the Drawings.
 - 6. Pipe shall be deflected within the tolerances as provided by the pipe manufacturer.
 - 7. For drills under structural conditions (i.e., roadways), perform reaming diameter to 2 inches maximum greater than outside diameter of the pipe being installed. If larger size is necessary, provide statement from North Carolina Professional Engineer stating that "an overbore in excess of 2-inches will arch and no damage will be done to pavement or sub-grade".
 - b) Fusible Polyvinylchloride (FPVC) pipe
 - 1. General
 - a. Installation guidelines from the pipe supplier shall be followed for all installations.
 - b. The fusible polyvinylchloride pipe will be installed in a manner so as not to exceed the recommended bending radius guidelines.

- 2. Handling and Storage
 - a. Pipe shall be offloaded, loaded, installed, handled, stored and stacked per the pipe supplier's guidelines. These guidelines include compliance with the minimum recommended bend radius and maximum safe pull force for the specific pipe being used.
- 3. Fusion Joints
 - a. Fusible polyvinylchloride pipe lengths shall be assembled in the field with butt-fused joints. The fusion technician shall follow the pipe supplier's guidelines for this procedure. All fusion joints shall be completed as described in this specification.
- 4. Fusion Process
 - a. Fusible polyvinylchloride pipe will be handled in a safe and non-destructive manner before, during, and after the fusion process and in accordance with this specification and pipe supplier's guidelines.
 - b. Fusible polyvinylchloride pipe will be fused by qualified fusion technicians holding current qualification credentials for the pipe size being fused, as documented by the pipe supplier.
 - c. Pipe supplier's procedures shall be followed at all times during fusion operations.
- 5. Installation
 - a. Once installed according to manufacturer's requirements, the contractor shall make connections to the open cut pipe by means of mechanical joint fittings, taking care to correct horizontal or vertical alignment with the fittings rather than the Fusible PVC.

455 External Corrosion Protection

- 1. General Requirements
 - a) External corrosion can occur at an accelerated rate in metallic pipelines such as steel and ductile iron when they are installed in aggressive soils

or when they are installed near other structures or utilities that carry impressed currents. Such facilities that typically utilize impressed current cathodic protection are gas pipelines, such as owned by Colonial Pipeline, Cardinal Pipeline and Dixie Pipeline. Other potential sources that may create stray currents that contribute to accelerated pipeline corrosion are high voltage power transmission lines and railroad crossings.

- b) In cases where metallic steel and ductile iron pipelines or encasement pipes are planned for installation in close proximity to any potential sources of stray current or aggressive soils, zinc coated pipe shall be specified and a field analysis consisting of stray current evaluation and soil testing shall be conducted by an experienced technician, as certified by the National Association of Corrosion Engineers, (NACE), to determine the potential for external corrosion and the need for additional protection measures. In cases where stray current conditions and/or aggressive soils are prevalent, a corrosion specialist certified by the NACE or other applicable certification board shall be consulted regarding the design of pipeline protection measures.
- c) At a minimum, all stray current protection systems should include bonded joints and sacrificial anodes with a 50-year or longer design life and test facilities in lieu of polyethylene encasement, unless otherwise approved by the Town of Apex. The cathodic protection element of the pipeline design package shall be sealed by Professional Engineer licensed in the State of NC.
- d) Full impressed current cathodic protection shall only be utilized when extreme corrosion potential has been proven and/or as otherwise directed by the Water Resources Department and the certified corrosion engineer of record.
- e) When field conditions require cathodic protection, the Engineer must provide alignment showing no practical alternative, as well as calculations and design of cathodic protection system. Design shall include, but not be limited to, the provisions of all instruments, anodes, wiring, appurtenant equipment, and accessories and must be specifically called out on the drawings for a complete and operating cathodic protection system.
- f) All ductile iron pipe that is installed within 60 feet of any gas line shall be wrapped with a dual layer of 8 mil polyethylene encasement. The dual polyethylene encasement shall meet AWWA C105 requirements for dielectric strength of 800 volts per mil (12,800 volts per a 16-mils thick dual polyethylene system) to shield the ductile pipe from elevated stray currents.

g) Perpendicular crossings of gas lines/easements with ductile iron pipe shall include a dual layer of 8 mil polyethylene encasement across the entire easement width plus a distance of 60 feet on each side of the easement.

456 Rock Excavation

- 1. General Requirements
 - a) Rock shall be defined as that solid material that cannot be excavated, in the opinion of the Water Resources Director, by any means other than drilling and blasting, drilling and wedging, or boulders and broken concrete exceeding ½ cubic yard in volume. Rock shall be excavated to the same limits as earth excavation except that the trench shall be made 6- inches lower than the outer bottom of the pipe. This 6-inches shall be refilled with 6-inches of #67 stone and thoroughly compacted to the subgrade level. All blasting shall be done under the supervision of the Town Inspector or Engineer and subject to all applicable regulations. The Town reserves the right to require the removal of rock by means other than blasting where any pipe or conduit is either too close to or so situated with respect to the blasting as to make blasting hazardous. Rock taken from the ditch shall immediately be hauled away and disposed of by the contractor.
 - b) Blasting procedures shall conform to all applicable local, state and federal laws and ordinances. A blasting permit shall be obtained from the Town's Fire Marshal's Office, prior to any blasting. The application shall be obtained 24-hours before any blasting takes place, and the Fire Marshal may specify the hours of blasting. The contractor shall take all necessary precautions to protect life and property, including the use of an approved blasting mat where there exists the danger of throwing rock or over-burden. The contractor shall keep explosive materials that are on the job site in special constructed boxes provided with locks. Failure to comply with this specification shall be grounds for suspension of blasting operations until full compliance is made. No blasting shall be allowed unless a galvanometer is employed to check cap circuits. Where blasting takes place within five-hundred feet of a utility, structure or property which could be damaged by vibration, concussion or falling rock, the contractor shall be required to take seismograph readings and to keep a blasting log containing the following information for each and every shot:
 - 1) Date of shot
 - 2) Time of shot
 - 3) Crew Supervisor
 - 4) Number and depth of holes

- 5) Approximate depth of overburden
- 6) Amount and type of explosive used in each hole
- 7) Type of caps used (instant or delay)
- 8) The weather
- 9) Seismograph instrument and readings
- c) This blasting log shall be made available to the Water Resources Director upon request and shall be kept in an orderly manner. It shall be the contractor's responsibility to have adequate insurance to cover any damages resulting from blasting so to hold the Town of Apex harmless from any claims.

SECTION 500 STORM DRAINAGE

- 501 Design
 - A. General
 - B. Location
 - C. Easements
 - D. Depth of Cover
- 502 Materials Storm Drainage Pipe
 - A. General
 - B. Reinforced Concrete Pipe (RCP)
 - C. Corrugated Polypropylene Pipe (CPP)
 - D. Corrugated Aluminized Steel Pipe Type 2 (CSP)
 - E. Corrugated Aluminum Pipe (CAP)

503 Materials - Storm Drainage Structures

- A. General
- **B. Concrete Brick Masonry Units**
- C. Precast Concrete Manholes
- D. Mortar
- E. Castings
- F. Portland Cement Concrete
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- H. Connections
- 504 Miscellaneous Materials A. Rip Rap
- 505 Inlets and Outlets A. Headwalls, Endwalls, and Flared End Sections B. Dissipaters and Scour Protection
- 506 Stormwater Control Measures (SCMs) within the Primary and Secondary Watershed Protection Overlay Districts
- 507 Construction Methods

 A.Trenching & Bedding for Storm Sewers
 B. Pipe Laying
 C. Backfilling
 D. Masonry Structures
 E. Concrete Construction
 F. Installation of Precast Concrete Structures
- 508 Inspection Prior to Acceptance
- 509 Maintenance of Municipal Separate Storm Sewer System (MS4)

501 Design

A. General

Storm drainage facilities shall be designed to dispose of stormwater generated upon or passing through the project location. The determination of the quantities of water which must be accommodated will be based upon peak flows from storms having the following return periods:

Drainage Structure	Design Storm Event - Return Frequency
Roadside Ditches	10-year storm
Curb Inlet	4 inches/hour
Storm Sewer Collector	10-year storm
Cross Street Storm Drainage	25-year storm
Greenways	25-year storm
Structures in Floodplain	100-year storm*

*Drainage structures in the floodplain should pass 100-year storm without over-topping the roadway -- or in the alternative, the structures may be designed to pass only the 25-year event, in which case, the downstream roadway embankment shall be fully protected from the residual flow which may overtop the roadway during a 100-year event.

- 1. Runoff rates shall be calculated by the Rational Method (for drainage areas less than 2 square miles), SCS Method (for drainage areas greater than 2 square miles) or other acceptable procedures. Runoff computations shall be based on rainfall data for the last 30 years published by the National Weather Service for this area.
- 2. Time of concentration (tc) shall be determined using standard acceptable methods and the storm duration shall equal tc.
- 3. Pipe shall be sized in accordance with the Manning Equation and applicable nomographs to carry the design flow and to provide a velocity of at least 2.5 feet per second during the 2-year storm event.
- 4. Culverts shall be sized in accordance with the Energy Equation and applicable nomographs to carry the design flow and to provide a velocity between 2-10 feet per second during the 2-year storm event.
- 5. Channels and ditches shall be designed to carry the design flow at nonerosive velocities. Calculations indicating design velocities shall be provided along with typical channel cross-sections. The maximum allowable design velocity in grass channels is 4 feet per second.
- 6. A Hydraulic Grade Line (HGL) study shall be performed for all public storm drainage systems. Where the public storm drainage system conveys stormwater into a private SCM, the Q₁₀ staging elevation shall be used as the starting point for

Section 500 - St - Page 83 - e - Page 2 of 14 Effective Date: TBD the study. The study shall include profiles that show inverts, slopes, proposed finished grade and HGL. The HGL shall be required to stay within the pipe to ensure no surcharge on the system. ASTM Standard C443 (O Ring or Single Groove) water tight sealed pipe shall be used in cases where it is not practicable.

- 7. Stream crossings will necessitate a backwater study on the 100-year storm event. The localized 100-year flood elevation at each crossing is not allowed to stage onto an individual lot.
- 8. The minimum allowable slope is 0.50% or the slope which will produce a velocity of 2.5 fps when flowing full, whichever is greater for all proposed pipes and culverts.
- 9. The following criteria for headwater shall be used (based on the design storm):
 - a. Minimum 12 inch freeboard for culverts up to 36"
 - b. Minimum 18 inch freeboard for culverts greater than 36"
 - c. Elevations established will delineate localized floodplain
 - d. $HW/D \le 1.2$

Prediction of the peak flow rates shall be calculated using the procedure in the USDA Soil Conservation Service Method, the Rational Method, or other acceptable calculation procedures as determined by the TOWN. The size of stormwater conduits shall be determined by utilizing the standard energy equation for inlet control or outlet control and headwater nomographs as published by various federal agencies – US FHWA - H.E.C. #5, Soil Conservation Service, etc. The minimum pipe size to be used shall be 15-inch diameter.

Discharge from the stormwater drainage systems shall not be of such a velocity as to cause damage after leaving the pipe. Maximum allowable outlet velocity will be 2.5 feet per second (refer to "Code of Ordinances, Town of Apex, North Carolina"; Chapter 5, Article X, Sec. 5-149). Exiting velocities shall be in conformance with the sedimentation and erosion guidelines and outlet protection used whenever the velocity exceeds the allowable limit. Pipe outlets, flared end sections and head walls shall be provided, with rip-rap aprons designed to reduce velocity and dissipate energy so that downstream damage from erosion does not occur. Calculations shall be submitted with plan review.

B. Location

Manholes or structures shall be installed at each deflection of line or grade. Acute angle junctions (angles less than 90 degrees) between pipe runs should be avoided. No inaccessible junction boxes shall be permitted. The maximum distance between access openings shall not exceed 400 feet for pipes 30 inches and smaller. For pipes 36 inches and larger, the maximum distance between access openings may be increased to 500 feet.

Stormwater shall not generally be allowed to flow across the roadway. Any deviation shall require pre-approval by the ENGINEER. Catch basins shall be provided to intercept the flow prior to the radius of an intersection, or the design of the roadway shall indicate a continuous grade around the radius to allow the flow to continue down the intersecting street. Inlet spacing shall be sufficient to limit spread to no more than half of a through lane during a 4-inch per hour rain storm. No catch basin shall be installed in the radius of

a curve.

Stormwater that is piped or is conveyed as open channel flow and originates within or passes through the public street rights-of-way shall be conveyed through a contiguous public drainage easement. The public drainage easement must extend from the public street rights-of-way through points downstream, to the point of open discharge.

In natural drainage ways, a storm drain main shall be extended to the property lines to readily enable future connection to adjoining upstream property. Storm design shall account for future upstream development based on the current land use plan and shall include an evaluation of the existing downstream storm capacity.

Private storm drainage systems will be permitted, provided that: (1) such systems collect and discharge impounded stormwater wholly within the same lot; or (2) such systems collect water from one single lot and discharge into the public storm drainage system; or (3) such systems are properly engineered and approved on the signed set of construction drawings. Private storm drainage systems that connect to the public storm drainage system shall have the connecting leg of such a system, which crosses into the public street rights-of-way or easement, constructed in accordance with TOWN specifications, including but not limited to: the necessary easements, piping, inlets and junction boxes. Connection of plastic pipe to TOWN infrastructure is prohibited. Piped private storm drainage systems may not cross property lines, convey stormwater from one lot to another unless criterion #3 is met, or point discharge adjacent to curb. Where permitted by topography and site conditions, storm drainage systems that serve a single nonresidential lot (i.e., parking lots, private streets, vehicular use areas), shall be privately maintained.

C. Easements

All storm sewers shall be installed in dedicated street rights-of-way or easements. Minimum width of permanent storm drainage easements for public storm drain pipe shall be 20 feet. Where storm drain pipes are installed at a depth in excess of 10 feet or for pipes greater than or equal to 36-inch diameter, the easement widths shall be increased in accordance with the following table:

Pipe Diameter (in)	Pipe Depth (D, ft)	Easement Width (ft)
36 48	10 < D ≤ 15	30
54 72	15 < D ≤ 20	40
> 72	> 20	To be determined by the TOWN

No structures or equipment such as buildings, fences, playsets, pools, HVAC units, etc. shall be placed within any public easement. The Town of Apex is not liable for any

damage to personal property located on public easements that may occur resulting from enactment of official duties.

Where multiple pipes are installed, the edges of the easement shall be a minimum of 10 feet from the centerline of the outside pipe with 3 feet clearance between the exterior of the parallel storm sewer pipes. Pipes shall not outfall in the front yard of a lot, but should extend to the rear third of the lot or property line in residential subdivisions.

D. Depth of Cover

Cover heights shall be as follows:

- Reinforced Concrete Pipe (RCP)
- Corrugated Polypropylene Pipe (CPP)
- Corrugated Aluminized Steel Pipe Type 2 (CSP)
- Corrugated Aluminum Pipe (CAP)

	RCP		
CLASS	MIN (ft)	MAX (ft)	
	2	20	
IV	1	30	

	C	CPP CSI		SP CA		4 <i>P</i>
Pipe Diameter (in)	MIN (in)	MAX (ft)	MIN (in)	MAX (ft)	MIN (in)	MAX (ft)
15	12	28	12	158	12	98
18	12	28	12	131	12	81
21			12	113	12	69
24	12	26	12	98	12	60
30	12	26	12	79	12	57
36	12	20	12	65	12	47
42	12	20	12	55	12	40
48	12	20	12	48	12	35
54			12	56	15	31
60	24	20	12	50	15	28

502 <u>Materials – Storm Drainage Pipe</u>

A. General

All storm sewer pipes to be installed in projects within the jurisdictional limits of the TOWN shall conform to the specifications presented herein. In special cases where material other than those listed below is requested, the applicant's plan submittal must contain a formal request to use other material and complete background data to justify its use.

B. Reinforced Concrete Pipe (RCP)

RCP shall be as per <u>ASTM C76</u> (or the latest revision), Class III or Class IV with a minimum 15-inch diameter. All joints shall include rubber gaskets conforming to <u>ASTM C</u> <u>1628</u>. All RCP installed on thoroughfare routes shall be approved and stamped by the NCDOT Materials and Tests Unit at the manufacturer's facility prior to delivery.

Any of the following criteria will be grounds for rejection of RCP material:

- 1) Any fracture or crack that visibly passes through the wall of pipe;
- 2) Any fracture or crack that is 0.01 inch wide or greater at the surface and 12 inches or longer regardless of position in the wall of the pipe;
- 3) Offsets in form seam that would prevent adequate concrete cover over reinforcing steel;
- 4) Delamination in the body of the pipe when viewed from the ends;
- 5) Evidence of inadequate concrete cover for reinforcing steel;
- 6) Any severe surface condition that affects the majority of the pipe section surface and could reduce the durability and service life of the pipe;
- 7) Damaged or cracked ends where such damage would prevent making a satisfactory joint.

C. Corrugated Polypropylene Pipe (CPP)

The pipe and fittings shall be an annular corrugated wall and a smooth interior wall (double-wall) or pipe and fittings with an annular corrugated wall and a smooth interior and exterior wall (triple-wall), conforming to the requirements of <u>ASTM F2764</u> and AASHTO Specifications M330 (latest edition) for Corrugated Polypropylene Pipe.

Bell and spigot joints are required on all pipes. Bells shall cover at least two full corrugations on each section of pipe. The spigot shall be double-gasketed. The bell and spigot joint shall have "O"-ring rubber gaskets meeting <u>ASTM F477</u> with the gaskets factory installed and placed on the spigot end of the pipe. Pipe joints shall meet all requirements of AASHTO M330. Transitions from CPP to RCP shall be made with the appropriate adapter. Refer to Section 505 A.

D. Corrugated Aluminized Steel Pipe - Type 2 (CSP)

Aluminized Steel Type 2 pipe shall be 14 gauge minimum for 15-inch and 18-inch diameters, 12 gauge for all other sizes. Coils shall conform to the applicable requirements of <u>ASTM A929</u>. CSP shall be manufactured in accordance with the applicable requirements of <u>ASTM A760</u>. All fabrication of the product shall occur within the United States. Coupling bands shall be made of the same base metal and coatings as the CSP to a minimum of 18 gauge.

E. Corrugated Aluminum Pipe (CAP)

Aluminum pipe shall be 14 gauge minimum. Coils shall conform to the applicable requirements of <u>ASTM B744</u>. CAP shall be manufactured in accordance with the

applicable requirements of <u>ASTM B745</u>. All fabrication of the product shall occur within the United States. Coupling bands shall be made of the same base metal and coatings as the CAP to a minimum of 18 gauge.

503 Materials - Storm Drainage Structures

A. General

All structures (manholes, curb inlets, catch basins, junction boxes, etc.) shall be constructed of concrete brick masonry units, cast-in-place reinforced concrete, or precast concrete. Structures shall be repaired and re-built with solid concrete brick and mortar. Materials such as broken concrete pipe, clay brick, and rock are prohibited. Structure walls shall be repaired to original manufacturer conditions. Waffle boxes are not permitted. All pre-cast boxes shall be solid boxes.

Curb inlets in streets with curb and gutter shall be NCDOT type standard frame, grate, and hood.

B. Concrete Brick Masonry Units

Concrete brick masonry units shall be solid units meeting the requirements of <u>ASTM C55</u>, Grade S-II. Clay brick shall not be permitted for any drainage structure.

C. Precast Concrete Manholes

Pre-cast concrete manholes shall meet the requirements of <u>ASTM C478</u>. Manholes shall have joints sealed with a pre-formed rope-type gasket per <u>ASTM C990</u>. Manhole base diameters shall conform to the following for the various storm sewer pipe sizes:

Pipe Diameter (in)	Manhole Base Diameter (ft)
15 - 36	5
42 - 48	6
54	8

For pipes greater than 54 inches, manhole base sections shall be sized as required and shall be approved by the ENGINEER. All precast manholes installed on thoroughfare routes shall be approved and stamped by the NCDOT Materials and Tests Unit at the manufacturer's facility prior to delivery.

Transition reducing slabs may be used to enable the use of 4-feet diameter eccentric cones at the top. All pre-cast manholes for storm sewers in traffic areas shall be of the eccentric type for ease of access. Manholes in non-traffic areas shall be flat-top type.

D. Mortar

Mortar shall be proportioned as shown below for either Mix No. 1 or Mix No. 2. All proportions are by volume. Water shall be added only in the amount required to make a workable mixture.

MIX NO. 1	1 part Portland Cement 1/4 part Hydrated Lime 3 3/4 parts Mortar Sand (maximum)
MIX NO. 2	1 part Portland Cement 1 part Masonry Cement 6 parts Mortar Sand (maximum)

Portland cement shall be <u>ASTM C-150</u>, Type 1. Hydrated lime shall conform to <u>ASTM</u> <u>C207</u>, Type S. Masonry cement shall meet the requirements of <u>ASTM C91</u>. Mortar sand shall be standard size 4S, per requirements of the NCDOT.

E. Castings

1) <u>General</u> – All castings shall meet the requirements of <u>ASTM A48</u>, Grade 35B iron and shall be manufactured in the USA. Country of origin shall be embossed on each casting.

At a minimum, manufacturers shall submit the following to substantiate to the ENGINEER that castings meet the minimum criteria:

- a. Bar tensile test reports from an independent testing laboratory. The results must confirm that the material meets <u>ASTM A48</u> Class 35B.
- b. Casting proof load test report on the subject casting. Proof load tests shall be conducted in accordance with <u>AASHTO M306</u>, <u>Section 7.0</u>. During proof load testing, castings shall maintain a 40,000 lb proof load for one minute without experiencing any cracking or detrimental deflection.
- c. A written statement of certification by a qualified licensed engineer, employed by the producing foundry, that castings meet these specifications.
- 2) <u>Curb Inlet</u> Grates, frames, and hoods shall be in accordance with NCDOT Standard 840.02 and 840.03. Curb inlet hoods shall be embossed with "Dump No Waste! Drains to Waterways".
- 3) <u>Grates & Frames</u> Cast iron grates and frames for yard inlets shall be of the size indicated on the approved plans. Grates and frames shall be in compliance with NCDOT Standards.
- 4) <u>Manhole Rings & Cover</u> Cast iron manhole rings and covers shall be in compliance with the Standard Detail with the words "STORM SEWER" cast on the cover. Covers shall have two 1-inch holes. Manhole castings shall be machined to

provide a continuous bearing around the full periphery of the frame.

F. Portland Cement Concrete

Portland cement concrete used for storm drainage structures, end walls, etc. shall conform to the technical requirements presented in <u>Section 200</u> of these Specifications, and shall have a minimum compressive strength of 3,000 psi at 28 days. Primary structures, such as box culverts, may require concrete having a compressive strength greater than 3,000 psi, and may require the submission of mix designs and testing of the concrete by an independent laboratory. These special requirements may be imposed by the ENGINEER for all such structures where deemed necessary.

G. Reinforcing Steel

Reinforcing steel shall be new billet steel conforming to <u>ASTM A615</u> for grade 60. Reinforcing steel shall be deformed per current ASTM standards.

H. Connections

All storm drain connections shall be made with non-shrink grout.

504 Miscellaneous Materials

A. Rip Rap

Riprap shall be large aggregate of the size and class shown on the approved drawings. Stormwater calculations shall be submitted with the construction plan review application.

505 Inlets and Outlets

A. Headwalls, Endwalls, and Flared End Sections

Headwalls, endwalls, and flared end sections shall be constructed of structural cast-inplace concrete or pre-cast concrete in accordance with NCDOT specifications and shall be installed at all discharge points and inlets where there is not a structure. Details and design of headwalls, endwalls, and flared end sections shall be in accordance with NCDOT requirements. Details shall be shown on all plan submissions.

Flared end sections shall be installed on single pipe culverts up to and including 36 inches in diameter, and on multiple pipe culverts less than 30 inches in diameter. Flared end sections shall also be installed at the outlet point of all storm drainage systems. Dissimilar pipe couplers shall be used to connect CPP, CSP, or CAP pipe to end sections.

Headwall and endwall shall be installed on single pipe culverts greater than 36 inches in diameter, and on multiple pipe culverts greater than and including 30 inches in diameter.

B. Dissipaters and Scour Protection

Energy dissipaters shall be installed at all discharge points and shall be properly sized to ensure that stormwater is released at a non-erosive velocity.

Scour protection shall be provided for all drainage ways where, in the opinion of the ENGINEER, erosive velocities or other factors require the use of protective measures. All protective measures shall be shown on all plan submissions.

Additional information on the impact of stormwater discharge onto adjacent properties may be required by the ENGINEER.

506 Stormwater Control Measures (SCMs) within the Primary and Secondary Watershed Protection Overlay Districts

Stormwater Control Measures (SCMs) shall be designed and constructed per the guidelines and minimum design criteria (MDC) presented in the State of North Carolina Department of Environmental Quality (NCDEQ) Stormwater Design Manual, latest revisions. These structures shall be designed to meet all stormwater requirements presented in <u>Section 6.1</u> of the TOWN Unified Development Ordinance (UDO).

In addition to the guidelines and MDC presented in the NCDEQ Stormwater Design Manual, the following specifications shall be used for all SCMs:

- The invert elevation for the inlet to the SCM shall be set no lower than the normal/permanent pool elevation controlled by the water quality orifice(s). Refer to Section 501.B.6 of this document for inlet pipe network HGL requirements.
- The outlet <u>device structure</u> shall be constructed of <u>either</u> precast reinforced concrete <u>pipe or aluminized CMP material</u> and the outlet pipe shall be either reinforced concrete pipe (RCP) or corrugated polypropylene pipe (CPP). No masonry structures will be approved.
- All water quality drawdown devices that penetrate the dam embankment shall be constructed of ductile iron pipe.
- All vegetated side slopes and tops of dams shall be sodded with non-clumping turf grass.
- All SCM side slopes stabilized with vegetated cover shall be no steeper than 3:1 (horizontal to vertical).
- When the proposed impervious area is unknown for residential subdivision projects, a 70% impervious assumption per lot should be made when sizing proposed SCMs.

Prior to the approval of a final plat (with respect to a subdivision), issuance of a certificate of occupancy (with respect to a site plan), or commencement of a use for any development upon which an SCM is required, the applicant shall certify that the completed project is in accordance with the approved stormwater management plans and designs, and shall submit actual "as-built" plans and corresponding as-built supplements for all SCMs. See Section 106 of this document for additional "as-built" submittal requirements.

The "as-built" plans shall show the final design specifications for all SCMs and practices and the field location, size, elevations, and planted vegetation of all measures, controls, and devices, as installed. The designer of the SCMs shall certify, under seal, that the asbuilt SCMs, controls, and devices are in compliance with the approved plans and designs as required by the TOWN UDO.

A final inspection and approval by the TOWN Environmental Engineering Manager or his/her designee must occur before the release of any performance and/or maintenance securities.

507 Construction Methods

A. Trenching & Bedding for Storm Sewers

The trench shall be constructed per the Standard Detail. Where the foundation is found to be of poor supporting value, the pipe foundation shall be conditioned by undercutting the unacceptable material to the required depth as directed by the INSPECTOR, and backfilling with stone or other approved material. Where necessary, surface water shall be temporarily diverted in order to maintain the pipe foundation in a dry condition. The flow of water from such temporary diversions shall be directed into suitable erosion control devices.

B. Pipe Laying

Concrete pipe culverts shall be laid carefully with bells or grooves upgrade and ends fully and closely jointed.

C. Backfilling

The trench shall be backfilled per the Standard Detail. The backfill materials shall be moistened when necessary in the opinion of the INSPECTOR to obtain maximum compaction. Water setting or puddling shall not be permitted.

All trash, forms, debris, etc., shall be cleared from the backfill material before backfilling. Backfilling around structures shall be done symmetrically and thoroughly compacted in 6inch layers with mechanical tampers to the specified 95% density (Standard Proctor).

D. Masonry Structures

Excavations shall be made to the required depth, and the foundation, on which the brick masonry is to be laid, shall be approved by the TOWN. The brick shall be laid so that they will be thoroughly bonded into the mortar by means of the "shove-joint" method. Buttered or plastered joints will not be permitted. The headers and stretchers shall be so arranged as to thoroughly bond the mass. Brickwork shall be of alternate headers and stretchers with consecutive courses breaking joint. All mortar joints shall be at least 3/8 inches in thickness. The joints shall be completely filled with mortar. No spalls or bats shall be used except for shaping around irregular openings or when unavoidable to finish out a course.

All details of construction shall be in accordance with approved practice and to the satisfaction of the ENGINEER.

Steps as shown on the plans shall be placed in all catch basins and inlets when they are greater than five feet in depth. The steps shall be set in the masonry as the work is built up, thoroughly bonded, and accurately spaced and aligned.

Inverts in the structures shall be shaped to form a smooth and regular surface free from sharp or jagged edges. They shall be sloped adequately to prevent sedimentation. The castings shall be set in full mortar beds. All castings when set shall conform to the finish grade shown on the drawings. Any castings not conforming shall be adjusted to the correct grade.

Two (2) 2-inch diameter weep holes shall be installed above the upstream pipe invert in all storm drain structures. Protect weep holes with screen wire or fabric outside the structure to prevent clogging.

E. Concrete Construction

The forming, placing, finishing, and curing of Portland cement concrete shall be performed in strict accordance with all applicable requirements as contained in the <u>Standard Specifications for Road & Structures</u> latest edition, as published by the NCDOT and pertinent ACI (American Concrete Institute) codes and guidelines.

F. Installation of Precast Concrete Structures

Pre-cast concrete manholes, junction boxes, etc. shall be installed level and upon a firm, dry foundation, approved by the INSPECTOR. Structures shall be backfilled with suitable materials, symmetrically placed and thoroughly compacted so as to prevent displacement. Castings shall be set in full mortar beds to the required finished grade. Refer to the Standard Detail.

Two (2) 2-inch diameter weep holes shall be installed above the upstream pipe invert in all storm drain structures. Protect weep holes with screen wire or fabric outside the structure to prevent clogging.

508 Inspection Prior to Acceptance

Prior to acceptance of any development with public storm drainage infrastructure, the utility contractor shall arrange a camera inspection of all public storm drainage lines with a 3rd party camera service and then coordinate the results with the Infrastructure Inspector or Manager within the *Water Resources Department*. Any discrepancies found in violation of these Specifications shall be repaired to the satisfaction of the INSPECTOR prior to acceptance and prior to issuance of any Certificates of Occupancy. When inspection indicates possible excessive deflection in CPP, CSP, or CAP, the contractor shall complete a deflection test by mandrel using a rigid device approved by the INSPECTOR. The mandrel size shall be clearly labeled and shall be sized so as to provide a diameter of at least 95% of the inside pipe diameter. If deflection exceeds 5%, the pipe shall be

evaluated to determine what corrective measures are required.

Video Assessment and Cleaning

- a) As a final measure required for acceptance the Contractor shall clean and televise all newly installed public storm drain lines installed from the upstream to downstream manhole with no reverse setups or cutaways. Throughout shooting, the camera shall be panned and tilted for a complete view of the line. Lighting shall be adequate to view the entire storm drain line from beginning to end. The video inspection shall be submitted to the Town on a CD/DVD and formatted with software compatible and readable by the Town. The Town shall not be responsible for purchasing additional software necessary to view the CD/DVD.
- b) The camera shall be advanced at a uniform rate not to exceed 20 feet per minute that allows a full and thorough inspection of the new storm drain line. The camera shall be a color, pan and tilt camera capable of producing a five hundred line resolution picture. Lighting for the camera shall be sufficient to yield a clear picture of the entire periphery of the pipe. The picture quality shall be acceptable and sufficient to allow a complete inspection with no lapses in coverage. The length of the storm drain line shall be measured and recorded on the video screen. The distance counter shall be calibrated before shooting the inspection video.
- c) The Contractor shall clean the storm drain lines ahead of video inspection with a high-velocity water jet. The video inspection shall take place within 2-hours of cleaning operations as witnessed by the Town. All construction debris shall be collected in the downstream manhole and shall not be released into the storm drain system.
- d) The TOWN shall be present throughout the cleaning and televising of the storm drain lines to verify that the video work complies with the Specifications. The camera operator shall stop, reverse, pan, and tilt the camera to view any area of interest during the inspection as directed from the Town.
- e) It is recommended that site grading and all utilities be installed and complete prior to final inspection to ensure that damages to the storm drain lines do not occur. Damages found after final inspection would requiring re-inspection by the Town.
- f) Prior to submitting the CD/DVD to the TOWN, the Contractor shall label the CD/DVD with the following information:
 - Name of the Project/Development.
 - Name and contact information of responsible party.

- Date of televising.
- Manhole identification as shown on the design plans.

509 Maintenance of Municipal Separate Storm Sewer System (MS4)

The TOWN shall maintain all piping and structures within TOWN identified easements. The easements must be labeled as the following: "Town of Apex Public Utility Easement" or "Town of Apex Drainage Easement". Easements labeled as "Drainage Easement" or "Private" shall be maintained by the responsible party or property owner where such system is located.

TOWN maintenance will stop just beyond one half the distance of the total recorded easement width which is measured from the end of the pipe or the center of a flared end section. TOWN maintenance responsibilities are summarized in the following table.

Easement Width (ft)	<i>Maintenance Distance (ft)</i>
20	10
30	15
40	20

When an approved private drainage system is designed and installed onto private property and connects to the TOWN street rights-of-way, a TOWN approved stormwater structure will be required and placed no further than 10 feet from the recorded or proposed street rights-of-way. A TOWN approved easement will be placed around the stormwater structure that meets the current TOWN specifications. The TOWN shall stop all maintenance activities at this point. A private easement boundary shall be shown beyond this point and recorded to describe and allow ownership inspection and maintenance activities. The TOWN shall not be responsible for any infrastructure, grassed swales, or other stormwater conveyances located within private easements.

SECTION 600 WATER DISTRIBUTION SYSTEM

- 601 Water Distribution Pipe
 - A. Design
 - B. Materials
 - C. Installation
- 602 **Fire Protection**
 - A. Fire Hydrants

 - B. Automatic Fire Sprinkler Systems C. Fire Protection During Construction
- 603 Valves and Appurtenances
 - A. Valves
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- 604 Water Main Taps and Services A. Design B. Materials
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601 Water Distribution Pipe

A. Design

The following Standard Specifications and associated Standard Detail Drawings shall apply to all water system extensions and development of the Apex municipal water system. The Standard Specifications included herein shall apply to all aspects of the Apex water system that is owned, operated and maintained by the Town of Apex.

All utility extension permits must be obtained prior to construction. Refer to General Provisions in Section 0200 for further requirements.

1. Location: Water transmission lines shall be located and sized in accordance with the current "Water System Master Plan" or as directed by the Town, and shall extend to the adjacent properties to provide an adequate network. All public water mains shall be located within dedicated right of way of Town roads, outside of the right of way on NCDOT roads, or dedicated easements with a minimum width of 20 feet. Dedicated easements for water mains and appurtenances shall be recorded as "Town of Apex Public Waterline Easement." Town of Apex utility and pipeline easements shall contain only Town of Apex utilities unless otherwise approved by an approved site plan or encroachment agreement. Easements that are shared by water mains and greenway paths shall have a minimum width of 30 feet. Easements shall be acquired by the Developer (unless utility is designed as part of a Capital Improvement Project) prior to construction approval. All private water mains that connect to the Town's water system shall also be designed in accordance with these specifications. Any private commercial water connection shall be metered and protected by a reduce pressure assembly listed on the most current Manual of Cross-Connection Control issued by the USC Foundation for Cross-Connection Control and Hydraulic Research. See Section 620.

If the water main is located within the road right-of-way, a clear width equal to or greater than the easement width required must be available. If adequate width is not available within the right-of-way, additional easement outside of the right-of-way must be maintained. For example, if a water main normally requiring a 20 foot easement is installed 5 feet inside of the right-of-way, an additional 5 feet of easement must be obtained outside of the right-of-way to provide a clear total width of 10 feet on each side of the pipe.

All water main extensions and distribution facilities which connect to the water distribution system of the Town shall be considered as public facilities up to the metering point. Therefore, all such facilities must be installed in public street right-of-way (not alleys) or centered within an easement.

Section 600 - Water Distribution - Page 2 of 36 Effective Date: March 23, 2021 Extensions shall terminate at the furthermost property line fronting the property.

Where deemed necessary to enhance water flow and/or pressures in the area, extensions may be required to be "looped" to an existing water main or "dead end" line within the area being developed.

If a proposed development site has a gap in road frontage, the development shall extend the water main along the road frontage to eliminate the gap in water service, unless otherwise approved by the Water Resources Director.

Mains shall not be installed under any part of water impoundments or area to be impounded. Mains shall not be installed through, above, or below any retained earth structure. Main location and depth shall not be within the theoretical 1:1 slope of any impoundment dam or structure, or shall maintain a minimum of 10' horizontal separation from the toe of slope, whichever is greater. The entire easement shall be outside of the toe of slope, unless prior approval is obtained from the Water Resources Director.

Easement Areas: No permanent structures, equipment, retaining walls, embankments, impoundments, or other elements that would inhibit maintenance operations shall be constructed within a utility and pipeline easement. Fences may be allowed across easements provided that appropriate access gates or removable panels have been installed to allow utility maintenance. Fences shall not be installed parallel within utility easements. Fill or cut slopes greater than 4:1 are not allowed to extend into easements. Easements must be clearly labeled as public or private. If water main is located within road right-of-way or on Town owned property there shall be no permanent structures, equipment, retaining walls, embankments, impoundments, landscaping, or other elements that would inhibit maintenance operations unless approved by the Water Resources Director.

Where public water mains are installed within easements crossing private property, the Water Resources Department shall have the right to enter upon the easement for purposes of inspecting, repairing or replacing the water mains and appurtenances. Where paved private streets, driveways, parking lots, etc. have been installed over the public water mains, the Town of Apex shall not be responsible for the repair or replacement of pavement, curbing, etc. which must be removed to facilitate repairs. The Water Resources Department shall excavate as necessary to make the repair, and shall backfill the disturbed area to approximately the original grade. Replacement of privately owned pavement, curbing, walkways and any other private infrastructure shall be the responsibility of the property owner or Homeowner's Association.

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Easements shall be accessible from public rights-of-ways. If easement is not accessible perpendicular from right-of-way due to steep slope, environmental feature, or other obstacle, additional easement may be necessary.

Only one utility can be installed per easement, unless prior approval from the Water Resources Director is obtained.

All retaining walls shall have a separation from the easement boundary of at least a 1:1 ratio. For example, if the retaining wall is 10 feet tall, it shall be placed no closer than 10 feet from the adjacent easement boundary.

2. <u>Sizing:</u> Major transmission lines shall be sized in accordance with the "Water System Master Plan" or as directed by the Town. Six (6) inch mains may be used on a case by case basis when the Town has determined that a sufficient grid exists and the existing network supports using six (6) inch mains. The total maximum length of 6 inch and 8 inch lines, without connecting to a larger main, is 1200 feet and 2000 feet, respectively. Where the existing network is lacking connectivity, lines shall be upsized to provide adequate fire flow as directed by the Director of Water Resources. All lines shall be designed to maintain a minimum of 20 psi at maximum daily demand with applicable fire flow conditions. Water distribution facilities for Multi-Family Units, Apartments, Condominiums, and Townhouse Developments shall comply with the provisions for Business, Commercial, and Industrial Zoning Districts indicated below.

Business, Commercial, and Industrial Zoning Districts - Water mains shall be 8- inch and 12- inch minimum. Eight-inch shall be used only when it completes a good grid and the maximum length of 8-inch lines without connection to a larger feeder main is 1,200 feet unless special approval for deviation from this requirement is granted by the Director of Water Resources.

Where water mains dead end or are terminated for future extension, at least one full length stick of ductile iron pipe shall be installed with a thrust collar, main line valve, and blow-off assembly. This dead end shall terminate within a right-of-way or dedicated easement.

Dead end mains may be extended to existing mains in adjacent streets when it is practical to do so in order to enhance flow, water quality, and/or pressure in the affected area.

3. Restraint:

All valves and fittings shall be restrained. Pipe joints shall also be restrained an adequate length away from valves and fittings in accordance with AWWA manual M41 (or the latest edition of *Thrust Restraint Design for Ductile Iron*

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Pipe as published by the Ductile Iron Pipe Research Association). The standard joint restraint method shall be to use manufacturer provided restrained joint pipe and fittings.

a) <u>6" to 12" Diameter Pipe:</u> For pipe 6-inches through 12-inches, the following table may be used to determine the required restrained length of pipe for single occurrences of valves or fittings within the pipe system. The table may not be used for combined bends or offsets where a series of fittings occur. In lieu of using the below table, a pipe restraint plan detailing all assumptions and calculations may be provided by the NC Professional Engineer sealing the plan drawings. In either case, the method of restraint to be used and the length of pipe to be restrained (if applicable) shall be clearly identified on the plans at all necessary locations.

	6"	8"	10"	12"
45° Horizontal	34'	44'	53'	61'
45° Vertical Up	34'	44'	53'	61'
45° Vertical Down	53'	69'	82'	96'
22 ¹ / ₂ ° Horizontal	17'	21'	26'	30'
22 ¹ / ₂ ° Vertical Up	17'	21'	26'	30'
22 ¹ / ₂ ° Vertical Down	26'	33'	40'	47'
11 ¹ / ₄ ° Horizontal	8'	11'	13'	15'
11¼° Vertical Up	8'	11'	13'	15'
11 ¹ / ₄ ° Vertical Down	13'	17'	20'	23'
Tee (Restrain the Branch)	6" – 115'	6" – 111' 8" – 154'	6" – 107' 8" – 151' 10" – 186'	6" – 103' 8" – 148' 10" – 184' 12" – 220'
Reducer (Restrain Larger Pipe)	N/A	70'	10" x 8" – 67' 10" x 6" – 122'	12" x 10" – 68' 12" x 8" – 123' 12" x 6" – 169'
Dead Ends (<i>Caps and Plugs</i>) & Inline Valves	126'	165'	198'	232'

Required Restrained Lengths for Single Fittings and Valves for Pipe 6-inches to 12-inches in Diameter (in Feet, Both Directions unless otherwise noted)

b) All valves, pipe, and fittings: Projects with pipe diameters greater than 12-inches, poly-wrapped pipe, or combined bends must have a pipe restraint plan with the method of restraint to be used and the length of pipe to be restrained clearly identified on the plans at all necessary locations. The pipe restraint plan must be calculated in accordance with AWWA manual M41 (or the latest edition of *Thrust Restraint Design for Ductile Iron Pipe* as published

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by the Ductile Iron Pipe Research Association). The plan must also account for the actual soil types that exist at the project site. A minimum safety factor of 1.5 (2.0 if/when required by NCDOT) and a minimum pressure of 200 PSI must be used.

- c) <u>Valves:</u> Valves shall be restrained in a manner consistent with operation as a dead end. This includes restraining the valve to the pipe and restraining a sufficient number of pipe joints on both sides of the valve to accommodate dead end restraint. Valves located at waterline intersections (at tees and crosses) shall have no joints between the valve and fitting.
- d) <u>Dead Ends:</u> All MJ cap and plug fittings, including tapped caps, shall be restrained with approved wedge action retainer glands. The adjacent pipe shall be restrained the distances specified above (or on the sealed pipe restraint plan). Reaction blocking shall not be used to restrain caps and plugs.
- e) All pipe restraint systems shall be factory produced by the manufacturer. Approved wedge action retainer glands or bell restraints may be used for pipe/fittings up to (but not including) 16" in diameter. Restraint on mains 16" and larger shall be factory produced by the manufacturer.
- f) Restraining systems not included within this Specification shall require written approval prior to utilization. All joint restraint products that include the means of restraint within the joint gasket shall be prohibited in the Town of Apex water system.
- 4. Depth of Installation:

All water mains shall have a minimum cover of 3 feet measured from the top of the pipe to the finished grade. Water mains shall have a maximum cover of 8 feet measured from the top of the pipe to the finished grade. Installations requiring greater than 8 feet of cover due to road crossings, stream/wetland crossings, or other conflicts must have prior approval from the Water Resources Director.

When water lines are installed along a roadway they shall be installed at sufficient depth to maintain three (3) feet of cover to the subgrade of any future road improvements including potential vertical alignment changes.

5. Relation to Sanitary and Storm Sewers:

Separation between Potable Water Mains and Sanitary Sewer Mains or Storm Sewers.

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- a) Parallel Installations: 10-ft lateral separation (pipe edge to pipe edge) or minimum 5-ft lateral separation and water line at least 18inches above sanitary sewer line measured vertically from top of sewer pipeline to bottom edge of water main.
- b) Crossings (Water Main Over Sanitary or Storm Sewer): All water main crossings of sanitary sewer lines shall be constructed over the sewer line in conformance with Town of Apex Specifications. At a minimum, 18-inches of clearance shall be maintained between the bottom edge of the water main and the top edge of the sanitary sewer main, 24-inches of clearance shall be maintained between the bottom edge of the water main and the top edge of the storm sewer main. If 18-inches or 24-inches, respectively, of clearance is not achievable, the water main and sanitary/storm sewer main shall both be constructed of ductile iron pipe with joints in conformance with water main construction standards. The sanitary sewer pipe shall be ductile iron the entire run from manhole to manhole. When the separation between pipelines is 18-inches or less, the void space between the pipes shall be filled with minimum 500-psi, guick setting, non-excavatable flowable fill extending 3-ft on both sides of the crossing. Regardless of pipe material, at least 12-inches of vertical separation is required for both sanitary and/or storm sewer crossings of potable water mains.
- c) Crossings (Water Main Under Sanitary or Storm Sewer Line): Allowed only as approved by Town of Apex, when it is not possible to cross the water main above the sanitary or storm sewer line. At a minimum, 18-inches of separation shall be maintained, (measured from pipe edge to pipe edge) and both the water main and sanitary/storm sewer shall be constructed of ductile iron in conformance with water main construction standards. The sanitary sewer pipe shall be ductile iron the entire run from manhole to manhole. If local conditions prevent providing 18-inches of clearance, then at least 12-inches of clearance shall be provided and the void space between the pipes shall be filled with minimum 500psi, quick setting, non-excavatable flowable fill extending at least 3ft on both sides of the crossing.

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B. Materials

<u>General:</u> All water main distribution pipe shall be ductile iron. The following table lists approved manufacturers of DIP, DIP fittings, and RJDIP that are allowable for installation within the Town's system.

Product	Approved	Model/Series	Pressure/Load	Reference	Requirements
Category		Trate in Laborat	Ratilig	Stanuaru	
	US Pipe	Tyton Joint			Cement mortar
	American	Fastite Joint			lined with exterior
	(ACIPCO)			AWWA	bituminous
Ductile Iron			250-350 psi	C150 and	coating. McWane
Pipe				C151	pipe stamped
	McWane	Tyton Joint			"McWane by
					Atlantic States or
					Clow" only
	Sigma	Mech. Joint	250-350 psi	AWWA C110/C111 and AWWA	
Dustile Iren	Tyler Union	Mech. Joint			Shall always meet
Ductile Iron	SIP Industries	Mech. Joint			or exceed pipe
Fittings	Star	Mech. Joint			pressure rating
	American	Mech. Joint		C155	
	US Pipe	TR Flex			
Duratila luca	American				Deltile en un etue int
Restrained – Joint Pipe	(ACIPCO)	Flex Ring	250.250 mai	AWWA C150 and	Boitless restraint
		TR Flex (pipes	250-350 psi		uniess otherwise
	McWane	24" and		C151	specified
		smaller)			

1. Ductile Iron Pipe

a) Ductile iron pipe shall be designed and manufactured in accordance with AWWA C150 and C151 and provided in nominal 20-ft lengths. The minimum required pressure ratings for ductile iron pipe and required laying conditions

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are tabulated below. For all other installations other than specified, the laying condition, bedding requirements or the minimum pressure class rating and/or thickness class shall be increased in accordance with AWWA C151. A pipe thickness design shall be submitted for external loading in all cases where the pipe depth exceeds the specified range of depths outlined in the following table.

Pressure Class, Max. Dep	oth and Layin	q Condition fo	or DI Water Mains
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Pipe Diameter	AWWA C- 150, Laying Condition	Pressure Class	Maximum Depth of Cover
6-8 -inch	type 1	350 psi	3-16 feet
6-8 -inch	type 4	350 psi	16-20 feet
10-12 -inch	type 1	350 psi	3-10 feet
10-12 -inch	type 4	350 psi	10-20 feet
14-20 -inch	type 4	250 psi	3-20 feet
24-30 -inch	type 4	250 psi	3-20 feet
36-42 -inch	type 4	300 psi	3-20 feet

*Any installation deeper than 20 feet must obtain approval from the Water Resources Director and no practical alternative must be proven.

Note: For cases not specified, a ductile iron pipe and bedding design certified by a Professional Engineer licensed in the State of North Carolina shall be required in compliance with AWWA C150 and the Ductile Iron Pipe Research Association.

- b) Pipe joints shall be mechanical joint or push-on type as per AWWA C111. Pipe lining shall be cement mortar with a seal coat of bituminous material in accordance with AWWA C104. All buried ductile iron pipe shall have a bituminous exterior coating in accordance with AWWA C151.
- c) Pipe manufacturer must have a supplier within 200 miles of the Town of Apex.
- 2. Ductile Iron Fittings

All ductile iron fittings shall be provided in conformance with AWWA C110 for standard ductile iron fittings and AWWA C153 for compact ductile iron fittings. All fittings shall be pressure rated for a minimum 350-psi through 24-inches in diameter and 250-psi for fittings greater than 24-inches in diameter. In cases where minimum pressure standards are less than the pipe specification, fittings shall always be pressured rated to meet or exceed the pressure ratings for the specified pipe. All fittings for potable water service shall be provided with cement

Section 600 - Water Distribution - Page 9 of 36 Effective Date: March 23, 2021 mortar linings and asphaltic seal coats in accordance with AWWA C104. All ductile iron fittings shall have an asphaltic exterior coating in accordance with AWWA C151. All ductile iron fittings shall be provided with mechanical joint end connections or proprietary restrained joints from an approved manufacturer. Gaskets shall be provided in conformance with AWWA C111 with EPDM rubber gaskets preferred over SBR. Two 45 degree fittings shall be used in lieu of 90 degree fittings in all horizontal and vertical installations, with exception of reverse taps.

Fitting manufacturer must have a supplier within 200 miles of the Town of Apex.

3. Restrained Joint Ductile Iron Pipe

All restrained joint ductile iron pipe unless otherwise specified shall be of the boltless restrained joint type. For installations requiring welded locking rings, the rings shall be factory welded.

All proprietary pipe restraint systems shall be approved by the Town of Apex and provided in compliance with all standards for coatings, linings, pressure classes, etc. as required for ductile iron pipe. All restrained joint pipe shall be installed based on laying conditions, pressure class, etc. as required for typical ductile iron pipe.

Restraining systems not included within this Specification shall require written approval prior to utilization. All joint restraint products that include the means of restraint within the joint gasket shall be prohibited in the Town of Apex water system

Pipe manufacturer must have a supplier within 200 miles of the Town of Apex.

C. Installation

- Ductile iron pipe shall be installed in accordance with the requirements of AWWA C600 and the Ductile Iron Pipe Handbook published by the Ductile Iron Pipe Research Association. Materials at all times shall be handled with mechanical equipment or in such a manner to protect them from damage. At no time shall pipe and fittings be dropped or pushed into ditches.
- 2. Pipe and fitting interiors shall be protected from foreign matter and shall be inspected for damage and defects prior to installation. In the event foreign matter is present in pipe and fittings, it shall be removed before installation. Open ends of pipe shall be plugged or capped when pipe laying is not in progress.
- 3. All pipe shall be constructed with at least 36 inches of cover below the finished surface grade or road subgrade. Pipe shall be laid on true lines as directed by the Engineer. Trenches shall be sufficiently wide to adjust the alignment. Bell holes

Section 600 - Water Distribution - Page 10 of 36 Effective Date: March 23, 2021 shall be dug at each joint to permit proper joint assembly. The pipe shall be laid and adjusted so that the alignment with the next succeeding joint will be centered in the joint and the entire pipeline will be in continuous alignment both horizontally and vertically. Pipe joints shall be fitted so that a thoroughly watertight joint will result. All joints will be made in conformance with the manufacturer's recommendations for the type of joint selected. All transition joints between different types of pipe shall be made with transition couplings approved on shop drawings showing the complete assembly to scale.

- 4. Prior to beginning construction, the Contractor shall contact local utility companies and verify the location of existing utilities. The Contractor shall be completely and solely responsible for locating all existing buried utilities inside the construction zone before beginning excavation. The Contractor shall be solely responsible for scheduling and coordinating the utility location work. When an existing utility is in conflict with construction, it shall be exposed prior to beginning construction to prevent damage to the existing utility.
- 5. All valves that are under the ownership and acceptance of the Town of Apex municipal water system shall be operated only by trained personnel of the Town of Apex. Existing valves in the Town of Apex water system will not be operated without a minimum notice of 24 hours. Contractor's personnel shall only be responsible for operating valves within new construction areas that are not directly connected with the existing municipal water supply. At such time when the valves in new construction areas are connected with the municipal water supply, the valves shall only be operated by Town of Apex personnel or in limited circumstances by Contractor's personnel after receiving authorization from the Operator in Responsible Charge of the water distribution system.
- 6. The unloading and loading of pipe, fittings, valves, and related accessories shall be performed with care so as to avoid any damage to these materials. All such materials shall not be stored directly on the ground, but shall be on pallets, or other suitable supports, so as to prevent the entry of mud and debris into the pipe or other materials. Contractor shall also endeavor to store these materials in accordance with any special practices as required by the manufacturer.
- 7. Fittings shall be installed at the location indicated on the drawings with care taken to insure that joints are fully homed and fully and property supported.
- 8. Water mains shall not be installed within roundabouts or alleys.

602 Fire Protection

A. Fire Hydrants

1. Sizing of Mains

Section 600 - Water Distribution - Page 11 of 36 Effective Date: March 23, 2021 a) Water mains shall be sized in order to meet minimum fire flow conditions according to the type and classification of the proposed development. Mains shall be sized in accordance with conditions set forth within the Town's Water Distribution Extension permit application.

2. Location

- a) All fire hydrants shall be installed on a minimum 6 inch water line. Only one fire hydrant may be installed when the line is served by a 6 inch tap and is not looped to another main. There shall be at least one fire hydrant at each street intersection. Hydrants at intersections shall be located in accordance with the Standard Details. Valves provided on the fire hydrant branch supply line shall be located within 5-ft of the main line. The maximum length of a fire hydrant leg shall not exceed 50 feet.
- b) In residential districts the maximum distance between hydrants, measured along street centerlines, shall be 500 feet. When residential intersections are less than 700 feet apart, a hydrant is not required between the intersections. For single-family residential projects, a hydrant shall be located at the end of all cul-de-sacs.
- c) In business, office and institutional, and industrial zoning the maximum distance between hydrants, measured along street centerline, shall be 300 feet in accordance with the latest version of the NC Fire Code. If a building is completely equipped with a fire sprinkler system and the project is developed with a private water distribution system, all parts of the building shall be within 300 feet of a hydrant. Hydrants positioned greater than 50 feet from the public water main shall occur on a looped water main.
- d) All premises where buildings or portions of the building are located more than 300 feet (commercial) or 500 feet (residential) at distances from a fire hydrant that exceed those specified by Fire Code shall be provided with approved onsite fire hydrants and water mains capable of supplying the fire flow required by the Fire Department.
- e) Residential developments which do not meet minimum fire flow requirements shall have individual fire protection systems designed and installed at each residence. Residential fire systems must be current Town Backflow Prevention Protection, listed under Section 620.
- f) On thoroughfares and collector streets with access points only at street intersections, hydrants shall be located at each street intersection and at 1000 foot intervals along the street. Where these intersections are less than 1200 feet apart, no hydrant is required between the intersections. Fire hydrants shall be placed in a staggered arrangement on both sides of any roadway

Section 600 - Water Distribution - Page 12 of 36 Effective Date: March 23, 2021 classified as a major or minor thoroughfare with the hydrant spacing as referenced above.

- g) Where sprinkler systems are used, a fire department connection shall be within 50 feet of an accessible fire hydrant, unless otherwise permitted by the Fire Department.
- h) Any proposed, relocated, or replaced water main that includes new fire hydrants shall require submittal of fire flow calculations.
- i) Fire hydrant legs shall not be tapped from water service connections, they shall be tapped directly from the main line.

3. Specifications

Hydrants shall conform to AWWA C502 with a minimum valve opening of 4 1/2 inches. Hydrants shall be furnished with a <u>5 inch Storz 4.5 inch</u> steamer and double 2 1/2 inch hose connections with caps and chains, National Standard Threads, mechanical joint, 1 1/2 inch pentagon operating nut, open left, painted fire hydrant red, bronze to bronze seating, a minimum 4 foot bury depth with a break away ground line flange and break away rod coupling. The hydrant bonnet will be designed with a sealed oil or grease reservoir with O-ring seals and a Teflon thrust bearing. Fire hydrant caps shall be attached to the body of the hydrant with a minimum 2/0 twist link, heavy duty, non-kinking, machine chain. All fire hydrants shall be designed and rated for a working pressure of 250-psi or greater.

4. Installation

Hydrants shall be set plumb, properly located with the pumper nozzle facing the closest curb of a fire lane or street, but not a parking space. The back of the hydrant opposite the pipe connection shall be firmly blocked against the vertical face of the trench with 1/3 cubic yard of concrete. Double bridle rods and collars shall be connected from the tee to the hydrant. All joints between the tee and the hydrant shall be mechanical joints restrained with wedge action retainer glands. Stainless steel rods not less than 3/4 inch diameter may also be used to restrain the assembly. A minimum of 8 cubic feet of stone shall be placed around the drains. The backfill around the hydrants shall be thoroughly compacted and closely match the elevation on the approved plans. Hydrant extensions will not be allowed on new or retrofit installations. Hydrant installation shall be in accordance with the Details. Hydrant tees may be used upon approval of the Water Resources Department. A clear level space of not less than 10 feet shall be provided and maintained on all sides of a fire hydrant for immediate access. Clearance from the ground surface to the steamer nozzle shall be between eighteen (18) inches and twenty-four (24) inches.

5. Depth of Bury:

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Typical 90-Degree Hydrant Shoe Installations:

The maximum depth of bury for all new fire hydrants with 90-degree hydrant shoes shall be 5-ft from the breakaway flange connection. The breakaway flange or safety coupling shall be oriented vertically just above finished grading and bolted directly to the fire hydrant in compliance with manufacturer standards. The breakaway flange or safety coupling shall not be buried.

Vertical Shoe Hydrant Installations:

For installations requiring depth of bury greater than 5-ft, the fire hydrant shall be equipped with a vertical shoe arrangement that provides for full extension of the lower valve plate against a stopping mechanism located inside the vertical shoe to maximize hydraulic flow conditions through the hydrant. The vertical shoe shall be equipped with flanged connections. The maximum depth of bury for vertical shoe installations shall not exceed 4-ft measured from the breakaway flange to the bottom of the vertical hydrant shoe. The vertical shoe and all piping included in the hydrant supply line shall be restrained with blocking and rodding or blocking with wedge action retainer glands or standard Aquagrip, Grip Ring, or Romac connections.

 <u>Hydrant Relocations:</u> For installations where hydrants will be relocated, all hydrants with greater than 20-years of operational service, as indicated by the date of manufacture provided on the hydrant, shall be replaced with new fire hydrants. The existing fire hydrant shall be turned over to the Town of Apex Public Works Department.

For installations where the hydrant to be relocated has less than 20-years of operational service, the existing hydrant may be relocated. The existing hydrant shall still be disinfected, flushed and pressure tested.

All fire hydrants shall be initially tagged and/or bagged "NOT IN SERVICE". This tag or bag shall not be removed until approved by the Inspector.

B. Automatic Fire Sprinkler Systems

 <u>General</u>: Four (4) complete sets of working plans and calculations for all fire sprinkler systems and standpipe systems shall be submitted as required by the Inspections and Permits Department for review and approval. If 20 sprinkler heads or more are modified or added to an existing sprinkler system, if any modifications occur in the hydraulically calculated remote area, or the hazard classification changes, a plan submittal including complete calculations and a permit will be required. All fire sprinkler systems shall be installed with an alarm check valve installed in each riser with all required appurtenances (example: retard chamber, water motor gong, pressure gauges, etc.). Exception: NFPA 13 D and 13 R residential sprinklers when approved by a fire official. All installations, minor repairs, or minor replacements shall be performed by a licensed fire sprinkler

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contractor. Contact the Inspections and Permits Department for a permit application.

- <u>Design</u>: Approved working plans shall be in complete compliance with NFPA No. 13, 13D, 13R, 14, 231, 231C, 231D, 231F and Town Specifications. An NFPA above ground material and test certificate and NFPA underground material and test certificate are required after completion of designated, approved work.
- 3. <u>Hydraulic Design</u>: If a system is hydraulically designed, the following design criteria must be followed:
 - a) <u>Safety Margin</u>: In all cases, a fixed minimum safety margin of at least 10-psi shall be applied to the design calculations. (Example: Demand = 70 psi, Supply ≥ 80 psi)
 - b) <u>Hose Allowances</u>: Both exterior and interior hose allowances shall comply with NFPA 13 requirements.
 - c) <u>Water Supply Pressure</u>: The sprinkler system designer shall be responsible for verifying system pressure. Refer to Town of Apex Policy Statement 129 regarding Minimum Water Supply Pressure.
- 4. <u>Backflow Prevention</u>: When a fire protection system is proposed, with a Fire Dept. connection or as otherwise required by the Cross Connection Ordinance a reduced pressure principle detector assembly (RPDA), two and one half inch or greater, shall be installed on the supply side of the sprinkler fire protection line inside the riser room. A two inch or less reduced pressure principle assembly may be allowed if the site is designed for that size. At no time shall any fire backflow preventer outlet be smaller than the water pipe inlet. These backflow prevention devices must be UL listed and/or listed by Factory Mutual Research Corporation. Reduced pressure principle detector assemblies shall not be arranged vertically. For all RPDA's, a relief valve drip cup piped outside the building shall be provided. The relief valve drain may be piped to the main building drain but must meet current specification listed in Section 620 or the drain be sized per the manufacturer recommendations, whichever is more stringent.
- 5. <u>Post Indicator Valve (PIV)</u>: A post indicator valve may be provided at the right of way or edge of easement at least 40 feet from the building if space permits. Each connection into the building shall have a post indicator valve. The top of the PIV shall be 30-42 inches above finished grade and 36-inches of unobstructed access perimeter shall be maintained around the PIV.

In urban settings, a wall mounted indicator valve may be used where there is no suitable location for a post mounted indicator valve. Wall mounted indicator valves shall be centered 30–42 inches above the finished grade. It shall be

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All indicator valves regardless of type shall have an electronically controlled tamper switch. All PIVs shall be made of ductile iron construction and shall be UL listed and FM approved. The stand pipe of all PIV's shall be painted red.

- 6. <u>Fire Department Connection</u>: Where automatic fire sprinkler systems or standpipe systems are used, a fire department connection with National Standard threads shall be provided within 50-ft of a fire hydrant, except for town homes, apartment buildings, and within urban settings where greater lengths may be permitted. When a sprinkler system serves only part of a large structure, the fire department connection shall be labeled, with minimum 2 inch letters on a permanent sign, as to which section of the structure that sprinkler riser serves.
- 7. <u>Dedicated Riser Room</u>: A dedicated sprinkler riser room is required providing an entry door to the room from the exterior of the building. All dedicated riser rooms shall be equipped with a floor drain sized appropriately to prevent flooding. The floor drain shall be piped to storm system or main building drain. The floor drain shall be provided with a circular raised ring/hub around the floor drain to prevent debris and/or chemicals from entering the drain during an emergency spill. The hub shall be fabricated of cast iron or other corrosion resistant material and extend at least 3-inches above floor elevation. All BFPs located inside of a building must have direct access to that room from the building exterior.
- <u>Alarm Communication</u>: All sprinkler systems are to have alarm communication equipment to fully comply with NFPA 72. Equipment must be fully functional and reporting to a UL listed central receiving station before a Certificate of Occupancy is issued for the facility.
- 9. <u>Access:</u> All buildings which have an elevator, a fire alarm system monitored by a central receiving station, or a fire sprinkler protection system shall provide a "Knox Box" key entry system. This "Knox Box" shall be mounted on the exterior entrance to the dedicated riser room or at the normal fire department entrance when no fire sprinkler system is provided and there is no dedicated riser room. Mount "Knox Box" on wall at 5 feet A.F.F. on door handle side of dedicated riser room door or entrance door. This "Knox Box" shall be ordered through the Town Fire Department and shall be in place before a Certificate of Occupancy is issued. Keys to access the facility shall be provided to the Fire Department by the owner/manager. An access door directly to the mechanical room or mechanical storage area shall be provided.
- 10. <u>Identification</u>: The exterior door leading to the dedicated sprinkler riser room shall be labeled with minimum 2 inch lettering designating "SPRINKLER RISER ROOM" in a contrasting color. Durable vinyl lettering is suggested.

Section 600 - Water Distribution - Page 16 of 36 Effective Date: March 23, 2021 11. <u>Fire Alarm Panel Location</u>: When a building is protected by an automatic sprinkler system and has a fire alarm system, the fire alarm control panel or a remote annunciation of the fire alarm control panel shall be placed in the sprinkler riser room. This control panel shall have the capacity of silencing and resetting. Adjacent to the fire alarm control panel shall be a framed zone map. Nomenclature shall correspond with the zone map. Submit four complete sets of plans and specifications to the Inspections and Permits Department for approval prior to installation of equipment or wiring. When there is no sprinkler system in a building, the fire alarm control panel or remote annunciator shall be located at the normal fire department entrance.

C. Fire Protection During Construction

The fire protection water supply system, including fire hydrants, shall be installed and be in at least functional status prior to placing combustible materials on the project site. If phased construction is planned, coordinated installation of the fire protection water system is permitted. Coordination of the water system will be done through the Water Resources Department.

603 Valves and Appurtenances

A. Valves

- 1. <u>General</u>
 - a) Valves shall be installed on all branches from feeder mains and hydrants according to the following schedule: 4 valves at crosses; 3 valves at tees; one valve on each hydrant branch and elsewhere as directed by the Director of Water Resources. When a loop section of water line is connected back into the feeder main within a distance of 200 feet or less, only one valve will be required in the feeder main. In all cases where new water mains are connected to an existing water distribution line, valves shall be located at all end points and at intermediate points throughout the new system extension to assure testing requirements can be met without interfering with the operation of the existing system. <u>Valves are required regardless of whether tee connection is cut-in or made by tapping sleeve and valve</u>. Valve requirements are not enforced unless the branch line serves more than one parcel or has more than one connected service.
 - b) Where no water line intersections are existing, a main line valve shall be installed at every 100 feet per 1 inch diameter main up to a maximum distance of 2000 feet between valves.
 - c) Valves shall be properly located, operable and at the correct elevation. The maximum depth of the valve nut shall be 5 feet without an extension kit. When

Section 600 - Water Distribution - Page 17 of 36 Effective Date: March 23, 2021 valve extension kits are used, they must be manufactured by the same company which manufactured the valve.

d) Valves shall be set at locations shown on the plans with care being taken to support the valve properly and to accurately position the valve box over the operating nut of the valve. When valves are located in street right-of-way, but out of pavement, the boxes shall be adjusted to finish grade and a concrete collar 2-feet square and 6-inches thick shall be poured around the box ½-inch from the top of the casting, in lieu of the poured in place concrete a pre-cast concrete collar may be used such as manufactured by Brooks, Inc. or Buckhorn Products. Valve boxes located in the pavement shall be set flush with the current pavement. If the pavement requires a future final lift, the valve boxes shall be adjusted no more than 60 days prior to completion of the final lift. Stem extensions are allowed so that nut is within 30" of final grade.

When valves are located outside of street right-of-way, the boxes shall be adjusted 6 inches above the finished grade, and a concrete collar 2-feet square and 6-inches thick shall be poured around the casting or approved concrete donut with marker. ARV's must be located at high points with positive slope on the line to the ARV in both directions.

2. Combination Air Valves

a) Combination air valves shall be provided to purge air from the system at startup, vent small pockets of air while the system is being pressurized and running, and prevent critical vacuum conditions during draining. Combination air valves rated for potable water use shall be installed at <u>all</u> high points of water lines 8 inches in diameter or larger and at other locations such as major changes in grade as directed by the Town. A high point shall be determined as any high location where the difference between the high elevation and adjacent low elevation exceeds 10-ft, unless otherwise determined by the Director of Water Resources based on special circumstances.

All combination air valves shall be provided in conformance with AWWA C-512. The water main shall be installed at a grade which will allow the air to migrate to a high point where the air can be released through an air valve. A minimum pipe slope of 1 foot in 500 feet should be maintained.

b) The combination air valve shall be sized by the Engineer, and approved by the Town. Combination air valves shall be of the single housing style with Type 304 or 316 stainless steel body that combines the operation of both an air/vacuum and air release valve. The valve shall be rated for minimum 230 PSI working pressure. The combination air valve shall be provided with cylindrical shaped floats and anti-shock orifice made of high density polyethylene. Combination air valves with spherical floats shall not be

Section 600 - Water Distribution - Page 18 of 36 Effective Date: March 23, 2021 accepted. All combination air valves shall be installed in accordance with the Details.

- c) 2 inch combination air valves shall be installed in a standard 4-foot diameter eccentric manhole. The 2 inch valve shall have a 2 inch male NPT inlet. Connection to the main shall be with a saddle tap in the same sizing as the combination air valve assembly and isolated with a gate valve also of the same size. The isolation gate valve shall be provided with NPT threads and connected with "no lead" brass (meeting UNS C89833 as per ASTM B584) or bronze piping. Brass or bronze ball valves may be used in lieu of gate valves for 2-inch installations. The isolation valve shall be rated for 200-psi service or greater.
- d) Combination air valves 3-inches and greater shall be installed in a flat top manhole sized according to the water main diameter. Mains less than or equal to 20" shall utilize a 5 foot diameter manhole and larger mains shall utilize a minimum 6 foot diameter manhole. All connections shall be by flange joints. Connection to the main shall be by an MJ x FLG tee with the branch diameter equal to at least half of the main diameter. If needed due to larger diameters, a flanged reducer shall be provided prior to the flanged gate valve sized equally to the flanged combination air valve.

Precast concrete manholes shall meet the requirements of the Standard Details.

3. Gate Valves, Less than 4-inches for Blowoff Assemblies

Gate valves for blowoff installations sized smaller than 4-inches, shall be resilient seated wedge type with a non-rising stem and a 2 inch operating nut in compliance with AWWA C509. The smaller diameter gate valves shall be provided with triple O-ring seals and threaded end connections in compliance with ANSI B2.1. Gate valves smaller than 2-inches shall be identified "no lead" and consist of brass components designated under UNS C89833 as per ASTM B584. The small diameter gate valves shall be rated for a minimum pressure rating of 200-psi.

4. Gate Valves, 6-inches to 12-inches

All valves for potable water applications, 6-inches in diameter to 12-inches in diameter shall be resilient seated wedge gate valves in conformance with the requirements of AWWA C509, (grey or ductile iron body) or AWWA C515, (reduced wall ductile iron body). All coating materials used in the construction of gate valves for potable water applications must comply with NSF 61 to assure lead free construction. All gate valves shall be designed for a working pressure of 250-psi with a minimum UL listing and FM approval rating of 200-psi. Gate valves shall be fusion bonded epoxy (FBE) coated both interior and exterior at a minimum of

Section 600 - Water Distribution - Page 19 of 36 Effective Date: March 23, 2021 10-mils and the FBE coating shall be provided in conformance with AWWA C550. All gate valves shall be assembled with stainless steel bolts.

All gate valves 6-inches in diameter to 12-inches in diameter shall be installed in the vertical position and shall be provided with mechanical joint fittings. Gate valves shall be restrained by wedge action retainer glands or other approved manufacturer provided restraining systems. All gate valves shall open left with a non-rising stem (NRS) and be provided with a 2-inch square operating nut. All gate valves shall be constructed with triple o-ring seals in which 2 o-rings are located above the thrust collar and 1 o-ring is located below the thrust collar. The two upper o-rings shall be replaceable with the valve fully open and subjected to full rated working pressure.

The gate valve wedge shall be fully encapsulated in rubber. All valves shall be rated for bi-directional flow. All sealing gaskets shall be made of EPDM rubber materials.

Valves shall be Mueller or approved equal.

5. Gate Valves, 14-inches through 48-inches

Gate valves 14-inches through 48-inches shall be resilient seated wedge gate valves in conformance with the requirements of AWWA C515, (reduced wall ductile iron body) and shall comply with all Specifications outlined for gate valves 6 through 12 inches. Gate valves installed vertically shall be provided with a minimum of 2-ft of overhead clearance between the top of the operator nut and the finished grade. All gate valves 18-inches and greater shall be provided with a geared actuator. Vertical gate valve installations shall have spur gear actuators and horizontal installations shall have bevel gears.

Gate valves 18 inches in diameter shall be provided with a gear operator at a minimum 2:1 ratio and larger valves through 24-inches shall be provided with a gear operator at a minimum 3:1 ratio.

Gate valves installed in a horizontal position shall only be provided as permitted by the Director of Water Resources for special circumstances where vertical alignment is not possible. All horizontal gate valves shall meet or exceed the Specifications outlined herein for vertical gate valves including the 250-psi pressure rating. All horizontal gate valves shall be equipped with bevel gears resulting in a minimum 4:1 turn ratio for valves 30 through 48-inches in diameter.

Valves shall be Mueller or approved equal.

6. <u>Butterfly Valves</u>: Butterfly Valves shall not be used in the Town of Apex water system unless permitted by the Director of Water Resources in unique cases where a gate valve cannot be installed. All butterfly valves shall meet the

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requirements of AWWA C504 with mechanical joints, 2 inch open left operating nut. Valves greater than 12-inches shall be installed in a manhole with the 2-inch nut accessible from above grade. Valves designated by the Town to potentially have a remote actuator shall also be installed in a manhole regardless of size. All butterfly valves shall be rated for a working pressure of 200-psi or greater. Butterfly valves shall be provided with a fusion bonded epoxy coating on both interior and exterior surfaces at a minimum of 10-mils with an NSF 61 approved epoxy. All rubber seals and gaskets shall be made of EPDM rubber.

- 7. Insertion Valves: Insertion valves shall only be used as permitted by the Water Resources Department. Insertion valves shall meet the requirements of AWWA C515, seat on the valve body and be rated for a working pressure of 250-psi or greater. All insertion valves shall be made of ductile iron in conformance with ASTM A-536 Grade 65-45-12 and epoxy coated at a minimum of 10-mils. Insertion valves are available for pipe sizes through 12-inches in diameter. In cases where insertion valves are being installed to shut down water to a work zone area, the insertion valve shall be located a minimum of 100-ft from the work zone or greater as determined by the Engineer of Record to assure the insertion valve can safely operate as a dead end without dislodging from the pipeline or otherwise causing the existing pipeline to shift.
- 8. Valve boxes
 - a) Valve Boxes shall be cast iron, screw type, with a 5 inch opening and "water" stamped on the cover. The cover shall be 6-inches in depth. All valve box assemblies and covers shall be cast from Class 35 gray iron and domestically made and manufactured in the USA. Boxes shall be painted prior to shipment with a coat of protecting asphaltic paint.
 - b) Valve box ring adjustments will not be allowed. The valve box shall be centered over the wrench nut and seated on compacted backfill without touching the valve assembly. All valve boxes in pavement shall be flush with the top of the pavement or flush with the finished grade. Outside of paved areas precast concrete valve box encasements or a trowel finished 2' x 2' x 6" pad of 3000psi concrete may be used for valve box encasement provided the assembly is buried flush with the surface grade and compacted properly to prevent movement of the precast encasement.
- <u>Actuators:</u> All valves shall be provided with standard 2-inch operating nuts. Unless otherwise specified, the direction of rotation to open the valves shall be to the left, (counterclockwise), when viewed from the top. Each valve body or actuator shall have cast thereon the word "OPEN" and an arrow indicating the direction to open.

B. Appurtenances

1. Blowoffs:

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- a) Blowoffs shall be the same size as the water main installed on and installed at the end of all dead-end water lines.
- b) Blowoff Assemblies shall be constructed as shown in the Details. The valves shall be gate type with a non-rising stem and a 2 inch operating nut, O-ring seals and screwed ends. A full size gate valve is required on water mains that are planned to be extended.
- <u>Reaction Blocking</u>: Material for reaction blocking shall be 3000 psi concrete, poured in place. The reaction areas are shown in the Details. A minimum 6 mil plastic shall cover the fitting to ensure that no concrete will interfere with removal of the fitting. Blocking shall be installed in addition to pipe restraint. Blocking shall be installed against solid, undisturbed earth.
- 3. <u>Rodding</u>: All rodding shall be constructed with type 304 stainless steel rods at the number and sizing specified in the following table. Rod coupling shall not be allowed. All hardware shall also be stainless steel type 304.

Stainless Steel Rod Requirements are as follows:

6-inch branch	2, ³ / ₄ -inch stainless steel rods
8-inch branch	4, ³ / ₄ -inch stainless steel rods
12-inch branch	6, ³ / ₄ -inch stainless steel rods
16-inch branch	8, ³ / ₄ -inch stainless steel rods

4. Wedge Action Retainer Glands:

All wedge action retainer glands shall be manufactured as a one piece retainer gland for use with mechanical joints and shall be rated to provide restraint up to 350-psi pressure rating for sizes through 16-inches. For sizing above 16-inches, the wedge action retainer gland shall be rated to provide restraint up to 250-psi. Approved wedge action retainer glands shall be made of ductile iron, coated with a manufacturer applied epoxy coating or polyester powder coating.

In cases where wedge action retainer glands are approved for pipe restraint of fire hydrant supply lines or other applications, the entire hydrant supply line shall be restrained.

Wedge action retainer gland connections to push on pipe are not approved.

5. Sampling Stations:

Sampling Stations shall be provided at all new residential and commercial development areas at the rate of 1 sampling station per development complex consisting of at least 200-homes or 1-per 10 acre or greater commercial complex or 1 per institutional facility with more than 100,000 square feet or as otherwise

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Sampling stations shall be provided as a self-contained manufactured assembly with locking aluminum housing, copper drainage tube and unthreaded spigot.

6. Gaskets for Contaminated Installations

- a) Installation within contaminated areas should be avoided. If not possible or practical, and with prior approval from the Water Resources Director, water mains may be installed within some areas of contamination.
- b) The common type of gasket used for DIP is made of a synthetic rubber, which is a copolymer of styrene and butadiene (SBR). It is generally suitable for applications in fresh water, salt water and sanitary sewage environments. All gaskets for DIP shall meet the minimum requirements of AWWA C111/A21.11. Gaskets for all PVC sewer pipes shall meet the requirements of ASTM F477.
- c) Nitrile (NBR) or Buna-N gasket is another type of gasket made of synthetic rubber, which is a copolymer of butadiene and acrylonitrile. In general, this type of synthetic rubber has good resistance to refined petroleum products like gasoline, kerosene, jet fuel and lubricating oils. It may not be effective for use with aromatic hydrocarbons like benzene and toluene or chlorinated hydrocarbons like chloromethane and chlorobenzene.

7. Polyethylene Wrapping

When soils and/or field conditions require polyethylene wrapping of water mains, wrap shall be provided and installed in accordance with ANSI/AWWA C105/A21.5. When installed with restrained joint pipe, calculations for length of restrain must factor in the use of wrapping.

8. Marker Posts

Water main shall be marked with a plastic marker at every valve, every horizontal fitting, and spaced every 1,000 feet along the water main. The post shall having a minimum diameter of four inches and a minimum bury of thirty inches with a minimum of four feet exposed. The exposed portion shall be painted blue and label "Apex Water". Marker posts shall be installed through easements, all non-residential areas, and as directed by the Water Resources Director. Valves shall have marker posts only when they are installed outside of paved areas.

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604 Water Main Taps and Services

A. Design

- 1. Individual water services shall be provided from the main to each water meter for single family residences in accordance with the Details. Gang meters are prohibited, with exception to installations at apartment buildings or multiple commercial units within a single building where metering individual dwelling units may be impractical. All connections shall be made by wet taps. Service connections shall be made perpendicular to the main and shall run straight to the meter. Any deviation from this standard must be approved by the Water Resources Director prior to implementing the change.
- 2. All water service lines shall be installed with a minimum depth of cover of 24-inches or greater.
- 3. All water meter boxes and vaults shall be located at the edge of the serviced lot's right of way or easement. Water meter boxes shall not be placed in streets, sidewalks, parking areas or obstructed by fencing or buildings. A 5-foot clear zone easement shall be maintained around meter boxes and vaults.
- 4. Provisions for backflow prevention shall be in accordance with existing Town standards and specifications as well as the NC Plumbing Code.
- 5. The water meter shall be sized based on water demand. All water service lines shall be minimum 3/4 inch diameter. Multiple branches up to a maximum of 2 potable water services per multiple branch assembly for a single residential use shall be sized by the Engineer of Record in accordance with AWWA M22, but shall not be less than 1.5-inches in diameter.
- Service taps to new water lines shall be made by the Contractor/Developer in accordance with the Specifications after obtaining applicable permits and paying applicable fees.
- 7. No taps shall be made within 3-feet of the bell or spigot end of the pipe or within 20 feet of a dead end.
- 8. Water service supply lines shall be continuous from the water main to the meter, no connections or joints are allowed, for services up to and including 2-inch. No services shall be tapped on water transmission mains.
- 9. Multiple meters on branched services are acceptable for multi-family projects. Multiple meters and water services greater than ³/₄" in size used in gang meter installations shall require design calculations certified by a professional engineer licensed in North Carolina and submitted to the Town prior to construction

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approval.

All multiple meter installations shall conform to the Standard Detail and shall contain a curb stop on the feeder line. The curb stop shall be buried and shall be equipped with a curb box.

- 10. Meter installation The Town of Apex shall provide and install $(\frac{3}{4}" 2")$ water meters subject to the following conditions:
 - The Town has received a copy of the waterline purity test results and the Engineer' certification.
 - The Developer (or property owner) has paid all acreage fees.
 - The Developer (or property owner) has paid prescribed meter fee.
 - The Developer has installed all specified improvements or guaranteed their installation as prescribed in the Town Code.
- 11. No services shall be made directly to water mains that are <u>1218</u>" or larger. These connections must utilize a cut-in tee and appropriate reducers/fittings.
- 12. Service connections larger than 2" shall be made by means of a tapping sleeve and valve or cut in tee.
- 13. All new water services shall be equipped with a dual check valve which shall be located immediately downstream of the meter.
- 14. All meters shall register in gallons.
- 15. Multiple meters may be installed in accordance with the Standard Detail.
- 16. Taps shall be made only on lines under pressure, and after mains have been tested and chlorinated. No taps on dry lines shall be allowed.
- 17. Taps shall be made in accordance with the Standard Detail and shall be a continuous run from the main line to the metering point without intermediate connections and/or joints.
- <u>18.</u> Each service shall be flushed and disinfected after installation, abiding to the same requirements as water mains.
- <u>19. There shall be no size-on-size taps allowed. All taps must be at least one size smaller</u> <u>than the main being tapped.</u>

B. Materials

1. <u>Full Body Tapping Sleeves:</u> Mechanical Joint tapping sleeves shall be fabricated of ductile iron construction in a two-piece assembly with mechanical joint

Section 600 - Water Distribution - Page 25 of 36 Effective Date: March 23, 2021 connections to the main line and flanged connection to the tapping valve. All MJ tapping sleeves shall be rated for a working pressure of 200-psi or greater and provided with a ³/₄-inch test plug for testing. All tapping sleeves shall be hydrostatically tested up to 200-psi before a tap is made. Tapping sleeves shall not be air tested.

All mechanical joint tapping sleeves shall be manufacturer fabricated and approved for installation on the specific main line pipe material, whether ductile iron, plastic, cast iron or asbestos cement.

Full body tapping sleeves must be used when the main line is greater than 24inches. Tapping sleeves fabricated of carbon steel in a two-piece assembly with mechanical joint connections to the main line and flanged connection to the tapping valve will be considered for approval on a case by case basis for mains that are greater than 24-inches. Carbon steel sleeves should be rated for a working pressure of 250-psi or greater and be provided with a ³/₄-inch test plug. A fusion bonded epoxy coating shall be applied to all carbon steel sleeves.

2. Stainless Steel Tapping Sleeves, 6-inch through 12-inch main lines:

Stainless steel tapping sleeves may be used in lieu of mechanical joint tapping sleeves for ductile iron or asbestos cement water mains through 12-inches in diameter with branch sizing as shown in the following table. All stainless steel tapping sleeves shall be manufactured in conformance with AWWA C223. All stainless steel tapping sleeves shall have a stainless steel flange and be provided in a two piece assembly with a full circumferential gasket with tabbed gasket holding assembly and ³/₄-inch test plug. The back band shall be a minimum 14 gauge stainless steel and the front band (where the outlet is located) shall be a minimum 12 gauge stainless steel tapping sleeves shall be a minimum 7 gauge stainless steel. All stainless steel tapping sleeves shall be a minimum 7 gauge stainless steel. All stainless steel tapping sleeves shall be a minimum 7 gauge stainless steel. All stainless steel tapping sleeves shall be a minimum 7 gauge stainless steel. All stainless steel tapping sleeves shall be a minimum 7 gauge stainless steel. Stainless steel tapping sleeves shall be a minimum 7 gauge stainless steel. All stainless steel tapping sleeves shall be a minimum 7 gauge stainless steel. Stainless steel tapping sleeves shall be a minimum 7 gauge stainless steel. All stainless steel tapping sleeves shall be a minimum 7 gauge stainless steel. Stainless steel tapping sleeves shall be a minimum 7 gauge stainless steel tapping sleeves shall be a minimum 7 gauge stainless steel stepping sleeves shall be a minimum 7 gauge stainless steel stepping sleeves shall be a minimum 7 gauge stainless steel stepping sleeves shall be a minimum 7 gauge stainless steel stepping sleeves shall be a minimum 7 gauge stainless steel stepping sleeves shall be a minimum 7 gauge stainless steel stepping sleeves shall be a minimum 7 gauge stainless steel stepping sleeves shall be a minimum 7 gauge stainless steel stepping sleeves shall be a minimum 7 gauge stainless steel stepping sleeves shall be a minimum 7 gauge stainless steel stepping sl

Stainless	Steel	Tapping	Sleeve	Sizes	Allowed
Otaniicoo	01001	rupping	010070	01200	/ 1000000

	<u>v</u>
Nominal Main Size (inches)	Nominal Branch Size (inches)
6	4
8	4
10	4
10	6
12	4
12	6
12	8

3. Stainless Steel Tapping Sleeves, 14-inch through 24-inch main lines:

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4. Tapping Saddles, 14-inch through 24-inch main lines:

Tapping Saddles may be used in lieu of mechanical joint tapping sleeves to tap mains 14 inches through 24-inches when the branch line is 50% or less in diameter than the main line diameter. Saddles shall be made of ductile iron providing a factor of safety of 2.5 with a working pressure of 250-psi. Saddles shall be equipped with an AWWA C110 flange connection on the branch. Sealing gaskets shall be O-ring type, high quality molded rubber having an approximate 70 durometer hardness, placed into a groove on the curved surface of the saddles. Straps shall be alloy steel. The minimum strap count for branch sizing from 4-12 inches is shown below.

Strap Requirements for Tapping Saddles

Nominal Saddle	Number of
(inches)	Oliaps
6	3
8	4
12	7

5. Corporation Stops:

- a) Corporation Stops shall be ball type, made of "no lead" brass (meeting UNS C89833 as per ASTM B584). Corp stops shall be complete with a compression coupling and AWWA Standard threads as per AWWA C800. Taps shall be located at 10:00 or 2:00 o'clock on the circumference of the pipe. Service taps shall be staggered alternating from one side of the water main to the other and at least 12 inches apart. The taps must be a minimum of 24 inches apart if they are on the same side of the pipe. All corporation stops shall be rated for a working pressure of 300-psi.
- b) No burned taps will be allowed and each corporation stop will be wrapped with Teflon tape for ductile iron pipe water mains. No taps are allowed on a fire hydrant line. No tapping shall be made where rodding is placed.

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6. Service Saddles:

Service Saddles shall be used for service taps larger than 1-inch on all ductile iron water mains 14-inches and greater, or when direct taps cannot be made. Service saddles shall also be used for all taps on existing water mains other than ductile iron, such as asbestos cement, PVC, etc. Service Saddles shall be provided with brass body and fasteners (85-5-5-5 waterworks brass or "no lead" brass meeting UNS C89833 as per ASTM B584) conforming to AWWA C800 and double straps made of silicon bronze conforming to ASTM A98 and factory installed grade 60 rubber gaskets. Service saddles shall be provided with AWWA standard threads per AWWA C800.

- <u>Copper Service Tubing</u>: Copper service tubing shall be type K soft copper tubing per ASTM B88. No union shall be used in the installation of the service connection of 100-feet or less. Service lines more than 100 feet shall use a three (3) piece compression coupling. Only one (1) compression coupling shall be used for each 100 feet or fraction thereof.
- 8. <u>Meter boxes for ¾ and 1 inch services</u>: ¾ and 1-inch meter boxes shall behigh density polyethylene (black). Meter boxes shall provide a cover opening of at least 7.5 X 13 inches and boxes shall measure at least 18 inches in depth. Lids may be designed with an internal housing for the ERT device, or with mounting bracket. They shall also be lockable. Lids shall be provided with a 2 inch (maximum) diameter hole to accommodate a transmitter. All meter boxes and lids shall be installed as shown in the Details and shall meet AASHTO HS20 load bearing capacity.

Meter boxes shall have 45 degree compression connections outside the box on the inlet side. There shall be a lockable ball valve inside the box on both the inlet and outlet which shall be permanently affixed to ensure proper spacing and alignment for the meter. Meter boxes shall also be provided with an ASSE 1024 approved inline, dual check valve located behind the meter. For boxes not utilizing a 1 inch meter, adapters shall be provided to accommodate a 5/8 x 3/4 inch meter. All fittings and connections shall be "no lead" brass conforming to UNS C89833 as per ASTM B584.

A "no lead" brass curb stop with compression connections shall be installed within 2 feet of the inlet connection. The curb stop may be buried without a box above it.

One 2 inch or 6 inch grade adjuster may be used when needed to meet final grade, however, no grade adjusters are permitted on new construction projects. Grade adjusters shall be cast iron. Grade adjuster and box shall be by the same manufacturer.

 <u>1 ½ and 2 inch Water Services</u>: 1 1/2" and 2" meter boxes shall be concrete or light weight polymer concrete as indicated in the Standard Details. Meter boxes for 1 ½ and 2 inch water services shall provide a cover opening of 24 X 36 inches

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and boxes shall measure at least 30-inches in depth and provided in straight wall arrangement. Standard meter box covers shall bolt down to the box, and all polymer cement covers shall be provided in solid configuration with a 2 inch diameter transmitter hole, and with the words, "Water Meter" cast into the lid. The meter box covers shall be provided with 2 stainless steel bolts in penta head configuration for security. To ensure positive discharge, the box should be tied into the existing storm drain system, or shall have an open bottom to allow drainage through a 6-inch stone base. All meter box covers for potable water service shall be provided in standard concrete gray or black color.

Custom setter piping and fittings for 1 $\frac{1}{2}$ and 2 inch water meters shall be constructed from "no lead" brass (meeting UNS C89833 as per ASTM B584) and copper tubing and shall be equipped with a lockable by-pass flanged ball valve and flanged angle meter ball valves All applications shall have a separate above ground backflow preventer.

- 10. Water services greater than 2-inches: Water services greater than 2-inches shall have the meter and bypass line located within a precast concrete vault. All piping and valves shall have flanged connections. There shall be isolation gate valves on both sides of the meter as well as one on the bypass line. Gate valves within the vault shall meet the above requirements of AWWA C509 for non-rising stem gate valves, but shall be provided with hand wheel operators. A standard buried gate valve with 2-inch nut shall be provided between the main and the vault. Link seals shall be used where the pipe enters and exits the vault.
- 11. <u>Meter Vaults:</u> Meter vaults and access doors shall meet HS-20 loading requirements and shall be located outside of travel areas. Pedestrian rated covers shall not be used regardless of where they are located. The access double doors shall be aluminum with a flush drop lift handle, stainless steel hinges and bolts, a stainless steel slam lock, an automatic hold open arm, and compression springs to allow for easy opening. Vaults shall be approximately 9-feet by 12-feet. To ensure positive drainage, the vault shall be tied into the existing storm drainage system. If positive drainage is unobtainable, a sump pump shall be located and operated in the vault.

605 Irrigation Systems

- 1. All irrigation systems shall be provided with privately maintained lead free reduced pressure principle backflow prevention installed in accordance with the NC Plumbing Code and the Foundation for Cross Connection Control and Hydraulic Research. Reduced pressure zone backflow preventers shall be installed above ground in an insulated box as shown by the details.
- 2. All irrigation systems within public street right of way require an encroachment agreement from the Town or NCDOT prior to installation. Plans designating the location, size, material, and depth shall be submitted with the agreement

Section 600 - Water Distribution - Page 29 of 36 Effective Date: March 23, 2021 application to the Inspection & Permits Department. If there is an approved site plan, it shall be referenced with the encroachment submittal to the State.

- 3. Pipe material for the mainline proposed to be used within the public right of way shall be Schedule 40 PVC or greater. A distance of at least 3-feet shall be provided from the back of curb or edge of asphalt in a ditch section. A minimum depth of 2-feet of cover shall be provided and all heads shall spray away from the street.
- 4. All street crossings of irrigation systems shall be encased in ductile iron or steel conduit. Irrigation systems installed in the medians of Town maintained roadways must also have French drains installed behind the curb and gutter which are piped to a storm system.
- 5. There shall be no interconnections between the Town's water system and any private water sources (wells).

606 Testing and Inspections

A. General

- 1. All materials must be approved by the Infrastructure Inspector prior to installation. Materials rejected by the Infrastructure Inspector shall be immediately removed from the job site.
- The Contractor shall furnish all materials, labor, and equipment to perform all testing and inspections to the satisfaction of the Infrastructure Inspector or Water Quality representative. The Town shall provide water for testing purposes on water mains in accordance with Town Standard Procedure 4, Control and Monitoring of Water System Flow Activity.

B. Testing

- 1. Pigging of Water Mains
 - a) All new water mains shall be pigged as a part of the testing procedure. Pigging shall take place at the conclusion of pipe installation utilizing the initial water fill or loading of the pipe. Pigging shall take place prior to any introduction of chlorine solution to the pipe. The Contractor shall use a 5 pounds/cubic foot density polyethylene pig and shall write their company name and the street name where the work is taking place in a permanent manor on the pig. A minimum velocity of 2 feet per second shall be maintained during pigging operations. In larger water mains, a swab may be utilized with prior approval from the Water Resources Director.
- 2. Hydrostatic Testing

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- a) No valve in the Town water system shall be operated without authorization in accordance with the Town and by a Town employee. Advance notice of at least 24 hours shall be provided prior to testing. A section of line that is to be hydrostatically tested, shall be slowly filled with water at a rate which will allow complete evacuation of air from the line. Hand pumps shall not be used for the pressure testing of water mains. Taps used for testing purposes shall be removed after testing and repaired using a "no lead" brass plug.
- b) When filling the pipeline, it is very important to fill the line slowly to avoid undue impacts associated with surge and to allow air to evacuate the pipeline. After all air has been expelled from the water main, the line shall be tested to a pressure of 200 psi as measured at the lowest elevation of the line for a duration of 2 hours. The testing period shall not commence until all air has been evacuated and the pressure has stabilized. The pressure gauge used in the hydrostatic test shall be calibrated in increments of 20-psi or less. The pressure gauge shall be liquid-filled and indexed for an operating range of 300-psi or less with a minimum dial size of 4 inches. At the end of the test period, the leakage shall be measured with an accurate water meter.
- c) No leakage shall be allowed. If leakage is present, repair of the water main and additional testing shall be conducted until the standards are met.
- d) Once testing and sampling have been completed, Contractor shall verify with Town that all valves have been opened.
- 3. Disinfection
 - a) All additions or replacements to the water system shall be disinfected with chlorine in conformance with AWWA C651 before being placed in service under the supervision of the Town's Infrastructure Inspector in the following manner:
 - 1) Taps shall be made at the control valve at the upstream end of the line and at all extremities of the line including valves.
 - 2) A solution of water containing 70% High Test Hypochlorite (HTH) available chlorine shall be introduced into the line by regulated pumping at the control-valve tap. The solution shall be of such a concentration that the line shall have a uniform concentration of not less than 50-ppm and not more than 100-ppm total chlorine immediately after chlorination. The chart below shows the required quantity of 70% HTH compound to be contained in solution in each 1000 feet section of line to produce the desired concentration from 50-ppm to 100 ppm.

Required Hypochlorite Concentration

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Pipe Size (inches)	Pounds of High Test Hypochlorite (70%) to reach 50-ppm	Pounds High Test Hypochlorite (70%) to reach 100-ppm
	per 1,000 feet of line	per 1000 feet of line
6	0.88	1.76
8	1.56	3.12
10	2.42	4.84
12	3.50	7.00
14	4.76	9.52
16	6.22	12.44
20	9.76	19.52
24	14.00	28.00
30	21.86	43.72
36	31.47	62.94
42	42.85	85.70

- 3) The HTH Solution shall be circulated in the main by opening the control valve and systematically manipulating hydrants and taps at the line extremities. The HTH solution must be pumped in at a constant rate for each discharge rate so a uniform concentration will be produced in mains.
- 4) HTH solution shall remain in lines for no less than 24 hours or as directed by the Town's Infrastructure Inspector.
- 5) Extreme care shall be exercised at all times to prevent the HTH solution from entering existing mains.
- 6) Free residual chlorine after 24 hours shall be at least 10 ppm or the Infrastructure Inspector will require that the lines be re-chlorinated.
- 4. Flushing
 - a) Flushing of lines may only proceed after 24 hours of disinfection contact time and as directed by Town staff, provided the free residual chlorine analysis is satisfactory.
 - b) At the completion of disinfection, chlorinated water flushed from the water main shall be disposed of in conformance with all Federal, State and local regulations.
 - c) In accordance with all applicable regulations, a neutralizing chemical shall be applied to minimize chlorine residual in the flushing water before discharging from the water main, unless an alternate plan is submitted in writing and approved by the Town.

Section 600 - Water Distribution - Page 32 of 36 Effective Date: March 23, 2021 d) Water used for disinfection shall be flushed from the water main until the chlorine residual concentration is below 5-ppm before initiating sampling.

5. Bacteriological and Turbidity Sampling

- a) Bacteriological sampling shall be utilized to verify disinfection prior to placing a newly constructed water main in operational service. Bacteriological sampling shall consist of 2 consecutive sets of acceptable samples taken at least 24hours apart and collected from each 1,200-ft section of water main and all dead ends and branches as outlined by ANSI/AWWA C651.
- b) For the first round of sampling, the requested laboratory analysis shall be specified as follows: "Bacteriological Test and Turbidity." For the second round of testing, the laboratory analysis shall be specified as, "Bacteriological Test Only."
- c) Samples for laboratory analysis shall be collected by the Town's Infrastructure Inspectora Town Representative after flushing is completed. The Contractor shall set up sampling stations_and furnish the sample bottles, the testing agency and shall secure these samples. The Contractor shall make arrangements with the laboratory that all test results be submitted directly to the Town's Infrastructure Inspector or other designee approved by the Water Resources Department. A Town Seal sticker shall be placed on the sample bottle. The Town is responsible for the delivery of the sample(s) to a testing laboratory certified by the North Carolina Department of Human Resources, Division of Health Services. The testing lab will document the condition of the seal upon receipt. The Town shall furnish the Contractor with a copy of the results prior to tapping any services. All costs for laboratory testing shall be borne by the Contractor. Samples shall be taken at 2000 feet intervals, at the end of the main, at each branch connection, and each side of all cut-in connections.
- d) The laboratory secured for testing shall be certified by the State Laboratory of Public Health. All sample bottles for bacteriological sampling provided by the laboratory shall be sterilized and treated with a dechlorinating agent, such as sodium thiosulfate. Samples for turbidity shall be taken in plain sterilized bottles from the lab, which are separate from the bottles provided for bacteriological testing. The sample bottles shall be provided with tamper proof seals that will be adhered to the bottles by the Town's Infrastructure Inspector. The Infrastructure Inspector shall provide a sample identification number, job title and an identification of Phase 1 or Phase 2 sampling that will be provided on the tamper proof custody seal. The bottles and tamper proof custody seals shall be accompanied by a chain of custody form provided by the certified laboratory conducting the testing. All sample identification numbers, job titles,

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- e) All samples shall be collected in compliance with the sampling protocols provided by the certified laboratory. The samples shall be kept in a cooler provided by the Contractor at approximately 40-degrees Fahrenheit or 4-degrees Celsius and delivered to the certified lab for testing as soon as possible. The time at which the sample is taken shall be recorded on the chain of custody form by the Infrastructure Inspector. Any samples processed at the laboratory more than 30-hours following collection shall be declared invalid, i.e. samples shall be submitted to the lab within 24-hours of collecting them.
- f) All first round samples shall be tested for bacteriological quality and turbidity in accordance with standards established by NCDEQ and AWWA. If turbidity exceeds 1.0 NTU, the sample shall fail and the system shall be re-flushed before initiating a new round of testing.
- g) If the phase 1 sample results for bacteriological quality and turbidity are acceptable, then a second set of samples can be collected at least 24-hours following the first sample collection. No additional flushing other than required to obtain a representative sample will be allowed prior to collecting the second set of samples.
- h) The second set of samples shall be tested for bacteriological quality only. All custody seals and chain of custody forms shall identify the second round samples as "Phase 2" testing to notify the lab that the first set of samples have already been evaluated and received a satisfactory laboratory analysis.
- At the completion of sampling, the total chlorine concentration shall be at least 2-mg/L and no higher than 4-mg/L before the system can be made operational.
- j) If three successive test results are unsatisfactory, the Contractor shall immediately re-chlorinate lines and proceed with such measures as are necessary to properly disinfect the lines.
- k) The new water system shall be valved off from the existing system until a satisfactory bacteriological laboratory analysis has been obtained and the Infrastructure Inspector has authorized the use of the new water system.
- I) Water mains shall be placed into service within 72 hours of passing bacteriological analysis requirements. If no activity is anticipated on a water main after it is placed into service, the contractor shall notify the Town's Operations Manager.

H)m) If the Inspector or any Town representative does not approve of the sampling location, equipment, or setup then the sample shall not be taken. **Formatted:** List Paragraph, Left, No bullets or numbering

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6. Tracer Wire and Marker Tape Testing

Testing of the tracer wire and tape shall be performed by the Contractor at the completion of the project to assure they are all working properly. It is the Contractor's responsibility to provide the necessary equipment to test the markers. Any defective, missing, or otherwise non-locatable units shall be replaced. The Contractor shall submit a report of all tracer wire and marker tape testing. The Town reserves the right to require a third-party testing company at any time, at the expense of the Contractor.

607 Repair and Abandonment

- 1. <u>Joint leaks</u> of Ductile Iron Pipe shall be repaired by using a bell joint leak repair clamp approved by the Town or otherwise replacing the damaged pipe and reconnecting with a mechanical joint sleeve connection.
- 2. <u>Line Breaks or Punctures</u> shall be repaired by a full circle repair clamp as approved by the Town or otherwise replacing the damaged pipe and reconnecting with a mechanical joint sleeve connection.
- 3. <u>Line Splits or Blow Outs</u> shall be repaired by replacing the damaged section with ductile iron pipe with a restrained sleeve connection at each end.
- 4. <u>Asbestos Cement Pipe to PVC or Ductile Iron Pipe transitions</u> shall use a Krausz Hymax or Romac Macro HP coupling with different end diameters sized specifically for the pipe materials and pipe outside diameter at each end.
- 5. <u>All water main point repairs</u> shall be replaced with DIP in accordance with these Specifications and backfilled with crush and run stone compacted to 95% maximum dry density as specified elsewhere in the Standard Specifications.
- 6. Water Service Line Repairs
 - a) A water service line severed between the water main and the water meter shall be repaired using new type K copper tubing and bronze or "no lead" brass 3 piece compression unions.
 - b) A corporation stop pulled out of a PVC pipe water main shall have a new service saddle and a new "no lead" brass corporation stop installed on the water main.
 - c) A corporation stop pulled out of a ductile iron pipe shall have a full circle repair clamp placed over the old tap hole. A new tap shall be made and a new "no lead" brass corporation stop installed on the water main.

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7. Abandonment of Existing Water Mains

- a) Existing water mains located outside of road sections shall be removed, unless otherwise directed by the Town. All materials and labor shall be provided by the contractor.
- b) Grout filling and abandoning in place may be allowed with prior approval from the Director of Water Resources.

8. Abandonment of Existing Water Services

Contractors abandoning water services shall remove the entire service stub. When available, a mechanical plug shall be used to abandon the corporation stop. If equipment necessary to plug the main is not available, the corporation stop shall be turned off and capped. A $\frac{1}{2}$ PVC pipe shall extend a minimum of 12" above the capped corporation stop, wrapped at least 3 times with caution tape to identify an abandoned tap. All remaining portions of the service stub shall be removed from the main to the right of way line and shall be disposed of properly.

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SECTION 700 WASTEWATER COLLECTION SYSTEMS

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701 Gravity Sewer

A. Design

- 1. Main Location
 - a) All public sanitary sewer mains shall be installed in dedicated street right of way or in dedicated utility easements. Mains within easements shall be centered within the easement. Mains located along NCDOT roads shall be placed outside of NCDOT right of way.
 - b) In preparing engineering design plans, all elevations shall be tied to NC grid system and the benchmark shall be described on the plans. A field survey of all waterways and waterbodies within project area must be performed, including but not limited to: creeks, streams, rivers, lakes, ponds, ditches, and culverts. Survey must include adequate points to accurately represent the cross section of the waterway/waterbody, i.e. top of bank, toe, centerline, etc.
 - c) Construction Drawings shall be prepared by or under the direct supervision of a professional engineer, licensed in North Carolina. Design shall conform to all standards and guidelines established by the Town and NCDEQ. Any design that does not meet minimum requirements set forth by NCDEQ and 15A NCAC 02T rules shall require a variance approval from NCDEQ. Plans shall indicate deflection angles at all manholes.
 - d) All private sewer collection mains inside the Town service area that will connect or are planning to discharge into the Apex sewer system shall comply with all Town of Apex design, siting and installation criteria outlined herein. The Owner of the private sewer collection system shall meet all State design requirements and obtain a State permit to operate the private system.
 - e) Gravity mains shall be installed in dedicated public right of way (not alleys or roundabouts) or in dedicated utility easements as follows:

Pipe Depth*	Permanent Easement Width	Town Road R/W
8-ft or less	20-ft	Allowed
0 ft 15 ft	20#	As Specified by the WR
0-II - 10-II	3011	Department
15-ft – 20-ft	40-ft	Not Allowed
Deeper than	As Specified by the WR	
20 ft	Department	Not Allowed

*Depth of the sewer main shall be measured from the top of the pipe to the final grade or road subgrade at the deepest point between manholes.

Section 700 – Wastewater Collection Systems - Page 2 of 37 Effective Date: March 23, 2021 Dedicated easements for sewer mains and appurtenances shall be recorded as "Town of Apex Public Sanitary Sewer Easement". Town of Apex sewer easements shall contain only Town of Apex utilities unless otherwise approved by the site plan or an encroachment agreement. Sewer mains shall be centered in the easement. Easements shall be acquired by the Developer (unless utility is designed as part of a Capital Improvement Project) prior to construction approval.

Easements must be clearly labeled as "public" or "private".

If the sewer main is located within the road right-of-way, a clear width equal to or greater than the easement width required must be available. If adequate width is not available within the right-of-way, additional easement outside of the right-of-way must be maintained. For example, if a sewer main normally requiring a 20 foot easement is installed 5 feet inside of the right-of-way, an additional 5 feet of easement must be obtained outside of the right-of-way to provide a clear total width of 10 feet on each side of the pipe.

- f) The minimum width of a permanent easement that contains sanitary sewer and storm sewer shall be 30 feet. There must be a separation of 10 feet between the outside of each pipe and 10 feet from the centerline of the pipe to the easement line.
- g) The minimum width of a permanent easement that contains sanitary sewer and greenway shall be 15 feet in addition to the width required in the table above. There must be a separation of 10 feet between the sewer main and the edge of pavement and at least 10 feet from the centerline of the pipe to the easement line.
- h) No structures, equipment, retaining walls, embankments, impoundments, pavement, landscaping, fill, or other elements that would inhibit maintenance operations shall be constructed within a sewer main easement as outlined in Section 200. Fences may be allowed across easements provided that appropriate access gates or removable panels have been installed to allow utility maintenance. Fences shall not be installed parallel within utility easements. In all cases, Town of Apex Operations Staff shall have access to secured access gates. Fill or cut slopes are not allowed to extend into easements without full development plan approval or an approved encroachment agreement from the Town of Apex, see Section 200 for further information. All such pre-existing or planned conditions as noted herein that would impact operations and maintenance within the noted sewer main easement shall be noted and disclosed during the site plan approval process. Pre-existing conditions that are not disclosed during

Section 700 – Wastewater Collection Systems - Page 3 of 37 Effective Date: March 23, 2021 the site plan review may nullify the approval and require relocating the sewer easement where there are no existing conflicts. <u>If sewer main is</u> <u>located within road right-of-way or on Town owned property there shall</u> <u>be no permanent structures, equipment, retaining walls, embankments, impoundments, landscaping, or other elements that would inhibit maintenance operations unless approved by the Water Resources Director.</u>

- i) Where public sanitary sewer mains are installed within easements crossing private property, the Town's Water Resources Department shall have the right to enter upon the easement for purposes of inspecting, repairing, or replacing the sewer main and appurtenances. Where paved private streets, driveways, parking lots, etc. have been installed over public sewer mains, the Town of Apex shall not be responsible for the repair or replacement of pavement, curbing, landscaping, etc. which must be removed to facilitate repairs. The Water Resources Department shall excavate as necessary to make the repair, and shall backfill the disturbed area to approximately the original grade. Replacement of privately owned pavement, curbing, walkways, etc. shall be the responsibility of the property owner and/or Homeowner's Association.
- j) Easements shall be accessible from public rights-of-ways. If easement is not accessible perpendicular from right-of-way due to steep slope, environmental feature, or other obstacle, additional easement may be necessary.
- k) Sewer line easements shall be graded smooth, free from rocks, boulders, roots, stumps, and other debris, and seeded and mulched upon the completion of construction. Easements across sloped areas shall be graded uniformly across the slope to no steeper than a 4 to 1 ratio.
- Mains paralleling a creek shall be of sufficient depth to allow lateral connections below the stream bed elevation. The top of the sewer main and laterals shall be at least three feet below the stream bed. Concrete encasement and ductile iron pipe shall be required when the cover between the top of the pipe and the stream bed is less than 3 feet.
- m) Mains shall not be installed under any part of water impoundments or area to be impounded. Sewer mains shall not be installed through, above, or below any retained earth structure. Sewer main location and depth shall not be within the theoretical 1:1 slope of any impoundment dam or structure, or shall maintain a minimum of 10' horizontal separation from the toe of slope, whichever is greater. The entire

Section 700 – Wastewater Collection Systems - Page 4 of 37 Effective Date: March 23, 2021 easement shall be outside of the toe of slope, unless prior approval is obtained from the Water Resources Director.

- n) Sewer profile shall follow natural topography and road grade. Sewer designed against natural grade or road grade shall only be allowed if approved by the Water Resources Director and no practical alternative is available.
- o) The following minimum horizontal separations shall be maintained:
 - 100 feet from any private or public water supply source, including wells, WS-1 waters or Class I or Class II impounded reservoirs used as a source of drinking water (except as noted below)
 - 50 feet from wetlands and any waters (from normal high water) classified WS-II, WS-III, B, SA, ORW, HQW or SB (except as noted below)
 - 3. 20 feet from any other stream, lake, or impoundment (except as noted below)
 - 4. With approval directly from PERCS, the following separations may be acceptable when water main standards are implemented:
 - a. All appurtenances shall be outside the 100 foot radius of wells.
 - b. 50 feet from private wells (with no exceptions)
 - c. 50 feet from public water wells (with no exceptions)
 - d. Where the required minimum separations cannot be obtained, ductile iron pipe shall be used with joints equivalent to water main standards.
- p) Sewer mains shall always be extended along any and all natural drainage courses/draws that are located within the property line boundaries of the proposed development. This sewer shall be extended to all adjacent upstream property lines.
 - 1) Sewer design shall account for future upstream development based on the current land use plan.
 - Project shall include evaluation of existing downstream sewer capacity. <u>This evaluation shall address the capacity of all</u> <u>sewer collection and truck sewer systems that will be</u>

Section 700 – Wastewater Collection Systems - Page 5 of 37 Effective Date: March 23, 2021 impacted downstream of the new development and/or redevelopment. If any downstream sewer segments exceed 50 percent full, but are less than 65% full, the Town will evaluate and determine if upsizing is required. If any downstream sewer segments exceed 65 percent full, the sewer main must be upsized or re-installed at a greater slope to allow for greater flow through the pipe. All improvements must be made the full length, from manhole to manhole.

- 3) The most upstream manhole shall be designed and located so that all upstream properties will have access to connect with future sewer mains. Depths shall be evaluated so that streams, roads, culverts, and any other features that must be crossed by future upstream sewer mains can do so and still achieve the required minimum cover on top of the sewer main.
- q) Gravity sewer mains shall be deep enough to serve the adjoining properties and allow for sufficient slope in lateral lines. Gravity sewer pipe shall have the following minimum covers:
 - 1) 3 feet from the top of pipe to finished subgrade in roadways.
 - 2) 3 feet from the top of pipe to finished grade outside roadways.
- r) Sewer mains that do not meet minimum cover stated above or the table in section A.1.e) are required to be ductile iron for the entire run between manholes. Steel casing and/or concrete may also be required for protection, at the direction of the Water Resources Director.
- s) In all cases where fill material is added above existing sewer mains, the Engineer of Record shall prepare a structural analysis of the existing pipeline and determine if it is capable of supporting additional loading. If the additional fill material exceeds AWWA, DIPRA, UNIBELL and/or manufacturer standards for loading, the pipeline shall either be reinforced to adequately support the additional loading or replaced with a ductile iron pipe rated to support the added loading.
- t) Separation Between Sanitary Sewer and Storm Water Pipes: Sewer mains shall have a minimum vertical separation of 24 inches between storm pipes when the horizontal separation is 3 feet or less. Where sanitary and storm sewers cross with a vertical separation of less than 24 inches, the entire leg of sanitary sewer shall be made of standard ductile iron pipe with joints rated for water main service and the void space between the pipe crossing shall be backfilled with 3000-psi concrete or quick setting, minimum 500-psi, non-

Section 700 – Wastewater Collection Systems - Page 6 of 37 Effective Date: March 23, 2021 excavatable flowable fill that meets or exceeds NCDOT Specifications.

- u) Separation Between Sanitary Sewer and Sewer Force Main: There shall be a minimum 7 foot horizontal separation between parallel gravity and force mains when the depth of installation is 8-ft or less. Otherwise, the minimum horizontal separation between pipelines shall be 10-ft up to 10-ft depth of installation.
- v) Separation Between Sanitary Sewer and Water Main
 - Parallel Installations: 10-ft lateral separation (pipe edge to pipe edge) or minimum 5-ft lateral separation, and water line at least 18inches above sanitary sewer line measured vertically from top of sewer pipeline to bottom edge of water main.

Crossings (Water Main Over Sewer): All water main crossings of sewer lines shall be constructed over the sewer line in conformance with Town of Apex Specifications. At a minimum, 18-inches of clearance shall be maintained between the bottom edge of the water main and the top edge of the sewer main. If 18-inches of clearance is not maintained, the water main and sanitary sewer main shall:

- a. Both lines shall be constructed of ductile iron pipe with joints in conformance with water main construction standards.
- b. The sanitary sewer pipe shall be ductile iron the entire run from manhole to manhole.
- c. The void space between the pipes shall be filled with minimum 500-psi, quick setting non-excavatable flowable fill extending 3-ft on both sides of the crossing. Regardless of pipe material, at least 12-inches of vertical separation is required for sanitary sewer crossings of potable water mains.
- 2) Crossings (Water Main Under Sewer Line): Allowed only as approved by Town of Apex, when it is not possible to cross the water main above the sewer line. At a minimum, 18-inches of separation shall be maintained, (measured from pipe edge to pipe edge) and the sanitary sewer shall be constructed of ductile iron in conformance with water main construction standards the entire run from manhole to manhole. If local conditions prevent providing 18-inches of clearance, then at least 12-inches of clearance shall be provided and the void space between the pipes shall be filled with minimum 500psi, quick setting, non-excavatable flowable fill extending at least 3ft on both sides of the crossing.

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- w) Where concentrated sources of runoff (e.g., SCM discharge, FES discharge outlets, natural drainage ways, etc.) convey across existing or proposed Town of Apex Sanitary Sewer Easements, the applicant must design a rip rap lined channel across the full width of the easement.
- w)x) All retaining walls shall have a separation from the easement boundary of at least 1:1, vertical to horizontal. For example, if the retaining wall is 10 feet tall, it shall be placed no closer than 10 feet from the adjacent easement boundary.
- 2. Main Size, Slope and Design Criteria
 - a) Public gravity mains shall be a minimum of 8 inches in diameter.
 - b) Major interceptors shall be sized in accordance with the "<u>Town of Apex</u> <u>Sewer Master Plan</u>". In areas not included in the master plan, interceptors shall be designed based on the proposed land use (according to the Town's Comprehensive Growth Plan), using the following flow factors. At a minimum, all gravity sewer mains shall be designed and sized to serve the ultimate tributary buildout of the drainage basin.

Residential flow rates:

Land Use	Flow Factor
Single Family Residential	300 gpd per dwelling unit
Multi-Family Residential	250 gpd per dwelling unit

Non-residential flow rates:

Use flow factors as required by the North Carolina Department of Environmental Quality (at the time of this Specification revision, these flow rates are contained in 15A NCAC 02T .0114).

For all other flow rates not listed in Section ii above, use:

Land Use	Flow Factor
Office and Institutional	0.09 gpd/sq.ft bldg. space
Commercial	0.12 gpd/sq.ft bldg. space
Industrial	0.20 gpd/sq.ft bldg. space

c) The ratio of peak to average daily flow shall be 2.5.

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- d) Sanitary sewers shall be designed to carry the projected average daily flow at no more than 1/2 full. The minimum velocity for sanitary sewer lines shall be 2.5-fps.
- e) Sanitary sewers shall be sized based on the Manning's Equation with Manning's roughness coefficient "n" = 0.013 or greater. Pipe diameter sizes used in the calculation of Manning's Equation shall be nominal pipe sizes.
- f) The minimum grades for public sanitary sewers shall be as follows: Minimum Slopes for Gravity Sewer Mains

minimum Slopes for Gravity Sewer in				
Main Size	e Minimum Slope			
(diameter in	v V=2.5ft/s, depth 1/2 full			
inches)	(feet per 100 feet)			
	{standard required velocity}			
8	0.52			
10	0.39			
12	0.30			
14	0.25			
15	0.23			
16	0.21			
18	0.18			
21	0.15			
24	0.12			
27	0.11			
30	0.09			
36	0.07			
42	0.06			
48	0.05			

Note1: All minimum slopes based on Manning's Equation Note2: Manning's coefficient n = 0.013 used for all computations

- g) The minimum grade for the uppermost reach of a sanitary sewer line shall be 1% regardless of sewer line size.
- h) The maximum grade for sanitary sewers is 10%. The maximum velocity in sanitary sewers is 15 ft/sec. These limits may only be exceeded with the approval of the Director of Water Resources and the incorporation of the following provisions, which apply to all sewers either designed or installed at grades equal to or exceeding 10%:
 - 1) All sewers with a grade of 10% or higher must have the downstream run of pipe installed with ductile iron pipe.
 - 2) High velocity manholes shall be used on all sewers with a grade of 10% or higher. High velocity lines cannot tie directly to an existing

Section 700 – Wastewater Collection Systems - Page 9 of 37 Effective Date: March 23, 2021 line and must proceed 180° through the invert into the downstream line.

- Concrete thrust collars shall be installed on all sewers designed at grades of 10% or higher. The anchors shall be installed at the following spacing:
 - a. Not over 36' center to center on grades from 10% to 25%
 - b. Not over 24' center to center on grades from 25% to 40%
 - c. Not over 16' center to center on grades exceeding 40%
- 4) The Town reserves the right to require all high velocity requirements outlined herein for sewer lines either designed or installed at grades of 10% or greater, regardless of the flow velocity. In cases where the design grade established on the sewer design plan is exceeded during construction and the 10% threshold is exceeded, all high velocity requirements shall apply without waiver.
- Sewer extensions shall be designed for projected flows, even when the diameter of the receiving sewer is less than the diameter of the proposed extension.
- j) All pipe diameter changes shall occur only in manholes, with the invert of the larger pipe lowered sufficiently to maintain the same energy gradient. An approximate method of obtaining this result is to place the crown of the incoming pipes may be designed for an elevation at or above the crown of the outgoing pipe.
- k) All transitions of pipe material, pipe separations, grade changes, pipe thicknesses and all angular deflection changes shall occur only at manholes.
- I) Pipe trench excavation and backfilling shall be performed in accordance with Section 0450 of these Specifications.
- m) Gravity sewer downstream from a connection point with a force main shall be lined with 401-type ceramic epoxy for a minimum of 1,200 linear feet.
- n) The minimum angle between inlet and outlet pipes in a manhole shall be 90 degrees.

B. Materials

Materials specified herein are acceptable for sewer service as described. Sanitary sewer mains shall conform to the following criteria:

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Diameter (in)	Depth (ft)*	Material
Any	≤ 4	DIP
8 – 15	4 ≤ 13	PVC SDR 35 or C900 DR 18
8 – 15<u>20</u>	<u> 13 4</u> < D ≤ <u>1620</u>	PVC C900 DR 18 or DIP
> <u>1520</u>	Any	DIP
Any	> <u>1620</u>	DIP

*Depth of the sewer main shall be measured from the top of the pipe to the final grade or road subgrade at the deepest point between manholes.

1. Ductile Iron Pipe

Material Specifications

Ductile Iron Pipe shall be designed and manufactured in accordance with AWWA C150 and C151 and provided in nominal 20-ft lengths. The minimum requirements for ductile iron pipe and required laying conditions are tabulated below. For all other installations other than specified, the laying condition, bedding requirements or the minimum pressure class rating and/or thickness class shall be increased in accordance with AWWA C151. A pipe thickness design shall be submitted for external loading in all cases where the pipe depth exceeds the specified range of depths outlined in the following table.

Pressure Class, Max. Depth and Laying Condition for DIP

Pipe Diameter	AWWA C-150, Laying Condition	Pressure Class	Maximum Depth of Cover		
8 -inch	type 1	350 psi	3-16 feet		
8 -inch	type 4	350 psi	> 16 feet		
10-12 -inch	type 1	350 psi	3-16 feet		
10-12 -inch	type 4	350 psi	16-20 feet		
10-12 -inch	type 5	350 psi	> 20 feet		
14-20 -inch	type 4	250 psi	3-20 feet		
14-20 -inch	type 5	250 psi	> 20 feet		
14-20 -inch	type 5	350 psi	As Directed		
24-30 -inch	type 4	250 psi	3-20 feet		
24-30 -inch	type 5	300 psi	> 20 feet		
24-30 -inch	type 5	350 psi	As Directed		
36-42 -inch	type 4	300 psi	3-20 feet		
36-42 -inch	type 5	350 psi	> 20 feet		

Sewer Mains

Note: For cases not specified, a ductile iron pipe and bedding design certified by a Professional Engineer licensed in the State of North Carolina shall be required in compliance with AWWA C150 and the Ductile Iron Pipe Research Association.

Section 700 – Wastewater Collection Systems - Page 11 of 37 Effective Date: March 23, 2021 In cases where thickness class designation of ductile iron pipe is specified, the corresponding thickness class designations are as outlined in the following table.

The following table lists approved manufacturers of DIP and DIP fittings that are allowable for installation within the Town's system.

Product Category	Approved Manufacturer	Model/Series	Pressure/Load Rating	Reference Standard	Requirements
Ductile Iron Pipe 8-inch	US Pipe	Tyton Joint		AWWA C150 and C151	Cement mortar lined with exterior bituminous coating. McWane pipe stamped "McWane by Atlantic States or Clow" only
& 10-inch Diameter (and 4-inch and 6-inch	American (ACIPCO)	Fastite Joint	350 psi		
services) Cement Mortar Lined	McWane	Tyton Joint			
Ductile Iron	US Pipe	Tyton Joint			40-mils of Protecto 401 Lining (lining
Pipe 12- inch and Larger Diameter Protecto 401 Lined	American (ACIPCO)	Fastite Joint	250-350 psi	AWWA and DIPRA Standards	must be less than 1 year old); McWane pipe stamped "McWane by Atlantic States or Clow" only
	McWane	Tyton Joint			
Ductile Iron	Sigma	Mech. Joint		AWWA C110/C111 and AWWA C153	Shall always meet or exceed pipe pressure rating
inch & 10-	Tyler Union	Mech. Joint	350 poi		
Diameter	SIP Industries	Mech. Joint			
and 6-inch	Star	Mech. Joint	000 p31		
Cement Mortar Lined	American	Mech. Joint			
	Sigma	Mech. Joint		AWWA and DIPRA Standards	Shall always receive interior Protecto 401 Lining to meet or exceed main line pipe standards. (401 lining must be < 1yr old)
Ductile Iron Fittings 12- inch and Larger Diameter Protecto 401 Lined	Tyler Union	Mech. Joint			
	SIP Industries	Mech. Joint	250-350 psi		
	Star	Mech. Joint			
	American	Mech. Joint			

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Pipe Diameter	Pressure Class	Nominal Thickness (inches)	Minimum Corresponding Thickness Class
8	350	0.25	50
10	350	0.26	50
12	350	0.28	50
14	250	0.28	50
16	250	0.30	50
18	250	0.31	50
20	250	0.33	50
24	250	0.37	50
24	300	0.40	51
30	250	0.42	51
30	300	0.45	52
36	300	0.51	52
36	350	0.56	53
42	300	0.57	52
42	350	0.63	53

Ductile Iron Pipe Thickness Class

Pipe joints shall be of the push-on type as per AWWA C111.

For 10-inch diameter and smaller gravity sewer mains, pipe lining shall be cement mortar with a seal coat of bituminous material, all in accordance with AWWA C104.

For 12-inch diameter and larger gravity sewer mains, all ductile iron pipe and fittings for sewer construction shall receive an interior ceramic epoxy coating, consisting of an amine cured novalac epoxy containing at least 20% by volume of ceramic quartz pigment, as manufactured by Protecto 401. The interior coating shall be applied at a nominal dry film interior thickness of 40-mils. All DIP bells and spigots shall be lined with 8-mils of joint compound by Protecto 401 or approved equal applied by brush to ensure full coverage. All pipe supplied with Protecto 401 interior lining shall be provided free of holidays. Pipe installed with defects in the lining will be rejected and required to be replaced. Patching of Protecto 401 coating defects after installation shall not be approved. Protecto 401 lined pipe must be installed within one year of the application date on the pipe.

All buried DIP and fittings shall have bituminous coating on the exterior surface in accordance with AWWA C151/ANSI A21.51. The seal coat

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shall be a coal tar epoxy lining and shall be Indurall Coating, Inc. "Ruff-Stuff", Kopper's Company, Inc. "Bitumastic No. 300-M" or approved equal. Pipe shall be supplied in minimum 20-ft lengths.

All ductile iron pipes shall be marked in conformance with ASTM A-746.

Pipe material and manufacturer must have a supplier within 200 miles of the Town of Apex.

2. Solid Wall PVC Pipe

Material Specifications

PVC Pipe shall be solid wall and made of PVC plastic having a cell classification of 12454 or 12364 (with minimum tensile modulus of 400,000 psi) as defined in Specification D1784. PVC pipe shall have integral wall bell and spigot joints for the conveyance of domestic sewage and shall be supplied in 20 ft lengths. Fittings shall be made of PVC plastic having a cell classification of 12454-B, as defined in ASTM D1784.

All PVC gravity sewer pipe and PVC fittings up to 15-inches in diameter shall be manufactured in accordance with the latest version of ASTM D3034. All solid wall PVC pipe installed at diameters from 18-inches to 27-inches in diameter shall be manufactured in conformance with ASTM F679 and provided at minimum pipe stiffness of 115-psi. Fittings must be manufactured by pipe supplier or approved equal, and have bell and/or spigot configurations compatible with that of the pipe. PVC pipe shall be installed in accordance with the requirements of this Specifications manual and ASTM D2321.

All PVC pipe up to and including 15 inches in diameter shall have a maximum Standard Dimension Ratio (SDR) of 35 for depth of installation no shallower than 4-ft of cover from the pipe crown and no deeper than 13-ft measured from the bottom of the pipe. All solid wall PVC pipe for depth of installation greater than 13-ft shallbe C900 DR18. Solid wall PVC pipe shall not be approved for depths of installation greater than 20-ft. All solid wall PVC pipe shall be marked and certified in conformance with ASTM D3034 or ASTM F679 and all AWWA standards.

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C. Sewer Main Installation

1. <u>General Requirements</u>

- a) Pipe trench excavation and backfilling shall be performed in accordance with Section 0450 of these Specifications.
- b) Transitions of pipe material, pipe separations, grade changes and all angular deflection changes shall occur only at manholes. Pipe crowns shall be matched for changes in pipe sizes.
- c) All sewer mains installed with less than 4 ft of cover or deeper than 20ft shall be ductile iron pipe.
- d) Pipe and fitting interiors shall be protected from foreign matter and shall be inspected for damage and defects prior to installation. In the event foreign matter is present in pipe and fittings, it shall be removed before installation. Open ends of pipe shall be covered and protected when pipe laying is not in progress to prevent debris from entering the pipe.
- e) Pipe shall be laid on true lines as directed by the Engineer. Trenches shall be sufficiently wide to adjust the alignment. Bell holes shall be dug at each joint to permit proper joint assembly. The pipe shall be laid and adjusted so that the alignment with the next succeeding joint will be centered in the joint and the entire pipeline will be in continuous alignment both horizontally and vertically. Pipe joints shall be fitted so that a thoroughly watertight joint will result. All joints will be made in conformance with the manufacturer's recommendations for the type of joint selected.
- f) Prior to beginning construction, the Contractor shall contact local utility companies and verify the location of existing utilities. The Contractor shall be completely and solely responsible for locating all existing buried utilities inside the construction zone before beginning excavation. The Contractor shall be solely responsible for scheduling and coordinating the utility location work. When an existing utility is in conflict with construction, it shall be exposed prior to beginning construction to prevent damage to the existing utility.
- g) No bells or connections shall be within any waterway crossing area.
- h) Sewer mains shall not be installed within roundabouts.

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702 Manholes

A. Design

- 1. Manhole Location, Siting and Design
 - a) Manholes shall be spaced at a maximum distance of 400 feet.
 - b) Manholes shall be installed at each deflection of line and/or grade. The flow channel through manholes shall have a uniform and smooth finish free of irregularities or obstructions. The invert channel shall conform to the shape and slope of the entering/exiting sewer line. Either pre-cast or brick and mortar inverts may be used. Mortar shall be mixed in a clean, tight mortar box, or in an approved mechanical mixer and used within 45 minutes of mixing.
 - c) A minimum drop of 0.2 feet must be maintained between the invert into and out of the manhole. The benches shall be sloped so as to prevent sedimentation. The inverts from intercepted cross lines shall be tied into the main flow line wherever possible, so as to provide a smooth transition. Wherever such cross lines tie-in at a substantially higher elevation than that of the downstream invert, the connecting line shall extend into the manhole a sufficient distance to enable the flow to spill into the flow line rather than onto the invert bench.
 - d) On dead-end manholes receiving service connections, the invert must be constructed and the invert flow line shall extend through the manhole so that all flow entering the manhole shall be readily conveyed downstream.
 - e) Free falls of wastewater flow into the manhole invert from incoming sewer mains shall not be allowed, except under limited circumstances.
 - f) In certain isolated circumstances standard free drops may be allowed, not exceeding 24-inches, when pipe diameter changes occur at a manhole. In these cases, If different size pipes, the smaller diameter pipe crown shall be positioned no higher than the larger diameter pipe crown to limit the drop. When free drops are necessary due to pipe size changes, the Contractor shall take preventive measures to prevent free drops into the manhole invert, such as building a flume or trough up to the incoming invert, or piping the flow to the primary invert flow channel.
 - g) Drop manholes are not allowed without the written approval of the Water Resources Department. While certain physical constraints may dictate the need for drop manholes, they may not be used merely to decrease

Section 700 – Wastewater Collection Systems - Page 16 of 37 Effective Date: March 23, 2021 trenching depth. Upstream slope changes shall be used to avoid the need for drop manholes.

- h) Manholes shall not be obstructed from view or access. It is illegal to bury or obstruct access to manholes. Manholes shall not be installed within roundabouts.
- i) Manhole covers shall be elevated as follows:
 - 1) <u>Roadways</u>: Manholes installed in roadways and road shoulders shall be installed with the cover flush with the top of pavement.
 - Outside of Roadways: Manholes installed outside of roadways shall be elevated at least 12 inches above the surface grade and/or at the same elevation of the road travel lane unless otherwise approved by the Water Resources Director.
 - 3) <u>Wooded Outfalls</u>: All manholes installed in wooded, forested or brushy areas shall be elevated at least 24 inches above the surface elevation.
 - 4) <u>100-Year Flood Zone</u>: All manholes located within the 100-year flood elevation shall be elevated at least 24 inches above the 100-year flood elevation or specify watertight covers and vents that extend at least 24 inches above the 100-year flood elevation.
 - 5) 100-Year Culvert Headwater Depth: All manholes located within a 100-year culvert headwater staging area shall be elevated at least 24 inches above the 100-year flood elevation or specify watertight covers and vents that extend at least 24 inches above the 100-year flood elevation.
 - 6) <u>Well Maintained Areas:</u> All manholes installed in well maintained areas, such as yards, sidewalks or otherwise inside an improved right-of-way shall be installed flush with the finished surface.
- j) Manholes used in outfalls and other non-traffic bearing areas shall be constructed with a flat top and outside steps.
- k) Manholes shall be provided without interior steps.
- When connecting a new sewer main to an existing main, the connection shall be established with a "Doghouse" type of manhole inserted over the existing main. Doghouse manholes shall only be installed on existing DIP or PVC mains.

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2. Manhole Sizing

Manholes shall be sized as shown in the following table. The next larger size shall be required if the pipe size, depth, or number of main line connections warrants a larger size. In consideration of main line connections, all will be considered regardless of type, whether inside drop, outside drop, force main or standard connection.

Manhole Size	Maximum Allowable Pipe Size, Single In	Maximum Allowable Pipe Size, Multiple In	Maximum Depth with Extended Base
(diameter)	(diameter)	(diameter)	(invert to rim)
4-ft	8-12 inches		12-ft ¹
5-ft⁴	14-24 inches	8-12 inches	12-ft to 18-ft
6-ft ⁴	30-36 inches	14-24 inches	18-ft to 24-ft
8-ft ⁴	≥42 inches	30-36 inches	24-ft to 30-ft
10-ft ⁴		≥42 inches	>30-ft

Manhole Sizing Guide

¹Depths beyond 14-ft in roadways shall require a 5-ft diameter manhole with extended base. ⁴Due to the limited manhole wall area that could exist between the invert in and out, some manholes may require upsizing as directed by the Water Resources Department.

All manholes 5-ft in diameter shall be extended to surface elevation with no further reduction in diameter until the eccentric cone section.

Manhole transitions for 6-ft and larger diameter manholes are only allowed in the top 5-ft of the manhole. In no case shall the smallest barrel size be less than 5-ft diameter. At least 5-ft of vertical clearance shall be maintained above the pipe crown before transitioning to a smaller diameter riser, or transition shall not be utilized. An eccentric flat slab reducer from 6-ft diameter or larger manhole base sections to 5-ft diameter risers (non-paved areas) or eccentric cones (paved areas) shall be used to make any transition.

Manholes outside of paved areas that are 6-ft in diameter and greater and are too shallow to maintain 5-ft of vertical clearance above the crown of the pipe shall maintain the full manhole diameter up to the design surface elevation and be provided with a flat top slab cover with eccentric hole.

Manholes inside of paved areas that are 6-ft in diameter and greater shall be constructed with an eccentric, flat top reducer to 5-ft diameter and provided with a 5-ft diameter eccentric, tapered cone at the finished grade.

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B. Materials

- 1. <u>Concrete Manholes</u>
 - a) Manholes shall be precast concrete with a minimum compressive strength of 4000-psi and utilize minimum grade 60 rebar in compliance with ASTM C478. All 4-ft and 5-ft diameter manholes and all 6-ft diameter manholes in paved areas shall be provided with eccentric cone sections. Flat top manholes are required in outfall areas and for 6-ft and larger diameter manholes.
 - b) Precast concrete manholes shall meet all design and manufacturing requirements of ASTM C478 and all H-20 loading requirements.— Minimum wall thickness shall be 5-inches and shall increase with depth and diameter in accordance with ASTM standards. The standard joint shall be sealed with a plastic cement putty meeting Federal Specification SS-S-00210, such as Ram-Nek or a butyl rubber sealant. All lift holes must be plugged with non-shrinking grout after installation.
 - c) All manholes greater than 5-ft diameter shall have minimum 8-inch (6-inch for 4-ft diameter manholes), 4,000-psi concrete bottoms resting on a minimum of 12 inches of #57 stone. Sewer mains shall enter and exit radially through the manhole. Inverts shall be constructed with a width equal to the effluent pipe and a height equal to 1/2 that of the effluent pipe. Inverts shall be so finished with sufficient drop across the manhole to compensate for all resulting energy loss across the invert. Flat invert channels shall not be allowed. At each inlet and outlet of 8 inches or greater, resilient connectors or manhole boots shall be provided in conformance with ASTM C923. Rings and clamps are to meet standards of ASTM A167 and/or ASTM C923.
 - d) Precast manhole components shall not be installed, transported, or removed from the casting yard prior to reaching the minimum compressive strength of 4,000-psi and at least 7 days have elapsed since casting.
 - e) Manhole flat slab, eccentric reducers provided for 6-ft diameter and larger manholes shall be provided with minimum slab thickness of 12inches. Flat slab, eccentric reducers shall not be allowed for manhole diameters less than 6-ft.

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- f) Manhole flat top slab covers for outfall manholes 6-ft diameter and greater shall be designed and manufactured for H-20 loading and provided in minimum slab thickness of 8-inches. Manhole flat top covers shall be provided with a minimum clear opening of 36-inches when utilized with a 36-inch clear span manhole frame and cover.
- g) Manhole benches shall slope upwards from the spring line of the pipe to the projected level of the pipe crown at the manhole wall, or 8-inches above the spring line, whichever is less. Bowl type inverts recessed inside of precast benches shall not be accepted.

2. Manhole Frame and Cover Materials

- a) Manhole Frames and Covers shall be Class 35 gray iron with "Sanitary Sewer" and the Town symbol forged into the cover as indicated in the details. Ring and cover shall be stamped with make and model. All manhole frames and covers shall be domestically made and manufactured in the USA from domestic iron.
- b) Types
 - Manhole Frames and Covers in Paved Areas and some Unpaved Areas: For all installations in roadways or within the right of way, use Type 1 ring and cover, and place sufficient depth of concrete below the pavement around the ring to ensure contact with manhole. Type 1 covers shall be provided with 1 vent hole. Type 1 covers shall be designed for a proof load of 40,000 lbs. and be provided in Class 35B gray iron in conformance with ASTM A48. At a minimum, Type 1 manhole rings shall weigh 190 lbs. and the cover shall weigh 120 lbs.
 - 2) Manhole Frames and Covers for Outfalls: For installation in outfall areas, with 4-ft and 5-ft diameter manholes use Type 2 ring and covers. Type 2 covers shall not be installed in areas subject to traffic loading. Type 2 covers shall be provided with an integrated frame and cover assembly in which the cover rotates away from the frame for access. The rotating assembly shall be provided with a cast in stainless steel rod assembly. Type 2 covers shall be provided with a minimum 24-inch clear span opening along the axis with the stainless steel rod assembly. Security shall be provided by 3 exterior cast lugs at ³/₄-inch thickness that allow padlock installation or bolting with 3 stainless steel bolts with stainless steel zinc plated nuts. Type 2 covers shall be made of Class 35B iron in conformance with ASTM A48 and designed for a proof load of 12,000 lbs. The frame and cover weight shall not be less than 60-lbs for the cover and 80-lbs for

Section 700 – Wastewater Collection Systems - Page 20 of 37 Effective Date: March 23, 2021 the ring. The Type 2 frame and cover assembly shall be provided with a gasket that makes the cover assembly watertight when bolted at all three lugs. Type 2 covers shall be provided inside the 100-year flood elevation or other areas subject to flooding.

- c) All castings shall be machined to give even and continuous bearing on the full length of the frame. Castings shall be free of porosity and blow holes. All manhole frames shall be bolted to the manhole, except in paved streets.
- d) Manhole ring and cover shall be made by East Jordan Iron Works, US Foundry, Neenah Foundry Company, or approved equal.
- e) Where deemed necessary in low areas of streets, solid manhole covers may be required to prevent surface water inflow into the sewer.

C. Installation

- 1. General Requirements
 - a) The downstream side of the last manhole(s) of a sanitary sewer line extension under construction shall be plugged by constructing a brick/block wall to prevent the passage of groundwater, runoff and sediment into the sanitary sewer system. All water upstream of the wall shall be pumped out of the sanitary sewer line and all sediment and solids shall be removed and properly disposed of by the Contractor. Water, sediment, and solids shall be removed every 30 days, or sooner if necessary, for the duration of the project. The wall shall not be removed until the line has been inspected by the Town to ensure that all possible points of inflow or infiltration have been eliminated. Failure to meet these requirements will be deemed a violation with fines up to \$1,000.00 per day.
 - b) Manholes shall not be buried or hidden, which is a violation and subject to penalty by fines.
 - c) All manhole penetrations, whether sewer main or service lateral, shall be cored with a concrete coring machine. All pipe connections must be made with flexible watertight couplings or boots.

For new manholes, there shall be a minimum of 9-inches or $\frac{1}{2}$ the pipe outside diameter (OD), whichever is greater, between the pipe hole openings. (Pipe hole opening is typically 4" greater than the pipe OD.) When the adjacent pipes are different sizes, the OD of the smaller pipe shall be used to determine the spacing requirement, but shall never be less than 9-inches.

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- d) All manhole sections shall be standard tongue and groove with rubber "O" ring or butyl rope sealant. All external manhole joints shall be wrapped with an approved joint seal material.
- e) Each connection to a manhole shall be sealed watertight by means of a flexible sleeve or gasket type sealing system. The flexible sleeve type system, if used, shall be equal to Flexible Manhole Sleeve as manufactured by the Interpace Corporation. The gasket type system, if used, shall be equal to the PSX system as manufactured by the Press Seal Gasket Corporation. The sealing system shall be furnished by the manhole manufacturer.
- f) Manholes shall be set on a base of 57 stone that is a minimum of eight (8) inches thick for four (4) foot diameter manholes and twelve (12) inches for five (5) foot diameter.
- g) Backfill around manholes shall be placed uniformly in shallow layers and thoroughly compacted with mechanical tampers and with care taken to ensure against displacement of the structure.
- h) All manhole rings shall be set in full mortar beds and bolted down. The rings with covers shall be set to the final grade indicated on the plans or as may be directed by the Town. Any rings and covers not conforming to the correct grade shall be adjusted by the Contractor as required. The exterior surface of all manholes shall be thoroughly cleaned of all grease, dirt, etc. All lifting lugs shall be removed and holes patched thoroughly with non-shrink mortar, color to match that of the manhole where such patches are exposed.

2. Manholes Subject to Inundation

- a) Manholes subject to flooding shall be watertight and vented 24 inches above the 100-YR flood elevation. In flood prone areas, the manholes shall be vented at least every 1000-ft or every other manhole, whichever is greater.
- b) The exterior of all manholes within the 100-year flood elevation and in wetland areas shall receive an exterior coating of an approved bitumastic coal tar epoxy or an approved epoxy coating at 40-mils to prevent weepage or attack by acidic soils. Individual joints shall be

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c) Anti-flotation design measures shall be implemented as required in flood prone areas.

3. Manholes Located on Large Collection Mains

The Town reserves the right to require all manholes located on interceptor or outfall mains 24-inches in diameter and larger to have the manhole interior and bench coated with an approved epoxy coating at 80-mils thickness. The epoxy coating shall be field applied and tested as described herein.

4. Force Main Discharge Manholes

All manholes located on gravity mains that serve or will serve as discharge points for sanitary sewer force mains shall receive an interior epoxy coating at 80-mils thickness. In addition to the receiver manhole, the Town reserves the right to require epoxy coating of the next two consecutive manholes downstream of the receiver manhole or all downstream manholes within 1200-If of the receiver manhole,—See Section 800 for further information on force main discharge manholes.

5. Epoxy Coating

a) Surface Preparation: Concrete manholes must be well cured prior to application of the protective epoxy coating. Generally, 28 days is adequate cure time for standard Portland cement. If earlier application is desired, compressive or tensile strength of the concrete can be tested to determine if acceptable cure has occurred. (Note: Bond strength of the coating to the concrete surface is generally limited to the tensile strength of the concrete itself. An Elcometer pull test to determine suitability of concrete for coating may be required).

Surface preparation shall be based on the requirements of the manufacturer of the epoxy coating and applicable NACE International standards.

b) Installation: A minimum 80-mils thickness shall be field applied to new manholes (120-mils for existing manholes). During application a wet film thickness gage, meeting ASTM D4414 - Standard Practice for Measurement of Wet Film Thickness of Organic Coatings by Notched Gages, shall be used to ensure a monolithic coating and uniform thickness during application.

Section 700 – Wastewater Collection Systems - Page 23 of 37 Effective Date: March 23, 2021 Temperature of the surface to be coated should be maintained between 40° F and 120° F during application. Prior to and during application, care should be taken to avoid exposure of direct sunlight or other intense heat source to the structure being coated. Where varying surface temperatures do exist, care should be taken to apply the coating when the temperature is falling versus rising or in the early morning. The humidity should also be observed to ensure compliance with the epoxy manufacturers' recommendations.

Manufacturer approved heated plural component spray equipment shall be used in the application of the specified protective epoxy coating. The spray equipment shall be specifically designed to accurately ratio and apply the specified protective coating materials and shall be regularly maintained and in proper working order.

If necessary, subsequent top coating or additional coats of the protective coating should occur as soon as the basecoat becomes tack free, ideally within 12 hours but no later than the recoat window for the specified products. Additional surface preparation procedures will be required if this recoat window is exceeded.

c) <u>Manholes manufactured by Armorock (or approved equal) may be used</u> <u>as an approved alternate to manholes that require epoxy coatings</u>

6. Labeling

a) The interior of each manhole shall be labeled during construction. Labels can be from the manufacturer (stencil, tag, etc.) or by the contractor (tag, permanent marker, paint pen, etc.). Label must include the manhole number according to the record drawings and must consist of letters at least 3 inches tall and must be located approximately 12 inches above the shelf of the manhole.

703 Service Connections

A. Design

1. General Requirements

a) All residential subdivision lots shall be served by gravity unless otherwise approved. If a pump is approved, it shall be privately maintained and must pump into either a service connection placed on the lot. The pump and force main (if needed) must have a note on the recorded plat indicating the following: "Privately maintained sewer pump and force main is required to serve this lot".

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- b) Service connections to the main lines shall be perpendicular to the main line and shall extend to the edge of the right of way or easement line. Direct taps shall be within the top quarter of the main, or within a manhole. All single family residences and businesses shall have individual connections to the public sewer main. Sewer services may not cross private property if the Development is subject to UDO requirements.
- c) Multiple service connections located outside public right of way or public easements are for private use only and will not be maintained by the Town. A private sewer permit from NCDEQ shall be required on all private collection systems prior to construction plan approval. A cleanout or manhole shall be installed within each serviced lot's right of way or easement for the Town's use, and shall extend a minimum of 6 inches above the finished grade.
- d) Cleanouts are required on all services with a maximum spacing of 50 feet for four (4) inch lines and 100 feet for six (6) inch lines. The first cleanout from the main/manhole shall be maintained by the Town and shall be installed one (1) foot inside the right of way line or edge of easement. All cleanouts shall extend a minimum of 6 inches above finished grade with brass caps or meet the optional cleanout method requirements in accordance with the Standard Details. Town maintenance of sewer services shall terminate at the first cleanout.
- e) Sewer cleanouts located in paved areas, which bear vehicle loading, must have ductile iron risers, ductile iron fittings and a traffic rated cast iron cover assembly.
- f) All 4 inch services shall connect directly into a public sewer main or manhole, in the fronting street or into an easement within the property. All 6 inch service connections shall be into a manhole.
- g) Service lines connected to manholes shall not be through the cone section or manhole joints. Service lines shall be installed 6["] above, but no more than 30 inches above so that the crown of the service line matches the crown of the invert line (or higher) or shall be installed with a standard drop. Multiple service connections shall not be maintained by the Town. For 6-ft diameter and larger manholes no service is allowed in the reduced diameter riser sections of the manhole. All services shall be made via a boot connection when at a manhole.
- h) The use of in-line wyes for service connections shall be required for all new construction. When connecting to existing sewer mains, service saddle taps will be allowable. Taps shall be at the 10 or 2 o'clock position, and shall not be top taps.

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- Service connections to mains at depths of 14-ft and greater shall utilize ductile iron pipe between the main and the cleanout, including a ductile iron wye for the cleanout stack. Location and angle of fittings shall be as shown in the standard detail drawings.
- j) Where the flood level rims of plumbing fixtures are below the elevation of the manhole cover of the next upstream manhole in the public sewer, such fixtures shall be protected by a backwater valve installed in the *building drain, branch of the building drain* or *horizontal branch* serving such fixtures. Plumbing fixtures having flood level rims above the elevation of the manhole cover of the next upstream manhole in the public sewer shall not discharge through a backwater valve.

B. Materials

1. Pipe Materials

a) <u>PVC Pipe</u> shall be C900, schedule 40, or greater supplied in minimum 20-ft lengths. Schedule 40 PVC pipe shall be manufactured with a cell classification of 12454 in conformance with ASTM D1784. Schedule 40 pipes shall be manufactured to dimensional tolerances as specified in ASTM D1785 and rated for service conditions up to temperatures of 140degrees Fahrenheit. The pipe may be joined by solvent weld in conformance with ASTM D2564.

Schedule 40 PVC pipe may be used for sewer services between 4 and 13 feet and shall require 4-inches of stone bedding extended to the springline.

PVC pipe and fittings for sewer laterals shall conform to ASTM D2665 "PVC Plastic Drain, Waste & Vent Piping" and shall be NSF approved. Laying lengths may be 10 or 20 feet with solvent weld type joints for Schedule 40 pipe or gasketed joint for PVC C900 DR18 pipe.

PVC C900 pipe shall be used in depths between 13 and 20 feet and shall require 6-inches of stone bedding extended 6-inches above the pipe crown.

b) Ductile Iron Pipe may be used for any depth sewer service but must be used for sanitary sewer services with less than 4 feet of cover or in excess of 20 feet of cover. Ductile iron services shall also be used in all cases where a well is located within 100-ft of the sewer service line. Ductile iron service piping shall be provided in conformance with the ductile iron piping standards outlined herein including cement mortar lining.

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2. <u>Sewer Service Fittings, New Construction</u>

a) DIP Main with DIP Service

In-line wye fittings for ductile iron main lines joined with ductile iron service lines shall be typical ductile iron mechanical joint fittings as specified herein. In this case all fitting sizes shall conform to AWWA C153. Wye fittings through 10-inches in diameter shall be provided with cement mortar lining in accordance with AWWA C104 and provided with exterior asphaltic coating per AWWA C151. Wye fittings for lines larger than 10-inches in diameter shall be provided with Protecto 401 lining as specified herein for ductile iron pipe of the same sizing.

b) DIP Main with PVC Service

For ductile iron sewer mains to be joined with PVC service lines, the inline wye fittings shall be slip joint ductile iron with an IPS sized branch for PVC schedule 40 service lines. Ductile iron fittings for connecting PVC service lines shall be deep bell, gasketed joint and air test rated. Gasket grooves shall be machined. Bell depths shall meet the minimum socket depth requirements of ASTM D3034 and ASTM F1336. Wall thickness shall meet the requirements of AWWA C153. Ductile iron wye fittings through 10-inches in diameter with IPS connections shall be provided with cement mortar lining in accordance with AWWA C104 and provided with exterior asphaltic coating per AWWA C151. Ductile iron wye fittings for PVC lines larger than 10-inches in diameter shall be provided with Protecto 401 lining as specified herein.

c) PVC Main with PVC Service

For PVC sewer mains to be joined with PVC service lines, PVC in-line wye fittings shall be provided. Typical Schedule 40 PVC fittings shall be provided at the cleanout wye and stack.

d) PVC Main with DIP Service

A ductile iron tee/wye shall be provided when the service line is required to be ductile iron due to a crossing or other obstruction. The fitting shall be specifically manufactured for ASTM 3034 PVC pipe such that a smooth flow way exists on the main line through the fitting. The branch shall be gasketed to receive the 4-inch DIP service line without additional fittings. The ductile iron tee/wye fitting shall be Protecto 401 lined.

3. Service Saddle Connections, Existing Sewer Mains

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- a) PVC service saddles shall be of the same material as the main, 45 degree deflection, and shall be solvent welded and fastened with single stainless steel bands. The saddle service branch shall be stubbed slightly into the sewer main so that when installed, the saddle shall not slip or rotate.
- b) For existing DIP main lines, ductile iron service saddles shall be used. The saddle assembly shall consist of a virgin SBR or NBR gasket compounded for sewer service, a ductile iron saddle casting, a 304 stainless steel adjustable strap for fastening the gasket and the saddle casting to the sewer main and a 304 stainless steel adjustable circle clamp for securing the service line into the rubber gasket. The saddle shall be furnished with adapters as required to properly receive the service pipe.

C. Installation

- 1. <u>General Requirements</u>
 - a) Sewer laterals shall not be located in easements when gravity service can be provided to the property frontage at the street.
 - b) Each separately owned structure requires a separate tap to a public sewer.
 - c) Four inch lines shall have a minimum slope of 1/4 inch per foot and 6 inch lines shall have a minimum slope of 1/8 inch per foot.
 - d) Service connections to new mains shall include the use of wye (not tee) connections. Saddle taps onto new lines shall not be allowed.
 - e) Saddle taps into existing PVC mains shall be made at the 10 o'clock or 2 o'clock position of the main with the wye saddle angled 45-degrees towards the direction of flow in the main. Taps shall only be made by a mechanical circular cutting saw providing a smooth and uniform cut for the saddle installation.
 - f) Service connections shall be made using an approved sewer saddle when the existing sewer line is 8", 10", or 12" in diameter. This service connection shall not be used when the sewer main material is truss sewer pipe. The opening in the sewer main for the sewer saddle shall be cut with a hydraulically or pneumatically driven circular tapping saw of the same nominal diameter as the sewer service line.
 - g) Service laterals to be maintained by the Town shall not be located beneath a driveway or curb, nor shall a clean-out be located in a

Section 700 – Wastewater Collection Systems - Page 28 of 37 Effective Date: March 23, 2021 sidewalk area without prior written approval from the Director of Water Resources.

704 Testing and Inspections

A. General

The Contractor shall furnish all materials, labor, and equipment to perform all testing. The Contractor may arrange to obtain water for testing purposes from the Town. The Contractor shall reimburse the Town for all water used for construction at current inside utility rates.

B. Sewer Main and Service Connection Testing

1. Visual Testing and Observation

- a) All materials used must be approved by the Town prior to installation. Rejected materials shall be immediately removed from the job site.
- b) Gravity sanitary sewer lines shall be clean and free from obstructions, and shall be visually inspected from every manhole. Lines which do not exhibit a true line and grade or which have structural defects shall be corrected. Sanitary sewer service connections shall be visually inspected prior to backfilling.

The Town may re-inspect the line at any time prior to final acceptance if any damage or displacement is suspected to have occurred subsequent to the initial inspection

2. Air Testing

a) Low-pressure air testing in accordance with ASTM F1417 shall be performed on all sewer mains before the laterals or stubs are installed on the line, and after the trench has been backfilled to finished grade. Plugs shall be installed at each manhole to seal off the test section. Prior to testing, the sewer line shall be clear of debris and flushed with water as necessary. The line will be pressurized with a single hose and monitored by a separate hose connection from the plug. Air then shall be slowly introduced into the sealed line until the internal air pressure reaches 5.0 psig. The air pressure shall then be allowed to stabilize for a minimum of 2 minutes. The line shall be "acceptable" if the pressure does not drop in the time prescribed for the test in the table below.

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Nominal Pipe Diameter (in)												
Length of Test Section (ft)			8	12	15	16	18	21	24	30	36	42
	50		7:33	11:20	14:10	15:11	17:00	19:48	22:40	28:19	34:00	39:40
	100		7:33	11:20	14:10	15:11	17:00	19:48	22:47	35:37	51:17	69:48
	150		7:33	11:20	14:10	15:12	19:14	26:10	34:11	53:25	76:55	104:42
	200		7:33	11:24	17:48	20:16	25:39	34:54	45:35	71:13	102:36	139:36
	250		7:33	14:15	22:16	25:20	32:03	43:37	56:58	89:02	128:12	174:30
	300		7:35	17:06	26:43	30:23	38:28	52:21	68:22	106:48	153:54	209:25
	350		8:52	19:57	31:10	35:27	44:52	61:05	79:46	124:42	179:30	244:19
	400		10:07	22:48	35:37	40:31	51:17	69:48	91:10	142:30	205:06	279:13
	450		11:23	25:39	40:04	45:35	57:42	78:31	102:36	160:18	230:48	314:07
	500		12:39	28:30	44:31	50:39	64:06	87:15	114:00	178:06	256:24	349:02

- b) If the section fails to meet these requirements, the source of leakage shall be repaired and the pipe section re-inspected
- c) The Contractor shall furnish all plugs, compressors, hoses, gauges, and any other equipment necessary to conduct the low-pressure test.
- 3. Infiltration Tests
 - a) Portions of the sewer lines, which exhibit a higher ground water table during construction, shall be tested for infiltration. The portions of the line to be infiltration tested shall be determined by the Town.
 - b) The portion of the sewer line designated by the Town shall be tested for infiltration by installing a V-notch measuring weir or other suitable measuring device in the downstream end of the pipe to be tested. When a steady flow occurs over the weir, the rate of flow (infiltration) shall be measured. The rate thus measured shall not exceed 100 gallons per 24 hours per inch of sewer pipe diameter per mile of pipe. The Contractor shall furnish weirs and other equipment required for infiltration tests and the tests shall be performed in the presence of the Town.
 - c) Should the infiltration tests reveal leakage in excess of the allowable, the leaking joints shall be re-laid if necessary or other remedial construction shall be performed by and at the expense of the Contractor. The section of sewer thus repaired shall then be retested to determine compliance with the Specifications.

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4. Deflection Testing for Flexible Pipe

a) The mandrel (go/no-go) deflection test shall be performed on each line prior to acceptance and no sooner than 30 days after installation. The pipeline shall be thoroughly clean and free of debris and/or sediment prior to testing. The Contractor shall supply the mandrel used for this performance test. The mandrel device shall be cylindrical in shape having 9 or 10 possible contact points with the pipe. The mandrel's length and diameter (ID of proving ring) shall be in accordance with the following tables, and shall be subject to the Town's approval.

Nominal Diameter (inches)	Pipe Class	Average Inside Pipe Diameter (inches)	5% Deflection Mandrel Diameter (inches)	Length of Mandrel (inches)	Minimum Fins Included with Mandrel
8	C900	7.98	7.58	10	9
8	SDR 35	7.891	7.496	10	9
10	C900	9.79	9.30	10	9
10	SDR 35	9.864	9.371	10	9
12	C900	11.65	11.07	10	9
12	SDR 35	11.737	11.150	10	9
15	SDR 35	14.374	13.655	10	9
16	C900	15.35	14.58	10	9
18	C900	17.20	16.34	24	9
24	C900	22.76	21.62	24	9

b) For flexible pipes (such as PVC), the following shall apply

Note: Calculated 5% deflection allowance does not include additional manufacturing tolerances provided by pipe manufacturers. For the purposes of testing, 5% deflection shall be calculated from standard pipe inside diameter as published in ASTM D3034 and ASTM F679.

c) The mandrel shall be advanced through the pipeline to determine if bedding and embedment has been provided in compliance with ASTM D2321 to assure joint deflection of less than 5%. If the mandrel becomes obstructed for any reason while being pulled through the line with less than 100-lbs of force, the location of the defect shall be noted and the mandrel shall be removed from the pipeline. Under no circumstances shall heavy equipment be utilized to force the mandrel through the pipeline. Deflection testing may be done concurrently with sewer televising inspections, provided the mandrel is kept within visible range of the camera. The mandrel diameter shall have a tolerance of +/- 0.01 inch. Contact length shall not be less than 2 inches.

Any lines not meeting this test shall be corrected by the Contractor and the test repeated. The Town shall approve the mandrel. The Contractor shall furnish drawings of the mandrel with complete dimensions to the Town upon request.

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5. Video Assessment and Cleaning

- a) As a final measure required for acceptance, the Contractor shall clean and televise all newly installed sewer mains prior to acceptance by the Town. A 3rd party CCTV Contractor shall televise the sewer main and all lateral connections installed from the upstream to downstream manhole with no reverse setups or cutaways. This shall be done at the Contractor's expense. Throughout shooting, the camera shall be panned and tilted for a complete view of the main. Lighting shall be adequate to view the entire sewer main and service connections from beginning to end. The video inspection shall be submitted to the Town on a CD/DVD and formatted with software compatible and readable by the Town. The Town shall not be responsible for purchasing additional software necessary to view the CD/DVD.
- b) The camera shall be advanced at a uniform rate not to exceed 20 feet per minute that allows a full and thorough inspection of the new sewer main. The camera shall be a color, pan and tilt camera capable of producing a five hundred line resolution picture. Lighting for the camera shall be sufficient to yield a clear picture of the entire periphery of the pipe. The picture quality shall be acceptable and sufficient to allow a complete inspection with no lapses in coverage. The length of the sewer main shall be measured and recorded on the video screen. The distance counter shall be calibrated before shooting the inspection video.
- c) The Contractor shall clean the sewer mains ahead of video inspection with a high-velocity water jet. The video inspection shall take place within 2-hours of cleaning operations as witnessed by the Town. All construction debris shall be collected in the downstream manhole and shall not be released into the sewer system. No other work shall be performed on the Sewer lines after cleaning and prior to video inspection
- d) The Town shall be present throughout the cleaning and televising of the sewer mains to verify that the video work complies with the Specifications. The camera operator shall stop, reverse, pan, and tilt the camera to view any area of interest during the inspection as directed from the Town. <u>Dye may be required in order to see dips in the pipe and for approval by the Inspector.</u>
- e) It is recommended that all site grading and all utilities must be installed and complete prior to final inspection to ensure that damages to the sewer main do not occur. Damages found after final inspection would requiring re-inspection by the Town.

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- f) CCTV inspection date must be acknowledged and approved by the Water Resources Department prior to inspection. All structures must be physically labeled by the contractor with number shown on the video. Punch list items from the inspection must be submitted on the Town's approved 3rd Party CCTV Report form and all vides files uploaded to One Drive (flash drives and CD/DVDs are not also acceptable).
- g) The contractor may not perform CCTV inspections on any utilities that they have installed.
- 6. Marker Tape Testing

Testing of the marker tape shall be performed by the Contractor at the completion of the project to assure it is working properly and completely detectable. It is the Contractor's responsibility to provide the necessary equipment to test the markers. Any defective, missing, or otherwise non-locatable segments shall be replaced.

C. Manhole Testing

- 1. Vacuum Testing
 - a) All newly installed manholes shall pass a vacuum test in accordance with ASTM C 1244. The Contractor shall supply all equipment and materials necessary to vacuum test the manholes.
 - b) Vacuum Testing shall be completed prior to any specified coating and lining materials being installed.
 - c) The Town shall be present and witness all vacuum testing.
 - d) The following vacuum testing criteria shall apply for compliance with the testing procedure.
 - 1) A vacuum of 10-inches of mercury shall be drawn with an approved vacuum testing unit.
 - 2) The testing time shall not be measured until after the vacuum pump has been shut off.
 - The time required for the vacuum to drop from 10-inches to 9inches of mercury shall meet or exceed the values listed in the following table.

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U								
Depth	Manhole Diameter (inches)							
(feet)	48	60	72					
Time (seconds)								
8	20	26	33					
10	25	33	41					
12	30	39	49					
14	35	48	57					
16	40	52	67					
18	45	59	73					
20	50	65	81					
22	55	72	89					
24	59	78	97					
26	64	85	105					
28	69	91	113					
30	74	98	121					

Manhole Vacuum Testing Time

2. Holiday Testing of Lined Manholes

All manholes that require an epoxy coating shall undergo discontinuity testing. This shall be a high-voltage spark test conducted in accordance with NACE International Standard Practice 0188. All areas of the manhole coated shall be tested. The spark tester shall be set at a minimum of 100 volts per mil of coating thickness applied. The Contractor shall supply the spark tester and all testing equipment and labor needed to perform this test.

All holidays identified must be repaired. The epoxy coating must be abraded and cleaned prior to re-coating. All touch-up work shall be in accordance with the epoxy manufacturers guidelines.

705 Aerial Crossings

A. Design

Aerial crossings shall only be utilized in cases where buried crossings are not feasible due to stream crossings, compliance with riparian buffer standards, minimizing impacts to wetlands, preventing excessive depth of installation, or as otherwise directed by the Town of Apex. All aerial crossings shall have prior approval by the Water Resources Director and will only be considered if there are no practical alternatives available, cost shall not be considered justification for aerial crossings

In cases where aerial crossings are utilized to cross streams, the bottom of the pipe shall be installed above the 25-year flood elevation of the stream. Piers shall generally be located at a uniform spacing of 20-ft or 1 pier for every joint of pipe. Piers shall be provided in accordance with the standard details or as otherwise designed by a licensed NC Professional Engineer.

Section 700 – Wastewater Collection Systems - Page 34 of 37 Effective Date: March 23, 2021 All pier footings shall be designed by a licensed NC Professional Engineer and the assumptions provided in the footing design shall be included on the plans. At a minimum, the footing design shall include: 1) the allowable soil bearing capacity, 2) design concrete compressive strength, 3) plan for reinforcing steel with sizing and location of bars, 4) force diagram including buoyant forces, stream velocity impacts 5) depth of installation to prevent frost heaving, 6) bedding design to prevent differential settlement and 7) factors of safety for unanticipated loads such as trees falling across the aerial crossing.

At a minimum all pier foundations shall be constructed on a base of 12inches of washed stone. The soil conditions under the pier shall be evaluated by a licensed NC Geotechnical Engineer to determine if the allowable soil bearing capacity meets or exceeds the design assumptions included in the structural design. If the soil conditions fail to meet the specified bearing capacity requirements, a pile foundation shall be provided or the soils shall be undercut and replaced in conformance with the recommendations of the geotechnical engineer of record.

Piers installed in stream beds shall be avoided in lieu of spanned crossings. Spanned pipe crossings greater than 20-ft shall be provided in accordance with the pipe manufacturer's specifications and shall not exceed 40-ft for ductile iron pipe. Spanned pipe crossings shall be designed such that all flanges and exterior pipe connections are located above the 25-year flood elevation.

Spanned crossings greater than 40-ft without piers shall be provided in a steel encasement pipe and the entire crossing including piers, foundation, truss and/or beam supports and pipe thickness design shall be provided by a licensed NC Structural Engineer.

B. Pipe Materials

- 1. Ductile iron pipe for aerial crossings shall be interior lined with Protecto 401 at 40-mils regardless of pipe diameter from manhole to manhole. All joints for ductile iron pipe utilized in aerial crossings shall be restrained with a US Pipe Mech-Lok joint, American MJ Coupled joint, or other as approved by the pipe manufacturer, the Water Resources Department and the Engineer of Record. Ductile iron pipe utilized for spanned crossings greater than 20-ft without a pier shall typically be provided with flanged connections. All bolts and fasteners for flanged or bolt locking restraining systems shall be provided in stainless steel and installed in a manner to prevent seizing.
- 2. PVC pipe shall not be approved for aerial crossings.

Section 700 – Wastewater Collection Systems - Page 35 of 37 Effective Date: March 23, 2021 3. Steel pipe provided for aerial crossings shall be fabricated with grade B steel that has minimum yield strength of 35 KSI in accordance with ASTM A139. Steel pipe for aerial crossings shall be provided with minimum wall thickness consistent with a pressure class of 200-psi or greater. Steel pipe for aerial sewer crossings shall be provided with 40-mils of interior ceramic coating, such as Ceramaline and provided with an exterior tape wrap approved by the manufacturer. All steel pipe joints shall be welded in conformance with manufacturers' specifications.

C. Installation

Aerial crossings are often utilized to span sensitive environmental areas and installation shall be consistent with plans to preserve the sensitive areas.

Joints of bolt lock or coupled restrained pipe shall be located within 2-ft of each pier as outlined by the detail drawings. Contractor shall ensure the length of pipe joints allows for this spacing.

Pipe shall be secured to each pier with 1/4-inch by 2-inch width steel straps fastened to 4; ½-inch stainless steel lugs anchored and adhered with epoxy to the concrete pier. The steel straps shall receive a weather resistant painted finish to prevent long term corrosion.

Precast piers may be submitted for approval provided the footing and foundation designs are completed by licensed structural and geotechnical engineers.

In cases where soil conditions cannot be sufficiently stabilized to provide an adequate foundation for concrete piers, a pile foundation designed by a licensed NC structural engineer and approved by the Town shall be provided.

Reinforcing steel for concrete piers shall be grade 40 and shall be constructed in conformance with the latest edition of the "Recommended Practice for Placing Reinforcing Bars" or other documentation as published by the Concrete Reinforcing Steel Institute.

In cases where rock exists at the foundation elevation, the footing shall be drilled and connected with dowels into the rock layer.

706 Repairs, Modifications, and Abandonment

A. Sewer Main Repairs

1. <u>Vitrified Clay Pipe</u> - replace damaged section with DIP and install a Fernco coupling at each end encased in concrete.

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- 2. <u>PVC Pipe</u> replace damaged section with PVC Pipe and install a Fernco coupling at each end encased in concrete.
- 3. <u>ABS/PVC Truss Pipe</u> replace damaged section with DIP and install a Fernco coupling at each end encased in concrete.
- 4. <u>Asbestos Cement Pipe</u> Replace damaged section with DIP and couplings encased in concrete.

B. Installation

- 1. All repairs to damaged sanitary sewer lines in paved areas shall be backfilled with ABC stone (crusher run) to a density of 95 percent Standard Proctor.
- 2. All repairs to damaged sanitary sewer lines shall be bedded with 6inches of washed stone and compacted to a minimum of 95% Standard Proctor density before installing the new joint of ductile iron or PVC pipe.

C. Draining Sewer Mains

A detailed bypass pumping and emergency plan shall be required for any sewer line draining event.

All sanitary sewer mains and sewer force mains 20-inches and larger, active, inactive, or abandoned shall begin to be drained by tapping the bottom half of the pipe. A corporation stop or other valve shall be provided to control flow. All effluent shall be pumped to a downstream manhole (when available) or other containment tank utilizing continuous piping. The use of a sump pit on lines 20-inches and larger is not allowed.

In sensitive environmental areas and in other various scenarios the Water Resources Department may require lines less than 20-inches also be tapped in order to be drained.

D. Abandonment of Existing Sewer Mains

- 1. Existing sewer mains and casings located outside of road sections shall be removed, unless otherwise directed by the Town. All materials and labor shall be provided by the contractor.
- 2. Grout filling and abandoning in place may be allowed with prior approval from the Director of Water Resources.

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SECTION 800 WASTEWATER PUMPING SYSTEMS & FORCE MAINS

- 801 Pump Station General
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801 Pump Station General

A. Design Requirements

- 1. These Specifications apply to all pump stations and associated facilities that are to be owned, operated, and maintained by the Town of Apex. Designers of private pump stations and force mains and associated should look for guidance from the appropriate permitting agency (NCDEQ, NC Plumbing Code, etc.).
- 2. All aspects of the design of pump stations, and associated facilities shall, at a minimum, meet the requirements of the latest version of the NCDENR "Minimum Design Criteria for the Fast-Track Permitting of Pump Stations and Force Mains". Requirements presented in the Town of Apex Standard Specifications hereunder that are more restrictive or go above and beyond the requirements of the Minimum Design Criteria are required by the Town of Apex.
- 3. All aspects of the design of pump stations, and associated facilities shall be submitted for review and approval to the Town of Apex Water Resources Department. This review may be more extensive than the typical development site plan process. Materials necessary for the review and requiring approval include complete plans, Specifications, design reports, and specific equipment submittals for the specific pump station, as described hereunder.
- 4. Wastewater flow rates for the entire natural drainage basin must be accounted for as outlined in Specification 700, Wastewater Collection Systems. The receiving gravity sewer system that will accept flow from this pump station must also be evaluated to determine if additional flow can be accepted and if any improvements are required. All required improvements shall be incorporated as part of the pump station/force main project and shall be installed prior to the pump station becoming active.
- 5. Prior to approval of any pump station plan, a detailed economic analysis consisting of minimum 20-year present worth evaluation shall be submitted by the Engineer-of-Record comparing the extension of gravity sewer service with the construction of a pump station and force main alternative. Gravity sewer systems shall always be preferred over pump station and force main construction. The Town of Apex reserves its right to consider economic evaluations, service area configuration, operating costs and other external factors before approving pump station plan submittals in lieu of gravity sewer extensions. The estimated cost of the gravity alternative must be greater than 3.5 times the cost of the pumping station alternative in order for the Town to allow a pump station.
- 6. All equipment, except for the generator, included in this Specification shall be designed for a sound rating of 55 dB(A) or less at a distance of 21 feet from the operating equipment. The generator shall include a sound attenuating enclosure and hospital grade silencer. The generator shall have a sound rating of less than

Section 800 – Wastewater Pumping Systems & Force Mains - Page 2 of 70 Effective Date: March 23, 2021 71 dbA for generators rated below 150KW and less than 73 dba for generators, rated between 150KW and 250KW, at a distance of 21 feet from the operating equipment. Warning horns and sirens have no sound restrictions.

The pump station design shall incorporate ways to minimize the sound levels leaving the site property. Factors to consider include equipment layout, cumulative sound levels, and walls that reflect the sound. Equipment submittals that include the sound ratings for the major equipment to be installed at the pump station shall be supplied to and approved by the Water Resources Department prior to ordering the equipment.

The pump station shall not be approved for routine operation until sound testing has demonstrated that the noise levels are in accordance with the requirements of this section. All sound testing shall be performed by reputable personnel and testing equipment to assure accuracy. The Director reserves the right to require certified sound engineers in cases when the accuracy of the testing equipment is uncertain. The Director may also require sound testing to be redone prior to the end of the corrections period to further demonstrate that the pump station, including the generator, is performing as designed.

Generator testing and operation other than for urgent necessity in the interest of public health and safety shall be during the time periods of Monday through Friday between the hours of 9:00 a.m. and 4:00 p.m., not including holidays which are observed by the state.

- 7. All pump station facility design plans shall evaluate surge and water hammer, and incorporate sufficient surge suppression based on the range of flows, pressure and other variables included in the pump station design.
- 8. All pump station facility designs shall include emergency by-pass pumping capabilities and permit sufficient space to accommodate equipment staging.
- 9. All pumps shall perform a drawdown test to verify pump capacity flow rates. Town representatives shall be present during the test. Documentation of the test shall be provided to the Town for approval.

B. Warranty

1. All equipment, materials, and systems supplied under this Specification shall be provided with a warranty from the manufacturer to the Town that the subject equipment, materials, and systems shall be free of defects in workmanship and material, and shall operate as intended under the known conditions, for a minimum period of one year. The warranty shall be in printed form and made applicable to the Town (as Warrantee) at the time of acceptance for maintenance by the Town.

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C. Submittals

1. Design Report

- a) A design report signed and sealed by a North Carolina Professional Engineer is required with the submittal of plans and Specifications for any facilities covered under this section that are proposed for construction. This design report shall contain, at a minimum, the following design criteria:
 - 1) Total dynamic head calculations for all applicable pumping situations.
 - 2) System curve and pump curve analysis used to determine pump selection and operating point.
 - Pump station cycle and pump run times covering the high, low and average flows over the entire expected operating period of the pump station.
 - 4) Response time available in event of an emergency (time between the high water alarm and the first system overflow at average design flow and peak design flow).
 - 5) Pump station flotation/buoyancy calculations.
 - 6) Minimum velocity within the force main, including an analysis of the capabilities of the pumps to completely flush any depressed sections of the force main in a single pumping cycle.
 - Maximum detention times within the pump station and force main covering the low flows over the entire expected operating period of the pump station.
 - 8) An evaluation of the capability of the receiving sewer to handle the peak flow discharge from the proposed facility in addition to the existing or planned peak flows currently handled by the receiving sewer or sewage facility.
 - 9) Airflow calculations and chemical dosing calculations for the odor control facilities (if applicable).
 - 10)Flow capacity and headloss calculations for the grinder unit.
 - 11)Calculations for the sizing of the backup power generator.
 - 12)If jockey pumps are being proposed calculations much show how the pump can meet all design criteria.
 - 13)Total number of lots or parcels serviced, off-site drainage area and zoning, average daily flow, and peak daily flow.

2. Project Review Submittals

a) Project Review Submittals shall be submitted to the Town of Apex Water Resources Department for review and approval prior to application for a permit for the pump station or force main, and prior to entering into construction contracts or purchasing any equipment for the pump station or force main. Obtaining permits, entering into construction contracts, or purchasing any equipment in no way obligates the Town of Apex to accepting designs or

Section 800 – Wastewater Pumping Systems & Force Mains - Page 4 of 70 Effective Date: March 23, 2021 equipment that do not meet the specified standards or other requirements the Town may have.

b) The Project Review Submittals shall include, at a minimum, complete plans and Specifications, a design report as described above, and manufacturer's information on specific major equipment listed in this Specification section. The information submitted on equipment shall include, at a minimum, the name of the manufacturer and the specific model being supplied, fabrication and assembly drawings, detailed specifications and data covering materials, parts, devices, and accessories forming a part of the equipment furnished. It shall also include any system hydraulic schematics, electrical wiring diagrams, and control panel schematics. Additional detailed information that may be required for submittal for specific equipment is listed in the appropriate equipment section.

3. Pre-Approved Equal Submittals

- a) Equipment and systems of equal quality and efficiency may be available from manufacturers and suppliers other than those listed in this Section. No attempt is made to preclude the furnishing of similar quality items by other manufacturers. The use of alternate equipment and products will be considered if it can be demonstrated that these items have equal or superior construction performance, operating and maintenance costs, offer a present worth cost equal to or less than the specified items, and do not adversely affect other system components.
- b) Equipment and systems other than those listed in this Section must receive approval from the Director of Water Resources prior to application for a permit for the pump station or force main, and prior to entering into construction contracts or purchasing any equipment or systems for the pump station or force main. Purchasing equipment in no way obligates the Town of Apex to accepting equipment that does not meet the specified standards or other requirements the Town may have.
- c) Pre-Approved Equal packages shall include the following information as a minimum:
 - 1) Current catalog data sheets and complete technical data to support Specification compliance.
 - 2) A point-by-point list clearly stating all differences between the named item and the proposed alternate and a separate list clearly stating all exceptions to the Specifications. If no exceptions are listed, then no exceptions to the Specifications will be allowed.
 - 3) Installation list with name, address and phone number of contact person for each of at least five (5) installations where the proposed equipment has been in similar service and satisfactory operation for

Section 800 – Wastewater Pumping Systems & Force Mains - Page 5 of 70 Effective Date: March 23, 2021 at least two (2) years. The date of placing equipment in service at each listed installation shall be provided.

- 4) Three (3) copies of Pre-Approved Equal information shall be submitted.
- d) Equipment that meets the Pre-Approved Equal submittal requirements, the technical Specification requirements, and all other requirements of the Town of Apex, will be approved by the Director of Water Resources via letter within 14 calendar days of receipt of a complete package. Approval of Equal equipment or systems in no way eliminates the requirement for complete submittals at a later date.
- 4. Testing Results Submittals
 - a) The results of all testing shall be submitted to the Town of Apex Water Resources Department for review prior to continuing progress on the particular equipment. If shop testing is required, results shall be submitted prior to delivery of the equipment. If installation verification is required, results shall be submitted prior to start-up and testing of the equipment. If final start-up tests are required, results shall be submitted prior to final acceptance of the equipment.
 - b) Three printed copies of all test results are required to be submitted for review.
 - c) A final, compiled summary of all testing done on all equipment shall be provided to the Town of Apex upon completion of the project prior to project closeout and final acceptance. This final, compiled summary shall consist of a single bound printed copy, and an electronic copy (CD).
- 5. Operation and Maintenance Manuals (O&M)
 - a) Operation and Maintenance (O&M) manuals are required for all equipment and systems furnished under this Specification section. <u>Three copies shall be</u> <u>supplied to the Town in printed format prior to startup of the subject</u> <u>equipment or systems</u>. The O&M manuals shall contain all of the necessary information for proper operation and maintenance of the subject equipment and systems. At a minimum, the O&M manuals shall contain the following:
 - 1) Final approved shop drawings.
 - 2) Design data including certified pump curves and system curves.
 - 3) Wiring diagrams and control schematics.
 - 4) Detailed inventory of installed equipment, including its functional description, and manufacturer name, address, and phone number (and the same for a local representative of the manufacturer).
 - 5) Operating instructions.
 - 6) Troubleshooting techniques.

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- 7) Maintenance schedules.
- 8) Assembly and disassembly instructions.
- 9) Instructions for start-up and shutdown, as well as calibration and adjustment.
- 10)Annotated hard copy and downloadable electronic copy of application program for all field programmable equipment (eg PLCs, operator interfaces, etc.)
- b) A final, compiled Operation and Maintenance (O&M) manual covering all equipment and systems supplied, shall be provided to the Town of Apex upon completion of the project prior to project closeout and final acceptance. This final, compiled summary shall consist of a single bound printed copy, and an electronic copy (CD).
- c) Any spare parts listed in the O&M manuals and/or recommended by the manufacturer shall be provided to the Town with the O&M Manual submittal.

802 Pump Station Site and Structures

A. General

- Pump stations shall be designed in accordance with these standard specifications, the Town's Standard Details, and NCDEQ's manual for the Minimum Design Criteria for the Permitting of Pump Stations and Force Mains.
- Pump stations shall be located on a parcel or an easement that is dedicated to the Town of Apex. The site shall be directly connected to a dedicated public right-ofway or have a dedicated access easement to a public right-of-way.
- The Town requires sewage grinders, on-site backup power, and odor control facilities at all pump stations. Sizing of these items will be based on expected flow volumes and characteristics.
- 4. All stations shall have a minimum of 2 pumps of equal capacity. The pumps shall be solids handling, submersible, centrifugal pumps each capable of pumping flows equal to the expected peak hourly flow. The allowable peak flow can be found in Section 0700. The Director of Water Resources may require that higher peaking factors be used. The Director of Water Resources may require wet well/dry well pumping systems when peak flows exceed 1-MGD. Where 3 or more pumps are required, they should be of such capacity that with the largest unit out of service, the remaining units shall have capacity to handle the peak hourly flows. Pumps and force mains shall be sized to provide a minimum velocity in the force main of 2.5 fps and a maximum velocity of 10 fps.
- 5. Pump stations shall remain fully functional, operational, accessible and free from physical damage during a 100-year flood.

B. Site Work

- The site shall be graded to drain and direct stormwater runoff away from the pump station, and to remove storm water runoff from the site in a non-erosive manner. Drainage swales shall be incorporated to direct drainage away from the site, if necessary.
- 2. The site shall be stabilized by a minimum of 12" crushed stone over 98% compacted subgrade, low maintenance vegetative ground cover or other suitable materials. Visual screening and landscaping shall be provided in accordance with the approved site plan.
- 3. The site shall be secured by an 8-ft high vinyl coated chain link fence. It shall have 3-wire vinyl coated barb arms, set at an outward facing 45 degree angle and located at the top of each post. Each wire to be 3 strand barb wire class III galvanized or aluminized. The outer barb wire shall hold a load of 250-lbs. The 8ft height does not include the barb arms. The vinyl coating shall be black and provided with UV resistant vinyl. Fencing shall be provided around the entire perimeter of the pump station property maintaining an offset of 10-12 feet from the property boundary. All fence posts shall also be vinyl coated over the galvanized steel in black color to match fencing and privacy screening. Manual slide gates for smaller pump stations shall permit 180-degree opening and be provided in minimum width of 14-ft. Gates at larger pump stations receiving chemical deliveries shall be a minimum of 16-ft wide to accommodate tractor trailer accessibility and be provided with electrically operated slide gates. All gate posts and corner posts shall be provided with minimum 4-inch diameter fence posts. The fence shall be screened with a row of evergreen shrubs, in accordance with the Town's UDO and Planning requirements, that are at least 5' in height at the time of planting. The fence gates shall be provided with black vinyl coated privacy slats rated for a minimum life span of 12-years. If site conditions do not allow for evergreen shrubs, then privacy slats shall be provided across the entire surface area of the fence including gates.
- 4. The pump station site shall permit the loading and removal of all equipment (pumps, grinders, generators, etc.) from the pump station site with an appropriately sized truck and/or crane.
- 5. The site shall feature adequate turn around areas for a WB-40 service vehicle and provide a minimum 16 foot wide all-weather access road to the site with grades not to exceed 10%. If chemical feed systems are included, additional turning radius may be required. The access road shall consist of a standard concrete curb tie and apron through the right-of-way and transition to an asphalt-concrete section with an 8-inch stone base and 3-inch surface course, or 12" of crushed stone over minimum 98% compacted subgrade. Shoulders and side ditches should be included, as applicable.

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- 6. An LED light equivalent to a high pressure sodium vapor light with a minimum 600 watt capacity in compliance with Town of Apex standards, is required. The light shall be mounted on a suitable utility that retracts or pivots for bulb maintenance from ground level. The light shall be at a height of 30 feet and shall be controlled by an on/off switch mounted on the pole. All area lighting shall be provided in a downward projecting fixture, such as shoe box type light or approved equal. Open globe lighting shall be prohibited on all pump station sites.
- 7. Pump stations shall have a metered potable water supply from the Town of Apex public water distribution system at minimum sizing of 1-inch service, but provided with sufficient volume and pressure for operations including wash downs, etc. For larger stations a 2-inch service shall be provided to accommodate larger wash down and service needs. The supply shall have an approved lead free reduced pressure principle, RPA, backflow prevention assembly. A minimum of one (1) freeze proof yard hydrant is required within the fenced area. Emergency shower and eye washing basin shall be provided in pump stations with chemical odor control facilities. Separate reduced pressure principle assemblies, RPA, backflow preventers shall be required as necessary to protect eye wash and/or emergency shower stations from potential chemical contamination within the pump station site. As required by ANSI Z358.1, the shower and eye wash stations shall be provided with a tepid water system and be able to operate simultaneously. Pressure reducing valve shall be required for any static pressure over 80 PSI.
- 8. A grounding electrode system shall be provided for all pump station site wiring systems and shall be connected to the fence, generator, and electrical service.

C. Structures

1. General

- a) The submersible pump station structures shall consist, at a minimum, of a grinder manhole, a wet well, and a valve vault. Large, integrated structures are permissible, however, there shall be walls separating the portions of the structure listed above. Electric motor operated grinders will be required at all stations. Pump station structures other than the wet well shall be provided with a means to remove accumulated water and wastewater from the structure.
- b) Any portion of a pump station structure that is open and would allow floodwater entry into the wastewater system shall be built with a top elevation of 2 feet above the 100 year flood elevation. All structures not meeting the elevation requirement that could allow entry of floodwater into the wastewater system shall be sealed watertight with a vent elevated a minimum of 2 feet above the 100 year flood elevation.

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- c) All pump station structures shall be designed to withstand hydrostatic forces that they will be subjected to, including uplift and shall be equipped with buoyancy collars.
- d) Refer to standard detail for stone base requirements under all structures.
- e) Fall protection grating shall be installed at all access hatches. Additional anchor posts shall be installed according to the Standard Detail.
- e)f)Structures manufactured by Armorock (or approved equal) may be used as an approved alternate for any structure that requires epoxy coating.

2. Wet Well

- a) The wet well shall have a minimum inside dimension of 6 feet, and shall be large enough to easily accommodate the removal of each pump and a basket strainer. The wet well shall be designed to have an operating volume sufficient to provide pump operating cycles to match the manufacturer's recommendations. The pump operating cycles must be between two and eight times per hour at design daily flow (without being excessively deep. All wet wells must be concentric.
- b) The wet well shall be constructed of precast concrete manhole sections or castin-place concrete. Extended bases or another foundation shall be used to provide adequate bearing surface and flotation protection, if needed. All concrete shall have a minimum 28 day compressive strength of 4000 psi. The Director of Water Resources may require a higher strength concrete.
- c) Precast concrete manhole wet wells shall conform to ASTM C-478. Manhole section joints shall be of a durable mastic sealing material and be watertight in accordance with ASTM C-443. The exterior of manhole wet wells shall have a factory applied bitumastic or asphaltic coating. The exterior of wetwell joints shall be overlapped by an approved material such as Conwrap, Conseal, etc. The interior side of the joints shall be plastered smooth with portland cement grout.
- d) Cast-in-place wet wells shall be properly designed by a NCPE and include appropriate structural support, waterproofing, exterior coating, structure covers, access hatches, etc.
- e) At a minimum, wet wells shall have a vent made from ductile iron with flanged joint pipe fittings. An insect screen shall be included at the exposed end of the vent pipe. The screen shall be bronze or aluminum insect screening. Forced air venting is also allowed and will be required on individual pump stations in conjunction with odor control measures, depending on circumstances.

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- f) Wet wells and wet well piping shall be coated with at least 80-mils of an approved monolithic epoxy coating system consisting of a 100% solids, solvent-free, two-component epoxy resin for up to 100 mils of coating with a manufacturer approved set time of 6-hours or less. The epoxy coating system shall be Sherwin Williams Sher-Flex, Raven Lining Systems, or approved equal and installed in no more than 2 applications with no runs and no holidays. High voltage holiday testing shall be utilized to verify there are no voids in the coating. The joints of pre-cast structures shall receive three (3) coats of mortar so as to achieve a smooth surface at each joint. Epoxy coatings shall only be applied to adequately cured concrete structures that have been sufficiently washed and prepared for epoxy coating installation. Properly applied coating shall provide a smooth finish at 80-mils or greater and fill all pores in concrete substrate.
- g) Care will be taken to ensure no epoxy coating is applied to the pump coupling face, the guide rails, or any other part that needs to allow movement or replacement on a regular basis.
- h) Cover slabs for wet well and valve vaults shall be reinforced concrete with integral cast in place access hatch covers. Cover slabs shall be reinforced as per ACI Code and specially reinforced around openings. Access covers shall be double leaf or single leaf (as required) aluminum diamond pattern floor hatch of 1/4-inch (minimum) thickness capable of withstanding 150 psf without permanent damage. Each leaf shall open 90 degrees and be attached to the frame by steel hinges. The door shall have a lock in the open position and vinyl grip handle to release lock for closing.
- Each we well shall be equipped with a removable extension ladder as specified to enable access. The Town shall designate the location during the review process.
- j) Pre-cast structures shall have a Sherwin Williams Sher-Flex, Raven Lining Systems, or equivalent applied to the outside of all tongue and groove joints. Prior to backfilling the wet well structure, the entire surface shall receive 1 coat. The material used for exterior coating shall meet the requirements of Corps of Engineers Specification C-200. The exterior coating shall be applied as to achieve a total dry film thickness of 80-125 mils. The exterior surface shall be clean and dry prior to application of the coating.
- k) All bolted connections, including pipe flanges, inside the wet well shall be made using stainless steel bolts, nuts, and washers.
- An aluminum handrail shall be provided around the wet well opening of all submersible pumping stations. The handrail shall be closed on three sides, with the fourth side closed by a latching chain. The handrail shall be permanently attached to the concrete cover slab. The chained side of handrail

Section 800 – Wastewater Pumping Systems & Force Mains - Page 11 of 70 Effective Date: March 23, 2021 shall face the chain link fence gates for access and pump maintenance. A minimum horizontal clearance of 10 feet between the chains and handrail is required. Hand rails shall be grounded to the primary ground on-site.

m) A fall-through prevention system shall be provided with the wet well hatch doors. The system shall be a grate consisting of two leafs made of 6061-T6 aluminum hinged on the same side of the hatch. The grate shall be designed to withstand a minimum pedestrian load of 300 lbs. per square foot. The grate openings shall be 4" x 6" to allow both visual inspection and limited accessibility for maintenance purposes when the grate is closed. The leafs of the grate will pivot on aluminum hinge devices with 316 SS hardware that permit them to rotate upward 90 degrees and automatically lock in place. Aluminum pullrods will be attached to the grate's leafs so the operator is positioned with the grate between him and the hatch's opening whenever he raises a leaf. Each grate leaf will have a rod made from 316 SS that automatically engages to secure the leaf in its open position, and can be lifted upward to permit the grate leaf to close. The hatch cover will not be able to shut until the grate is closed, thereby insuring the grate is in position when the next operator opens the hatch cover. The grate shall have an OSHA safety vellow finish to increase visual awareness of the safety hazard.

3. Valve/Meter Vaults

a) The valve/meter vault shall, at a minimum, consist of a precast concrete manhole base section at least 6 feet in diameter, or a cast in place concrete, custom built section, or a precast concrete rectangular structure at least 6 feet square. The valve/meter vault shall be complete with a drain that goes to the wet well or where a gravity drain cannot be included, a sump with a minimum 1/2 hp mercury float switch activated sump pump discharging to the wet well. The vault shall include an access ladder attached to the vault wall, and access cover cast in the top slab with an extendable/retractable grab bar. The drain pipe between the valve vault and the wet well shall have a back water valve at the wet well end. The access cover for the valve vault shall be a square lockable hatch of 1/4 inch aluminum diamond pattern plate with steel hinges on an aluminum frame cast in place in the cover slab. All access covers shall be centered over equipment to accommodate service and removal and includes a removable metal grate style fall protection guards. Stainless steel or galvanized pipe stands shall be used to support valves and other appurtenances requiring support.

4. Manholes

a) Any manholes installed on the pump station site need to meet the standards described in Section 0700 of the Town of Apex Standard Specifications. All manholes installed on the pump station site shall receive an interior coating of

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an approved epoxy resin, as previously specified for the pump station wet well. All manholes located within the 100 year flood elevation shall receive an exterior coating as specified in Section 0700.

5. Buildings

- a) Building systems to house chemical feed facilities shall be adequate to provide sufficient storage, clearance, and full containment of chemicals in the event of a chemical tank or other failure. A removable roof or roof sections shall be required to allow sufficient access to all equipment and tanks within the building. All supplementary or miscellaneous items, appurtenances, and devices incidental to or necessary for a sound, secure, and complete installation shall be designed and sealed by a NCPE. Chemical feed delivery lines will be chemical resistant and of a flexible material routed through oversized schedule 80 conduit
- b) On a case by case basis, a building may be required to house all electrical and control equipment. This building shall be of precast, prefabricated, or built in place construction.
- c) All buildings located on a pump station site shall have the first floor elevation a minimum of 2 feet above the 100 year flood elevation.
- d) Buildings shall be heated to avoid the freezing of chemicals.

D. Piping and Valves

- <u>Piping:</u> Suction and discharge piping shall be Class 50 ductile iron flanged pipe in accordance with AWWA C 115. Discharge piping and valves shall produce a minimum head loss while maintaining a minimum velocity of 3 feet per second. All exposed piping shall have adequately sized and located restraint.
- 2. <u>Pump piping:</u> The discharge connection elbow shall be a straight through fitting with no flap valve and shall be permanently installed in the wet well along with the discharge piping. The pumps shall be automatically connected to the discharge connection elbow when lowered into place. The entire weight of the pump shall bear upon the guides and base support with no part of the pump bearing directly on the floor of the wetwell. A stainless steel chain shall be 316 stainless steel.
- 3. All piping, couplings, fittings, valves, etc. shall be Class 125 for flanges meeting ANSI B16.1, unless Class 250 flanges are required for high head installations.
- 4. <u>Check Valve</u>: An external weight spring loaded or air-cushioned or hydraulic loop check valve and a plug valve shall be provided for the discharge pipe of each pump. A 1/4 turn plug valve shall be provided on the discharge pipe from the valve

Section 800 – Wastewater Pumping Systems & Force Mains - Page 13 of 70 Effective Date: March 23, 2021 vault (the beginning of the force main). Check valves shall be ductile iron bodied, fully bronze mounted with bronze clapper disc and bronze seat ring, and shall have a spring loaded lever arm capable of being mounted on either side of the valve. Check valves and plug valves shall be mounted in the horizontal position with a minimum of 3 feet of separation between each valve body and the outside walls. All valves shall be centered on the vault door for maintenance access and valve removal.

 <u>Plug Valve</u>: Plug valves shall be 1/4 turn, eccentric action and resilient plug facing with heavy duty stainless steel bearings and welded-in corrosion resistant nickel seat. Pump station plug valves shall be "full-port" cross-sectional area perpendicular to the flow of at least 100% of the adjoining pipe.

Plug valves and check valves on the discharge side of each pump shall be located in a valve vault separate from and adjacent to the wet well. A Victaulic type coupling shall be installed on each discharge main between the wet well and the valve vault. An isolation plug valve shall be installed downstream approximately 50-feet from the valve/meter vault in order to isolate the force main from the vault and equipment. Valves shall be rated for a minimum of 175 psi working pressure and be able to pass a 3-inch solid

- 6. <u>Pressure gauge:</u> A +/- 2% accuracy pressure gauge with a 3 inch or larger liquid filled dial, stainless steel case, and graduated to 150% of force main static pressure_shall be provided on each discharge pipe. The gauge shall be installed between the check and plug valves. Isolation seals and cut-off ball valve shall be provided between the gauge and force main. The gauge shall be oriented so that it is easily visible and_legible from the valve vault hatch opening. The gauge shall also be capable of delivering an electronic remote signal compatible with SCADA.
- 7. <u>Air Release Valve: Each pump shall have an air release valve, installed on the discharge prior to combining with other pumps and leaving the valve vault. Air release valves shall be installed in manholes outside of the valve vault.</u>

There shall be one additional air release valve installed in a manhole on the force main, prior to the main leaving the pump station site.

- 8. Surge Valve: There shall be one surge valve installed within the valve vault.
- 9. <u>Flow Meter:</u> A full size electromagnetic flow meter shall be installed in a manhole or vault on the discharge side of the valve vault.
- 10. Trash Basket:

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- A. Each pump station shall have one aluminum trash basket with guide rails with the following requirements:
 - 1. Basket shall have bar screen on the front and bottom with a minimum 1-1/4 inch to maximum 2 inch clear opening between 1/4-inch thick bars. The sides of the basket may be solid.
 - Basket shall have a minimum of four solid aluminum wheels with stainless steel axles for easy removal from wetwell on aluminum guide rail system. Guide rail system shall not be provided with ladder rungs. Provide basket stop bar for installation in field to insure proper location of basket.
 - 3. Minimum dimensions: 2 inches wider than OD of influent pipe, 18 inches deep, and 18 inches high. Influent pipe must be able to pass through guide rails to influent face of basket.

11. Anchor Bolts.

- a) Anchor bolts and nuts shall be furnished as required for each item of equipment. Anchor bolts, together with templates or setting drawings, shall be delivered sufficiently early to permit setting the anchor bolts when the structural concrete is placed. Anchor bolts shall be at least 3/4 inch in diameter. Anchor bolts and associated hardware shall be 316 stainless steel.
- b) Anchor bolts shall be accurately located and centered in pipe sleeves having an inside diameter approximately 2.5 times the bolt diameter and a length approximately 8 times the bolt diameter. A square anchor plate with thickness of approximately 0.5 the bolt diameter and side dimensions 4 times the bolt diameter shall be welded to the bottom of each sleeve, with the anchor bolt extended through the plate and welded thereto. Two nuts and a washer shall be furnished with each anchor bolt.
- c) Anchor bolts shall be long enough to accommodate 1.5 inches of grout beneath the baseplate and to provide adequate anchorage into structural concrete. Bolts shall have a "J" bend anchoring them into the concrete.
- d) Anti-seize compound will be applied to the threads of all stainless steel bolts before assembly.

E. Electrical - General

- 1. All electrical systems associated with any of the items covered under this section shall meet all applicable electrical standards and code requirements, including, but not limited to: ANSI, ASTM, NEMA, IEEE, DEMA, EEI, HEI, ISO, NFPA, SAE, NEC, UL508, as well as any other federal, state, or local codes.
- Electrical service to all pump stations shall be appropriately sized three phase power, 240 VAC with automatic transfer switches to automatically starting on-site emergency generators. The electrical power entrance shall be through a meter

Section 800 – Wastewater Pumping Systems & Force Mains - Page 15 of 70 Effective Date: March 23, 2021 base, followed by a NEMA 3R heavy duty, single throw, and fusible safety switch. This shall be followed by a heavy duty automatic transfer switch that transfers between the utility power and the on-site generator. This shall be followed by a NEMA 3R heavy duty, double throw, three pole safety switch which feeds the control panel from one side and heavy duty, circuit breaking 4 wire, 4 pole male receptacle assembly as manufactured by Crouse-Hinds or other approved equal from the other side. There shall be a NEMA 3R heavy duty single throw fusible safety switch between the generator and the automatic transfer switch.

- 3. Electrical equipment inside the wet well shall meet the requirements for Class I, Division I, and Group C/D service.
- 4. All of these electrical components shall be suitably sized to be capable of service with all electrically powered equipment running.
- 5. All electrical components, including panels, shall be sealed off from the wet well in accordance with the N.C. Electrical Code requirements for electrical service to class 1 division 1.
- The use of rigid conduits is required. Generally, PVC shall be used below ground and PVC coated galvanized steel shall be used above ground. Conduits that lead to a control panel shall be air gapped a minimum of 3-feet from the panel or sealoffs shall be provided.
- 7. Pump station electrical and control equipment shall be located in a building as described above, or under a weatherhood. An aluminum weatherhood with a clear height of 7 feet, an overhang of at least 4 feet and a thickness of 3/16 inch shall be provided for control equipment exposed to the weather. The back panel and side panel shall also be 3/16 inch thick aluminum. The support structure for the weatherhood shall be made from structural steel members assembled to provide individual, direct support to the control equipment panel, transfer switch, safety switches, meter base and the weatherhood. The steel frame shall be painted with a two component, high build epoxy polyamide paint system designed for severe service. All weatherhoods shall be provided with a light and GFI protected 120V outlet.
- 8. All electrical equipment, including non-submersible motors, electrical panels, control panels, alarm/telemetry systems, backup generators, etc., shall be located a minimum of 2 feet above the 100 year flood elevation. Weatherhoods shall be installed to eliminate runoff to the front side. All electrical enclosures shall have hinged doors/covers. The control panel shall include a concrete pad, minimum 8' x 4' x 6" thick.
- 9. An intermediate terminating explosion proof junction box is to be supplied and installed mid-way from the wet well and the pump control panel. This box shall be NEMA type 4X suitably sized to house all pump power and control wiring. Rigid

Section 800 – Wastewater Pumping Systems & Force Mains - Page 16 of 70 Effective Date: March 23, 2021 metal conduit shall be utilized with the necessary seal-off fittings. Terminal strips shall be provided to properly split the power termination to facilitate pump removal from the junction box and not the pump control panel.

Exposed outlet boxes for outdoor and indoor wet process areas used for lighting fixtures, switches, and receptacles shall be aluminum provided with rubber neoprene gasketed covers of similar metal. Junction and pull boxes shall be NEMA 4X construction and of ample size to house the required devices. Boxes shall be provided with hasps.

The minimum size of boxes shall be according to the NEC. No box shall be filled to more than 40% of capacity.

Where control wires must be interconnected in a junction box, terminal strips consisting of an adequate number of screw terminals shall be installed. Current carrying parts of the terminal blocks shall be of ample capacity to carry the full load current of the circuits connected. Approximately 20 % of the terminals provided shall consist of spare terminals. Terminals shall be lettered and/or numbered to conform with the wiring diagram.

803 Pump Station Equipment

A. Pumps

- 1. General
 - a) Pumps, motors, and major accessories shall be supplied by a single manufacturer and must be Fairbanks Morse, ABS, Hydr-o-matic, or HOMA.
 - b) Each pumping unit shall be complete with a close-coupled, submersible electric motor, and all other appurtenances specified, or otherwise required for proper operation.
 - c) The equipment provided under this section shall be suitable for the service conditions and shall be capable of meeting all operating requirements of the pumping system.
 - d) Each pumping unit including motor and all integral controls shall be rated and labeled for use in a Class 1, Division 1, Group C/D area as defined by the National Electric Code.
 - e) Each item of equipment and each part shipped separately shall be identified with indelible markings for the intended service. Tag numbers shall be clearly marked on all shipping labels and on the outside of all containers.

Section 800 – Wastewater Pumping Systems & Force Mains - Page 17 of 70 Effective Date: March 23, 2021 Abbreviations. Reference to standards and organizations herein shall be as indicated by the following designations.

1)AFBMA	Antifriction Bearing Manufacturers Association
2)AGMA	American Gear Manufacturers Association
3)AISI	American Iron and Steel Institute
4)ANSI	American National Standards Institute
5)ASME	American Society of Mechanical Engineers
6)ASTM	American Society of Testing and Materials
7)NPT	National Pipe Thread
8)SAE	Society of Automotive Engineers

2. Submittals

a) Complete fabrication and assembly drawings, together with detailed specifications and data covering materials, parts, devices, and accessories forming a part of the equipment furnished, shall be submitted in accordance with the submittals section. The data and specifications for each unit shall include, but not be limited to, the following:

1)Pumps

- 1) Name of Manufacturer
- 2) Type and model
- 3) Rotating speed
- 4) Direction of rotation
- 5) Size of suction elbow inlet
- 6) Size of discharge elbow outlet or nozzle
- 7) Net weight (mass) of pump and motor only
- 8) Complete performance curves showing capacity versus head, bhp (brake kW), NPSH required, and efficiency
- 9) Data on shop painting

2)Motors

- 1) Name of manufacturer
- 2) Type and model
- 3) Type of bearings and method of lubrication
- 4) Rated size of motor, hp (kW), and service factor
- 5) Insulation class and temperature rise
- 6) Full load rotative speed
- 7) Net weight
- 8) Efficiency at full load and rated pump condition
- 9) Full load current
- 10)Locked rotor current
- b) Operation and Maintenance Manuals shall include, at a minimum, the following information:

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- 1) Equipment function, normal operating characteristics, and limiting conditions.
- 2) Assembly, installation, alignment, adjustment, and checking instructions.
- 3) Operating instructions for startup, routine and normal operation, regulation and control, shutdown, and emergency conditions.
- 4) Lubrication and maintenance instructions.
- 5) Guide to troubleshooting.
- 6) Parts lists and predicted life of parts subject to wear.
- 7) Outline, cross-section, and assembly drawings; engineering data; and wiring diagrams.
- 8) Test data and performance curves.

3. Quality Assurance

- a) Performance and Balance Requirements
 - 1) All specified conditions shall be at rated speed unless otherwise indicated.
 - 2) Overall (wire-to-water) efficiency for constant speed pumps shall include losses in the pump and motor. Overall (wire-to-water) efficiency for variable speed pumps shall include losses in the pump, motor, adjustable frequency drive, and any transformers supplied as part of the adjustable frequency drive equipment.
 - 3) The minimum hydrostatic test pressure shall be 1.5 times shutoff head plus max suction pressure.
 - 4) Pump performance shall be stable and free from cavitation and noise throughout the specified operating head range at minimum suction submergences. The design running clearance between the impeller inlet and the casing wearing ring (if provided) shall be not less than 0.01 inch or 1 mil per inch of casing wearing ring diameter, whichever is greater.
 - 5) When required, pumping units shall be designed so that maximum reverse rotation due to reverse flow at the head as required will not cause damage to any component. Pump supplier shall coordinate this provision with the motor supplier.

Section 800 – Wastewater Pumping Systems & Force Mains - Page 19 of 70 Effective Date: March 23, 2021 6) All rotating parts shall be accurately machined and shall be in as nearly perfect rotational balance as practicable. Excessive vibration shall be sufficient cause for rejection of the equipment. The mass of the unit and its distribution shall be such that resonance at normal operation speeds is avoided. In any case, the unfiltered vibration velocity, as measured at any point on the machine including top of motor, shall not exceed the maximum velocity as indicated for vertical, end suction, solids handling pumps. At any operating speed, the ratio of rotative speed to the critical speed of a unit or its components shall be less than 0.8 or more than 1.3.

4. Materials

- a) Stator housing, oil chamber housing, impeller casing, and impeller shall be cast iron, ASTM A48.
- b) Casing wearing ring shall be bronze, ASTM B62, or rubber, or martensitic stainless steel, Brinell 300+.
- c) Bottom wearing plate shall be cast iron, ASTM A48 with spiral grooves.
- d) Impeller wearing plate shall be martensitic stainless steel, Brinell 200-250.
- e) Shaft shall be alloy steel, hard chrome plated, or martensitic stainless steel, AISI type 416.
- f) Mechanical seals shall be 2 tandem single type, oil lubricated with silicon or tungsten carbide seal rings at all points, except the upper rotating seal, which shall be carbon.
- g) Discharge base shall be cast iron or fabricated steel.
- h) Guiderails shall be stainless steel pipe, ASTM A312, Schedule 40S.
- i) Upper guiderail bracket, cable hooks, and chain hooks shall be AISI type 304 stainless steel.
- j) Pedestal base shall be cast iron or fabricated steel.

5. Pumps

a) Pumps shall be submersible, non-clog centrifugal sewage pumps capable of passing a 3 inch sphere. Pumps shall be capable of handling raw, unscreened sewage. Major pump components shall be of gray cast iron devoid of burrs, pits or other irregularities.

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- b) The impeller casing shall have well-rounded water passages and smooth interior surfaces free from cracks, porosity, blowholes, or other irregularities. The discharge nozzle shall be flanged, with dimensions and drilling conforming to ANSI B16.1, Class 125. The discharge nozzle shall be flanged and sufficiently rigid to support the pumping unit under all operating conditions.
- c) The impeller shall be a semi-open and enclosed recessed one-piece casting with not more than two nonclog passages with the impeller completely out of the flow path. The interior water passages shall have uniform sections and smooth surfaces and shall be free from cracks and porosity. The impeller shall be dynamically balanced and securely locked to the shaft by means of a key and self-locking bolt or nut.
- d) For pumping units 20 hp and larger, renewable wearing rings shall be provided in the casing and on the impeller. The rings shall be positively locked in place. For pumping units less than 20 hp a renewable wearing ring or axially adjustable wearing plate shall be provided in the casing. Casing wearing ring shall be securely fastened to the impeller casing front cover to provide either an axial or radial running clearance. Axially adjustable wearing plate shall be arranged to permit adjustment of the axial running clearance between the impeller and plate. The wearing plate shall have an outward spiraling groove designed to force stringy solids outward and away from the impeller.
- e) The oil chamber shall contain a drain plug and a vent plug. Food grade oil shall be used.
- f) Each pump shall be provided with two mechanical rotating shaft seals arranged in tandem and running in an oil chamber. Each interface shall be held in contact by an independent spring system designed to withstand maximum suction submergence. The seals shall require neither maintenance nor adjustment and shall be readily accessible for inspection and replacement. Shaft seals lacking positively driven rotating members or conventional double mechanical seals which utilize a common single or double spring acting between the upper and lower units and requiring a pressure differential to offset external pressure and effect sealing, will not be acceptable. The seals shall not rely upon the pumped media for lubrication and shall not be damaged if the pumps are run unsubmerged for extended period while pumping under load.
- g) All mating surfaces of major components shall be machined and fitted with Orings where watertight sealing is needed. Sealing shall be accomplished by Oring contact on four surfaces and O-ring compression in two planes, without reliance on a specific fastener torque or tension to obtain a watertight joint. The use of elliptical O-rings, gaskets, or seals requiring a specific fastener torque value to obtain and maintain compression and watertightness will not be acceptable. The use of secondary sealing compounds, gasket cement, grease, or other devices to obtain watertight joints will not be acceptable.

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6. Pump Motors

- a) The pump motors shall be sealed submersible type, and shall be appropriately sized three phase power, 60 Hertz motors with a maximum speed of 1800 RPM. The motors shall meet the U.S. requirements of Class I, Division I, and Group D for hazardous locations, and shall be sized to non-overloading throughout the entire operating range of the pump.
- b) A heat sensor thermostat shall be attached to and embedded in the winding and be connected in series with the motor starter contactor coil to stop motor if temperature of winding is more than 220 degrees F. Thermostat shall reset automatically when motor cools to safe operating temperature. The common pump motor shaft shall be of 416 stainless steel. (See 4E)
- c) The motor shall be protected by mechanical seal system as described above. A double electrode shall be mounted in the seal chamber to detect any water entering the chamber through the lower seal. Water in the chamber shall cause a red light to turn on at the control panel. This signal shall not stop the motor but shall act as a warning only.
- d) Power cables to pumps shall be AWG (min) hypalon jacketed type SPC cable a minimum of fifty (50) feet in length.
- e) Motors shall be provided by the pump manufacturer and shall be air-filled, totally submersible. Motor nameplate rating shall exceed the maximum power required by the pump in the operating head range. Each motor shall have a voltage, frequency, and phase rating as required and shall have a service factor of 1.15. The stator housing shall be an air-filled, watertight casing. A cooling jacket shall encase the motor housing for each pump where needed to maintain adequate cooling. Cooling jacket shall require no external source of cooling water. Motor insulation shall be moisture resistant, Class F, 180 degrees Celcius. Each motor shall be NEMA Design B for continuous duty at 40 degrees Celcius ambient temperature, and designed for at least 10 starts per hour.
- f) Each motor housing shall be provided with a moisture detection system provided by the motor manufacturer and per the manufacturer's requirements, complete with all sensors, control power transformer, intrinsically safe control modules, and relays. The moisture detection system shall be rated for a 120V AC supply. The moisture detection system shall provide two normally open dry output contacts rated 5 amps at 120 volts AC. The contacts shall close when moisture is detected in the motor housing and an alarm relay energized. The pump shall not be shut down. All moisture detection system components shall be furnished by the pump supplier and shall be shipped loose for installation

into the motor controller enclosure, or if required to be mounted separately all components shall be mounted in a NEMA 4 stainless steel enclosure.

- g) The motor bearings shall be antifriction, permanently lubricated type. The lower bearing shall be fixed to carry the pump thrust and the upper bearing free to move axially. The bearings shall have a calculated AFBMA L10 Live Rating of 40,000 hours when operating at maximum operating head. Maximum shaft runout at the mechanical seals shall not exceed 2 mils at any point in the operating head range.
- h) Thrust bearings shall be protected by bearing temperature switches. The switches shall be normally closed automatic reset type rated 5 amps at 120V AC.
- Each motor shall be capable of continuous operation in air (unsubmerged) for at least 24 hours under pump full load conditions, without exceeding the temperature rise limits for the motor insulation system.
- j) Each pump shall be equipped with one or more multiconductor cable assemblies for power and control. Each multiconductor assembly containing power cables shall be provided with a separate grounding conductor. Each cable assembly shall bear a permanently embossed code or legend indicating the cable is suitable for submerged use. Cable sizing shall conform to NEC requirements.
- k) All cables shall be of sufficient length to terminate in a junction box outside the wetwell as indicated on the drawings, with 10 feet of slack that shall be coiled on a cable hook at the top of the wetwell. Each cable shall be supported by AISI Series 300 corrosion-resistant PVC Style woven Kellem Grips type woven grips to prevent damage to the cable insulation. Mounting of cable supports in the wetwell shall be coordinated to prevent damage to the cable.
- The cable entry water seal shall include a strain relief and a grommet type seal designed so that a specific fastener torque is not required to ensure a watertight submersible seal. The cable entry junction box and motor shall be separated by a stator lead sealing gland or a terminal board. The junction box shall isolate the motor interior from moisture gaining access through the top of the stator housing.
- m) Motors with an adjustable frequency type speed controller shall be derated to compensate for harmonic heating effects and reduced self-cooling capability at low speed operation so that the motor does not exceed Class B temperature rise when operating in the installed condition at load with power received from the adjustable frequency drive. All motors driven by adjustable frequency drives shall be supplied with full phase insulation on the end turns and shall meet the requirements of NEMA MG 1, Part 31. In addition to the requirements

Section 800 – Wastewater Pumping Systems & Force Mains - Page 23 of 70 Effective Date: March 23, 2021 of NEMA MG 1, Part 31, motors shall be designed to be continually pulsed at the motor terminals with a voltage of 1600 volts ac.

- Adjustable Speed Drives: Adjustable frequency drives shall be provided as specified by the Director of Water Resources or if the projected flow is .5MGD or higher.
- o) Station pumps between 15-30 hp shall have a 30 hp rated RVSS. Stations with pumps greater than 30 hp shall utilize variable frequency drives with appropriately sized RVSS.
- 7. Appurtenances
 - a) The lift out systems shall consist of a straight elbow that bolts to the bottom of the basin, a combination disconnect assembly with a seal flange that mounts to the pump, rail support guides that fasten to the wall of the basin and guide and support brackets that mount to the pump. The guide rails shall be type 316 stainless steel, 2 inch minimum diameter, schedule 40
 - b) Guiderail Mounted Base. A discharge base and discharge elbow shall be furnished by the pump manufacturer. The base shall be sufficiently rigid to firmly support the guiderails, discharge piping, and pumping unit under all operating conditions. The base shall be provided with one or more integral support legs or pads suitable for bolting to the floor of the wetwell. The face of the discharge elbow inlet flange shall be perpendicular to the floor and shall make contact with the face of the pump discharge nozzle flange. The diameter and drilling of the elbow outlet flange shall conform to ANSI B16.1, Class 125. The pump and motor assembly shall be automatically connected to and supported by the discharge base and guiderails so that the unit can be removed from the wetwell and replaced without the need for operating personnel to enter the wetwell.
 - c) Sliding Bracket. Each guiderail mounted pumping unit shall be provided with an integral, self-aligning guiderail sliding bracket. The bracket shall be designed to obtain a wedging action between flange faces as final alignment of the pump occurs in the connected position. The bracket shall maintain proper contact and a suitably sealed connection between flange faces under all operating conditions. The sliding bracket shall be non-sparking.
 - d) Guiderails. Each guide rail mounted pumping unit shall be equipped with one or more guiderails. Guiderails shall be sized to fit the discharge base and the sliding bracket and shall extend upwards from the discharge base to just below the bottom of the access hatch. An upper guiderail bracket shall be provided at the pump access opening. Guiderails shall be made of stainless steel.

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- e) Lifting Chain. Each guide rail mounted pumping unit shall be provided with a chain suitable for removing and installing. The chain shall be stainless steel with 4x6 lifting eyes at 10ft intervals starting at the top. A suitable chain hook shall be provided at the top of the wetwell. <u>A stainless steel cable is not an acceptable alternative to a lifting chain.</u>
- f) Special Tools and Accessories. Equipment requiring periodic repair and adjustment shall be furnished complete with all special tools, instruments, and accessories required for proper maintenance. Equipment requiring special devices for lifting or handling shall be furnished complete with those devices.
- g) A replica of the nameplate with serial number, model number, manufacturer, operating conditions, etc. shall be provided for each pump.

8. Shop Painting

- a) All iron and steel parts which will be in contact with pumped liquid or submerged after installation, including the inside of the casing, the impeller, and the discharge elbow, shall be shop cleaned in accordance with the coating manufacturer's recommendations and painted with the epoxy coating system specified. The coating shall have a dry film thickness of at least 10 mils and shall consist of a prime coat and one or more finish coats. At least 1 quart of the finish coat material shall be furnished with each pump for field touchup.
- b) All other iron and steel surfaces, except stainless steel and machined surfaces, shall be protected with suitable protective coatings applied in the shop. Surfaces of the equipment that will be inaccessible after assembly shall be protected for the life of the equipment. Exposed surfaces shall be finished, thoroughly cleaned, and filled as necessary to provide a smooth, uniform base for painting. Electric motors, speed reducers, starters, and other self-contained or enclosed components shall be shop primed or finished with an oil resistant enamel or universal type primer suitable for top coating in the filed with a universal primer and aliphatic polyurethane system.
- c) Surfaces to be coated after installation shall be prepared for painting as recommended by the paint manufacturer for the intended service, and then shop painted with one or more coats of the specified primer.

B. Pump Control Systems

1. All components of the Pump Control Systems shall be properly designed and installed to meet all NEC and other industry standards, as well as all federal, state, and local requirements. Power service to wastewater pumping stations shall be 3-phase.

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- <u>Submittals</u>: Complete fabrication and assembly drawings, together with detailed specifications and data covering materials, parts, devices, and accessories forming a part of the equipment furnished, shall be submitted in accordance with the submittals section. The data and specifications for the Control Panel and Components shall include, but not be limited to, the following:
 - 1) Name of acceptable manufacturer, Square D, Cutler Hammer, or ABS
 - 2) Type and model
 - 3) Enclosure rating
 - 4) Dimensions of complete panel
 - 5) Electrical schematics and wiring diagram
 - 6) Liquid level sensors with mounting details and cable lengths, and pump controls
 - 7) Published descriptive data on each item of equipment and all accessories, indicating all specific characteristics and options.
- 3. <u>Enclosure</u>: The Control Equipment Enclosure shall be a NEMA type 4X fiberglass and be of suitable size to house all components. A locking hasp shall be provided with no screw clamp type latches. Enclosure shall be fabricated from fiberglass. The top of the enclosure shall serve as a drip shield and the seam free sides shall prevent rain and sleet from entering. Inner panel shall be made of fiberglass.
- 4. <u>Hinged Inner Door</u>: An inner door shall be furnished. Overload reset push buttons, circuit breakers, switches pilot lights, and hr. meters shall be the only components accessible with door closed. Door shall be hinged and may be opened when service is required.
- 5. <u>Line Terminal Block:</u> A terminal block shall be furnished with properly sized line lugs to accept the main power source entering the control panel. Load lugs shall be adequate to accept all required load side wiring requirements. All live parts shall be fully shielded.
- Motor Circuit Breaker (440-480 VAC): A properly sized, molded case, thermal hydraulic-magnetic circuit breaker or motor protector shall be provided for each pump motor. Line and load sides shall be equipped with lugs properly sized for the horsepower and current rating of the motor(s). The interrupting rating shall be 5,000 RMS symmetrical amps.
- <u>Transformer Primary Circuit Breaker</u>: A properly sized, two pole, molded case circuit breaker shall be furnished ahead of the control power 120-VAC power transformer for short circuit protection and disconnecting power to the transformer. The circuit breaker shall conform to the Specifications for the motor circuit breaker(s).

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- <u>Control Power Transformer</u>: An industrial quality control transformer shall be furnished to provide control voltage. The transformer shall be furnished to provide more than adequate KVA rating to provide 120-VAC power for all items required in the control and alarm circuits. Transformer shall be protected in its secondary by properly sized supplemental circuit breaker(s).
- <u>Magnetic Contactors and Overload Relays</u>: A magnetic contactor shall be furnished for each motor. A separate, panel mounted, 3 leg (three phase) overload relay or motor protector shall be supplied for each motor. Each leg of the overload relay shall be equipped with a properly sized overload heater. Electronic overloads are not acceptable. Contactor and overload relay shall be properly sized for the required horsepower, voltage and phase.
- 10. <u>Elapsed Time Meters</u>: Six digit, non-resetable elapsed time meters shall be mounted in the control panel enclosure inner door to record the running time of each pump.
- 11. <u>Condensation Strip Heater with Thermostat</u>: A strip heater shall be furnished to prevent condensation within the control panel enclosure. The heater shall be controlled by a panel mounted, adjustable thermostat.
- 12. <u>Phase & Voltage Monitor</u>: A phase failure, reversal and under voltage monitor shall be supplied to prevent the motors from running under low voltage, phase loss, or phase reversal conditions. The monitor shall lock out the control circuit until the problem is corrected and automatically reset. The phase and voltage monitor shall be adjustable.
- 13. <u>Lightning and Surge Suppressors</u>: Suitable lightning and transient level surge suppressors shall be provided to protect motors and control equipment from lightning induced or other line surges. Surge suppressors shall meet current UL standards.
- 14. <u>Thru Door Overload Reset Push Buttons</u>: Overload reset push buttons shall be provided for each overload relay. Push buttons shall be mounted so that with inner door closed, overload relays may be reset without entering high voltage compartment.
- 15. <u>Switches</u>: Heavy-duty industrial grade oil-tight 22mm switches shall be provided for each pump for "Hand/Off/Automatic" operation selection. All switch components shall be made of corrosion resistant metals and polyesters. Contact blocks shall be made of see-through polycarbonate for simplified inspection of contacts. Cams and strokers shall be Teflon impregnated for abrasion free service without lubrication. The switches required shall be as follows:



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16. <u>Pilot Lights</u>: Full voltage, push to test, heavy-duty industrial grade oil-tight pilot lights shall be provided. All pilot light components shall be made of corrosion resistant metals and polyesters. An insulated socket shall be furnished to eliminate the possibility of shock during bulb change. Bulb change shall not require removal of the socket. Bulbs shall be "super bright" LED type. Lens shall be 22mm and made of lexan. The pilot lights required shall be as follows:

Pilot Light Function	Voltage	Lens Color
(Name Plate)		
PUMP 1	120 VAC	GREEN
PUMP 2	120 VAC	GREEN

- 17. Seal Fail Alarm Circuit with Test Push Button (Required for Submersible Pumps and Motors): The control panel shall be equipped with a conductance actuated control relay that shall respond to current from a moisture sensor in the pump seal chamber. Relay contacts shall be rated at 10 amps minimum. All molded structural parts shall be of high mechanical and dielectric strength, structural dimensionally stable, arc resistant, thermosetting plastic. Base plate shall be high strength, diecast aluminum alloy. Solid state type relays shall not be considered acceptable for seal fail monitoring applications. An amber alarm pilot light shall illuminate upon alarm condition. Each pilot light shall include contacts that shall allow testing of the seal failure circuit and pilot light bulb by pushing. Bulb change shall not require removal of the socket. Bulbs shall be "super bright" LED type.
- 18. Seal Failure Circuit Test Push Button (Illuminated): Heavy-duty industrial grade oil-tight push buttons shall be provided for each submersible pump motor. All push button components shall be made of corrosion resistant metals and polyesters. An insulated socket shall be furnished to eliminate the possibility of shock during bulb change. Bulb change shall not require removal of the socket. Bulbs shall be "super bright" LED type. Lens shall be 22mm and made of lexan. The push buttons required shall be as follows:

Push Button Function (Name Plate)	Voltage	Lens Color
P1 SEAL FAIL	120 VAC	AMBER
P2 SEAL FAIL	120 VAC	AMBER

19. Pump Alternator Circuit (For Duplex Pump Operation): The electro-mechanical alternator relay shall be of industrial design specifically for use in pump applications. It shall have single-pole double-throw heavy-duty 10-amp silver cadmium oxide contacts enclosed in a transparent cover. The snap action contacts shall transfer when the unit is de-energized. The circuit shall never be closed or opened while current is being conducted. The alternator circuit shall

Section 800 – Wastewater Pumping Systems & Force Mains - Page 28 of 70 Effective Date: March 23, 2021 alternate the lead pump position between the pumps and shall allow the lag pump to start in response to a rising water level in the wet well. A four position switch shall be provided on the exterior of the pump control panel inner door. The switch shall have a position for: Pump 1, Pump 2, or Both.

- 20. <u>Control Relay(s)</u>: Plug-in control relays with 120-VAC coils shall be provided as required. Contact rating shall be 5-amps (minimum). Sockets shall be of the same manufacture as the relays and hold-down clips shall be furnished to prevent relay from sliding out of the socket. Relays shall have indicator lights showing when they are engaged.
- 21. <u>High Wet Well Level Alarm</u>: The control panel shall be provided with a suitable alarm circuit, activated by a separate level control. This alarm shall signal a high water condition in the wetwell. Terminals shall be furnished in the control panel for connection of externally mounted alarm devices. A red flashing light shall be provided as a visual alarm of the high water in the wet well condition. A continuous sounding alarm shall also be provided as an audible alarm of the high water in the wet well condition.
- 22. Liquid Level Controls: Level control will be achieved by means of a corrosion resistant level sensing **Pressure Transducer**. Float-actuated mercury level control switches shall serve as a backup for low level alarm and high level alarm functions. The mercury switch shall be encapsulated in polyurethane foam for corrosion and shock resistance. Level switches shall be weighted to hold desired position in the wetwell. The cord connection to the control shall be numbered 16-2, rated for 13-amps, and shall be type SJTO. To ensure optimum longevity contacts shall be rated for 20-amps at 115-VAC and shall be sealed in a heavy-duty glass enclosure. No junction boxes or cable splices of any kind will be allowed in the wet well. Level elevations shall be set in accordance with design drawings.
- 23. <u>High Temperature Shutdown Circuit(s)</u>: The pump motor high temperature circuit shall provide terminals for connection of the leads from the temperature sensor provided in the pump motor windings. Upon a high temperature condition in the pump windings, the control power to the pump motor contactor shall be disconnected, thus stopping the pump motor. The pump shall automatically restart when the pump motor temperature returns to an acceptable level.
- 24. <u>Ground Lug(s)</u>: Equipment ground lug(s) shall be provided for grounding the enclosure. The ground lug(s) shall be suitable for the service provided the enclosure sized per table 250-95 of the N.E.C. In all cases, the enclosure must be adequately grounded per article 250 of the N.E.C. except for fiberglass enclosures, where a grounding bus shall be provided.
- 25. <u>Terminals</u>: Terminals shall be provided for connecting mercury float switch leads, temperature sensor and seal fail sensor leads. Terminal blocks shall be rated for

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- 26. <u>Construction Standards</u>: Subpanel shall be drilled and tapped to accept machine thread bolts (self-tapping screws are not acceptable). All control wiring shall be 16-AWG machine tool wire, Carol type 76512 or equal. All control wire shall be color coded or numbered in accordance with applicable standards. Power (motor) shall be in accordance with the current National Electrical Code. Major groups of wires shall be contained in plastic wiring trough equal to Panduit type E.
- 27. <u>Nameplates</u>: All indicator lights, alarms, selector switches, pushbuttons and major control system components shall be identified with engraved phenolic plastic nameplates, white lettering on a black background.
- 28. <u>Control Panel:</u> The control panel shall include the following elements:
 - a) Separate Manual Disconnect for each pump with 2-pole adjustable overload protection for each phase;
 - b) Magnetic starter for each pump motor with all leg quick trip ambient compensated overload protection for each motor. Overloads are to have an auxiliary contact for automatic dialer;
 - c) Hand-Off-Auto selector switch for each pump;
 - d) Automatic Electric Alternator with ability to designate either Pump 1 or Pump 2 as lead;
 - e) Circuit Breaker for Control Circuit;
 - f) Motor Thermal protection Motor control circuit is to shut down if high temperature occurs. Manual resets to be provided;
 - g) MPE LPC420-R-RM Level Control Mode;
 - h) MPE Level Probe-Mode-LP-10;
 - i) Backup float system with 3 floats shall be included as backup to the MPE Level Control;
 - j) Test dial shall be provided to allow simulation of wet well level on MPE Control;
 - k) \geq 40 hpw shall be 'soft start';
 - I) Horn signaling;
 - m) Control Disconnect;
 - n) Seal failure light for each pump and contact closure for automatic dialer (submersible installations only);
 - o) High temperature light for each pump and contact closure for automatic dialer (submersible installations only);
 - p) Running light for each pump;
 - q) Non-resettable, elapsed time meter for each pump, reading in tenths of hours. Capacity 100,000 hours;
 - r) High-level alarm light with Red Globe and contact closure for automatic dialer (remote mounting for "package" pumps station where panel is inside pump compartment);

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- All necessary internal wiring, relays, etc. to provide the operation as described;
- t) All functions and internal wiring shall be labeled accordingly;
- u) Junction box shall be stainless steel and installed 4 feet above final grade to ensure water does not damage the internal wiring;
- v) Automatic Dialer / Scada;
- w) AC Voltmeter.

C. Alarm Dialer/SCADA/Telemetry

- 1. The pump station shall be provided with an alarm dialer in a lockable NEMA 4 enclosure. Hard line dialer units shall have a minimum of eight inputs and capable of additional expansion with battery backup and be the ANTX Dialer Scout or approved equal. The operating environment shall withstand from -5° Fahrenheit to 130° Fahrenheit with a 90% relative humidity, non-condensing. The alarm dialer shall operate on 120-VAC, and shall have a rechargeable battery backup capable of providing 4 hours of standby power with surge protectors on the power and telephone lines. The alarm dialer shall monitor high water conditions and grinder jams through normally open/normally closed contacts, shall have the capability of dialing four phone numbers, and shall work on a standard telephone service. The dialer shall be provided by a manufacturer listed on the design drawings. Seal failure and high temperature signals from all pumps shall be combined into a common "pump trouble" alarm to be transmitted from the dialer.
- 2. The pump station telemetry units shall be compatible with the Town's current SCADA system. The Town shall not be required to purchase additional software to operate the telemetry unit.

D. Grinders

- 1. <u>General</u>
 - a) A wastewater grinder shall be provided at each pump station for the intended purpose of grinding solids in the influent flow to the pump station.
 - b) The entire grinder unit and accessories necessary to provide a fully functional wastewater grinder system, shall be supplied and warranted by a single manufacturer. The list of acceptable manufacturers shall be identified on the design drawings.
 - c) The wastewater grinder shall be placed in a separate manhole or other influent structure prior to the wetwell, but still within the pump station site. The grinder shall be able to be removed from the influent structure without entering the influent structure by means of a stainless steel guide rail and stainless steel lifting chain with 4x6 lifting eyes at 10ft intervals starting at the top assembly. Another means of solids removal such as a trash basket or bar rack must be

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- d) The wastewater grinder shall be electrically driven. The electric motor shall be a minimum 5 hp, 60 Hz, appropriately sized immersible motor. The motor shall be NEMA Design "B" and TEFC.
- e) The wastewater grinder unit will have a complete and separate control panel providing all settings, monitoring, and control options required, as well as the ability to send alarm signals back to the alarm dialer and telemetry system.
- f) The equipment shall be installed as recommended by the manufacturer, and in compliance with all OSHA, local, state and federal codes and regulations.
- g) The grinder unit power supply shall match the pump station power supply. Standard pump station power supply is 3 phase AC power.
- h) Identification. Each unit of equipment shall be provided with a corrosion resistant substantial metal nameplate, securely affixed in a conspicuous place. Nameplate information shall include equipment model number, serial number, manufacturer's name and location, and important performance data.

2. Submittals

Submittals shall include electrical wiring diagrams complete for field wiring, terminal identifications, and control panel schematics. Electrical and control information shall be provided to allow coordination of field wiring to place the system in the desired operation. Submittals shall also include complete mounting and installation instructions, including size, length and spacing of all supports and anchor bolts. Submittals shall include painting instructions.

3. Quality Assurance

- a) All equipment shall meet the requirements of the following standards:
 - 1) ASTM A536-84 Standard Specifications for Ductile Iron Castings
 - 2) ASTM A36 Standard Specifications for Carbon Steel Plate
 - 3) AISI 304 Stainless Steel
 - 4) AISI 4140 Heat Treated Hexagon Steel
 - 5) AISI 4130 Heat Treated Alloy Steel
 - 6) AISI 1018 Carbon Steel
 - 7) 45-50 Rockwell C
 - 8) National Electrical Manufacturers Association (NEMA)
 - 9) National Electrical Code (NEC)
 - 10)Underwriters Laboratory (UL and cUL)

- b) Qualified manufacturers shall have a minimum of 5 years experience in the manufacturing of grinding and controlling equipment and a minimum of 20 installations at equivalent applications. Manufacturer shall submit a listing of names and dates of installations for verification by the Town of Apex Water Resources Department.
- c) System Controls.
 - Each grinder system shall be provided with a single control panel suitable for mounting on an electrical rack, building wall, or as a secondary panel located under the weathershield. The control panel shall include all power and control circuits to provide the functional requirements specified herein.
 - 2) A programmable controller shall be included in the panel. The programmable logic controller shall talk directly with the SCADA PLC without a third party communication device. Upon the grinder encountering a jam or overload condition, the controller shall stop the grinder and screen and reverse their direction of rotation to clear the obstruction. If the jam is cleared, the controller shall return to normal operation. If the jam condition persists, the controller shall repeat the reversing cycle up to eight additional times within 45-seconds (total of nine cycles) before signaling a grinder overload condition. Upon a grinder overload condition, the controller shall shut down the grinder and screen and activate an overload contact.
 - 3) If a power failure occurs while the grinder is running, the grinder shall resume running when power is restored. A 0-60 second adjustable time delay device shall be included in the control panel to select time delay until restart after power restoration. If the grinder is stopped due to an overload condition and a power failure occurs, the overload indicator shall reactivate when power is restored.
 - 4) The control panel shall provide overcurrent protection. The overload relay shall be adjustable so that the range selected includes the FLA rating and service factor. Grinder control panel shall be positioned either under the weather shield at the electrical riser or in the control building if included. A standalone control panel will not be accepted.
 - 5) The control panel shall be equipped with a Hand-Off/Reset-Auto (HOA) selector switch. In the Off/Reset position, the motor shall not run. In the Hand position, the motor shall run continuously. In the Auto position, the grinder shall stop and start by remote control signal. The control panel shall include dry contacts for future addition by others of a remote maintained contact start/stop control signal when in Auto mode. The control panel shall not allow remote resetting of overload condition. Overload reset shall be accomplished by switching the HOA switch to the Off/Remote position.

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- 6) The controller shall indicate each of the following statuses with an indicator light on the panel face:
 - 1) Power On
 - 2) Grinder Overload
 - 3) Motor Overload
 - 4) Run
- 7) Engraved phenolic laminate plastic identification nameplates, with white letters on black background, shall be provided for each switch, indicator light, gauge, etc. on the control panel and in the system.
- 8) The controller shall be properly rated three phase power, 60 Hertz.
- 9) A single enclosure shall house all power and control devices, relays, terminal blocks and motor starter. Control and indicating devices shall be mounted in the front of the enclosure. Indicating lights shall be integral transformer type with low voltage long life 6-volt lamps. Lamps and selector switches shall be heavy duty type. The control panel and all control devices shall be NEMA 4X. Enclosure shall be a NEMA 4X fiberglass reinforced polymer equipped with full hinged door, suitable for exterior mounting as shown on the drawings.
- 10)A lockable disconnect switch shall be provided on the outside of the control panel to disconnect power to the entire grinder system.
- 11)One set of normally open (NO) contacts shall be provided in the control panel for remote indication of each of grinder "fail" and grinder "run" status. Grinder overload, motor overload, oil overtemperature, low oil level and oil pressure alarms shall be ganged together to a common grinder "fail" alarm. The control panel shall provide 120 VAC power to these alarm circuits for remote indication at an existing alarm dialer system.
- 12)Contacts shall be provided for a future remote maintained contact emergency stop pushbutton, to be provided by others. These contacts shall be jumpered.
- 13)Motor starter shall be full voltage type with 120-volt operating coil and captive terminal screws. Overload relay shall be mounted directly to the contactor. The relay shall be sized to the motor full load amperage (FLA).
- 14)Control panel shall incorporate a manual momentary or spring return reversing switch for grinder control.
- d) Spare Parts
 - 1)The following spare parts shall be provided for each grinder as a minimum:

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- 1) Three (3) of each type of fuse found in the system
- 2) Three (3) of each type of lamp bulb found in the system

2)The motor controller shall have sufficient space within its enclosure for the storage of motor controller spare parts. Grinder spare parts shall be packaged in suitable containers for long term storage and shall bear labels clearly designating the contents of each package and the equipment for which they are intended.

E. Generators

- 1. General
 - a) Backup power shall be provided by an automatically starting on-site generator controlled by an automatic transfer switch. The generator shall be capable of supplying all necessary electrical power for complete operation of the pump station in the event of a failure of the electrical feed supplied by the local grid.
 - b) The entire generator set, switchgear, and accessories necessary to provide a fully functional backup power system, shall be supplied and warranted by a single manufacturer. The standby power generator set shall be Cummins, Kohler, Caterpillar, Generac, or Blue Star.
 - c) Each engine-generator unit, controls, and transfer switch shall be new and a standard product of a single manufacturer and shall be a packaged type unit, fully shop assembled, wired and tested, requiring no field assembly of critical moving parts.
 - d) The generator shall be sized to sequentially start and continuously run all pumps, motors, and other electrical equipment at the pump station site. Simultaneous starting of pumps is not required. The pump starting conditions (including delay timers, VFDs, soft starts, reduced voltage starters, etc.) should be verified for the particular site. The kW rating needed for a particular pump station shall be calculated by a licensed professional engineer by the generator manufacturer.
 - e) The voltage, amps, phase, etc., shall be coordinated with the design of the electrical equipment for the particular site. Generators will be 3 phase, 60 hertz, and capable of multiple voltages through re-strapping.
 - f) The engine generator set will have a complete and separate control panel mounted inside the generator enclosure providing all settings, monitoring, and control options required, as well as the ability to send alarm signals back to the alarm dialer and telemetry system.

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- g) Each unit of equipment shall be provided with a corrosion resistant substantial metal nameplate, securely affixed in a conspicuous place. Nameplate information shall include equipment model number, serial number, manufacturer's name and location, and important performance data.
- h) If the generator is elevated 30 inches or greater from the existing grade, a walk way with handrails shall be installed for access to all generator components.
- i) The engine-generator set supplier shall be an authorized dealer of the enginegenerator set manufacturer and shall be fully qualified and authorized to provide service and parts for the engine and generator 24 hours per day, 7 days per week from a location within a 100-mile radius of the installation site.

2. Submittals

- a) The Contractor shall submit to the Town of Apex Water Resources Department, complete shop drawings for assembly and installation, together with detailed specification and data covering materials, drive unit, parts, devices and accessories forming a part of the equipment furnished, with the submittals section. The data and specifications for each unit shall include, but shall not be limited to, the following:
 - 1) Manufacturer, model, and type: engine, alternator, enclosure, battery charger and battery, silencer, switchgear, transformer, etc.
 - 2) Listing of standard and optional accessories.
 - 3) Engine output horsepower and efficiency curves at specified conditions.
 - 4) Engine mechanical data including heat rejection, exhaust gas emission data (maximum values at loads of 1/4, 1/2, 3/4, and full for: carbon monoxide (CO) (lb/hr), nitrogen oxides (NOx)(lb/hr), temperature (F), flow (ACFM)), combustion air and ventilation air flows, and fuel consumption at specified conditions.
 - 5) Generator electrical data including temperature and insulation data, winding pitch, cooling requirements, excitation ratings, voltage regulation, voltage regulator, efficiencies, waveform distortion and telephone influence factor.
 - 6) Ratings at specified conditions: engine (net horsepower), engine (maximum performance horsepower bare engine), generator kW at specified power factor, volts, amperes.
 - 7) Overall dimensions (length, width, height) and net weight.

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- Concrete pad recommendation (including size, length, and spacing of all necessary supports and anchor bolts) and layout/stub-up locations for electrical conduits.
- Wiring diagrams and schematics for the entire system, including the engine control panel, generator breaker, automatic transfer switch, auxiliary transformer, and remote alarm indicators.
- 10)Calculations or test results showing compliance with specified motor starting and voltage dip requirements.
- 11)Line circuit breaker rating.
- 12)Control panel layout, identifying location of all instrumentation being supplied.
- 13)Operation instructions.
- 14)Letter from the engine-generator manufacturer confirming that the unit will provide the specified minimum kW rating at the specified design conditions and time duration.
- 15)Battery sizing calculations.

16)Battery charger sizing calculations.

- 17)Maximum output short circuit kvA available.
- 18)A certificate of compliance, when required.

19)Manufacturer's and dealer's written warranty.

- 3. Quality Control
 - a) Except where modified or supplemented by these Specifications, all equipment and materials shall be designed and constructed in accordance with the latest applicable requirements of the standard Specifications and codes of ANSI, ASTM, NEMA, IEEE, DEMA, EEI, HEI, ISO, NFPA, SAE, NEC, UL508, and other such regularly published and accepted standards as well as state and local codes.
- 4. Generator Equipment
 - a) Engine.

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- Engine shall be compression ignition type diesel, propane, or natural gas powered. Diesel fueled generators may be considered on large installations and shall be 4 stroke, liquid cooled, American made, with a minimum of 130 HP, or equal. Propane and natural gas fueled generators shall be specified on all small (less than 50 kW) stations. Any variance to this requirement shall be approved by the Water Resources Director.
- 2) Engine shall operate at an RPM of no more than 1800.
- 3) The engine will be equipped with an electronic governor to maintain 4% droop from no load to full load and +/-0.25% steady state. The electronic governor control shall be furnished as a complete governor and control package.
- 4) Engine shall have a dry type air cleaner, coolant, fuel filters, and oil filters with replaceable elements.
- 5) Engine shall be liquid cooled and shall have a radiator, coolant pump, thermostat, and fan. Air cooled engines may be approved by the Town for installation of less than 10 kW.
- 6) Governor shall be mechanical flyweight type with a speed regulation of 5 percent maximum.
- Lubrication shall be by a positive displacement lube oil pump with positive pressure lubrication to all bearings. Full flow lube oil filter shall be provided.
- 8) Starting system shall be 12 volts, 35 amps with solid state voltage regulator. A battery float charger shall be provided.
- 9) An engine block heater shall be provided with control thermostat. The unit shall be 120 volt.
- b) Generator.
 - 1) The synchronous generator shall be a single bearing, self-ventilated, dripproof design in accordance with NEMA MG 1 and directly connected to the engine flywheel.
 - 2) Voltage regulation shall be within +/-0.5% at steady state from no load to full load. The momentary voltage drop shall not exceed the specified percent without starter coils dropping out or stalling the engine at any time when applying or starting the specified loads. Recovery to stable operation shall occur within 2 seconds. Unit shall be capable of adjusting voltage under varying load conditions within 16 milliseconds.

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- 3) The voltage regulator shall be a totally solid state design, and include electronic voltage buildup, volts per hertz regulation, overexcitation protection, shall limit voltage overshoot on startup, and shall be environmentally sealed.
- 4) The insulation material shall meet NEMA standards for Class H insulation and be fungus resistant.
- 5) The generator shall be a self-excited generator type. The excitation system shall be of brushless construction.
- 6) The generator shall be supplied with a 240V single phase anti-condensation heater protected by a circuit breaker inside the main control panel. When the generator set is not running the heater is automatically connected to the AC supply through a power relay mounted in the control panel. Upon receiving a start signal the AC supply is automatically disconnected by the power relay and automatically reconnected when the start signal is removed and the engine has stopped. A temperature set point shall determine the start and stop signal.
- 7) A sound retention enclosure shall be installed rated to a maximum decibel level of 65.
- c) Fuel System.
 - 1) Each engine-generator unit shall be furnished with a complete fuel system, including an integral fuel tank, fuel filter, fuel shut off valve, air filter, pressure regulator (if applicable), and piping along with all other accessories as required for proper operation. All items shall be suitable for the specified fuel and located inside the enclosure above the base plate and serviceable from inside the enclosure. The fuel system shall conform to NFPA 58.
 - 2) The fuel tank shall have a capacity of at least 250 gallons to provide fuel for a minimum run time of 72 continuous hours at 100% prime load.
 - 3) The fuel tank shall be double walled with a rupture basin of 110% capacity. It shall be pressure tested for leaks prior to shipment and have all necessary venting per US142 standards. A locking fill cap, a mechanical reading fuel level gage, low fuel level alarm contact, and fuel tank rupture alarm contact shall be provided. The fuel system shall require a polishing/filtration system for larger units to be determined by the Town. Any drain lines shall associated with the generator need to include brass plugs. Plastic plugs will not be accepted.
 - 4) Fuel piping shall be designed for a working pressure of 250 psi. Sizing shall be in accordance with the manufacturer's recommendations, but not less than ½ inch in diameter.

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- 5) A vapor withdrawal system shall be installed, to include a manual shut-off valve at the tank(s), a vaporizer, dry fuel filter, line service regulator, solenoid fuel shut-off valve to pen when engine runs, flexible pipe connection at the engine, and a gas flow regulator.
- 6) An 80% charge of propane in the propane storage tank shall be provided at the time of final acceptance.
- 7) Complete charges of antifreeze and oil shall be provided.
- d) Lubrication.
 - Equipment shall be adequately lubricated by systems which require attention no more frequently than weekly during continuous operation. Lubrication systems shall not require attention during startup or shutdown and shall not waste lubricants.
 - 2) Lubricants shall be provided in sufficient quantities to fill all lubricant reservoirs and to replace all consumption during testing, startup, and operation prior to acceptance of equipment. Unless otherwise specified or permitted, the use of synthetic lubricants will not be acceptable.
 - 3) Lubrication facilities shall be convenient and accessible. Oil drains and fill openings shall be easily accessible from the normal operating area or platform. Drains shall allow for convenient collection of waste oil in containers from the normal operating area or platform without removing the unit from its normal installed position.

e) Alternator.

- Alternator shall be revolving field, broad range, brushless type designed for minimum resistance, low voltage, waveform distortion, and maximum efficiency. Rotor shall be dynamically balanced permanently aligned to engine by flexible disc coupling. Maximum allowable voltage dip shall be 30%.
- 2) Exciter shall be 3 phase, full-wave rectified with silicon diodes mounted on a common motor shaft, sized for maximum motor starting.
- Voltage regulator shall be solid state with silicon-controlled rectifiers with phase controlled sensing circuits.
- 4) Temperature rise at rated load shall be within limits for class F insulation in accordance with NEMA MG 1-22.40.

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- Insulation system shall be Class F in accordance with NEMA MG1-1.65. Rotor shall be vacuum impregnated with 100% solid epoxy resin for complete environmental protection. Stator shall be impregnated twice with varnish conforming to MIL-I-24092, Type M, Class 155.
- 6) Output circuit breaker shall be 3-pole, rated at 145% of alternator full load current.
- f) Exhaust System.
 - Each engine-generator unit shall be furnished with a complete exhaust system including an exhaust silencer, exhaust piping, expansion joints, and accessories as required for a complete operating system.
 - 2) A rain cap shall be provided to prevent rain from entering the exhaust pipe. The rain cap shall open from exhaust pressure from the engine and shall close when exhaust flow tops. The cap shall be stainless steel counterbalancing with vertical discharge.
- g) Starting System.
 - 1) Each engine-generator unit shall be furnished with a complete electric motor start system including starting motors, maintenance free starting batteries, battery pack with rack, cables, and battery charger.
 - 2) The engine starter shall be a 12-volt DC or 24-volt DC, solenoid shaft, electric starting system with positive engagement.
 - 3) The batteries shall be of the high rate, diesel starting, lead acid type. The batteries shall be sized for five 10 second cranks with battery and engine oil temperature of 30 degrees F and a battery end voltage of 70 percent of system voltage.
 - 4) The battery charger shall be current limiting and shall be furnished to automatically recharge the batteries. The charger shall be dual charge rate with automatic switching to the boost rate when required. Output voltage regulation shall not exceed 1%. The charger shall include temperature compensation, NEMA 2 corrosion resistant enclosure, overload protection, silicon diode full wave rectifiers, voltage surge suppressor, DC ammeter, DC voltmeter, and fused AC input, on/off switch, remote annunciation of loss of AC power, low battery voltage, and high battery voltage, AC input and DC output circuit breakers or fuses, floating voltage equalization, equalizing timer. AC input voltage shall be 120 volts or 240 volts, single phase.

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- 5) The battery charger shall have a DC output suitable to supply power for all continuous loads and to recharge the batteries from a full discharge state to normal operating voltage within 8 hours.
- 6) The batteries, battery rack, and battery charger shall be located within the engine-generator enclosure. The battery rack frame shall be constructed of corrosion resistant material.
- 7) The engine-generator shall automatically supply power to the battery charger when it is operating and utility power is not available.
- h) Cooling System.
 - Each engine-generator unit shall be cooled with unit-mounted radiator cooling system complete with radiator, expansion tank, water pump, beltdriven fan, fan guard, thermostatic temperature control, high-water temperature cutout, and all accessories as required for proper operation. The radiator shall be sized to provide sufficient capacity for cooling of the engine and all other accessories required for proper operation at an ambient temperature of 125 degrees F and taking into account the enclosure static pressure restriction. The fan shall draw air over the engine and discharge through the radiator.
 - 2) The cooling system shall be filled with a permanent antifreeze mixture of the ethylene glycol type with rust inhibitor.
 - 3) The engine generator unit shall have a 240V coolant heater protected by a safeguard breaker inside the main control panel. A controller shall be included to regulate the output temperature to within safe limits. When the generator set is not running the heater is automatically connected to the AC supply trough a power relay mounted in the control panel. Upon receiving a start signal the AC supply is automatically disconnected by the power relay and automatically reconnected when the start signal is removed and the engine has stopped.
- i) Enclosure.
 - 1) The engine-generator unit, fuel system, control panel, battery rack, battery charger, power panel, exhaust silencer, and other ancillary equipment, shall be housed in a weatherproof enclosure.
 - 2) The enclosure shall consist of a roof, side walls, and end walls, and shall be weatherproof and sufficiently sealed to prevent the entry of rodents.
 - 3) The enclosure shall be constructed of 12 gage or heavier metal panels that can be easily removed, or doors.

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- 4) Doors shall be lockable with stainless steel hardware for access to the engine-generator, controls, and accessories. Doors shall also provide easy accessibility for maintenance. Doors shall have lock arm to prevent swinging when open.
- 5) The enclosure shall be provided pre-wired, requiring only external connection to the power panel and ATS.
- 6) Lube oil and coolant drains shall be extended to the exterior of the enclosure and terminated with drain valves.
- 7) All moving parts inside of enclosure, including cooling fan and charging alternator, shall be fully guarded to prevent injury.
- 8) Lifting points shall be provided on base frame suitable for lifting combined weight of base tank, engine generator unit, and enclosure.
- 9) An LED floodlight shall be provided inside and outside the enclosure to illuminate the generator equipment located within the interior of the enclosure. The floodlight shall be provided with a switch mounted on the generator control panel.
- j) Control System.
 - 1) Provide a generator set mounted control panel for complete control and monitoring of the engine and generator set functions. Critical components shall be environmentally sealed to protect against failure from moisture and dirt. Components shall be housed in a NEMA 1/IP22 enclosure with hinged door secured with a twist lock latch. The panel door will have a voltage shunt switch. The panel itself shall be mounted on a separate support stand shall be mounted inside the enclosure such that the face of the panel faces outward and is isolated from vibrations of the engine/generator arrangement. Panel/breaker arrangements shall be mounted in such a manner as to not restrict access to the generator, engine, or other parts of the system that need periodic maintenance or repair.
 - 2) The control panel shall be automatic and safety type and shall include at least all items required by NFPS 110 Level 1.
 - 3) Panel shall include the following instrumentation and controls (at a minimum): AC voltmeter, AC ammeter, frequency/tachometer, engine running hours, coolant temperature gauge, lube oil pressure gauge, battery condition voltmeter, run/off/auto switch, emergency stop push-button, lamp test pushbutton, 7 position voltmeter phase selector switch, 4 position ammeter phase selector switch, 3 attempt start timer, cool down timer,

Section 800 – Wastewater Pumping Systems & Force Mains - Page 43 of 70 Effective Date: March 23, 2021 remote start/stop terminals for 2-wire starting from ATS, charge rate ammeter, and exciter circuit breaker with manual reset.

- 4) Panel shall include the following emergency shutdowns with individual warning lamps (at a minimum): fail to start, high coolant temperature, low lube oil pressure, overspeed, overcrank protection, and alarm contact for auto-dialer (generator fail signal)
- 5) Panel shall include the following alarms with individual warning lamps (at a minimum): approaching low oil pressure, approaching high engine temperature, low/high battery voltage, battery charger failure, control switch not in auto mode.
- 6) Panel shall have at least 2 spare shutdown channels and 1 spare alarm channel and 4 additional fault channels for shutdown or alarm programming.
- 7) Panel shall have the ability to send up to 8 channels back to the existing SCADA system at the pump station.
- 8) Engine generator unit shall be provided with a fuel level gauge indicating relative fuel tank level in % values.
- 9) The panel shall be provided with a switched light that illuminates the panel face.
- 10)The panel shall include a stainless steel canopy with LED hood lights.
- k) <u>Circuit Breaker.</u> Provide a generator mounted, molded case or insulated case construction, UL rated, 3 pole, and circuit breaker, sized as required. Breaker shall utilize a thermal magnetic trip. Breaker shall be housed in a steel NEMA 1 enclosure mounted on a separate support stand vibration isolated from the engine/generator arrangement. Bus bars, sized for the cable type shown on drawing, shall be supplied on the load side of breaker.
- <u>Receptacles.</u> The engine generator will be supplied with two 120V, 20 amp duplex receptacles and two 120V, 20 amp twist lock receptacles. Receptacles will have individual circuit breakers, and will be placed inside the enclosure or will have weatherproof covers.
- m) Shop Painting.
 - All steel and iron surfaces shall be protected by suitable coatings applied in the shop. Surfaces which will be inaccessible after assembly shall be protected for the life of the equipment. Coatings shall be suitable for the environment where the equipment is installed. Exposed surfaces shall be finished, thoroughly cleaned, and filled as necessary to provide a smooth,

Section 800 – Wastewater Pumping Systems & Force Mains - Page 44 of 70 Effective Date: March 23, 2021 uniform base for painting. Electric motors, engine, alternator, enclosure, piping, and valves shall be shop primed and finish painted prior to shipment to the site.

- 2) Stainless steel, nonferrous, and nonmetallic surfaces shall not be painted.
- n) <u>Power Transformer</u>. An externally mounted power transformer shall be supplied to provide required 240V single phase power to the coolant heater and anti-condensation heater for each engine generator unit. The amp load shall be calculated by a licensed engineer or the generator manufacturer.

F. Automatic Transfer Switch

 An automatic transfer switch (ATS) shall be provided on all pump stations for switching power to the onsite backup generator when normal grid power fails. The ATS shall be provided by the same manufacturer as the generator, and included under the same warranty as the generator.

2. General

- a) The ATS shall be rated for the voltage and ampacity as shown on the plans and shall have 600 volt insulation on all parts in accordance with NEMA standards.
- b) The current rating shall be a continuous rating when the switch is installed in an unventilated enclosure, and shall conform to NEMA temperature rise standards. Designs which require cabinet ventilation are unacceptable and do not meet this Specification.
- c) The unit shall be rated based on all classes of loads, i.e., resistive, tungsten, ballast and inductive loads. Switches rated 400 amperes or less shall be UL listed for 100% tungsten lamp load.
- d) As a precondition for approval, all transfer switches complete with accessories shall be listed by Underwriters Laboratories, under Standard UL 1008 (automatic transfer switches) and approved for use on emergency systems.
- e) The withstand current capacity of the main contacts shall not be less than 20 times the continuous duty rating when coordinated with any molded case circuit breaker established by certified test data. Refer to required withstand and close ratings as detailed in this Specification.
- f) Temperature rise tests in accordance with UL 1008 shall have been conducted after the overload and endurance tests to confirm the ability of the units to carry their rated currents within the allowable temperature limits.

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- g) Transfer switches shall comply with the applicable standards of UL, CSA, ANSI, NFPA, IEEE, NEMA, and IEC.
- h) The transfer switches shall be supplied with a microprocessor based control panel as detailed further in these Specifications.
- i) The transfer switch shall be capable of detecting if the source switch was successful and if the pump station is receiving power. It shall also be capable of transmitting a failure signal if it was not successful in switching sources and the pump station is not receiving power.
- 3. Sequence of Operation
 - a) The ATS shall incorporate adjustable three phase under-voltage sensing of the normal source and emergency source.
 - b) When the voltage of any phase of the normal source is reduced to 80% of nominal voltage, for a period of 0-10 seconds (programmable) a pilot contact shall close to initiate starting of the engine generator.
 - c) When the emergency source has reached a voltage value within 10% of nominal voltage and achieved frequency within 5% of the rated value, the load shall be transferred to the emergency source after a programmable time delay.
 - d) When the normal source has been restored to not less than 90% of rated voltage on all phases, the load shall be re-transferred to the normal source after a time delay of 0-30 minutes (programmable). The generator shall run unloaded for 5 minutes (programmable) and then automatically shut down. The generator shall be ready for automatic operation upon the next failure of the normal source.
 - e) If the engine generator should fail while carrying the load, retransfer to the normal source shall be made instantaneously upon restoration of proper voltage (90%) on the normal source.
 - f) The transfer switch shall be equipped with a microprocessor based control panel. The control panel shall perform the operational and display functions of the transfer switch. The display functions of the control panel shall include ATS position and source availability.
 - g) The front panel display shall include indicators for timing functions, capability to bypass the TD on transfer or retransfer, and an ATS test switch and afford on-board diagnostic capability.
 - h) The control panel shall be provided with calibrated pots (accessible only by first opening the lockable cabinet door) to set time delays, voltage and frequency

Section 800 – Wastewater Pumping Systems & Force Mains - Page 46 of 70 Effective Date: March 23, 2021 sensors. Designs which make use of DIP switches to render such adjustments are not acceptable. The ATS shall be capable of being adjusted while the controls are energized and the unit in automatic mode. Designs which force a "programming mode" or require the controls be de-energized during adjustment are unacceptable.

- The control panel shall be opto-isolated from its inputs to reduce susceptibility to electrical noise and provided with the following inherent control functions and capabilities:
 - 1) An LED display for continuous monitoring of the ATS functions.
 - 2) Built-in diagnostic display.
 - 3) Capability to support external communication and network interface through an optional RS 485 port.
 - 4) Mechanical test switch to simulate a normal source failure.
 - 5) Time delay to override momentary normal source failure prior to engine start. Field programmable 0-10 minutes (continuously adjustable via a calibrated potentiometer factory set at 3 minutes).
 - 6) Time delay on retransfer to normal source, continuously adjustable 0-30 minutes, factory set at 15 minutes. If the emergency source fails during the retransfer time delay, the transfer switch controls shall automatically bypass the time delay and immediately retransfer to the normal position.
 - 7) Time delay on transfer to emergency, continuously adjustable 0-15 minute, factory set at 1 minute.
 - 8) An in-phase monitor shall be provided. The monitor shall compare the phase angle difference between the normal and emergency sources and be programmed to anticipate the zero crossing point to minimize switching transients.
 - 9) An interval-type automatic clock exerciser shall be incorporated within the microprocessor.
 - 10)Provide a momentary pushbutton to bypass the time delays on transfer and retransfer.
- 4. Construction and Performance

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- a) The automatic transfer switch shall be of double throw construction operated by a reliable electrical mechanism momentarily energized. There shall be a direct mechanical coupling to facilitate transfer in 6 cycles or less.
- b) The normal and emergency contacts shall be mechanically interlocked such that failure of any coil or disarrangement of any part shall not permit a neutral position.
- c) For switches installed in systems having ground fault protective devices, and/or wired so as to be designated a separately derived system by the NEC, a 4th pole shall be provided. This additional pole shall isolate the normal and emergency neutrals. The neutral pole shall have the same withstand and operational ratings as the other poles and shall be arranged to break last and make first to minimize neutral switching transients. Add-on or accessory poles that are not of identical construction and withstand capability are not acceptable.
- d) The contact structure shall consist of a main current carrying contact, which is a silver alloy with a minimum of 50% silver content. The current carrying contacts shall be protected by silver tungsten arcing contacts on all sizes above 400 Amps.
- e) The transfer switch manufacturer shall submit test data for each size switch, showing it can withstand fault currents of the magnitude and the duration necessary to maintain the system integrity. Minimum UL listed withstand and close into fault ratings shall be as follows:

Any molded case breaker:				
<u>Size (Amps)</u>	(RMS Symmetrical)			
Up to 200	10,000			
201-260	35,000			
261-400	35,000			
401-1200	50,000			
1201-4000	100,000			
Specific coordinated breakers:				
<u>Size (Amps)</u>	(RMS Symmetrical)			
Up to 150	30,000			
151-260	42,000			
261-400	50,000			
401-800	65,000			
801-1200	85,000			
1201-4000	100,000			
Current limiting fuse:				
<u>Size (Amps)</u>	<u>(RMS Symmetrical)</u>			

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Up to 4000

200,000

*All values 480 volt, RMS symmetrical, less than 20% power factor.

- f) A dielectric test at the conclusion of the closing tests shall be performed.
- g) The automatic transfer switch manufacturer shall certify sufficient arc interrupting capabilities for 50 cycles of operation between a normal and emergency source that are 120 degrees out of phase at 480 volts, 600% of rated current at 0.50 power factor. This certification is to ensure that there will be no current flow between the two isolated sources during switching.
- h) All relays shall be continuous duty industrial type with wiping contacts. Customer interface contacts shall be rated 10 amperes minimum. Coils, fuses, relays, timers and accessories shall be readily front accessible. The control panel and power section shall be interconnected with a harness and keyed disconnect plugs for maintenance.
- i) Main and arcing contacts shall be visible without major disassembly to facilitate inspection and maintenance.
- j) A manual handle shall be provided for maintenance purposes with the switch de-energized. An operator disconnect switch shall be provided to defeat automatic operation during maintenance, inspection, or manual operation.
- k) The switch shall be mounted in a NEMA 3R enclosure unless otherwise indicated on the plans.
- Switches composed of molded case breakers, contactors or components thereof not specifically designed as an automatic transfer switch will not be acceptable.

804 Odor/Chemical Facilities

- Odor control measures shall be evaluated for all possible sources of odor related to wastewater pumping systems. Source locations to be analyzed shall include, but not be limited to, the wetwell at the pump station, the force main discharge location, and force main air release valves. Odor control measures to be analyzed shall include, but not be limited to, oxidizing agent added to the wastewater, odor masking agents added to the air, activated carbon treatment, biofilter treatment, and wet scrubber treatment. Final determination of appropriate odor control measures shall be made by the Director of Water Resources.
- 2. Solutions that include chemical feed must consider the feasibility of chemical delivery to the site, provide appropriate chemical storage facilities including

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secondary containment, and must incorporate chemical feed systems as listed in the Town of Apex Approved Manufacturers List.

3. Odor control facilities not located on the pump station site (air release valves and discharge points, for instance) shall be constructed in underground vaults or if necessary to be above ground, shall be house inside a structure. Appropriate consideration shall be given to changing media or supplying chemical at the remote locations, as well as the safety of the maintenance staff while servicing the systems.

805 Inspections, Testing, and Training

A. Inspections

- All materials and equipment used in the construction of the wastewater pumping system must be verified for compliance with the Specifications (or other approval granted by the Town) by the Infrastructure Field Technician prior to installation. Non-conforming materials or equipment shall be immediately removed from the job site.
- 2. Compliance with plans and Specifications shall be verified on a regular basis by the Infrastructure Field Technician.

B. Testing

- 1. General
 - a) The Contractor shall furnish all materials, labor, and equipment to perform all testing and start up services. Water for testing purposes may be obtained from the Town of Apex. The Contractor shall reimburse the Town for all water used at Inside Utility Rates.
 - b) All water or wastewater used during testing of the pump station, force main, or any of the systems described in this section, must be returned to the Town of Apex sanitary sewer system after proper coordination with the Town of Apex Department of Public Works and Utilities.
 - c) Before the operational tests are conducted, the required copies of the Operation and Maintenance Manuals shall be delivered to the Town.
 - d) The Town reserves the right to require further testing, as necessary, to assure that all components and infrastructure are performing in accordance with the manufacturer recommendations and Town Specifications. All testing, repairs and/or readjustments, and necessary re-testing, shall be at no additional cost to the Town.

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- e) All on-site testing and/or installation verification shall be performed in the presence of the Infrastructure Field Technician or other representative authorized by the Town.
- f) All testing, installation verification, and training, shall be performed in the presence of, or by, an experienced, competent, and authorized manufacturer's representative.
- g) Factory testing shall consist of testing all operating functions of the equipment under varying operating conditions to assure that it will perform as specified. Any specific testing that may be required is discussed under the individual equipment items below. Results of factory testing shall be presented to the Town prior to delivery of the equipment.
- h) Installation Verification shall consist of a visit to the site by a manufacturer's representative to inspect, check, adjust if necessary, and approve the equipment installation. The manufacturer's representative shall certify that the equipment has been properly installed and lubricated, is in accurate alignment, and is free from any undue stress imposed by connecting piping or anchor bolts. Any specific verification requirements are discussed under the individual equipment items below. Results of the installation verification shall be presented to the Town prior to start-up of the equipment.
- i) On-Site Testing shall consist of all manual and automatic operating functions under various operating conditions, including full load conditions. The equipment shall also be tested under adverse or emergency conditions. All alarms and remote signals shall also be tested. Any specific testing that may be required is discussed under the individual equipment items below. Results of the on-site testing shall be presented to the Town prior to final acceptance of the project.
- All functions and systems of the pump station, even those not specifically listed below, shall be tested to ensure proper operation under normal and emergency situations.
- k) All defective equipment or malfunctioning systems shall be replaced or corrected, and the full system placed in a fully operational condition to the satisfaction of the Infrastructure Field Technician.
- Results of all factory testing, installation certifications, and on-site operational testing shall be provided to the Town of Apex in the final construction documents as described in the Submittals portion of this Specification section.
- 2. Pump Testing

- a) Each pump shall be tested at the factory for capacity, power requirements, and efficiency at specified rated head, shutoff head, operating head extremes, and at as many other points as necessary for accurate performance curve plotting. All tests and test reports shall conform to the requirements and recommendations of the Hydraulic Institute Standards. Acceptance testing shall be Level A, with no minus tolerance or margin allowed. The test result report shall include data and test information as stipulated in the Hydraulic Institute Standards, copies of the test log originals, test reading to curve conversion equations, and certified performance curves. The curves shall include head, bhp (brake kW), pump efficiency, and shop test NPSH available, plotted against capacity. The curves shall be easily read and plotted to scales consistent with performance requirements. All test points shall be clearly shown.
- b) All pumps shall receive installation verification.
- c) On-site testing shall be performed to the maximum extent possible (flow availability could limit the range of testing conditions).

3. Grinder Testing

- a) Each grinder unit shall be factory tested.
- b) Each grinder unit shall receive installation verification.
- c) Each grinder unit shall receive on-site testing.
- 4. Generator Testing
 - a) Each engine generator set shall be fully assembled with its control panel and factory tested to demonstrate that the equipment conforms to specified requirements for load capacity. The tests shall consist of repeated starts and stops operation under a load bank at specified capacity for a minimum of 4 continuous hours, and tests to demonstrate that each safety shutdown device is working properly.
 - b) Each engine generator set shall receive installation verification.
 - c) Each engine-generator set shall receive on-site testing to demonstrate that the equipment conforms to specified requirements for load capacity, and starting duty. The complete system (engine, generator, control panel, and automatic transfer switch) shall be field tested together by the manufacturer or manufacturer's representative as a complete system to assure compatibility. A resistive load bank with temporary connections shall be provided to complete the field testing. Each unit shall be mechanically checked for proper operation. Each alarm and safety shutdown shall be checked by artificially simulating an alarm condition. The testing shall consist of repeated starts and stops, a "cold"

Section 800 – Wastewater Pumping Systems & Force Mains - Page 52 of 70 Effective Date: March 23, 2021 start", normal operation under full load conditions at the specified power rating for a minimum of four continuous hours, and a one step rated load pickup test in accordance with NFPA 110. The following items shall be measured, recorded, and submitted in a field test report: outdoor ambient temperature, barometric pressure, kW output, engine speed (RPM), engine jacket water temperature, engine oil pressure, start time, completion time. Test reports shall verify that the specified tests have been performed and shall state results.

5. Automatic Transfer Switch Testing

- a) Each automatic transfer switch shall receive field verification.
- b) Each automatic transfer switch shall receive on-site testing in conjunction with the engine generator. At a minimum, the main power supply from the commercial power grid shall be cut and the switch shall automatically properly transfer the power feed to the standby generator.

6. Control System Testing

- a) All electrical, instrumentation, control, and telemetry systems shall receive onsite testing to ensure complete operation of all systems. At a minimum the testing shall include the following:
 - 1) Pump automatic control and operation
 - 2) Level-sensing equipment operation
 - 3) Alarm and telemetry system automatic operation
 - 4) Backup power generation automatic control and operation
 - 5) Vibration testing of all rotating equipment
- 7. Structure Testing
 - a) Wetwells and other wastewater containing structures at the pump station shall be inspected and tested for watertightness. Structures shall be thoroughly cleared of dirt, mud, gravel and other foreign debris prior to testing.
 - b) The watertightness test shall be performed in accordance with ACI 350.1R "Testing Reinforced Concrete Structures for Watertightness". If the structure is a small diameter precast manhole, a vacuum test in accordance with ASTM C1244 "Standard Test Method for Concrete Sewer Manholes by Negative Test Pressure (Vacuum) Test" may be used in lieu of the hydrostatic test.
 - c) Watertightness testing shall not commence until the structure is fully assembled and backfilled.

Section 800 – Wastewater Pumping Systems & Force Mains - Page 53 of 70 Effective Date: March 23, 2021 d) Any structure that fails to meet the requirements of the watertightness test shall be inspected, made watertight, and retested until the structure passes.

C. Operator Training

- 1. Suppliers of major equipment packages shall provide training to Town of Apex staff as to the proper operation and maintenance of their equipment.
- 2. Training shall be performed by an experienced, competent, and authorized manufacturer's representative.
- 3. Training shall be at no additional cost to the Town.
- 4. Training shall be provided for, but not limited to, the equipment listed in the table below. The training times presented below for Operation Training and Maintenance Training are the minimum required. Complicated systems can require more than the minimum requirements.

Equipment System	Operation Training (hours)	Maintenance Training (hours)
Pumps and Pump Control	2	4
Systems		
Grinder System	1	2
Engine Generator and	2	4
Automatic Transfer Switch		
Chemical on/or Odor Control	1	2
Systems		
Alarm Dialer/	1	0
SCADA/Telemetry		

- 5. Operational training shall include, but not be limited to, the following procedures or information: normal startup of the unit, normal shutdown of the unit, emergency shutdown of the unit, normal operation of the unit (typical temperature, pressures, signals, rpm, etc., for gages and instruments which are displayed on the panel), a presentation of all operational features (alternative run modes, bypasses, other features not typically used in day-to-day operation, etc.), presentation of all alarm signals, etc.
- 6. Maintenance training shall include, but not be limited to, the following procedures or information: standard lubrication procedures and schedules, removal and replacement of equipment, disassembly and re-assembly, replacement of wear parts or common replacement parts, standard troubleshooting procedures, etc.
- 7. Simplified operation instructions shall be submitted for review in accordance with the submittals section of this Specification. When the review is complete, the instruction sheets shall be printed on heavy paper or cardboard stock and laminated with clear plastic. Two copies of the laminated instructions shall be furnished with the unit. One copy shall be located or displayed at the control

Section 800 – Wastewater Pumping Systems & Force Mains - Page 54 of 70 Effective Date: March 23, 2021 panel for the unit. The reserve copy shall be delivered to the Town. The instructions specified here are in addition to the required operation and maintenance manuals.

806 Force Main General

- 1. These Specifications apply to all force mains that are to be owned, operated, and maintained by the Town of Apex. Design of private pump stations and force mains and associated facilities is not covered by these Specifications or otherwise herein, and the applicant should look for guidance from other appropriate agencies (NCDEQ, NC Plumbing Code, etc.).
- 2. All aspects of the design of wastewater force mains, and associated facilities shall, at a minimum, meet the requirements of the latest version of the NCDEQ "Minimum Design Criteria for the Fast-Track Permitting of Pump Stations and Force Mains". Requirements presented in the Town of Apex Standard Specifications hereunder that are more restrictive or go above and beyond the requirements of the Minimum Design Criteria are required by the Town of Apex.
- All aspects of the design of pump stations, force mains, and associated facilities shall be submitted for review and approval to the Town of Apex Water Resources Department.
- Wastewater force main interconnections shall be prohibited. All wastewater force mains shall extend to the nearest gravity sewer or pump station wet well that has sufficient long term capacity.

807 Wastewater Force Mains

A. Design

- 1. Force mains shall be installed with a minimum cover of 3 feet measured from the top of the pipe to the finished grade (or subgrade if installed under roadways). The engineering drawings shall include profile drawings for the entire length of the main.
- 2. All force mains shall be located within dedicated right of way of Town roads, outside of the right of way on NCDOT roads, or dedicated easements with a minimum width of 20 feet. When wastewater force mains are constructed adjacent to gravity sewer mains or for construction of parallel wastewater force mains, the minimum horizontal clearance shall be at minimum 7-ft from pipe edge to pipe edge when the depth of installation is 8-ft or less. Otherwise, the minimum horizontal separation between pipelines shall be 10-ft up to installation depth of 10-ft. Clearances for pipelines greater than 10-ft depth shall be designed by Engineer of Record and approved by the Town of Apex Water Resources Department. Easement widths outlined below shall be widened by at least the

Section 800 – Wastewater Pumping Systems & Force Mains - Page 55 of 70 Effective Date: March 23, 2021 clearance between the pipelines when constructing a shared gravity sewer and wastewater force main corridor. If sewer main is located within road right-of-way or on Town owned property there shall be no permanent structures, equipment, retaining walls, embankments, impoundments, or other elements that would inhibit maintenance operations unless approved by the Water Resources Director.

3. All force mains shall be installed outside of all Zone 1 and Zone 2 buffers whenever practical. Sewer main shall be installed outside of all floodplain unless No Practical Alternative is available and prior approval is obtained from the Water Resources Director.

Pipe Depth*	Permanent [Town Road R/W				
	Easement Width					
8-ft or less	20-ft	Allowed				
8-ft – 15-ft	20 ft	As Specified by the WR				
	3011	Department				
15-ft – 20-ft	40-ft	Not Allowed				
	As Specified by					
Deeper than 20 ft	the WR	Not Allowed				
	Department					

Standard Easement Width for Sewer Force Mains

*Depth of the sewer main shall be measured from the top of the pipe to the final grade or road subgrade at the deepest point between manholes.

- 4. Dedicated easements for force mains and appurtenances shall be recorded as "Town of Apex Public Forcemain Easement". Town of Apex force main easements shall contain only Town of Apex utilities unless otherwise approved by an encroachment agreement.
- 5. Wastewater force main discharge manholes and intermediate air release locations that require odor control shall be provided with sufficient easement area to accommodate the odor control systems as designed by the Engineer of Record, whether utilizing passive, forced-air or chemical treatment for odor control. The maintenance easement for odor control systems shall be sized based on site specific conditions and shall provide sufficient area for routine maintenance operations, such as refilling media, chemicals, replacing equipment, etc.
- 6. Force mains shall discharge at the invert of the receiving manhole and shall be as close as possible to 180 degrees from the outlet pipe.
- 7. Force main design shall facilitate cleaning and inspection. The use of 90 degree bends is prohibited.
- 8. Force mains shall be constructed with a pigging/bypass connection located within 50-ft of the pump station valve vault.

Section 800 – Wastewater Pumping Systems & Force Mains - Page 56 of 70 Effective Date: March 23, 2021 9. Force main minimum design velocity shall not be less than 2-ft per second throughout the length of the force main. As a design preference, force main systems when operating at higher flows shall reach velocities of 3 to 5 ft/s to resuspend any settled solids.

Force main systems shall be of adequate sizing and design to effectively convey the ultimate peak flows as applied by the connected pump station to the discharge point.

10. The force main route shall be such that the number of high points requiring combination air valves is minimized to the extent possible. Combination Air Valves rated for use with raw wastewater shall be installed at all the high points or runs exceeding 3000-ft on all force mains in accordance with the Standard Details. A high point shall be determined as any location where the vertical separation between the adjacent low point and high point in the force main is greater than or equal to 10 vertical feet.

11. Restraint:

- a) General: All pipe, valves, and fittings shall be restrained. Pipe joints shall also be restrained an adequate length away from valves and fittings in accordance with AWWA manual M41 (or the latest edition of *Thrust Restraint Design for Ductile Iron Pipe* as published by the Ductile Iron Pipe Research Association). In all cases, there must be a pipe restraint plan with the method of restraint to be used and the length of pipe to be restrained clearly identified on the plans at all necessary locations. The pipe restraint plan shall be included under the design responsibility of the NC Professional Engineer sealing the plan drawings. All restraint systems shall be factory produced by the manufacturer.
- b) Pipe Joints: The standard joint restraint method shall be to use manufacturer provided restrained joint pipe. Pipe up to and including 12-inches in diameter may utilize mechanical joint pipe with approved wedge action retainer glands (for the specified distance). All joint restraint products that include the means of restraint within the joint gasket shall be prohibited. Fusible C-900 DR 18 PVC may be utilized as an acceptable means of restraint.
- c) Valves: Valves shall be restrained in a manner consistent with operation as a dead end. This includes restraining the valve to the pipe and restraining a sufficient number of pipe joints on both sides of the valve to accommodate dead end restraint.
- 12. A plug valve shall be installed at least every 3000 feet of force main length.
- 13. All air release valves, plug valves greater than 12-inches, or other appurtenances that have moving or operating parts and require maintenance and routine access shall have a manhole placed over them or over the operating portion of the device.

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14. Separation Requirements:

- a) <u>Separation between Sewer Force Main and Storm Water Pipes:</u> Sewer force mains shall have a minimum vertical separation of 24 inches between storm pipes when the horizontal separation is 3 feet or less. Where sanitary and storm sewers cross with a vertical separation of less than 24 inches, the entire leg of sanitary sewer shall be made of standard ductile iron pipe with joints rated for water main service and the void space between the pipe crossing shall be backfilled with 3000-psi concrete or minimum 500-psi, quick setting, non-excavatable flowable fill that meets or exceeds NCDOT Specifications.
- b) <u>Separation between Sanitary Sewer and Sewer Force Main:</u> There shall be a minimum 7 foot horizontal separation between parallel gravity and/or force mains in outfall locations when the depth of installation is 8-ft or less. Otherwise, the minimum horizontal separation between pipelines shall be 10-ft in outfalls.
- c) <u>Separation between Sewer Force Main and Water Main:</u> Parallel Installations: 10-ft lateral separation (pipe edge to pipe edge) or minimum 5-ft lateral separation, and water line at least 18-inches above sewer force main measured vertically from top of sewer pipeline to bottom edge of water main.
- d) <u>Crossings (Water Main over Sewer Force Main)</u>: All water main crossings of sewer force mains shall be constructed in conformance with Town of Apex Specifications. At a minimum, 18-inches of clearance shall be maintained between the bottom edge of the water main and the top edge of the sewer force main. If 18-inches of clearance is not maintained, the water main and sewer force main shall both be constructed of ductile iron pipe with joints in conformance with water main construction standards. The ductile iron sewer force main shall extend 10-ft on both sides of the crossing. When the separation between pipelines is 18-inches or less, the void space between the pipes shall be filled with minimum 5000-psi, quick setting, and non-excavatable flowable fill extending 3-ft on both sides of the crossing. Regardless of pipe material, at least 12-inches of vertical separation is required for sewer force main crossings of potable water mains.
- e) <u>Crossings (Water Main under Sewer Force Main:</u> Allowed only as approved by Town of Apex, when it is not possible to cross the water main above the sewer force main. At a minimum, 18-inches of separation shall be maintained, (measured from pipe edge to pipe edge) and both the water main and sewer force main shall be constructed of ductile iron in conformance with water main construction standards to a minimum of 10-ft on both sides of the crossing. If local conditions prevent providing 18-inches

Section 800 – Wastewater Pumping Systems & Force Mains - Page 58 of 70 Effective Date: March 23, 2021 of clearance, then at least 12-inches of clearance shall be provided and the void space between the pipes shall be filled with minimum 5000-psi, quick setting, and non-excavatable flowable fill extending at least 3-ft on both sides of the crossing. In all cases the water main pipe shall be centered at the point of crossing with joints equally spaced from the point of crossing.

f) Sanitary Sewer Force Main and Stream Crossings:

The top of the sewer force main shall be at least three feet below the stream bed. If three feet of cover cannot be achieved, prior approval from the Water Resources Director must be obtained and concrete encasement and ductile iron pipe shall be required

Sewer force mains shall not be installed under any part of water impoundments or area to be impounded. Sewer mains shall not be installed through, above, or below any retained earth structure. Sewer main location and depth shall not be within the theoretical 1:1 slope of any impoundment dam or structure, or shall maintain a minimum of 10' horizontal separation from the toe of slope, whichever is greater. The entire easement shall be outside of the toe of slope, unless prior approval is obtained from the Water Resources Director.

The following minimum horizontal separations shall be maintained:

- 100 feet from any private or public water supply source, including wells, WS-1 waters or Class I or Class II impounded reservoirs used as a source of drinking water (except as noted below).
- 50 feet from any waters (from normal high water) classified WS-II, WS-III, B, SA, ORW, HQW or SB (except as noted below).
- 3) 10 feet from any other stream, lake, or impoundment (except as noted below).
- 4) 50 feet from private wells (with no exceptions).
- 5) 50 feet from sources of public water supply (with no exceptions)

Where the required minimum separations cannot be obtained, ductile iron sewer force main pipe with joints equivalent to water main standards shall be used. Steel casing and/or concrete may also be required for protection, at the direction of the Water Resources Director.

<u>15. All retaining walls shall have a separation from the easement boundary of at least-</u> <u>1:1, vertical to horizontal.</u> For example, if the retaining wall is 10 feet tall, it shall <u>be placed no closer than 10 feet from the easement.</u> Formatted: List Paragraph, Outline numbered + Level: 2 + Numbering Style: 1, 2, 3, ... + Start at: 1 + Alignment: Left + Aligned at: 0.25" + Tab after: 0.5" + Indent at: 0.5"

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B. Materials

1. Pipe Materials

- a) The minimum wastewater force main size shall be 4-inches in diameter.
- b) Ductile Iron Pipe or PVC C900 DR18 shall be required for all wastewater force mains.
- c) Ductile iron pipe shall be designed and manufactured in accordance with AWWA C150 and C151 and provided in nominal 20-ft lengths. The minimum requirements for ductile iron pipe and required laying conditions are tabulated below. For all other installations other than specified, the laying condition, bedding requirements or the minimum pressure class rating and/or thickness class shall be increased in accordance with AWWA C151. A pipe thickness design shall be submitted for external loading in all cases where the pipe depth exceeds the specified range of depths outlined in the following table.

Pipe Diameter	AWWA C- 150, Laying Condition	Pressure Class	Maximum Depth of Cover
4-8 -inch	type 1	350 psi	3-16 feet
4-8 -inch	type 4	350 psi	16-20 feet
10-12 -inch	type 1	350 psi	3-10 feet
10-12 -inch	type 4	350 psi	10-20 feet
14-20 -inch	type 4	350 psi	3-25 feet
24 -inch	type 4	350 psi	3-25 feet

Pressure Class, Max. Depth and Laying Condition for DI Wastewater Force Mains

Note: For cases not specified, a ductile iron pipe and bedding design certified by a Professional Engineer licensed in the State of North Carolina shall be required in compliance with AWWA C150 and the Ductile Iron Pipe Research Association.

All ductile iron pipe shall be marked in conformance with ASTM A-746.

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Product Category	Approved Manufacturer	Model/Series	Pressure/Load Rating	Reference Standard	Requirements
Ductile Iron Pipe 4-inch & Larger Diameter Protecto 401 Lined	US Pipe	Tyton Joint	250-350 psi	AWWA C150 and C151 and DIPRA Standards	40-mils of Protecto 401 Lining (lining must be less than 1 year old); McWane pipe stamped "McWane by Atlantic States or Clow" only
	American (ACIPCO)	Fastite Joint			
	McWane	Tyton Joint			
Ductile Iron Fittings 4- inch & Larger Diameter Protecto 401 Lined	Sigma	Mech. Joint	250-350 psi	AWWA C110/C111 and AWWA C153	Shall always meet or exceed pipe pressure rating
	Tyler Union	Mech. Joint			
	SIP Industries	Mech. Joint			
	Star	Mech. Joint			
	American	Mech. Joint			
Ductile Iron Restrained Joint Pipe 4-inch & Larger Diameter Protecto 401 Lined	US Pipe	TR Flex		AWWA C150 and C151	Boltless restraint unless otherwise specified
	American (ACIPCO)	Flex Ring	250-350 psi		
	McWane	TR Flex (pipes 24" and smaller)			

The following table lists approved manufacturers of DIP, DIP fittings, and RJDIP that are allowable for installation within the Town's system.

d) All ductile iron wastewater force mains and fittings for sewer construction shall receive an interior ceramic epoxy coating, consisting of an amine cured novalac epoxy containing at least 20% by volume of ceramic quartz pigment, as manufactured by Protecto 401. The interior coating shall be applied at a nominal dry film interior thickness of 40-mils. All DIP bells and spigots shall be lined with 8-mils of Protecto 401 joint compound applied by brush to ensure full coverage. All pipe supplied with Protecto 401 interior lining shall be provided free of holidays. Pipe installed with defects in the lining will be rejected. Patching of Protecto 401 lined pipe must be installed within one year of the application date on the pipe.

The liner manufacturer shall have a minimum of ten (10) years of successful experience and be able to demonstrate successful performance on comparable projects.

Section 800 – Wastewater Pumping Systems & Force Mains - Page 61 of 70 Effective Date: March 23, 2021 Permeability rating of 0.00 when tested according to Method A of ASTM E-96-66, Procedure A with a test duration of 30 days.

- e) PVC pipe shall conform to AWWA C900 standards along with the following requirements:
 - 1) Outside diameter shall conform to that of ductile iron pipe.
 - 2) Pipe shall have plain end and elastomeric gasket bell ends.
 - 3) Green in color.
- f) Pipe fittings shall be made of ductile iron designed and manufactured per AWWA C110 or C153. All fittings up to and including 24 inches in diameter shall be designed for a minimum internal pressure of 350 psi, unless otherwise approved by the Town of Apex. Fittings shall be mechanical joint or proprietary manufacturer provided restrained joint. Gaskets shall be in accordance with AWWA C111. All fittings shall be interior coated with Protecto 401 as specified herein for ductile iron pipe. Two 45 degree fittings shall be used in lieu of 90 degree fittings in all horizontal and vertical installations.
- g) Restrained Joint Pipe shall be the boltless type unless otherwise approved. For installations requiring welded locking rings, the rings shall be factory welded. The restrained joints shall provide a minimum of 4-degrees of deflection for pipe sizes, 4-inches through 12-inches in diameter.

All proprietary pipe restraint systems shall be approved by the Town of Apex and provided in compliance with all standards for coatings, linings, pressure classes, etc. as required for PVC C900 or ductile iron pipe. All restrained joint pipe shall be installed based on laying conditions, pressure class, etc. as required for typical ductile iron pipe.

Pipe and fitting manufacturer(s) must have a supplier within 200 miles of the Town of Apex.

- 2. Manhole Materials:
 - a) All sewer force main manholes shall be installed according to Section 0700 of the Town of Apex Standard Specifications when design and installation criteria are not otherwise covered herein.
 - b) All force main discharge locations (including all downstream manholes within 1,200 feet) and other manholes for wastewater force mains (excluding those housing large diameter plug valves) shall be epoxy coated at minimum 80-mils thickness.
 - c) Force Main Manhole Epoxy Coating: Sewer force main receiver manholes, sewer force main combination air valve manholes and other concrete structures subject to high levels of hydrogen sulfide gas shall be provided with an approved monolithic epoxy coating system consisting of a 100% solids,

Section 800 – Wastewater Pumping Systems & Force Mains - Page 62 of 70 Effective Date: March 23, 2021 solvent-free, two-component epoxy resin that meets the following Specifications for up to 100 mils of coating with a manufacturer approved set time of 6-hours or less.

 Surface Preparation: Concrete manholes must be well cured prior to application of the protective epoxy coating. Generally, 28 days is adequate cure time for standard Portland cement. If earlier application is desired, compressive or tensile strength of the concrete can be tested to determine if acceptable cure has occurred. (Note: Bond strength of the coating to the concrete surface is generally limited to the tensile strength of the concrete itself. An Elcometer pull test to determine suitability of concrete for coating may be required).

Surface preparation shall be based on the requirements of the manufacturer of the epoxy coating and applicable NACE International standards.

2) Installation: A minimum 80-mils thickness shall be applied to new manholes (120-mils for existing manholes). During application a wet film thickness gage, meeting ASTM D4414 - Standard Practice for Measurement of Wet Film Thickness of Organic Coatings by Notched Gages, shall be used to ensure a monolithic coating and uniform thickness during application.

Temperature of the surface to be coated should be maintained between 40° F and 120° F during application. Prior to and during application, care should be taken to avoid exposure of direct sunlight or other intense heat source to the structure being coated. Where varying surface temperatures do exist, care should be taken to apply the coating when the temperature is falling versus rising or in the early morning. The humidity should also be observed to ensure compliance with the epoxy manufacturers' recommendations.

Manufacturer approved heated plural component spray equipment shall be used in the application of the specified protective epoxy coating. The spray equipment shall be specifically designed to accurately ratio and apply the specified protective coating materials and shall be regularly maintained and in proper working order.

If necessary, subsequent topcoating or additional coats of the protective coating should occur as soon as the basecoat becomes tack free, ideally within 12 hours but no later than the recoat window for the specified products. Additional surface preparation procedures will be required if this recoat window is exceeded.

Section 800 – Wastewater Pumping Systems & Force Mains - Page 63 of 70 Effective Date: March 23, 2021 d) <u>Force Main Receiver Manholes:</u> Sewer force mains shall not discharge directly into existing gravity sewer lines. Sewer force mains shall typically discharge into a receiver manhole that has been epoxy coated as specified herein. The receiver manhole shall be provided in the typical eccentric tapered design at minimum 5-ft diameter. The bench shall be sloped up to 8-inches from the invert channel to the manhole wall. The invert shall be provided with a gradual upsloping alignment from the force main entry to the gravity transition point. Sufficient grade shall be placed on the invert such that wastewater falls back into the force main and the manhole. Drop connections into force main receiver manholes shall be provibited.

The interior surface of the receiving manhole at the discharge end of the force main and all manholes within 1,200 feet downstream of a force main connection shall receive 2 coats of Sherwin Williams Sher-Flex or equivalent. Coatings shall conform to US Army <u>Corps of Engineers Specification C-200</u>. The coating shall have a total dry film thickness of 80-125 mils, and all blemishes shall be touched up prior to acceptance.

Force mains shall discharge at the invert of the receiving manhole and at an angle which is as close as possible to 180-degrees of the outlet pipe.

e) <u>Combination Air Valve Manholes:</u> Manholes for combination air valve installation shall be provided in flat top configuration to accommodate the excess length of wastewater combination air valves. In cases where the combination air valve assembly shall be located in a paved area, provide typical eccentric, tapered manhole design with typical manhole frame and cover for paved areas. The minimum manhole diameter for combination air valve assemblies shall be 5-ft. Minimum 6-ft diameter manholes shall be used with force mains 20-inches and larger and when an odor control system is required. Any manholes located in NCDOT or street right-of-way shall be provided flush with finished grade. ARVs shall be 2-inch and manufactured by ARI, model D-02P sewage dual ARV with plastic body.

C. Installation

1. <u>General</u>

Ductile iron pipe shall be installed in accordance with the requirements of AWWA C600 and the Ductile Iron Pipe Handbook published by the Ductile Iron Pipe Research Association. Materials at all times shall be handled with mechanical equipment or in such a manner to protect them from damage. At no time shall pipe and fittings be dropped or pushed into ditches.

Pipe trench excavation and backfilling shall be performed in accordance with Section 0450 of these Specifications.

Section 800 – Wastewater Pumping Systems & Force Mains - Page 64 of 70 Effective Date: March 23, 2021 Pipe and fitting interiors shall be protected from foreign matter and shall be inspected for damage and defects prior to installation. In the event foreign matter is present in pipe and fittings, it shall be removed before installation. Open ends of pipe shall be plugged or capped when pipe laying is not in progress.

All pipe shall be constructed with at least 48 inches of cover below the finished surface grade. Pipe shall be laid on true lines as directed by the Engineer. The wastewater force main shall be installed at a grade which will allow air to migrate to a high point where the air can be released through an air valve. A minimum pipe slope of 1 foot in 500 feet should be maintained and there shall be no intermediate high points in the line.

Trenches shall be sufficiently wide to adjust the alignment. Bell holes shall be dug at each joint to permit proper joint assembly. The pipe shall be laid and adjusted so that the alignment with the next succeeding joint will be centered in the joint and the entire pipeline will be in continuous alignment both horizontally and vertically. Pipe joints shall be fitted so that a thoroughly watertight joint will result. All joints will be made in conformance with the manufacturer's recommendations for the type of joint selected. All transition joints between different types of pipe shall be made with transition couplings approved on shop drawings showing the complete assembly to scale.

Forcemains shall not be installed within roundabouts or alleys.

2. Utility Coordination

Prior to beginning construction, the Contractor shall contact local utility companies and verify the location of existing utilities. The Contractor shall be completely and solely responsible for locating all existing buried utilities inside the construction zone before beginning excavation. The Contractor shall be solely responsible for scheduling and coordinating the utility location work. When an existing utility is in conflict with construction, it shall be exposed prior to beginning construction to prevent damage to the existing utility.

D. Valves and Appurtenances

- 1. <u>General:</u> The rated working pressure of all valves and appurtenances shall meet the maximum design pressure of the pump station and pipeline.
- <u>Check Valve:</u> Check valves shall be iron bodied, fully bronze mounted with bronze clapper disc and bronze seat ring, and shall have a spring loaded lever arm capable of being mounted on either side of the valve.
- 3. <u>Plug Valve</u>: Plug valves shall be non-lubricating, eccentric action and resilient plug facing with heavy duty Type 316 stainless steel bearings. Plug valves shall be

Section 800 – Wastewater Pumping Systems & Force Mains - Page 65 of 70 Effective Date: March 23, 2021 designed for a minimum working pressure of 175 psi for valves 12" and smaller, 150 psi for valves 14" and larger. Valves shall be bi-directional and meet the pressure rating in both directions of flow. The plug valve body shall be cast iron ASTM A126 Class B with welded-in overlay of 90% nickel alloy content on all surfaces contacting the face of the plug. Sprayed, plated, nickel welded rings or seats screwed into the body are not acceptable.

All plug valves 12" and smaller shall have round port design that provides a minimum 80% port area. The valve plug shall be ductile iron ASTM A536 Grade 65-45-12 up to 20-inches in diameter, with EPDM, Buna N, or Neoprene resilient seating surface to mate with the body seat. Valves 24-inches and larger may have plugs made of cast iron in accordance with ASTM A126 class B. Large plug valves with rectangular plugs shall provide clean passage for a solid sphere of at least 67% of the adjoining pipe diameter to facilitate pigging of the force main. Force main plug valves with rectangular port shall be "full-port" cross-sectional area perpendicular to the flow of at least 100% of the adjoining pipe.

All buried plug valves shall be provided with worm gear actuators. All plug valves shall be buried and provided with a 2-inch operator nut and valve box as shown in the details. Plug valves greater than 12-inches shall be installed such that the actuator and gearing is accessible in a manhole as shown in the details. All plug valves shall be provided with typical mechanical joint end connections and restrained with wedge action retainer glands on both ends of the valve assembly as described herein.

Valves shall be installed according to the manufacturer's recommendations. Typically for wastewater this means installing the seat side toward the pump station so that the flow is against the face of the plug in the closed position. In the open position, the plug should rotate up to the top of the pipeline which may require installing the valve on its side.

- 4. <u>Rubber Seated Ball Valve</u>: For larger diameter force mains where plug valves are not available, rubber seated ball valves shall be of the tight-closing, shaft-mounted type that fully comply with AWWA Standard C507 to provide a full port unobstructed waterway with no additional pressure drop. Design pressure ratings shall be 150 psi or greater and provide tight shutoff against flow. With the valve in the closed position, the rubber seated valve shall be bubble tight at rated pressure. All ball valves shall be provided in an epoxy coated manhole with worm gear actuators and a handwheel.
- 5. <u>Valve Box Covers:</u> Force main plug valves or ball valves shall have valve box covers and/or manhole lids with the word "Sewer" cast into them.
- 6. <u>Combination Air Valves</u> shall be provided to purge air from the system at startup, vent small pockets of air while the system is being pressurized and running, and prevent critical vacuum conditions during draining. Combination air valves

Section 800 – Wastewater Pumping Systems & Force Mains - Page 66 of 70 Effective Date: March 23, 2021 approved for use in wastewater force main installations shall be installed at all high points of wastewater force mains 6 inches in diameter or larger and at other locations, such as major changes in slope, as directed by the Town. A high point shall be determined as any high location where the difference between the high elevation and adjacent low elevation exceeds 10-ft unless otherwise determined by the Director of Water Resources based on special circumstances. The combination air valve shall automatically exhaust large volumes of air from the system when it is being filled and allow air to re-enter the pipe when the system is being drained. The wastewater force main shall be installed at a continuous grade between low and high points without intermediate high points unless an air release valve is being installed. A minimum pipe slope of 1 foot in 500 feet should be maintained. Combination air valves shall be sized by the Engineer and approved by the Town.

- a) Combination air valves shall be of the single housing style with Type 304 or 316 stainless steel body that combines the operation of both an air/vacuum and air release valve. The valve must meet the requirements of AWWA C512 and be installed in accordance with the Details. The valve shall have a minimum 145-psi working pressure unless the pipeline design requires a higher pressure rating.
- b) The valve shall have a minimum 2-inch male NPT inlet for a 2-inch valve assembly. Combination air valves sized from 3-inches to 8-inches shall be provided with studded inlet connectors or flanged connections. The combination air valve shall be provided with cylindrical shaped floats and anti-shock orifice made of high density polyethylene. Combination air valves with spherical floats shall not be accepted. All combination air valves shall be installed in accordance with the Details.
- c) Installation of Combination Air Valve Assembly:
 - The Engineer of Record shall provide ample depth of installation to accommodate the extended height of combination air valves for wastewater force mains. All combination air valves shall be connected to the main by an MJ x FLG tee with the branch diameter equal to at least half of the main diameter.
 - 2) The 2-inch combination air valve shall be provided with male NPT threads and isolated with a 2-inch gate valve. The isolation valve shall be provided with NPT threads and connected with brass or bronze piping.
 - 3) Combination air valves 3-inches and greater shall be connected by flange or studs. If needed due to a larger diameter tee, a flanged reducer shall be provided between the tee and the isolation valve. Gate valves shall be used for 3-inch assemblies. Combination air

Section 800 – Wastewater Pumping Systems & Force Mains - Page 67 of 70 Effective Date: March 23, 2021 valves 4-inches and larger shall be isolated with a plug valve. In all cases the isolation valve shall be sized equal to the combination air valve.

- 4) The ARV shall be installed in a 5 foot diameter manhole per the standard detail. The manhole interior surface shall receive two coats of Sherwin Williams Sher-flex or equivalent with a total dry film thickness of 80-125 mils, and all blemishes shall be touched up prior to acceptance.
- 7. <u>Pigging Station:</u> Force mains shall be constructed with a pigging/bypass connection located within 50-ft of the pump station valve vault. This pigging leg shall consist entirely of Protecto 401 coated ductile iron pipe of the same diameter as the main. A restrained MJ wye shall be provided in the main line and valved on each branch. The pigging leg shall extend out of the ground and be closed with a blind flange. The protruding pipe shall be protected by concrete bollards spaced 6-ft apart.
- 8. <u>Bypass Connection Assembly:</u> On some wastewater force mains, an additional bypass connection assembly may be required. The size, criticality and proximity to a downstream manhole will be important factors in the need for this connection. The bypass assembly shall include either a ball valve or plug valve assembly for isolation from the primary wastewater force main. Additionally, the primary force main shall be provided with a main line plug valve or ball valve on the upstream side of the bypass assembly to prevent bypass flow from draining back to the pump station. The bypass assembly shall be brought to the final graded surface with a visible blind flange assembly for connection by an outside pumping contractor.
- 9. Force Main Odor Control Systems: Force main odor control shall be included in the design plans for any proposed force main at discharge locations, intermediate air release locations and otherwise as directed by the Town of Apex Water Resources Department. In limited cases, air release valves located in isolated areas may be approved without odor control systems. The suggested odor control technology shall be designed by the Engineer of Record to achieve 95% or greater hydrogen sulfide removal. All systems, including those utilizing activated carbon, shall be manufactured specifically for addressing hydrogen sulfide gas. Forced air systems should be avoided due to the need to include provisions for electrical power to the odor control system. For all odor control systems, the Engineer of Record shall provide sufficient easement area for long term maintenance of the system.
- 10. <u>Marker Posts:</u> Force mains shall be marked with a plastic marker at every valve, every horizontal fitting, and spaced every 1,000 feet along the force main. The post shall having a minimum diameter of four inches and a minimum bury of thirty inches with a minimum of four feet exposed. The exposed portion shall be painted green and label "Apex Sewer". Marker posts shall be installed through outfalls,

Section 800 – Wastewater Pumping Systems & Force Mains - Page 68 of 70 Effective Date: March 23, 2021 easements, all non-residential areas, and as directed by the Water Resources Director. Valves shall have marker posts only when they are installed outside of paved areas.

808 Force Main Inspections and Testing

A. Inspections

- 1. All materials and equipment used in the construction of the wastewater pumping system must be verified for compliance with the Specifications (or other approval granted by the Town) by the Inspector prior to installation. Non-conforming materials or equipment shall be immediately removed from the job site.
- 2. Compliance with plans and Specifications shall be verified on a regular basis by the Inspector.

B. Testing

- 1. <u>General</u>
 - a) The Contractor shall furnish all materials, labor, and equipment to perform all testing. Water for testing purposes may be obtained from the Town of Apex. The Contractor shall reimburse the Town for all water used at Inside Utility Rates.
 - b) All water or wastewater used during testing of the pump station, force main, or any of the systems described in this section, must be returned to the Town of Apex sanitary sewer system after proper coordination with the Town of Apex Water Resources Department.
 - c) All on-site testing and/or installation verification shall be performed in the presence of the Inspector or other representative authorized by the Town.
- 2. Force main Testing
 - a) The force main shall be tested in accordance with the water main standards set forth in Section 600.
 - The following tests must be run on coupons from factory lined ductile iron pipe:
 - a) ASTM B-117 Salt Spray (scribed panel) Results to equal 0.0 undercutting after two years.
 - b) ASTM G-95 Cathodic Disbondment 1.5 volts @ 77°F. Results to equal no more than 0.5mm undercutting after 30 days.
 - c) Immersion testing rated on using ASTM D-714-87.
 - 1) 20% Sulfuric Acid No effect after two years.
 - 2) 140°F 25% Sodium Hydroxide No affect after two years.

Section 800 – Wastewater Pumping Systems & Force Mains - Page 69 of 70 Effective Date: March 23, 2021

- 160°F Distilled Water No effect after two years.
 120°F Tap Water (scribed panel) 0.0 undercutting after two years with no effect.
- d) An abrasion resistance of no more than 3 mils (0.075mm) loss after one million cycles using European Standard EN 598: 1994, Section 7.8 Abrasion Resistance.

Section 800 – Wastewater Pumping Systems & Force Mains - Page 70 of 70 Effective Date: March 23, 2021









* ONE WAY ALLEY OPTIONAL WITH VALLEY GUTTER (16' B-B)

NOTE:

- Page 240 -

- 1. NORMAL CROWN (REVERSE CROWN FOR ALLEYS) OF 1/4 INCH PER FOOT SHALL BE USED UNLESS OTHERWISE DIRECTED BY TOWN ENGINEER.
- 2. WATER AND SEWER UTILITIES SHALL NOT BE SERVED FROM THE ALLEY RIGHT OF WAY.
- 3. RURAL RESIDENTIAL STREET MAY BE USED WHERE PERMITTED BY THE UDO.
- 4. GRASSED SWALES SHALL MEET THE APPLICABLE DESIGN REQUIREMENTS SET FORTH IN THE DWQ BMP MANUAL.
- 5. GRASSED SWALES MAY BE SUBJECT TO THE REQUIREMENTS SET FORTH IN UDO SECTION 6.1.12.



TOWN OF APEX

STANDARDS



















NOTES:

- 1. RESIDENTIAL DRIVEWAYS TO BE 12' TO 24' WIDTH EXCEPT WHEN CONNECTING TO AN ALLEY WIDTH MAY BE INCREASED TO ALLOW AN ADDITIONAL 9' WIDE PARKING PAD IF DISTANCE FROM THE ALLEY TO THE STRUCTURE IS LESS THAN 18'.
- 2. COMMERCIAL & INDUSTRIAL DRIVEWAYS TO BE 18' TO 30' WIDTH.
- 3. ALLEY CONNECTIONS TO BE 16' WIDTH.
- 4. ALL CONCRETE SHALL BE 3000 PSI.
- 5. IF CURB CUT IS WITHIN 5' FROM A JOINT, THEN THE CUT SHALL BE MADE AT THAT JOINT.
- ALL DRIVEWAYS SHALL BE INSTALLED WITH A SIDEWALK SECTION AND UTILITY STRIP AS SHOWN. SIDEWALK SECTIONS SHALL HAVE 1/4" PER FOOT FALL TOWARDS THE STREET.
- 7. LOCATE DRIVEWAYS A MINIMUM OF 3 FEET FROM SEWER SERVICE LINES.

TOWN OF APEX

STANDARDS

EFFECTIVE: APRIL 12, 2022



NOTES:

- 1. RESIDENTIAL DRIVEWAYS TO BE 12' TO 24' WIDTH EXCEPT WHEN CONNECTING TO AN ALLEY WIDTH MAY BE INCREASED TO ALLOW AN ADDITIONAL 9' WIDE PARKING PAD IF DISTANCE FROM THE ALLEY TO THE STRUCTURE IS LESS THAN 18'.
- 2. COMMERCIAL & INDUSTRIAL DRIVEWAYS TO BE 18' TO 30' WIDTH.
- 3. ALLEY CONNECTIONS TO BE 16' WIDTH.
- 4. ALL CONCRETE SHALL BE 3000 PSI.
- 5. PIPE SHALL BE SIZED BY ENGINEER.
- HEADWALLS, ENDWALLS, OR FLARED END SECTIONS SHALL BE INSTALLED AT ENDS OF DRIVEWAY PIPE.
- 7. LOCATE DRIVEWAYS A MINIMUM OF 3 FEET FROM SEWER SERVICE LINES.



SHEET 2 OF 2

- Page 251 -

EFFECTIVE: APRIL 12, 2022

STANDARDS

TOWN OF APEX










VERTICAL SEPARATION				
UTILITY	DISTANCE (INCHES)			
WATER & SEWER	18			
WATER ABOVE STORM	24			
WATER BELOW STORM DRAIN	18			
SEWER & STORM	24			
ALL OTHER UTILITIES	12			

STREET CROSS SECTION SHOWING

UT

- Page 255 - OCATIONS



STANDARDS

TOWN OF APEX

EFFECTIVE: APRIL 12, 2022

		DESIGN SPEED	MAX. GRADE(%)	HORIZONTAL CU	IRVE CONTROLS	VERTICAL CURVE CONTROLS	
	CLASSIFICATION	(MPH)		MAX. SUPER ELEVATION (%)	MIN. CL RADIUS (FT)	MIN. LENGTH CREST (FT)	MIN. LENGTH SAG (FT)
	THOROUGHFARE	50	7	4	926	84A	96A
\sim	MAJOR COLLECTOR	35	10	4	371	29A	49A
	MINOR COLLECTOR	30	10	NC	333	19A	37A
	MINOR COLLECTOR RESIDENTIAL STREET	25	10	NC	198	12A	26A
	ALLEY		10	RC	50	12A	26A

1. A = ALGEBRAIC DIFFERENCE IN GRADES

- 2. NC / RC = NORMAL CROWN / REVERSE CROWN
- 3. THIS TABLE OUTLINES MINIMUMS FOR ROADWAY DESIGN. SOUND ENGINEERING JUDGEMENT SHOULD BE EXERCISED WHEN USING MINIMUM DESIGN STANDARDS FOR ROADS.
- 4. ALTERNATE DESIGNS SHALL BE IN ACCORDANCE WITH THE LATEST EDITION PUBLISHED BY AASHTO: A POLICY ON GEOMETRIC DESIGN OF HIGHWAYS AND STREETS.

STREET G ______ TRIC STANDARDS

5. GRADES SHALL NOT EXCEED 5% WITHIN 100 FEET OF STOP OR YIELD CONDITION.



STD. NO.
300.14
SHEET 1 OF 1

	DESIGN SPEED	MAX GRADE	HORIZONTAL CL	JRVE CONTROLS	VERTICAL CURVE CONTROLS	
CLASSIFICATION	(MPH)	(%)	MAX. SUPER ELEVATION (%)	MIN. CL RADIUS (FT)	MIN. LENGTH CREST (FT)	MIN. LENGTH SAG (FT)
THOROUGHFARE	50	7	4	926	84A	96A
MAJOR COLLECTOR	35	10	4	371	29A	49A
MINOR COLLECTOR	30	10	NC	333	19A	37A
RESIDENTIAL STREET	25	10	NC	198	12A	26A
ALLEY		10	RC	50	12A	26A

- 1. A = ALGEBRAIC DIFFERENCE IN GRADES
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STREET G ______ TRIC STANDARDS

5. GRADES SHALL NOT EXCEED 5% WITHIN 100 FEET OF STOP OR YIELD CONDITION.



STD. NO. 300.14 SHEET 1 OF 1



- A. BOTTOM EDGE OF DELINEATOR 4' ABOVE ROADWAY.
- B. THE DELINEATOR STRIPES SHALL SLOPE UPWARD
- C. DELINEATORS TO BE SPACED ON CENTERS AT 1/3 OF THE DISTANCE D SHOWN BELOW FOR NEW ASPHALT WIDTHS < 15 FT. OR AT 1/4 OF D FOR NEW ASPHALT WIDTHS > 15 FT.
- D. DELINEATORS SHALL BE MOUNTED ON BREAKAWAY POSTS.
- E. DELINEATORS SHALL BE REFLECTORIZED.

TOWN OF APEX STANDARDS

EFFECTIVE: NOVEMBER 20, 2007

- 1. TAPER ON BOTH ENDS OF ROADWAY WIDENING SHALL BE A MINIMUM 4:1. THE TOWN ENGINEER AND/OR NCDOT RESERVE THE RIGHT TO REQUIRE A LONGER TAPER IF DEEMED NECESSARY FOR THE SAFETY OF THE PUBLIC.
- 2. A SOLID WHITE EDGE MARKING SHALL BE EXTENDED ALONG WIDENING AT EXISTING PAVEMENT.
- 3. DELINEATORS SHALL ONLY BE REQUIRED AT TAPER FROM CURB TO EXISTING PAVEMENT IN DIRECTION OF TRAVEL.
- 4. DELINEATORS SHALL BE ORIENTED SUCH THAT THE FACE OF THE SIGN IS PERPENDICULAR TO TRAVEL LANE.







- A. BOTTOM EDGE OF DELINEATOR 4' ABOVE ROADWAY.
- B. THE DELINEATOR STRIPES SHALL SLOPE UPWARD
- C. DELINEATORS TO BE SPACED ON CENTERS AT 1/3 OF THE DISTANCE D SHOWN BELOW FOR NEW ASPHALT WIDTHS < 15 FT. OR AT 1/4 OF D FOR NEW ASPHALT WIDTHS > 15 FT.
- D. DELINEATORS SHALL BE MOUNTED ON BREAKAWAY POSTS.
- E. DELINEATORS SHALL BE REFLECTORIZED.

TOWN OF APEX STANDARDS

EFFECTIVE: APRIL 12, 2022

- 1. TAPER ON BOTH ENDS OF ROADWAY WIDENING SHALL BE A MINIMUM 4:1. THE TOWN ENGINEER AND/OR NCDOT RESERVE THE RIGHT TO REQUIRE A LONGER TAPER IF DEEMED NECESSARY FOR THE SAFETY OF THE PUBLIC.
- 2. A SOLID WHITE EDGE MARKING SHALL BE EXTENDED ALONG WIDENING AT EXISTING PAVEMENT.
- 3. DELINEATORS SHALL ONLY BE REQUIRED AT TAPER FROM CURB TO EXISTING PAVEMENT IN DIRECTION OF TRAVEL.
- 4. DELINEATORS SHALL BE ORIENTED SUCH THAT THE FACE OF THE SIGN IS PERPENDICULAR TO TRAVEL LANE.





LANDING PAD W/ SIDEWALK & UTILITY STRIP



EFFECTIVE: APRIL 12, 2022

<u> </u>	JIUF
- Page 260 -	IG PAD

SHEET 1 OF 3









- 1. TAP SIZE AND ISOLATION VALVE TO BE SAME SIZE AS AIR VALVE.
- 2. ALL PIPING AND FITTINGS IN THE MANHOLE SHALL BE BRASS OR BRONZE UNLESS NOTED OTHERWISE.
- 3. MANHOLE STEPS SHALL BE PLACED 16" O.C. WHEN DEPTH OF MANHOLE EXCEEDS 4 FEET.
- 4. MANHOLE INTERIOR SHALL BE EPOXY COATED IN THE CASE OF SEWER.
- 5. WATER MAINS 16" AND LARGER OR IN OUTFALLS MAY REQUIRE 5 FOOT DIAMETER MANHOLES AND/OR FLAT TOP MANHOLES.



SHEET 1 OF 2

TOWN OF APEX STANDARDS

EFFECTIVE: FEBRUARY 23, 2021

- 1. TAP SIZE AND ISOLATION VALVE TO BE SAME SIZE AS AIR VALVE.
- 2. ALL PIPING AND FITTINGS IN THE MANHOLE SHALL BE BRASS OR BRONZE UNLESS NOTED OTHERWISE.
- 3. MANHOLE STEPS SHALL BE PLACED 16" O.C. WHEN DEPTH OF MANHOLE EXCEEDS 4 FEET.
- 4. MANHOLE INTERIOR SHALL BE EPOXY COATED IN THE CASE OF SEWER.
- 5. WATER MAINS 16" AND LARGER OR IN OUTFALLS MAY REQUIRE 5 FOOT DIAMETER MANHOLES AND/OR FLAT TOP MANHOLES.



SHEET 1 OF 2

TOWN OF APEX STANDARDS

EFFECTIVE: APRIL 12, 2022













- 1. FOR DEAD-END MANHOLES, THE INVERT SHALL BE EXTENDED THROUGH THE MANHOLE.
- 2. ON THE INTERIOR OF THE MANHOLE, ALL JOINTS BETWEEN SECTIONS SHALL BE PARGED WITH NON-SHRINK GROUT.
- 3. ON THE INTERIOR OF ALL MANHOLES, ALL JOINTS BETWEEN SECTIONS SHALL BE PARGED WITH PRECO-PLUG QUICK SETTING GROUT.
- ON THE EXTERIOR OF ALL MANHOLES, ALL JOINTS BETWEEN SECTIONS SHALL BE CONTINUOUSLY WRAPPED WITH 12" WIDE WATERPROOF BITUMINOUS TAPE.
- 5. SEWER MANHOLES WITHIN 1200 FEET OF FORCE MAIN CONNECTION SHALL HAVE INTERIOR EPOXY COATED.
- 6. SWING LIDS ONLY ALLOWED ON MANHOLES ELEVATED GREATER THAN 24"OR WATERTIGHT INSTALLATIONS.



TOWN OF APEX

STANDARDS

- 1. FOR DEAD-END MANHOLES, THE INVERT SHALL BE EXTENDED THROUGH THE MANHOLE.
- 2. ON THE INTERIOR OF THE MANHOLE, ALL JOINTS BETWEEN SECTIONS SHALL BE PARGED WITH NON-SHRINK GROUT.
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EFFECTIVE: APRIL 12, 2022

TOWN OF APEX

STANDARDS

- 1. FOR DEAD-END MANHOLES. THE INVERT SHALL BE EXTENDED THROUGH THE MANHOLE.
- 2. ON THE INTERIOR OF THE MANHOLE, ALL JOINTS BETWEEN SECTIONS SHALL **BE PARGED WITH** NON-SHRINK GROUT.
- 3. ON THE INTERIOR OF ALL OUTFALL MANHOLES, ALL JOINTS BETWEEN SECTIONS SHALL BE PARGED WITH PRECO-PLUG QUICK SETTING GROUT.
- 4. ON THE EXTERIOR OF ALL MANHOLES, ALL JOINTS **BETWEEN SECTIONS SHALL BE CONTINUOUSLY** WRAPPED WITH 12" WIDE WATERPROOF BITUMINOUS TAPE.
- 5. SEWER MANHOLES WITHIN 1200 FEET OF FORCE MAIN CONNECTION SHALL HAVE INTERIOR EPOXY COATED.

STAINLESS-STEEL BOLTS



- 1. FOR DEAD-END MANHOLES. THE INVERT SHALL BE EXTENDED THROUGH THE MANHOLE.
- 2. ON THE INTERIOR OF THE MANHOLE. ALL JOINTS BETWEEN SECTIONS SHALL **BE PARGED WITH** NON-SHRINK GROUT.
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- 5. SEWER MANHOLES WITHIN 1200 FEET OF FORCE MAIN CONNECTION SHALL HAVE INTERIOR EPOXY COATED.

STAINLESS-STEEL BOLTS



- 1. THE SEWER LINE ENTERING A DROP MANHOLE SHALL BE CONTINUOUS MATERIAL FROM THE UPSTREAM MANHOLE.
- 2. ONE INSIDE DROP PERMITTED WITHIN A 5 'Ø MANHOLE. TWO INSIDE DROPS PERMITTED WITHIN A 6' Ø MANHOLE.
- 3. A DROP MANHOLE IS REQUIRED WHEN THE DIFFERENCE BETWEEN INVERTS EXCEEDS 24".
- 4. ALL JOINTS WITHIN THE MANHOLE SHALL BE OF THE MECHANICAL JOINT TYPE.
- 5. INSIDE DROP PIPE DIAMETER SHALL BE THE SAME AS THE INFLOW SEWER LINE DIAMETER.
- STAINLESS STEEL STRAPPING SHALL BE 1" WIDE BY ¹/₈" THICK AND ATTACHED TO THE MANHOLE WALL WITH MASONRY ANCHORS.
- 7. WHERE DROP EXCEEDS 24", A SERVICE DROP CONNECTION WITH CLEANOUT SHALL BE PROVIDED IN ACCORDANCE WITH THE STANDARD DETAIL.





STANDARDS

TOWN OF APEX

- 1. THE SEWER LINE ENTERING A DROP MANHOLE SHALL BE CONTINUOUS MATERIAL FROM THE UPSTREAM MANHOLE.
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EFFECTIVE: APRIL 12, 2022

TOWN OF APEX

STANDARDS











|Agenda Item | cover sheet

for consideration by the Apex Town Council

Item Type: CONSENT AGENDA Meeting Date: April 12, 2022

<u>Item Details</u>

Presenter(s):Lauren Staudenmaier, Planner IIDepartment(s):Planning and Community Development

Requested Motion

Motion to set Public Hearing for the April 26, 2022 Town Council meeting regarding Rezoning Application #21CZ26 Humie Olive Commercial. The applicant, Jeff Roach, Peak Engineering & Design PLLC., seeks to rezone approximately 7.69 acres from Rural Residential (RR) to Neighborhood Business-Conditional Zoning (B1-CZ). The proposed rezoning is located at 0 & 7525 Humie Olive Road.

Approval Recommended?

The Planning and Community Development Department recommends approval.

Item Details

The properties to be rezoned are identified as PINs 0720993254 & 0720990292.

<u>Attachments</u>

- Vicinity Map
- Application





PETITION T		ID THE OFFICIAL	ZONING MAP					
This docume third parties	nt is a publ	ic record under the I	North Carolina Pul	olic Records Act	and may be	published on t	he Town's websit	e or disclosed to
Application	#:	21CZ26	5	Subm	ittal Date:	10/1/22		
				Fee P	aid:	\$1000		
Project Info	ormation	1						
Project Nan	_{ne:} Hu	ımie Olive Co	mmercial					
Address(es)	: 0 H	Humie Olive F	Road & 7528	5 Humie C	live Roa	d		
PIN(s): 0	720-99	-3254 & 0720	0-99-0292					
							Acreage: 7	.69 acres
Current Zon	_{iing:} R	R		Proposed	Zoning:	B1 - CZ		
Current 204	5 LUM C	lassification(s):	Commercia	al Service	s or High	Density	Residential	
Is the propo	osed rezo	ning consistent w	ith the 2045 LU	M Classificati	on(s)? Y	es 🖌	No]
If any port	ion of the	e project is shown	as mixed use (3	3 or more stri	pes on the	2045 Land U	lse Map) provid	le the following:
Are	a classifie	ed as mixed use:				Acreage:	N/A	
Are	a propose	ed as non-residen	tial developme	nt:		Acreage:	N/A	
Perc	ent of m	ixed use area pro	posed as non-re	esidential:		Percent:	N/A	
Applicant I	nformati	on						
Name:	Peak	Engineering	& Design, P	LLC - attn	: Jeff Ro	ach, P.E.		
Address:	1125	Apex Peakwa	ау					
City:	Apex			State:	NC		Zip:	27502
Phone:	919-4	39-0100		E-mail:	jroach@	peakeng	jineering.cc	m
Owner Info	ormation							
Name:	N/F D	avid Ray Pov	vell (-3254)		JVI Buil	ding & De	evelopment	(-0292)
Address:	524 L	apis Lane (Ca	ary, NC 275	19)	2509 S	outhwinds	s Run (Ape	(, NC 27502)
City:				State:			Zip:	
Phone:				E-mail:				
Agent Info	rmation							
Name:	Peak	Engineering	& Design, P	LLC - attn	: Jeff Ro	ach, P.E.		
Address:	1125	Apex Peakwa	ay			-		
City:	Apex	•		State:	NC		Zip:	27502
Phone:	919-4	39-0100		E-mail:	jroach@	peaken	jineering.cc	
Other conta	acts:				<u> </u>	- •		
	-	jbarron@mornii	ngstarlawgroup.	com				
	-	joey@jviconstru	ction.com					
	-	mike42059@usa	.com		-			
2 of 11	-			- Page 286 -			دا	st Undated: July 1, 2021

Rezoning Application

PETITION INFORMATION				
Application #·	210726	Submittal Date:	10/1/22	

An application has been duly filed requesting that the property described in this application be rezoned from $\frac{RR}{L}$ to $\frac{B1-CZ}{L}$. It is understood and acknowledged that if the property is rezoned as requested, the property described in this request will be perpetually bound to the use(s) authorized and subject to such conditions as imposed, unless subsequently changed or amended as provided for in the Unified Development Ordinance (UDO). It is further understood and acknowledged that final plans for any specific development to be made pursuant to any such Conditional Zoning shall be submitted for site or subdivision plan approval, as required by the UDO. Use additional pages as needed.

PROPOSED USES:

The Rezoned Lands may be used for, and only for, the uses listed immediately below. The permitted uses are subject to the limitations and regulations stated in the UDO and any additional limitations or regulations stated below. For convenience, some relevant sections of the UDO may be referenced; such references do not imply that other sections of the UDO do not apply.

1	Uses as permitted in the B1 district except	21	
2	Building supplies, retail	22	
3	Funeral home	23	
4	Theater	24	
5	Radio or television recording studio	25	
6		26	
7		27	
8		28	
9		29	
10		30	
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20		40	

PETITION INFORMATION			
Application #:	21CZ26	Submittal Date:	10/1/22
PROPOSED CONDITIONS:			
The applicant hereby req Ordinance, approve the Co pages as needed.	uests that the Town Council on nditional Zoning for the above l	of the Town of Apex isted use(s) subject to	, pursuant to the Unified Development the following condition(s). Use additional
See attached.			
LEGISLATIVE CONSIDERA	TIONS - CONDITIONAL ZONIN	G	
The secold sector ball second			

The applicant shall propose site-specific standards and conditions that take into account the following considerations, which are considerations that are relevant to the legislative determination of whether or not the proposed conditional zoning district rezoning request is in the public interest. These considerations do not exclude the legislative consideration of any other factor that is relevant to the public interest. Use additional pages as needed.

1) *Consistency with 2045 Land Use Map.* The proposed Conditional Zoning (CZ) District use's appropriateness for its proposed location and consistency with the purposes, goals, objectives, and policies of the 2045 Land Use Map.

The 2045 LUM designation for the property is High Density Residential and

Commercial Services. The proposed rezoning seeks to provide commercial uses consistent with this designation. The proposed zoning district, B1-CZ, is consistent

with guidance in the Comprehensive Plan for properties with this designation.

2) *Compatibility.* The proposed Conditional Zoning (CZ) District use's appropriateness for its proposed location and compatibility with the character of surrounding land uses.

The proposed rezoning site is near an existing commercial node where Humie Olive meets Old US 1. The proposed rezoning will be consistent with the existing non-residential character of the uses at that node. Moreover, some of the property within that hub are zoned B1 already, which is the district sought with this rezoning application.
PETITION INFORMATION				
Application #:	21CZ26	Submittal Date:	10/1/22	

3) Zoning district supplemental standards. The proposed Conditional Zoning (CZ) District use's compliance with Sec 4.4 *Supplemental Standards*, if applicable.

New development on the site will comply with supplemental use standards to the extent such standards are applicable under UDO Sec. 4.4.

4) *Design minimizes adverse impact.* The design of the proposed Conditional Zoning (CZ) District use's minimization of adverse effects, including visual impact of the proposed use on adjacent lands; and avoidance of significant adverse impacts on surrounding lands regarding trash, traffic, service delivery, parking and loading, odors, noise, glare, and vibration and not create a nuisance.

The requested district includes commitments related to the appearance of buildings and the exterior lighting which are meant to ensure a quality development that will not have a negative impact on surrounding properties.

5) *Design minimizes environmental impact.* The proposed Conditional Zoning District use's minimization of environmental impacts and protection from significant deterioration of water and air resources, wildlife habitat, scenic resources, and other natural resources.

New development on the site will be consistent with the Town's requirements for the same, many of which are meant to minimize a project's impact on the environment. Additionally, the project includes a commitment to provide solar conduit and shielded

lighting in order to minimize the development's impacts on the environment.

6) Impact on public facilities. The proposed Conditional Zoning (CZ) District use's avoidance of having adverse impacts on public facilities and services, including roads, potable water and wastewater facilities, parks, schools, police, fire and EMS facilities.

The project will include turn lanes, frontage improvements, and right-of-way dedication

in order to address the traffic impacts reasonably associated with the proposed

development at this site. Additionally, the project will include annexation and the

extension of public utilities to the site.

7) *Health, safety, and welfare.* The proposed Conditional Zoning (CZ) District use's effect on the health, safety, or welfare of the residents of the Town or its ETJ.

The proposed rezoning is consistent with the Town's long range plans for development

in this area. By provising non-residential uses in proximity to an ever-growing residential

area, residents will have convenient access to goods and services.



PETITION INFORMAT	ION			
Application #:	<u>21CZ26</u>	Submittal Date:	10/1/22	
8) <i>Detrimental to a</i> detrimental to adjace	<i>djacent properties.</i> nt properties.	Whether the proposed Conditional	Zoning (CZ) Di	strict use is substantially
As mentioned a	above, the pro	posed site of the rezoning	ı is adjacer	nt to a commercial
node. Develop	ment consister	nt with the proposed rezon	ning will be	consistent with
existing uses ir	n the area and	will compliment those bu	sinesses.	The project is not
detrimental to s	urrounding pro	operties.		
 9) Not constitute nuis or hazard due to traff (CZ) District use. 	sance or hazard. Wh fic impact or noise, c	nether the proposed Conditional Zonir or because of the number of persons	ng (CZ) District u who will be usin	use constitutes a nuisance ng the Conditional Zoning
The proposed r	ezoning will fa	acilitate the development (of a non-re	sidential center in

an area slated for the same in the Town's Comprehensive Plan. Non-residential center in in this area are not anticipated to become a nuisance. At time of site plan, staff will review the project layout to insure that its design does not create a nuisance.

10) Other relevant standards of this Ordinance. Whether the proposed Conditional Zoning (CZ) District use complies with all standards imposed on it by all other applicable provisions of this Ordinance for use, layout, and general development characteristics.

This project will include a much needed extension of public utilities which could help

spur more economic activity in this area. This is a benefit for the Town itself and also for

its residents who will benefit from having convenient access to goods and services.

Humie Olive Commercial Zoning Conditions

- The predominant exterior building materials shall be high quality materials per UDO § 9.3.5 and shall include brick, wood, stacked stone, other native stone, tinted/textured concrete masonry units, EIFS, aluminum storefronts with anodized or pre-finished colors.
- 2. EIFS or synthetic stucco shall not be used in the first forty inches above grade.
- 3. The building exterior shall more than one material color.
- 4. The building shall have more than one parapet height.
- 5. The main entrance of the building shall be emphasized (per UDO Sec 9.3.4 and 9.3.5).
- 6. Tree clearing, grading, or SCM installation shall not be designated within either zone of a riparian buffer.
- 7. Signage prohibiting pet waste and reduced fertilization shall be installed near environmentally sensitive areas
- 8. Pollinator friendly and/or native flora shall be selected for required landscaping
- 9. Each building shall be constructed with solar conduit to facilitate future rooftop solar installations
- 10. A pet waste station shall be installed within the common open space area
- 11. Coordinate with the Park, Recreation, and Cultural Resources for the location of a future greenway corridor along the western boundary.
- 12. Required outdoor lighting shall
 - a. Incorporate timers, sensors, or smart lighting technology
 - b. Be shielded in a way that focuses lighting to the ground
 - c. Minimize the emission of blue light
 - d. Emit a color temperature of 3000K or less

Applic	ation #:	21CZ26	Submittal Date:	10/1/22
David R	ay Powell		is the owner* of the p	roperty for which the attached
applica	tion is being	submitted:		. ,
	Land Use	Amendment		
\checkmark	Rezoning	For Conditional Zoning and authorization includes exp Agent which will apply if tl	d Planned Development rezoning press consent to zoning conditior he application is approved.	applications, this as that are agreed to by the
	Site Plan			
	Subdivisio	on		
	Variance			
	Other:			
Agent N Address	Name: s:	1125 Apex Peakwa	ay, Apex, NC 27502	, ,
Telephc	one Number	(919) 439-0100		
F-Mail /	Address:	jroach@peakengi	neering.com	
		Signature(s) of Owner	10)*	
		Chitle David K	Park Basell Type or print r	name 295-pp7 8

Attach additional sheets if there are additional owners.

*Owner of record as shown on the latest equalized assessment rolls of Wake County. An option to purchase does not constitute ownership. If ownership has been recently transferred, a copy of the deed must accompany this authorization.

Pursuant to Article 40 of Chapter 66 of the North Carolina General Statutes (the Uniform Electronic Transactions Act) this application and all documents related hereto containing an electronic or digitized signature are legally binding in the same manner as are hard copy documents executed by hand signature. The parties hereby consent to use electronic or digitized signatures in accordance with the Town's Electronic Signature Policy and intend to be bound by the application and any related documents. If electronic signatures are used the application shall be delivered in an electronic record capable of retention by the recipient at the time of receipt.

AFFIDAVIT OF OWNERSHIP

Application #: 21

21CZ26

Submittal Date: 10/1/22

The undersigned, <u>Joseph lannone</u> (the "Affiant") first being duly sworn, hereby swears or affirms as follows:

- 2. This Affidavit of Ownership is made for the purpose of filing an application for development approval with the Town of Apex.
- 3. If Affiant is the owner of the Property, Affiant acquired ownership by deed, dated <u>12/29/17</u> and recorded in the Wake County Register of Deeds Office on <u>12/2917</u>, in Book <u>17011</u> Page <u>1371</u>
- 4. If Affiant is the authorized agent of the owner(s) of the Property, Affiant possesses documentation indicating the agency relationship granting the Affiant the authority to apply for development approval on behalf of the owner(s).
- 5. If Affiant is the owner of the Property, from the time Affiant was deeded the Property on ^{12/29/17}, Affiant has claimed sole ownership of the Property. Affiant or Affiant's predecessors in interest have been in sole and undisturbed possession and use of the property during the period of ownership. Since taking possession of the Property on ^{12/29/17}, no one has questioned Affiant's ownership or right to possession nor demanded any rents or profits. To Affiant's knowledge, no claim or action has been brought against Affiant (if Affiant is the owner), or against owner(s) (if Affiant is acting as an authorized agent for owner(s)), which questions title or right to possession of the property, nor is any claim or action pending against Affiant or owner(s) in court regarding possession of the Property.

This the 29th day of Sept (seal) Type or print name

STATE OF NORTH CAROLINA

I, the undersigned, a Notary Public in and for the County of WAKE, hereby certify that DAVID POWELL, Affiant, cersonally known to me by said Affiant's presentation of

said Affiant's

personally appeared before me this day and acknowledged the

due and voluntary execution of the foregoing Affidavit.



Notary Public State of North Carolina My Commission Expires: <u>V/18/2023</u>

- Page 293 -

Applica	ation #:	21CZ26	Submittal Date: 10/1/22
JVI Build	ing & Devel	opment, Inc.	is the owner* of the property for which the attach
applicat	ion is being	submitted:	
	Land Use	Amendment	
	Rezoning:	For Conditional Zoning and authorization includes exp Agent which will apply if th	Planned Development rezoning applications, this ress consent to zoning conditions that are agreed to by the application is approved.
	Site Plan		
	Subdivisio	n	
	Variance		
	Other:		
The prop	perty addres	ss is: 7525 Humie Olive	e Road
The age	nt for this pr	oject is: Joseph lannone	
	🕵 I am th	e owner of the property and	d will be acting as my own agent
Agent N	ame:	Peak Engineering & I	Design, PLLC (Jeffrey A. Roach, P.E.)
Address		1125 Apex Peakway,	Apex, NC 27502
Telepho	ne Number:	(919) 439-0100	
F-Mail A	ddrass	jroach@peakenginee	ering.com
		Signature(s) of Owner(Type or print name
			Type or print name D

Attach additional sheets if there are additional owners.

*Owner of record as shown on the latest equalized assessment rolls of Wake County. An option to purchase does not constitute ownership. If ownership has been recently transferred, a copy of the deed must accompany this authorization.

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AFFIDAVIT OF OWNERSHIP

Application #:

21CZ26

Submittal Date: 10/1/22

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- 5. If Affiant is the owner of the Property, from the time Affiant was deeded the Property on <u>12/29/17</u>, Affiant has claimed sole ownership of the Property. Affiant or Affiant's predecessors in interest have been in sole and undisturbed possession and use of the property during the period of ownership. Since taking possession of the Property on <u>12/29/17</u>, no one has questioned Affiant's ownership or right to possession nor demanded any rents or profits. To Affiant's knowledge, no claim or action has been brought against Affiant (if Affiant is the owner), or against owner(s) (if Affiant is acting as an authorized agent for owner(s)), which questions title or right to possession of the property, nor is any claim or action pending against Affiant or owner(s) in court regarding possession of the Property.

This the **29** day of 20 (seal) JOE V. TANNONE Type or print name

STATE OF NORTH CAROLINA

I, the undersigned, a Notary Public in and for the County of WAKE, hereby certify that \overline{DOE} (ANNONE, Affiant, personally known to me by said Affiant's presentation of and Affiant's presentation of the formula of the formula

- Page 295 -

said Affiant's

______ personally appeared before me this day and acknowledged the

due and voluntary execution of the foregoing Affidavit.



Dan Marwoods

Notary Public State of North Carolina My Commission Expires: <u>11/19/2023</u>

NOTICE OF NEIGHBORHOOD MEETING

This document is a public record under the North Carolina Public Records Act and may be published on the Town's website or disclosed to third parties.

9/1	5/2	1
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Date

Dear Neighbor:

You are invited to a neighborhood meeting to review and discuss the development proposal at

0 Humie Olive Road	0720-99-3254		
7525 Humie Olive Road	0720-99-0292		
Address(es)	PIN(s)		

in accordance with the Town of Apex Neighborhood Meeting procedures. This meeting is intended to be a way for the applicant to discuss the project and review the proposed plans with adjacent neighbors and neighborhood organizations before the submittal of an application to the Town. This provides neighbors an opportunity to raise questions and discuss any concerns about the impacts of the project before it is officially submitted. If you are unable to attend, please refer to the Project Contact Information page for ways to contact the applicant. Notified neighbors may request that the applicant provide updates and send plans via email or mail. Once an application has been submitted to the Town, it may be tracked using the <u>Interactive Development Map</u> or the <u>Apex Development Report</u> located on the Town of Apex website at http://www.apexnc.org/180/Planning-Community-Development.

A Neighborhood Meeting is required because this project includes (check all that apply):

Арр	lication Type	Approving Authority
	Rezoning (including Planned Unit Development)	Town Council
	Major Site Plan	Town Council (QJPH*)
	Special Use Permit	Town Council (QJPH*)
	Residential Master Subdivision Plan (excludes exempt subdivisions)	Technical Review Committee (staff)

*Quasi-Judicial Public Hearing: The Town Council cannot discuss the project prior to the public hearing.

The following is a description of the proposal (also see attached map(s) and/or plan sheet(s)): We are seeking rezoning in order to develop approximately 50,000sf of commercial uses at the intersection of Humie Olive and Old US HWY 1.

Estimated submittal date: Octobe	er 2021	
MEETING INFORMATION:		
Property Owner(s) name(s):	David Ray Powell & JVI Building & Development	
Applicant(s):	Jason Barron - Attorney for Owners	
Contact information (email/phone):	jbarron@morningstarlawgroup.com/919-590-0371	
Meeting Address:	https://morningstarlaw.group/09302021mtg	
Date/Time of meeting**:	September 30, 2021 from 5:30 to 7:30	
MEETING AGENDA TIMES: Welcome: 5:30 - 5:32 Project F	Presentation: <u>5:32 - 5:35</u> Question & Answer: 5:35 - 7:30	

**Meetings shall occur between 5:00 p.m.-9:00 p.m. on a Monday through Thursday (excluding Town recognized holidays). If you have questions about the general process for this application, please contact the Planning and Community Development Department at 919-249-3426. You may also find information about the Apex Planning Department and on-going planning efforts at http://www.apexnc.org/180/Planning-Community-Development.

PROJECT CONTACT INFORMATION

This document is a public record under the North Carolina Public Records Act and may be published on the Town's website or disclosed to third parties.

Development Contacts:					
Project Name: Humie Olive Commercia	I Zoning: RR				
Location: 0 Humie Olive Road & 7525 Humie Olive Road					
Property PIN(s): 0720-99-3254 & 0720-99-0292 Acrea	ge/Square Feet: 7.69				
Property Owner: David Ray Powell & J	/I Building & Development				
Address: 542 Lapis Lane					
City: Cary	State: NC Zip: 27519				
Phone: Email:					
Developer: JVI Building & Developmer	nt				
Address: 2509 Southwinds Run					
City: Apex State	: <u>NC</u> zip: <u>27502</u>				
Phone: Fax:	Email:				
Engineer: Peak Engineering & Design	, PLLC - attn: Jeff Roach, P.E.				
Address: 1125 Apex Peakway					
City: Apex	State: NC Zip: 27502				
Phone: (919) 439-0100 Fax:	Email: jroach@peakengineering.com				
Builder (if known): JVI Building & Develo	pment				
Address:					
City:	State: Zip:				
Phone: Fax:	Email:				

Please note that Town staff will not have complete information about a proposed development until the application is submitted for review. If you have a question about Town development standards and how they relate to the proposed development, please contact the appropriate staff person listed below.

Town of Apex Department Contacts	
Planning and Community Development Department Main Number	
(Provide development name or location to be routed to correct planner)	(919) 249-3426
Parks, Recreation & Cultural Resources Department	
Angela Reincke, Parks and Greenways Planner	(919) 249-7468
Public Works - Transportation	
Russell Dalton, Senior Transportation Engineer	(919) 249-3358
Water Resources Department	
Jessica Bolin, Environmental Engineering Manager (Stormwater, Sedimentation &	(919) 249-3537
Erosion Control)	
James Gregg, Utility Engineering Manager (Water & Sewer)	(919) 249-3324
Electric Utilities Division	
Rodney Smith, Electric Technical Services Manager	(919) 249-3342

acket & Affidavit

Neighborhood M - Page 297 -

Providing Input to Town Council:

Each Town Council meeting agenda includes a Public Forum time when anyone is permitted to speak for three (3) minutes on any topic with the exception of items listed as Public Hearings for that meeting. The Town Council meets on the 2nd and 4th Tuesdays of each month at 6:00 p.m. (except for holidays, see schedule of meetings at http://www.apexnc.org/838/Agendas-Minutes). You may also contact Town Council by e-mail at AllCouncil@apexnc.org/838/Agendas-Minutes). You may also contact Town Council by e-mail at AllCouncil@apexnc.org/838/Agendas-Minutes). You may also contact Town Council by e-mail at AllCouncil@apexnc.org/838/Agendas-Minutes). You may also contact Town Council by e-mail at AllCouncil@apexnc.org/838/Agendas-Minutes). You may also contact Town Council by e-mail at http://www.apexnc.org/838/Agendas-Minutes). You may also contact Town Council by e-mail at AllCouncil@apexnc.org.

Private Agreements and Easement Negotiation:

The Town of Apex cannot enforce private agreements between developers and neighbors and is not a party to the easement and right-of-way negotiation that occurs between developers and neighboring property owners for easements or rights-of-way that are necessary to build the project.

It is recommended that all private agreements be made in writing and that if a property owner feels it necessary, they should obtain private legal counsel in order to protect their interests in both private agreements and during easement negotiations. The only conditions that the Town of Apex can enforce are those conditions that are made a part of the conditional zoning of the property by agreement of the developer and the Town.

As an example, if a developer offers to build a fence for a neighbor to mitigate some impact, the Town can only enforce the construction of the fence if the fence becomes a condition of the rezoning. This would occur by the developer offering the condition as part of their conditional zoning application package or at the Town Council public hearing on the conditional zoning and the Town accepting it as a condition. Private agreements regarding a fence being constructed will not be enforced by the Town.

To request that any agreement with a developer is made a part of the conditional zoning at the time of approval, you may ask at the Town Council public hearing if the agreement is included in the conditions. If it is not, you may request that the Town Council not approve the rezoning without the agreement being included in the conditions (note that it is up to Town Council whether to approve or deny the rezoning but they cannot impose conditions that the applicant does not agree to add). The developer's proposed conditions can be viewed any time after a rezoning is submitted on the Interactive Development Map at: http://apexnc.maps.arcgis.com/apps/OnePane/basicviewer/index.html?appid=fa9ba2017b784030b15ef4d

Documentation:

Neighbors to a requested new development and/or rezoning are strongly encouraged to fully document (such as through dated photographs) the condition of their property before any work is initiated for the new development. Stormwater controls installed on developed property are not designed to and will likely not remove 100% of the soil particles transported by stormwater runoff. As a result, creeks and ponds could become cloudy for a period of time after rain events.



Vicinity & Zoning Map



<u>Disclaimer</u>

iMaps makes every effort to produce and publish the most current and accurate information possible. However, the maps are produced for information purposes, and are NOT surveys. No warranties, expressed or implied , are provided for the data therein, its use, or its interpretation.



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SUMMARY OF DISCUSSION FROM THE ELECTRONIC NEIGHBORHOOD MEETING

This document is a public record under the North Carolina Public Records Act and may be published on the Town's website or disclosed to third parties.

 Property Owner(s) name(s):
 JVI Building and Development, Inc. and David Ray Powell

 Applicant(s):
 Peak Engineering and Morningstar Law Group

 Contact information (email/phone):
 jbarron@morningstarlawgroup.com/919.590.0371

 Meeting Format:
 Virtual per Town's Requirements

 Date of meeting:
 September 30, 2021

 Time of meeting:
 5:30pm-7:30pm

Please summarize the questions/comments and your response from the Electronic Neighborhood Meeting in the spaces below (attach additional sheets, if necessary). Please state if/how the project has been modified in response to any concerns. The response should not be "Noted" or "No Response". There has to be documentation of what consideration the neighbor's concern was given and justification for why no change was deemed warranted.

Question/Concern #1: What is the plan for development of the site

Applicant's Response: The applicant's representative shared a draft potential layout of the site which is included herein

Question/Concern #2: What is the proposed buffer to the western boundary

Applicant's Response:

the plan is for a 30' perimeter buffer that would seek to preserve as much of the existing mature vegetation as practicable

Question/Concern #3: What is the plan for stormwater

Applicant's Response:

The owners have agreed to engineer for the 25 year storm event, and we anticipate an SCM near the western boundary

Question/Concern #4:

A concern was expressed with respect to potential impacts to groundwater from a gas station

Applicant's Response:

Noted, and we believe that most of the issues with service stations and groundwater is from older underground storage tanks

SUMMARY OF DISCUSSION FROM THE ELECTRONIC NEIGHBORHOOD MEETING

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 JVI Building and Development, Inc. and David Ray Powell

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 Contact information (email/phone):
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Please summarize the questions/comments and your response from the Electronic Neighborhood Meeting in the spaces below (attach additional sheets, if necessary). Please state if/how the project has been modified in response to any concerns. The response should not be "Noted" or "No Response". There has to be documentation of what consideration the neighbor's concern was given and justification for why no change was deemed warranted.

Question/Concern #1: where is sewer coming from

Applicant's Response:

The anticipation is that this site can be sewered from a development to the north that will be bringing gravity sewer across Humie Olive

Question/Concern #2:

Would you consider a 6' privacy fence along the western boundary of the site

Applicant's Response:

the applicant agreed to walk the site and determine feasibility of a fence with the lone adjacent neighbor that attended the meeting

Question/Concern #3:

The attendees stated they will not oppose the development and appreciated how transparent the neighborhood meeting was

Applicant's Response:

Question/Concern #4:

Applicant's Response:

ELECTRONIC NEIGHBORHOOD MEETING ATTENDANCE SHEET

This document is a public record under the North Carolina Public Records Act and may be published on the Town's website or disclosed to third parties.

Meeting Format:	Virtual per Town's Requirements		
Date of meeting:	September 30, 2021	Time of meeting:	5:30pm-7:30pm
Property Owner(s) name(s): JVI Building and Development, Inc	. and David Ray F	Powell
Applicant(s): Pea	ak Engineering and Morningstar Law Group		

Please list Electronic Neighborhood Meeting Attendees who provided their name and/or contact information either during the meeting or via phone/email before or after the meeting.

	NAME/ORGANIZATION	ADDRESS	PHONE #	EMAIL	SEND PLANS & UPDATES
1.	Matthew and Diane Olson	2404 Old US 1 HWY			
2.	Jason Barron, Morningstar Law Group	421 Fayetteville Street, Suite 530, Raleigh			
3.	Jeff Roach, Peak Engineering & Do	es 1125 Apex Peakway, Apex, NC			
4.					
5.					
6.					
7.					
8.					
9.					
10.					
11.					
12.					
13.					
14.					

Use additional sheets, if necessary.

AFFIDAVIT OF CONDUCTING AN ELECTRONIC NEIGHBORHOOD MEETING AND ISSUES/RESPONSES SUBMITTAL

This document is a public record under the North Carolina Public Records Act and may be published on the Town's website or disclosed to third parties.

I, Jason Barron _____, do hereby declare as follows:

Print Name

- 1. I have conducted an Electronic Neighborhood Meeting for the proposed Rezoning, Major Site Plan, Residential Master Subdivision Plan, or Special Use Permit in accordance with UDO Sec. 2.2.7 *Neighborhood Meeting*.
- 2. The meeting invitations were mailed to the Apex Planning Department, all property owners within 300 feet of the subject property and any neighborhood association that represents citizens in the area via first class mail a minimum of 10 days in advance of the Electronic Neighborhood Meeting.
- 3. The meeting was conducted via <u>Virtual per Town's Requirements</u> (indicate format of meeting) on <u>September 30, 2021</u> (date) from <u>530pm</u> (start time) to <u>730pm</u> (end time).
- 4. I have included the mailing list, meeting invitation, attendance sheet issue/response summary, and zoning map/reduced plans with the application.
- 5. I have prepared these materials in good faith and to the best of my ability.

By:

STATE OF NORTH CAROLINA COUNTY OF WAKE

Sworn and subscribed before me,	ialogdan, a Notary Public for the above State and
County, on this the day of	then, 2021.
SEAL	Julea
	Notary Public



My Commission Expires: Cypiel 21 2024

CERTIFIED LIST C	DF NEIGHBORING PROPERTY OWNERS		
Application #:	21CZ26	Submittal Date:	10/1/22

Provide a certified list of property owners subject to this application and all property owners within 300' of the subject property and HOA Contacts.

	Owner's Name	PIN
1.	LIST PROVIDED BY TOWN	
2.		
3.		
4.		
5.		
6.	<u></u>	
7.		
8.		
9.		
10.		
11.		
12.		
13.		
14.		
15.		
l,J prop	ason Barron erty owners within 300' of the subject pr	, certify that this is an accurate listing of all property owners and operty.
Date	16/1/21	ву
COUI	NTY OF WAKE STATE OF NORTH CAROLIN	A
Swor Coun	n and subscribed before me,	a D_{qden} , a Notary Public for the above State and 2021 .
SE	AL	Notary Public Julia Under Print Name
	JULIA OGDEN NOTARY PUBLIC WAKE COUNTY, N.C.	My Commission Expires: <u>April 21, 20</u> 24

|Agenda Item | cover sheet

for consideration by the Apex Town Council

Item Type: CONSENT AGENDA Meeting Date: April 12, 2022

<u>Item Details</u>

Presenter(s):Amanda Bunce, Current Planning ManagerDepartment(s):Planning and Community Development

Requested Motion

Motion to set Public Hearing for the April 26, 2022 Town Council meeting regarding Rezoning Application #22CZ03 Sweetwater PUD Amendment. The applicant, David Schmidt, ExperienceOne Homes, LLC, seeks to rezone approximately 44.76 acres from Planned Unit Development-Conditional Zoning (PUD-CZ #18CZ01) to Planned Unit Development-Conditional Zoning (PUD-CZ). The proposed rezoning is located at 0 & 3233 US 64 Hwy W, 0 Core Banks St, and 1051 & 1075 Newland Ave.

Approval Recommended?

The Planning and Community Development Department recommends approval.

<u>Item Details</u>

The properties to be rezoned are identified as PINs 0722453275, 0722456374, 0722458740, 0722550034, 0722544876, & 0722544404.

<u>Attachments</u>

- Vicinity Map
- Application





Rezoning #22CZ03

age Rd

Stratford at Abbington

Townes at Westford

THE 2 3 AND 54

64

Timken Forest Dr

Sweetwater

1,000

PLANNED	UNIT DEVELOPMENT APPLICATION				
This docume	nt is a public record under the North Carolina P	ublic Records Act	and may be published or	n the Town's website	e or disclosed to
Application	#: <u>22CZ03</u>		Submittal Date:	2-1-22	
Fee Paid	\$ 600.00		Check #	Visa	
PETITION	TO AMEND THE OFFICIAL ZONING DIS	TRICT MAP			
Project Nar	me: Sweetwater PUD				
Address(es): 3233 US 64 Highway, 0 Core Banks S	St., 0 US 64 High	way, 1051 Newland Ave.	, 1075 Newland Av	e. Apex, NC 27523
PIN(s)	0722-45-3275, 0722-45-6374, 072	22-45-8740,	0722-55-0034, 0	722-54-4876,	0722-54-4404
				Acreage: 4	4.76 AC
Current Zoi	ning: PUD-CZ	Propo	osed Zoning: PUD	-CZ	
Current 204	45 LUM Designation: Commun	ity Mixed U	se (CMU		
Is the prop	osed rezoning consistent with the 2045 I	LUM Classificat	ion(s)? Yes 🔳	No	
If any port	ion of the project is shown as mixed use	(3 or more stri	pes on the 2045 Land	Use Map) provid	e the following:
Ar	ea classified as mixed use:		Acreage:	44.76 AC	
Ar	ea proposed as non-residential developr	ment:	Acreage:	44.76 AC	
Pe	rcent of mixed use area proposed as no	n-residential:	Percent:	100%	
Applicant I	nformation				
Namo:	ExperienceOne Homes, LLC				
Addross:	PO Box 5509				
City:	Carv	Stato	NC	Zin:	27512
Phone:	(919) 991-1428	State:	Dschmidt@E1H	lomes.com	
Thone.	<u>(())</u>	L man.			
Owner Info	ormation				
Name:	See attached list				
Address:					
City:		State:		Zip:	
Phone:		E-mail:			
Agent Info	rmation				
Name:	CE Group, Inc - Mitch Craig				
Address:	301 Glenwood Avenue, Suite	220			
City:	Raleigh	State:	NC	Zip:	27603
Phone:	(919) 367-8790	E-mail:	Mitch@CEGrou	ipInc.com	
Other cont	acts:				
	r				
		- Page 308 -			

PLANNED UNIT DEVELOPMENT APPLICATION

22CZ03

Application #:

PLANNED UNIT DEVELOPMENT DISTRICT STANDARDS:

In return for greater flexibility in site design requirements, Planned Development (PD) Districts are expected to deliver exceptional quality community designs that preserve critical environmental resources; provide high quality community amenities; incorporate creative design in the layout of buildings, Resource Conservation Area and circulation; ensure compatibility with surrounding land uses and neighborhood character; provide high quality architecture; and provide greater efficiency in the layout and provision of roads, utilities, and other infrastructure. The Planned Development (PD) Districts shall not be used as a means of circumventing the Town's adopted land development regulations for routine developments. The PD text and plan should demonstrate how the standards of Sec. 2.3.4.F are met be the proposed rezoning.

LEGISLATIVE CONSIDERATIONS - CONDITIONAL ZONING

The applicant shall propose site-specific standards and conditions that take into account the following considerations, which are considerations that are relevant to the legislative determination of whether or not the proposed conditional zoning district rezoning request is in the public interest. These considerations do not exclude the legislative consideration of any other factor that is relevant to the public interest. Use additional pages as needed.

1) Consistency with 2045 Land Use Map. The proposed Conditional Zoning (CZ) District use's appropriateness for its proposed location and consistency with the purposes, goals, objectives, and policies of the 2045 Land Use Map.

The proposed residential and non-residential uses are consistent with the uses as defined by the

Community Mixed Use category in the 2045 Land Use Map. CMU encourages the integration of residential and non-residential mixed-use uses.

2) *Compatibility.* The proposed Conditional Zoning (CZ) District use's appropriateness for its proposed location and compatibility with the character of surrounding land uses.

The land areas surrounding the Sweetwater PUD are a mixture of retail, residential (single family,

townhome, apartments) and commercial. This PUD combines most of the surrounding uses into one project.

3) Zoning district supplemental standards. The proposed Conditional Zoning (CZ) District use's compliance with Sec 4.4 *Supplemental Standards,* if applicable.

The Sweetwater PUD complies with the regulations in section 4.4 of the Town of Apex UDO as

applicable for townhomes, multi-family or apartment, day care, and commercial uses, to the extent these regulations do not conflict with the PUD regulations.

Submittal Date:

2-1-22

2-

PETITION PROCESS INFORMATION

4) Design minimizes adverse impact. The design of the proposed Conditional Zoning (CZ) District use's minimization of adverse effects, including visual impact of the proposed use on adjacent lands; and avoidance of significant adverse impacts on surrounding lands regarding trash, traffic, service delivery, parking and loading, odors, noise, glare, and vibration and not create a nuisance.

The architectural for the Sweetwater PUD will reflect the residential and non-residential scale and character of traditional Apex building Styles.

Service bays of non-residential uses will be located in the rear of structures. Variation in colors and materials will be considered

to create visually engaging designs. Roof lines and materials will be varied to create visual interest and avoid repetition. Trash,

parking and loading and odors will be screened from adjacent uses as required by the UDO and as set forth in the PUD regulations.

5) *Design minimizes environmental impact*. The proposed Conditional Zoning District use's minimization of environmental impacts and protection from significant deterioration of water and air resources, wildlife habitat, scenic resources, and other natural resources.

The Sweetwater PUD will use exterior of the property to the extent practicable for RCA. This PUD will comply

with all built upon area, structural SCMs and riparian stream buffer requirements of UDO Section 6.1.7.

The commercial portion of the project will include multiple Electric Vehicle (EV) charging stations. This PUD will

contain greater than 25% RCA.

6) *Impact on public facilities.* The proposed Conditional Zoning (CZ) District use's avoidance of having adverse impacts on public facilities and services, including roads, potable water and wastewater facilities, parks, schools, police, fire and EMS facilities.

Public water and sewer facilities have been extended to the project and will be installed interior

to the project by the Developer. The proposed PUD will meet all Public Facilities requirements

in UDO Section 2.3.4(F)(1)(f).

7) *Health, safety, and welfare.* The proposed Conditional Zoning (CZ) District use's effect on the health, safety, or welfare of the residents of the Town or its ETJ.

The proposed PUD will improve the public health by providing all uses in a compact area,

including residential, office, retail, commercial, medical and restaurants. A resident theoretically

would not have to leave the development in order to eat, sleep, shop, work and go to the doctor.

8) *Detrimental to adjacent properties.* Whether the proposed Conditional Zoning (CZ) District use is substantially detrimental to adjacent properties.

The Sweetwater PUD has had a positive impact on the adjacent properties. The uses

proposed in the PUD will/have enhanced the character of the adjacent properties and offer

uses that compliment the adjacent properties.

PETITION PROCESS INFORMATION

9) Not constitute nuisance or hazard. Whether the proposed Conditional Zoning (CZ) District use constitutes a nuisance or hazard due to traffic impact or noise, or because of the number of persons who will be using the Conditional Zoning (CZ) District use.

The proposed PUD will not constitute a hazard due to traffic or noise as the traffic impacts will be

mitigated by the road improvements shown in the PUD, TIA, etc. Other potential negative impacts

are mitigated to the maximum extent practical by the design guidelines in the PUD documents.

10) Other relevant standards of this Ordinance. Whether the proposed Conditional Zoning (CZ) District use complies with all standards imposed on it by all other applicable provisions of this Ordinance for use, layout, and general development characteristics.

The Sweetwater PUD will comply with all other relevant portions of the Ordinance (UDO).

PIN	Real Estate ID	Owner	Mail Address 1	Mail Address 2	Deed Book	Deed Page	Deed Acres	Site Address	City	Owner Email	Owner Email
0722-55-0034	148944	KEPE1 STC, LLC	7001 BRUSH HOLLOW RD STE 200	WESTBURY NY 11590-1743	18792	51-55	18.33	3233 US 64 HWY W	APEX	EK@Kaled.com	Dschmidt@E1Homes.com
0722-54-4876	120755	KEPE1 STC, LLC	7001 BRUSH HOLLOW RD STE 200	WESTBURY NY 11590-1743	18792	51-55	5.9	1051 NEWLAND AVE	APEX	EK@Kaled.com	Dschmidt@E1Homes.com
0722-54-4404	476653	SWEETWATER LIGHTBRIDGE LLC	PO BOX 5509	CARY NC 27512-5509	17764	1056	1.38	1075 NEWLAND AVE	APEX		Dschmidt@E1Homes.com
0722-45-3275	436595	KEPE1 HOLDINGS LLC	7001 BRUSH HOLLOW RD STE 200	WESTBURY NY 11590-1743	18792	2056-2060	13.43	0 CORE BANKS ST	APEX	EK@Kaled.com	Dschmidt@E1Homes.com
0722-45-8740	444531	KEPE1 HOLDINGS LLC	7001 BRUSH HOLLOW RD STE 200	WESTBURY NY 11590-1743	18792	2056-2060	0.59	0 US 64 HWY W	APEX	EK@Kaled.com	Dschmidt@E1Homes.com
0722-45-6374	436584	KEPE1 HOLDINGS LLC	7001 BRUSH HOLLOW RD STE 200	WESTBURY NY 11590-1743	18792	2056-2060	1.79	0 US 64 HWY W	APEX	EK@Kaled.com	Dschmidt@E1Homes.com

DEVELOPMENT NAME APPROVAL APPLICATION

Application #: 22CZO3

Submittal Date:

Fee for Initial Submittal: No Charge

Fee for Name Change after Approval: \$500*

Purpose

To provide a consistent and clearly stated procedure for the naming of subdivisions and/or developments and entrance roadways (in conjunction with *Town of Apex Address Policy*) so as to allow developers to define and associate the theme or aesthetics of their project(s) while maintaining the Town's commitment to preserving the quality of life and safety for all residents of Apex proper and extraterritorial jurisdiction.

Guidelines

- ✓ The subdivision/development name shall not duplicate, resemble, or present confusion with an existing subdivision/development within Apex corporate limits or extraterritorial jurisdiction except for the extension of an existing subdivision/development of similar or same name that shares a continuous roadway.
- ✓ The subdivision/development name shall not resemble an existing street name within Apex corporate limits or extraterritorial jurisdiction unless the roadway is a part of the subdivision/development or provides access to the main entrance.
- ✓ The entrance roadway of a proposed subdivision/development shall contain the name of the subdivision/development where this name does not conflict with the Town of Apex Road Name Approval Application and Town of Apex Address Policy guidelines.
- ✓ The name "Apex" shall be excluded from any new subdivision/development name.
- ✓ Descriptive words that are commonly used by existing developments will be scrutinized more seriously in order to limit confusion and encourage distinctiveness. A list of commonly used descriptive words in Apex's jurisdiction is found below.
- ✓ The proposed subdivision/development name must be requested, reviewed and approved during preliminary review by the Town.
- ✓ A \$500.00 fee will be assessed to the developer if a subdivision/development name change is requested after official submittal of the project to the Town.*

*The imposed fee offsets the cost of administrative changes required to alleviate any confusion for the applicant, Planning staff, other Town departments, decision-making bodies, concerned utility companies and other interested parties. There is no charge for the initial name submittal.

Existing Development Titles, Recurring

	Residential	Non-Residential
10 or more	Creek, Farm(s), Village(s),	Center/Centre
6 to 9	Crossing(s), Park, Ridge, Wood(s)	Commons, Park
3 to 5	Acres, Estates, Glen(s), Green [•] , Hills	Crossing(s), Plaza, Station, Village(s)

•excludes names with Green Level

-conunional Zoning Application

13 of 20	
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DEVELOPMENT NAME APPROVAL APPLICATION

22CZ03 Application #:

Submittal Date:

Proposed Subdivision/Development Information

Description of location: South of US 64 on the east and west sides of Richardson Road

US 64 Highway and Richardson Road Nearest intersecting roads:

Wake County PIN(s): 0722-45-3275, 0722-45-6374, 0722-45-8740, 0722-55-0034, 0722-54-4876, 0722-54-4404

Township: White Oak

Contact Information (as appropriate)

Town of Apex Planning Department Staff

Contact person: Mitch Craig	
Phone number: (919) 367-8790	Fax number: N/A
Address: 301 Glenwood Avenue, Suite 220	Raleigh, NC 27603
E-mail address: Mitch@CEGroupInc.com	
Owner: See Attached List	
Phone number:	Fax number:
Address:	
E-mail address:	
Proposed Subdivision/Development Name	
1 st Choice: Sweetwater	
2 nd Choice <i>(Optional)</i> :	
Town of Apex Staff Approval:	

Date

STREET NAME APPROVAL APPLICATION

Application #: 22CZ03

Submittal Date:

Wake County Approval Date: _____

Guidelines:

- No names duplicating or sounding similar to existing road names
- Avoid difficult to pronounce names
- No individuals' names
- Avoid proper names of a business, e.g. Hannaford Drive
- Limit names to 14 characters in length
- No directionals, e.g. North, South, East, West
- No punctuation marks, e.g. periods, hyphens, apostrophes, etc.
- Avoid using double suffixes, e.g. Deer Path Lane
- All names must have an acceptable suffix, e.g. Street, Court, Lane, Path, etc.
- Use only suffixes which are Town of Apex approved
- Town of Apex has the right to deny any street name that is determined to be inappropriate

Information:

Description of location: South of US 64 on the east and west sides of Richardson Road

Nearest intersecting roads: US 64 Highway and Richardson Road

Wake County PIN(s): 0722-45-3275, 0722-45-6374, 0722-45-8740, 0722-55-0034, 0722-54-4876, 0722-54-4404

Township: White Oak

Contact information (as appropriate)

Contact person:	Mitch Craig		
Phone number:	(919) 367-8790	Fax number:	N/A
Address: 301 G	lenwood Avenue, Suite 220 Rale	eigh, NC 2760	3
E-mail address:	Mitch@CEGroupInc.com		
Owner: See A	ttached List		
Phone number:		Fax number:	
Address:			
F-mail address:			

STREET NAME APPROVAL APPLICATION

Application #: 22CZ03

Submittal Date:

of roads to be named: 8

Please submit twice as many road names as needed, with preferred names listed first. Proposed road names should be written exactly as one would want them to appear. Town of Apex Planning Department staff will send all approved street names to the Wake County GIS Department for county approval. Please allow several weeks for approval. Upon approval Wake County GIS – Street Addressing will inform you of the approved street names.

Example: <u>Road Name</u> <u>Suffix</u>

Hunter Street

1	All Roads were previously approved as noted below:	11
2	Newland Avenue	12
3	Harrells Drive	13
4	Lawnview Lane	14
5	Rennert Place	15
6	Stokesdale Avenue	16
7	Richfield Drive	17
8	Moncure Place	18
9		19
10		20
то\	WN OF APEX STAFF APPROVAL	
Точ	vn of Apex Staff Approval	Date
WA GIS Plea	KE COUNTY STAFF APPROVAL: certifies that names indicated by che ase disregard all other names.	eckmark 🗹 are approved.
Wa	ke County GIS Staff Approval	Date
	- Page 31	16 -

TOWN OF APEX UTILITIES OFFER AND AGREEMENT

Application #: 22CZ03

Submittal Date:

Town of Apex 73 Hunter Street P.O. Box 250 Apex, NC 27502 919-249-3400 WAKE COUNTY, NORTH CAROLINA CUSTOMER SELECTION AGREEMENT

Sweetwater Commercial PUD Amendment

(the "Premises")

The Town of Apex offers to provide you with electric utilities on the terms described in this Offer & Agreement. If you accept the Town's offer, please fill in the blanks on this form and sign and we will have an Agreement once signed by the Town.

KEPE1 Holdings, LLC

Town of Apex (the "Town") as the permanent electric supplier for the Premises. Permanent service to the Premises will be preceded by temporary service if needed.

The sale, delivery, and use of electric power by Customer at the Premises shall be subject to, and in accordance with, all the terms and conditions of the Town's service regulations, policies, procedures and the Code of Ordinances of the Town.

Customer understands that the Town, based upon this Agreement, will take action and expend funds to provide the requested service. By signing this Agreement the undersigned signifies that he or she has the authority to select the electric service provider, for both permanent and temporary power, for the Premises identified above.

Any additional terms and conditions to this Agreement are attached as Appendix 1. If no appendix is attached this Agreement constitutes the entire agreement of the parties.

Acceptance of this Agreement by the Town constitutes a binding contract to purchase and sell electric power.

Please note that under North Carolina General Statute §160A-332, you may be entitled to choose another electric supplier for the Premises.

Upon acceptance of this Agreement, the Town of Apex Electric Utilities Division will be pleased to provide electric service to the Premises and looks forward to working with you and the owner(s).

ACCEPTED:

CUSTON	IER:KEPE1 Holdings, LLC	TOWN OF APEX		
BY:	Edward Jaleps Authorized Agent	BY:	Authorized Agent	
DATE: _	1/18/2022	DATE:		

TOWN OF APEX UTILITIES OFFER AND AGREEMENT

Application #:

22C703

Submittal Date:

Town of Apex 73 Hunter Street P.O. Box 250 Apex, NC 27502 919-249-3400 WAKE COUNTY, NORTH CAROLINA CUSTOMER SELECTION AGREEMENT

Sweetwater Commercial PUD Amendment

(the "Premises")

The Town of Apex offers to provide you with electric utilities on the terms described in this Offer & Agreement. If you accept the Town's offer, please fill in the blanks on this form and sign and we will have an Agreement once signed by the Town.

KEPE1 STC, LLC

Town of Apex (the "Town") as the permanent electric supplier for the Premises. Permanent service to the Premises will be preceded by temporary service if needed.

The sale, delivery, and use of electric power by Customer at the Premises shall be subject to, and in accordance with, all the terms and conditions of the Town's service regulations, policies, procedures and the Code of Ordinances of the Town.

Customer understands that the Town, based upon this Agreement, will take action and expend funds to provide the requested service. By signing this Agreement the undersigned signifies that he or she has the authority to select the electric service provider, for both permanent and temporary power, for the Premises identified above.

Any additional terms and conditions to this Agreement are attached as Appendix 1. If no appendix is attached this Agreement constitutes the entire agreement of the parties.

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Upon acceptance of this Agreement, the Town of Apex Electric Utilities Division will be pleased to provide electric service to the Premises and looks forward to working with you and the owner(s).

ACCEPTED:

CUSTON	AER:KEPE1 STC, LLC - Ed Kalikow	TOWN OF APEX		
BY:	Confanto	BY:		
	Authorized Agent		Authorized Agent	
DATE:	126 2022	DATE:		

TOWN OF APEX UTILITIES OFFER AND AGREEMENT

Application #: 22CZO3

Submittal Date:

Town of Apex 73 Hunter Street P.O. Box 250 Apex, NC 27502 919-249-3400

WAKE COUNTY, NORTH CAROLINA CUSTOMER SELECTION AGREEMENT

Sweetwater Commercial PUD Amendment

(the "Premises")

The Town of Apex offers to provide you with electric utilities on the terms described in this Offer & Agreement. If you accept the Town's offer, please fill in the blanks on this form and sign and we will have an Agreement once signed by the Town.

Sweetwater Lightbridge, LLC

Town of Apex (the "Town") as the permanent electric supplier for the Premises. Permanent service to the Premises will be preceded by temporary service if needed.

The sale, delivery, and use of electric power by Customer at the Premises shall be subject to, and in accordance with, all the terms and conditions of the Town's service regulations, policies, procedures and the Code of Ordinances of the Town.

Customer understands that the Town, based upon this Agreement, will take action and expend funds to provide the requested service. By signing this Agreement the undersigned signifies that he or she has the authority to select the electric service provider, for both permanent and temporary power, for the Premises identified above.

Any additional terms and conditions to this Agreement are attached as Appendix 1. If no appendix is attached this Agreement constitutes the entire agreement of the parties.

Acceptance of this Agreement by the Town constitutes a binding contract to purchase and sell electric power.

Please note that under North Carolina General Statute §160A-332, you may be entitled to choose another electric supplier for the Premises.

Upon acceptance of this Agreement, the Town of Apex Electric Utilities Division will be pleased to provide electric service to the Premises and looks forward to working with you and the owner(s).

ACCEPTED:	
CUSTOMER: Sweetwater Lightbridge, LLC	TOWN OF APEX
BY: Authorized Agent	BY:Authorized Agent
DATE: 1-25-2022	DATE:

AGENT	AUTHORIZATI	ON FORM			
Applica	ation #:	22CZ03	Submittal Date:		
	KEPE1 H	Holdings, LLC	is the owner* of the property f	for which the attached	
applicat	ion is being sul	omitted:	_		
	Land Use Amendment				
	Rezoning: For Conditional Zoning and Planned Development rezoning applications, this authorization includes express consent to zoning conditions that are agreed to by the Agent which will apply if the application is approved.				
	Site Plan				
	Subdivision				
	Variance				
	Other:	· ····································			
The pro	perty address is	s: 0 Core Banks, 0 US 64 I	Highway W		
The agent for this project is: Joseph M. Craig, CE Group, Inc.					
	🗆 I am the o	wner of the property and will be	e acting as my own agent		
Agent Name: Joseph M. Craig					
Address	:	301 Glenwood Avenue, Suite	220, Raleigh, NC 27603		
Telepho	ne Number:	(919) 367-8790		n ghananalaran ya	
E-Mail A	ddress:	Mitch@CEGroupInc.com			
		Signature(s) of Owner(s)*	Type or print name MMM, MGR. Type or print name	1 18 2022 Date	
Attach ac	ditional sheets i	f there are additional owners.			

*Owner of record as shown on the latest equalized assessment rolls of Wake County. An option to purchase does not constitute ownership. If ownership has been recently transferred, a copy of the deed must accompany this authorization.

Pursuant to Article 40 of Chapter 66 of the North Carolina General Statutes (the Uniform Electronic Transactions Act) this application and all documents related hereto containing an electronic or digitized signature are legally binding in the same manner as are hard copy documents executed by hand signature. The parties hereby consent to use electronic or digitized signatures in accordance with the Town's Electronic Signature Policy and intend to be bound by the application and any related documents. If electronic signatures are used the application shall be delivered in an electronic record capable of retention by the recipient at the time of receipt.

Planned Unit Develo - Page 320 -

ning Application

AGENT	T AUTHORIZATI	ON FORM			
Applica	ation #:	22CZ03	Submittal Date:		
KEPE1 STC, LLC		is the owner* of the property f	or which the attached		
applicat	tion is being sul	omitted:	-		
	Land Use An	nendment			
	Rezoning: For Conditional Zoning and Planned Development rezoning applications, this authorization includes express consent to zoning conditions that are agreed to by the Agent which will apply if the application is approved.				
	Site Plan				
	Subdivision				
	Variance				
	Other:				
The pro	perty address i	s: 3233 US 64 Highway, 10	051 Newland Avenue		
The age	ent for this proj	ect is: Joseph M. Craig, CE Gro	oup, Inc.		
	🗆 I am the c	wner of the property and will be	e acting as my own agent		
Agent N	Name:	Joseph M. Craig			
Addres	S:	301 Glenwood Avenue, Suite 2	220, Raleigh, NC 27603		
Telepho	one Number:	(919) 367-8790			
E-Mail	Address:	Mitch@CEGroupInc.com			
		Signature(s) of Owner(s)*			
		Edward Kalikow		1/26/2022	
		Jandol	Type or print name	Date	
		David Schmidt		1/26/2022	
			Type or print name	Date	

Attach additional sheets if there are additional owners.

*Owner of record as shown on the latest equalized assessment rolls of Wake County. An option to purchase does not constitute ownership. If ownership has been recently transferred, a copy of the deed must accompany this authorization.

Pursuant to Article 40 of Chapter 66 of the North Carolina General Statutes (the Uniform Electronic Transactions Act) this application and all documents related hereto containing an electronic or digitized signature are legally binding in the same manner as are hard copy documents executed by hand signature. The parties hereby consent to use electronic or digitized signatures in accordance with the Town's Electronic Signature Policy and intend to be bound by the application and any related documents. If electronic signatures are used the application shall be delivered in an electronic record capable of retention by the recipient at the time of receipt.

Planned Unit Develoment-Conditional Zoning Application

AGENT AUTHORIZATION FORM					
Applic	ation #: 2	22CZ03	Submittal Date:		
Sweetwater Lightbridge, LLC is the owner* of the property for which the attached					
applicat	application is being submitted:				
	Land Use Amendment				
Rezoning: For Conditional Zoning and Planned Development rezoning applications, this authorization includes express consent to zoning conditions that are agreed to by the Agent which will apply if the application is approved.				tions, this re agreed to by the	
	Site Plan				
	Subdivision				
	Variance				
	Other:	·			
The property address is: 1075 Newland Avenue					
The agent for this project is: Joseph M. Craig, CE Group, Inc.					
I am the owner of the property and will be acting as my own agent					
Agent N	lame:	Joseph M. Craig			
Address	Address: 301 Glenwood Avenue, Suite 220, Raleigh, NC 27603				
Telepho	one Number:	(919) 367-8790			
E-Mail A	Address:	Mitch@CEGroupInc.com			
		Signature(s) of Owner(s)*	Type or print name	1-19-20-22 Data	
			Type or print name	Date	

Attach additional sheets if there are additional owners.

*Owner of record as shown on the latest equalized assessment rolls of Wake County. An option to purchase does not constitute ownership. If ownership has been recently transferred, a copy of the deed must accompany this authorization.

Pursuant to Article 40 of Chapter 66 of the North Carolina General Statutes (the Uniform Electronic Transactions Act) this application and all documents related hereto containing an electronic or digitized signature are legally binding in the same manner as are hard copy documents executed by hand signature. The parties hereby consent to use electronic or digitized signatures in accordance with the Town's Electronic Signature Policy and intend to be bound by the application and any related documents. If electronic signatures are used the application shall be delivered in an electronic record capable of retention by the recipient at the time of receipt.

AFFIDAVIT OF OWNERSHIP

Application #: <u>22CZ03</u>

Submittal Date:

 The undersigned,
 Edward Kalikow
 (the "Affiant") first being duly sworn, hereby swears or affirms as follows:

- Affiant is over eighteen (18) years of age and authorized to make this Affidavit. The Affiant is the sole owner, or is the authorized agent of all owners, of the property located at <u>0 Core Banks Street, 0 US 64 Highway</u> and legally described in Exhibit "A" attached hereto and incorporated herein (the "Property").
- 2. This Affidavit of Ownership is made for the purpose of filing an application for development approval with the Town of Apex.
- 3. If Affiant is the owner of the Property, Affiant acquired ownership by deed, dated <u>11/10/2021</u>, and recorded in the Wake County Register of Deeds Office on <u>11/12/2021</u>, in Book <u>18792</u> Page <u>2056-2060</u>.
- 4. If Affiant is the authorized agent of the owner(s) of the Property, Affiant possesses documentation indicating the agency relationship granting the Affiant the authority to apply for development approval on behalf of the owner(s).
- 5. If Affiant is the owner of the Property, from the time Affiant was deeded the Property on <u>11/10/2021</u> Affiant has claimed sole ownership of the Property. Affiant or Affiant's predecessors in interest have been in sole and undisturbed possession and use of the property during the period of ownership. Since taking possession of the Property on <u>11/10/2021</u>, no one has questioned Affiant's ownership or right to possession nor demanded any rents or profits. To Affiant's knowledge, no claim or action has been brought against Affiant (if Affiant is the owner), or against owner(s) (if Affiant is acting as an authorized agent for owner(s)), which questions title or right to possession of the property, nor is any claim or action pending against Affiant or owner(s) in court regarding possession of the Property.

This the <u>26</u> day of <u>Sanuara</u> (seal)

Edward Kalikow

Type or print name

NEW YORK STATE OF NORTH CAROLINA COUNTY OF NOSSau

I, the undersigned, a Notary Public in and for the County of <u>NASSAU</u>, hereby certify that <u>FAWARA KAUCOUS</u>, Affiant, personally known to me or known to me by said Affiant's presentation of said Affiant's ______, personally appeared before me this day and acknowledged the

due and voluntary execution of the foregoing Affidavit.

JENNIFER J. GRIM Notary Public State Of New York No. 01GR6323464 Qualified In Nassau County Commission Expires April 20, 20

Notary Public State of North Carolina New York My Commission Expires: 4 20 2.023

[NOTARY SEAL]

AFFIDAVIT OF OWNERSHIP

Application #: 22CZ03 Submittal Date:

The undersigned, _____Edward Kalikow (the "Affiant") first being duly sworn, hereby swears or affirms as follows:

- Affiant is over eighteen (18) years of age and authorized to make this Affidavit. The Affiant is the sole owner, or is the authorized agent of all owners, of the property located at <u>3233 US 64 HWY, 1051 Newland Ave.</u> and legally described in Exhibit "A" attached hereto and incorporated herein (the "Property").
- 2. This Affidavit of Ownership is made for the purpose of filing an application for development approval with the Town of Apex.
- 3. If Affiant is the owner of the Property, Affiant acquired ownership by deed, dated <u>11/10/2021</u>, and recorded in the Wake County Register of Deeds Office on <u>11/10/2021</u>, in Book <u>018792</u> Page <u>51-55</u>.
- 4. If Affiant is the authorized agent of the owner(s) of the Property, Affiant possesses documentation indicating the agency relationship granting the Affiant the authority to apply for development approval on behalf of the owner(s).
- 5. If Affiant is the owner of the Property, from the time Affiant was deeded the Property on <u>11/10/2021</u>, Affiant has claimed sole ownership of the Property. Affiant or Affiant's predecessors in interest have been in sole and undisturbed possession and use of the property during the period of ownership. Since taking possession of the Property on <u>11/10/2021</u>, no one has questioned Affiant's ownership or right to possession nor demanded any rents or profits. To Affiant's knowledge, no claim or action has been brought against Affiant (if Affiant is the owner), or against owner(s) (if Affiant is acting as an authorized agent for owner(s)), which questions title or right to possession of the property, nor is any claim or action pending against Affiant or owner(s) in court regarding possession of the Property.

This the 26th day of January (seal) dward

Type or print name

NEW YOCK STATE OF NORTH CAROLINA COUNTY OF NOSSau

I, the undersigned, a Notary Public in and for the County of <u>NASSAU</u>, hereby certify that <u>Edward Kalkow</u>, Affiant, personally known to me or known to me by said Affiant's presentation of said Affiant's ______, personally appeared before me this day and acknowledged the

due and voluntary execution of the foregoing Affidavit.

JENNIFER J. GRIM Notary Public State Of New York No. 01GR6323464 Qualified In Nassau County Commission Expires April 20, 20 23

Notary Public

State of North Carolina New yosk My Commission Expires: 4120/2023

[NOTARY SEAL]
AFFIDAVIT OF O	WNERSHIP	
Application #:	22CZ03	Submittal Date:

The undersigned, ______David Schmidt (the "Affiant") first being duly sworn, hereby swears or affirms as follows:

- 1. Affiant is over eighteen (18) years of age and authorized to make this Affidavit. The Affiant is the sole owner, or is the authorized agent of all owners, of the property located at <u>1075 Newland Avenue</u> and legally described in **Exhibit "A"** attached hereto and incorporated herein (the "Property").
- 2. This Affidavit of Ownership is made for the purpose of filing an application for development approval with the Town of Apex.
- 3. If Affiant is the owner of the Property, Affiant acquired ownership by deed, dated <u>2/26/20</u>, and recorded in the Wake County Register of Deeds Office on <u>2/27/20</u>, in Book <u>017764</u> Page <u>01056-01059</u>.
- 4. If Affiant is the authorized agent of the owner(s) of the Property, Affiant possesses documentation indicating the agency relationship granting the Affiant the authority to apply for development approval on behalf of the owner(s).
- 5. If Affiant is the owner of the Property, from the time Affiant was deeded the Property on $\frac{2/27/20}{2}$, Affiant has claimed sole ownership of the Property. Affiant or Affiant's predecessors in interest have been in sole and undisturbed possession and use of the property during the period of ownership. Since taking possession of the Property on $\frac{2/27/20}{2}$, no one has questioned Affiant's ownership or right to possession nor demanded any rents or profits. To Affiant's knowledge, no claim or action has been brought against Affiant (if Affiant is the owner), or against owner(s) (if Affiant is acting as an authorized agent for owner(s)), which questions title or right to possession of the property, nor is any claim or action pending against Affiant or owner(s) in court regarding possession of the Property.

This the 25th day of hours 20 22 Type or print name

STATE OF NORTH CAROLINA

I, the undersigned, a Notary Public in and for the County of <u>Nake</u>, hereby certify that <u>David Schmid</u>, Affiant, personally known to me or known to me by said Affiant's presentation of said Affiant's <u>NC Driver's License</u>, personally appeared before me this day and acknowledged the due and voluntary execution of the foregoing Affidavit.

JANE W. JARMON NOTARY PUBLIC WAKE COUNTY, N.C. My Commercian Entres 09-28-2022.

[NOTARY SEAL]

Notary/Public State of North Carolina My Commission Expires: 09-28-2022

BK018791PG02386

WAKE COUNTY, NC TAMMY L. BRUNNER REGISTER OF DEEDS PRESENTED & RECORDED ON 11-10-2021 AT 16:01:47

BOOK: 018791 PAGE: 02386 - 02388

NORTH CAROLINA SPECIAL WARRANTY DEED

Excise Tax: <u>\$N/A</u>

Real Estate Identification Nos.: 0120755 and 0148944

Return to: Grantee

This instrument was prepared by: Weatherspoon & Voltz LLP

Brief description for the Index: Lots 8 and 9A, Sweetwater Subdivision, Apex, NC

THIS DEED is made this $10^{4/2}$ day of November, 2021, by and between:

GRANTOR	GRANTEE
KEP APEX, LLC,	KEPE1 GLOBAL, LLC,
a North Carolina limited liability company	a North Carolina limited liability company
c/o The Kalikow Group	c/o The Kalikow Group
7001 Brush Hollow Road, Suite 200	7001 Brush Hollow Road, Suite 200
Westbury, NY 11590	Westbury, NY 11590

The designation Grantor and Grantee as used herein shall include said parties, their heirs, successors, and assigns, and shall include singular, plural, masculine, feminine or neuter as required by context.

WITNESSETH, that the Grantor, for a valuable consideration paid by the Grantee, the receipt of which is hereby acknowledged, has and by these presents does grant, bargain, sell and convey unto the Grantee in fee simple those certain lots or parcels of land situated in White Oak Township, Wake County, North Carolina and being described as follows:

Set forth on Exhibit A attached hereto and incorporated herein by reference.

The property hereinabove described was acquired by Grantor by instruments recorded in Book 16739, Page 1798, and Book 16739, Page 1802, Wake County Registry.

Submitted electronically by "Weatherspoon & Voltz LLP"						
in compliance with North Carolina stat	utes noverning recordable documents					
and the terms of the submitter agreeme	r / ake County Register of Deeds.					

A map showing the above described property is recorded in Book of Maps 2021, Pages 676 and 677, Wake County Registry.

TO HAVE AND TO HOLD the aforesaid lot or parcel of land and all privileges and appurtenances thereto belonging to the Grantee in fee simple.

And the Grantor hereby warrants that Grantor has done nothing to impair such title as Grantor received, and Grantor will forever warrant and defend the title against the lawful claims of all persons claiming by, under or through Grantor, other than the following:

- 1. Ad valorem taxes for 2021 and subsequent years.
- 2. Easements, restrictions and rights-of-way of record.

All or a portion of the property herein conveyed includes or 🕅 does not include the primary residence of Grantor.

IN WITNESS WHEREOF, the Grantor has caused this instrument to be duly executed as of the day and year first above written.

> KEP APEX, LLC, a North Carolina limited liability company

Edward M. Kalikow, By:

STATE OF NEW YORK COUNTY OF NOSSOUL

I certify that the following person(s) personally appeared before me this day, acknowledging to me that he or she signed the foregoing document for the purpose stated therein and in the capacity indicated: Edward M. Kalikow.

Date: October **29**, 2021

My commission expires: 4/20/2023

[Official seal]

JENNIFER J. GRIM Notary Public State Of New York No. 01GR6323464 Qualified In Nassau County Commission Expires April 20, 20.

Exhibit A

BEING ALL of Lot 8 and Lot 9A, as shown and described on survey entitled "Master Subdivision Final Plat of Sweetwater Phase 9, Lots 8, 9 and 9A", prepared by CE Group, a plat of which is recorded in Book of Maps 2021, Pages 676 and 677, Wake County Registry, reference to such plat being hereby made for a more particular description of the metes, bounds, courses and distances of such parcels.

WAKE COUNTY, NC TAMMY L. BRUNNER REGISTER OF DEEDS PRESENTED & RECORDED ON 11-10-2021 AT 16:42:26

BOOK: 018792 PAGE: 00051 - 00055

NORTH CAROLINA SPECIAL WARRANTY DEED

Excise Tax: <u>\$N/A</u>

Real Estate Identification Nos.: 0120755 and 0148944

Return to: Grantee

This instrument was prepared by: Weatherspoon & Voltz LLP

Brief description for the Index: Lots 8 and 9A, Sweetwater Subdivision, Apex, NC

THIS DEED is made this lot = day of November, 2021, by and between:

GRANTOR	GRANTEE
KEPE1 GLOBAL, LLC,	KEPE1 STC, LLC,
a North Carolina limited liability company	a North Carolina limited liability company
c/o The Kalikow Group	c/o The Kalikow Group
7001 Brush Hollow Road, Suite 200	7001 Brush Hollow Road, Suite 200
Westbury, NY 11590	Westbury, NY 11590

The designation Grantor and Grantee as used herein shall include said parties, their heirs, successors, and assigns, and shall include singular, plural, masculine, feminine or neuter as required by context.

WITNESSETH, that the Grantor, for a valuable consideration paid by the Grantee, the receipt of which is hereby acknowledged, has and by these presents does grant, bargain, sell and convey unto the Grantee in fee simple those certain lots or parcels of land situated in White Oak Township, Wake County, North Carolina and being described as follows:

Set forth on Exhibit A attached hereto and incorporated herein by reference.

The property hereinabove described was acquired by Grantor by instrument recorded in Book 18791, Page 2386, Wake County Registry.

Submitted electronically by "Weatherspoon & Voltz LLP"						
in compliance with North Carolina statu and the terms of the submitter agreemer	- Page 329 - ake County Register of Deeds.					

A map showing the above described property is recorded in Book of Maps 2021, Pages 676 and 677, Wake County Registry.

TO HAVE AND TO HOLD the aforesaid lot or parcel of land and all privileges and appurtenances thereto belonging to the Grantee in fee simple.

And the Grantor hereby warrants that Grantor has done nothing to impair such title as Grantor received, and Grantor will forever warrant and defend the title against the lawful claims of all persons claiming by, under or through Grantor, other than the following:

- 1. Ad valorem taxes for 2021 and subsequent years.
- 2. Easements, restrictions and rights-of-way of record.

All or a portion of the property herein conveyed \prod includes or \bigotimes does not include the primary residence of Grantor.

IN WITNESS WHEREOF, the Grantor has caused this instrument to be duly executed as of the day and year first above written.

> KEPE1 GLOBAL, LLC, a North Carolina limited liability company

0 Bv: Edward M. Kalikow, Manager

David Schmidt, Manager

STATE OF NEW YORK COUNTY OF Wassan

I certify that the following person(s) personally appeared before me this day, acknowledging to me that he or she signed the foregoing document for the purpose stated therein and in the capacity indicated: Edward M. Kalikow.

Date: October 29, 2021

My commission expires: 4/20/2023

[Official seal]

JENNIFER J. GRIM Notary Public State Of New York No. 01GR6323464 Qualified In Nassau County Commission Expires April 20, 20.

4

A map showing the above described property is recorded in Book of Maps 2021, Pages 676 and 677, Wake County Registry.

TO HAVE AND TO HOLD the aforesaid lot or parcel of land and all privileges and appurtenances thereto belonging to the Grantee in fee simple.

And the Grantor hereby warrants that Grantor has done nothing to impair such title as Grantor received, and Grantor will forever warrant and defend the title against the lawful claims of all persons claiming by, under or through Grantor, other than the following:

- 1. Ad valorem taxes for 2021 and subsequent years.
- 2. Easements, restrictions and rights-of-way of record.

All or a portion of the property herein conveyed \Box includes or \boxtimes does not include the primary residence of Grantor.

IN WITNESS WHEREOF, the Grantor has caused this instrument to be duly executed as of the day and year first above written.

KEPE1 GLOBAL, LLC, a North Carolina limited liability company

By: Edward M. Kalikow, Manager Bv: David Schmidt, Manager

STATE OF NEW YORK

I certify that the following person(s) personally appeared before me this day, acknowledging to me that he or she signed the foregoing document for the purpose stated therein and in the capacity indicated: Edward M. Kalikow.

Date: October, 2021	Notary Public
My commission expires:	Printed Name
[Official seal]	

٠,

STATE OF NORTH CAROLINA COUNTY OF ______

I certify that the following person(s) personally appeared before me this day, acknowledging to me that he or she signed the foregoing document for the purpose stated therein and in the capacity indicated: <u>David Schmidt</u>.

Date: Getober 5, 2021

Notary Public

Carrie H. Stephenson Printed Name

My commission expires: 12/15/21

[Official seal]

CARRIE H STEPHENSON Notary Public, North Carolina Harnett County My Commission Expires December 15, 2021

Exhibit A

BEING ALL of Lot 8 and Lot 9A, as shown and described on survey entitled "Master Subdivision Final Plat of Sweetwater Phase 9, Lots 8, 9 and 9A", prepared by CE Group, a plat of which is recorded in Book of Maps 2021, Pages 676 and 677, Wake County Registry, reference to such plat being hereby made for a more particular description of the metes, bounds, courses and distances of such parcels.

LAND DESCRIPTION FOR REZONING PROPERTY OF EXPERIENCEONE HOMES, LLC KEPE1 STC, LLC

LYING AND BEING IN WHITE OAK TOWNSHIP, WAKE COUNTY, NORTH CAROLINA

COMMENCING AT A POINT, SAID POINT BEING THE NORTH EASTERN MOST PROPERTY CORNER OF KEPE1 STC, LLC AS RECORDED IN DEED BOOK 18792 PAGE 51 LYING ON THE SOUTHERN MARGIN OF US HIGHWAY 64) AND BEING A COMMON CORNER WITH 64 WEST BUSINESS CONDOS AS RECORDED IN DEED BOOK 8609 PAGE 1464; HAVING NORTH CAROLINA GRID COORDINATES OF NORTHING: 725,901.98' EASTING: 2,025,327.66' AS SHOWN IN BOOK OF MAPS 2016 PAGE 588; POINT IS HEREBY KNOW AS **THE POINT OF BEGINNING.**

THENCE LEAVING MARGIN OF US 64 HIGHWAY IN A SOUTHERLY DIRECTION ALONG SAID COMMON LINE OF 64 WEST BUSINESS CONDOS PROPERTY S 01° 32' 52" W FOR A DISTANCE 687.66 FEET TO A POINT; SAID POINT BEING A COMMON CORNER WITH HWY 64 HOLDINGS; THENCE. S 88° 31' 32" E FOR A DISTANCE OF 190.35 FEET TO A POINT: THENCE. S 32° 00' 30" E FOR A DISTANCE OF 333.97 FEET TO A POINT; THENCE, S 00° 50' 49" E FOR A DISTANCE OF 414.52 FEET TO A POINT; SAID POINT LYING ALONG THE COMMON BOUNDARY OF THE ANS TRUST PROPERTY AT THE CENTERLINE OF CHANTICLAIR DRIVE; THENCE ALONG THE CENTER OF SAID DRIVE, S 27° 32' 58" W FOR A DISTANCE OF 176.79 FEET TO A POINT; THENCE, S 27° 37' 14" W FOR A DISTANCE OF 111.78 FEET TO A POINT; SAID POINT BEING THE CENTERLINE OF A ROUND-A-BOUT IN CORE BANKS STREET; THENCE ALONG SAID STREET, N 76° 56' 05" W FOR A DISTANCE OF 160.47 FEET TO A POINT; THENCE WITH A CURVE TO THE LEFT, WITH A RADIUS OF 1000.00 FEET HAVING CHORD BEARING AND OF N 80° 40' 51" W FOR A DISTANCE OF 135.75' FEET TO A POINT; THENCE, N 84° 34' 21" W FOR A DISTANCE OF 209.33 FEET TO A POINT; THENCE WITH A CURVE TO THE RIGHT, WITH A RADIUS OF 1000.00 FEET HAVING CHORD BEARING AND OF N 73° 28' 23" W FOR A DISTANCE OF 385.03' FEET TO A POINT; THENCE, N 61° 45' 27" W FOR A DISTANCE OF 253.57 FEET TO A POINT; THENCE WITH A CURVE TO THE LEFT, WITH A RADIUS OF 700.00 FEET HAVING CHORD BEARING AND OF N 76° 06' 06" W FOR A DISTANCE OF 346.63' FEET TO A POINT; THENCE, S 89° 33' 47" W FOR A DISTANCE OF 7.59 FEET TO A POINT; SAID POINT BEING THE INTERSECTION OF CORE BANKS STREET AND THE COMMON BOUNDARY LINE OF STALEY C. SMITH AND AARON E. SMITH JR.; THENCE IN A NORTHERLY DIRECTION ALONG SAID COMMON LINE, N 00° 26' 13" W FOR A DISTANCE OF 1102.81 FEET TO A POINT; SAID POINT BEING A COMMON CORNER OF SKJD HOLDINGS. LLC AND LYING ON THE SOUTHERN MARGIN OF US 64 HIGHWAY; THENCE WITH SAID MARGIN, N 82° 54' 21" E FOR A DISTANCE OF 1231.79 FEET TO A POINT; SAID POINT BEING THE POINT AND PLACE OF BEGINNING, HAVING AN AREA OF 1,949,585 SQUARE FEET OR 44.76 ACRES MORE OR LESS.

BEING A PORTION OF PROPERTY ACQUIRED BY OWNERS IN DEED BOOK 16739 PAGE 1802 AND DEED BOOK 16823 PAGE 2446 OF THE WAKE COUNTY REGISTRY.



Wake County Residential Development Notification

Developer Company Information					
Company Name	KEP Apex, LLC / Experience One Homes, LLC.				
Company Phone Number	(516) 876-4800 / (919) 991-1428				
Developer Representative Name	Ed Kalikow / David Schmidt				
Developer Representative Phone Number	(516) 876-4800 / (919) 991-1428				
Developer Representative Email Ed@Kaled.com / DSchmidt@E1Homes.com					

New Residential Subdivision Information						
Date of Application for Subdivision	02/01/2022					
City, Town or Wake County Jurisdiction	Town of Apex					
Name of Subdivision	Sweetwater					
Address of Subdivision (if unknown enter nearest cross streets)	US Highway 64 & Richardson Road					
REID(s)	436595, 436584, 444531, 148944, 120755, 476653					
PIN(s)	0722-45-3275, 0722-45-6374, 0722-45-8740, 0722-55-0034, 0722-54-4876, 0722-54-4404					

Please complete each section of this form and submit with your application.

Town of Apex staff will enter this information into the online WCPSS form.

Please send any questions about this form to:

studentassignment-gisgroup@wcpss.net

Projected Dates Information					
Subdivision Completion Date August 2022					
Subdivision Projected First Occupancy Date	March 2023				

Lot by Lot Development <i>Information</i>																	
Unit Type	Total # of Units	Senior Living	Studio	1 Bedroom	2 Bedroom	3 Bedroom	4 Bedroom	Squar Rai	e Foot nge	Price	Price Range Anticipated Completion Units &		ts & Date	es			
								Min	Max	Low	High	Year	# Units	Year	# Units	Year	# Units
Single Family																	
Townhomes																	
Condos																	
Apartments	230		18	120	92			650	1,350	\$1,600	\$2,200	2023	115	2024	115		
Other																	

NOTICE OF NEIGHBORHOOD MEETING

This document is a public record under the North Carolina Public Records Act and may be published on the Town's website or disclosed to third parties.

01/07/2022

Date

Dear Neighbor:

You are invited to a neighborhood meeting to review and discuss the development proposal at 3233 US 64 Highway, 0 Core Banks St., 0 US 64 Highway, 0722-45-3275, 0722-45-6374, 0722-45-8740, 0722-55-0034,

1051 Newland Ave., 1075 Newland Ave. Apex, NC 27523	0722-54-4876, 0722-54-4404
Address(es)	PIN(s)

in accordance with the Town of Apex Neighborhood Meeting procedures. This meeting is intended to be a way for the applicant to discuss the project and review the proposed plans with adjacent neighbors and neighborhood organizations before the submittal of an application to the Town. This provides neighbors an opportunity to raise questions and discuss any concerns about the impacts of the project before it is officially submitted. If you are unable to attend, please refer to the Project Contact Information page for ways to contact the applicant. Notified neighbors may request that the applicant provide updates and send plans via email or mail. Once an application has been submitted to the Town, it may be tracked using the <u>Interactive Development Map</u> or the <u>Apex Development Report</u> located on the Town of Apex website at <u>http://www.apexnc.org/180/Planning-Community-Development</u>.

A Neighborhood Meeting is required because this project includes (check all that apply):

Арр	plication Type	Approving Authority
•	Rezoning (including Planned Unit Development)	Town Council
	Major Site Plan	Technical Review Committee (staff)
	Special Use Permit	Board of Adjustment (QJPH*)
	Residential Master Subdivision Plan (excludes exempt subdivisions)	Technical Review Committee (staff)

*Quasi-Judicial Public Hearing: The Board of Adjustment cannot discuss the project prior to the public hearing.

The following is a description of the proposal (also see attached map(s) and/or plan sheet(s)): <u>The Owners of the Sweetwater Commercial properties would like to rezone the property in ord</u> to remove two (2) of the conditions outlined in the previous rezonings (16CZ21, 17CZ21 & 18CZ21).

Estimated submittal date: 02/01	1/2022
MEETING INFORMATION:	
Property Owner(s) name(s):	See Attached List
Applicant(s):	Mitch Craig - CE Group, Inc.
Contact information (email/phone)	Mitch@CEGroupInc.com/(919) 367-8790
Meeting Address:	Halle Cultural Arts Center (237 N. Salem St. Apex, NC 27502)
Date/Time of meeting**:	January 25, 2022 6:30 pm - 8:30 pm

Welcome: <u>6:30-6:45 pm Project Presentation</u>: <u>6:45-7:15 pm</u> Question & Answer: <u>7:15-8:30 pm</u> **Meetings shall occur between 5:00 p.m.-9:00 p.m. on a Monday through Thursday (excluding Town recognized holidays). If you have questions about the general process for this application, please contact the Planning and Community Development Department at 919-249-3426. You may also find information about the Apex Planning Department and ongoing planning efforts at <u>http://www.apexnc.org/180/Planning-Community-Development</u>.

Page 4 of 10

Page 336 -Neighborhood Neering margaretter

PROJECT CONTACT INFORMATION

This document is a public record under the North Carolina Public Records Act and may be published on the Town's website or disclosed to third parties.

Development Contacts:	
Project Name: Sweetwater Commercial PUD	Amendment zoning: PUD-CZ
Location:3233 US 64 Highway, 0 Core Banks St., 0 US 64 Hi	ighway, 1051 Newland Ave., 1075 Newland Ave. Apex, NC 27523
Property PIN(s):	Square Feet: <u>~ 41.42 AC</u>
Property Owner: See Attached List	
Address:	
City:	State: Zip:
Phone: Email:	
Developer: ExperienceOne Homes, L	LC David Schmidt
Address: PO Box 5509	
City: Apex State:	NC Zip: 27523
Phone: (919) 991-1428 Fax: N/A	Email:DSchmidt@E1Homes.com
Engineer: CE Group, Inc - Mitch Crai	g, PE
Address: 301 Glenwood Avenue, Sui	te 220
City: Raleigh	State: NC Zip: 27603
Phone: (919) 367-8790 Fax: N/A	Email: Mitch@CEGroupInc.com
Builder (if known): <u>N/A</u>	
Address:	
City: 5	State: Zip:
Phone: Fax:	Email:

Please note that Town staff will not have complete information about a proposed development until the application is submitted for review. If you have a question about Town development standards and how they relate to the proposed development, please contact the appropriate staff person listed below.

Town of Apex Department Contacts	
Planning and Community Development Department Main Number (Provide development name or location to be routed to correct planner)	(919) 249-3426
Parks, Recreation & Cultural Resources Department Angela Reincke, Parks and Greenways Planner	(919) 249-7468
Public Works - Transportation Russell Dalton, Traffic Engineering Manager	(919) 249-3358
Water Resources Department Jessica Bolin, Environmental Engineering Manager (Stormwater, Sedimentation & Erosion Control) James Gregg, Utility Engineering Manager (Water & Sewer)	(919) 249-3537 (919) 249-3324
Electric Utilities Division Rodney Smith, Electric Technical Services Manager	(919) 249-3342

Providing Input to Town Council:

Each Town Council meeting agenda includes a Public Forum time when anyone is permitted to speak for three (3) minutes on any topic with the exception of items listed as Public Hearings for that meeting. The Town Council meets on the 2nd and 4th Tuesdays of each month at 6:00 p.m. (except for holidays, see schedule of meetings at <u>http://www.apexnc.org/838/Agendas-Minutes</u>). You may also contact Town Council by e-mail at <u>AllCouncil@apexnc.org</u>.

Private Agreements and Easement Negotiation:

The Town of Apex cannot enforce private agreements between developers and neighbors and is not a party to the easement and right-of-way negotiation that occurs between developers and neighboring property owners for easements or rights-of-way that are necessary to build the project.

It is recommended that all private agreements be made in writing and that if a property owner feels it necessary, they should obtain private legal counsel in order to protect their interests in both private agreements and during easement negotiations. The only conditions that the Town of Apex can enforce are those conditions that are made a part of the conditional zoning of the property by agreement of the developer and the Town.

As an example, if a developer offers to build a fence for a neighbor to mitigate some impact, the Town can only enforce the construction of the fence if the fence becomes a condition of the rezoning. This would occur by the developer offering the condition as part of their conditional zoning application package or at the Town Council public hearing on the conditional zoning and the Town accepting it as a condition. Private agreements regarding a fence being constructed will not be enforced by the Town.

To request that any agreement with a developer is made a part of the conditional zoning at the time of approval, you may ask at the Town Council public hearing if the agreement is included in the conditions. If it is not, you may request that the Town Council not approve the rezoning without the agreement being included in the conditions (note that it is up to Town Council whether to approve or deny the rezoning but they cannot impose conditions that the applicant does not agree to add). The developer's proposed conditions can be viewed any time after a rezoning is submitted on the Interactive Development Map at: http://apexnc.maps.arcgis.com/apps/OnePane/basicviewer/index.html?appid=fa9ba2017b784030b15ef4d a27d9e795

Documentation:

Neighbors to a requested new development and/or rezoning are strongly encouraged to fully document (such as through dated photographs) the condition of their property before any work is initiated for the new development. Stormwater controls installed on developed property are not designed to and will likely not remove 100% of the soil particles transported by stormwater runoff. As a result, creeks and ponds could become cloudy for a period of time after rain events.

COMMON CONSTRUCTION ISSUES & WHO TO CALL

This document is a public record under the North Carolina Public Records Act and may be published on the Town's website or disclosed to third parties.

Noise & Hours of Construction:	Non-Emergency Police	919-362-8661
Noise from tree removal, grading,	excavating, paving, and building	structures is a routine part of the
construction process. The Town gene	rally limits construction hours fro	m 7:00 a.m. to 8:30 p.m. so that there
are quiet times even during the co	nstruction process. Note that co	instruction outside of these hours is
allowed with special permission from	the Town when it makes more se	ense to have the construction occur at
night, often to avoid traffic issues. In	n addition, the Town limits hours	of blasting rock to Monday through
Friday from 8:00 a.m. to 5:00 p.m. Re	port violations of construction ho	ours and other noise complaints to the
Non-Emergency Police phone numbe	r at 919-362-8661.	· ·
Construction Traffic:	James Misciagno	919-372-7470
Construction truck traffic will be hea	avy throughout the development	process, including but not limited to
removal of trees from site, loads of d	irt coming in and/or out of the site	e, construction materials such as brick
and wood brought to the site, aspl	nalt and concrete trucks come in	n to pave, etc. The Town requires a
construction entrance that is gravele	d to try to prevent as much dirt fr	om leaving the site as possible. If dirt
does get into the road, the Town can	require they clean the street (see	e "Dirt in the Road" below).
Road Damage & Traffic Control:	Water Resources – Infrastru	cture Inspections 919-362-8166
There can be issues with roadway of	damage, roadway improvements,	and traffic control. Potholes, rutting,
inadequate lanes/signing/striping, poo	r traffic control, blocked sidewalks/	paths are all common issues that should
be reported to Water Resources – Infra	astructure Inspections at 919-249-3	427. The Town will get NCDOT involved
if needed.		
Parking Violations:	Non-Emergency Police	919-362-8661
Unless a neighbor gives permission, th	ere should be no construction park	king in neighbors' driveways or on their
property. Note that parking in the right	-of-way is allowed, but Town regul	ations prohibit parking within 15 feet of
driveways so as not to block sight trian	ngles. Trespassing and parking com	plaints should be reported to the Non-
Emergency Police phone number at 91	9-362-8661.	
Dirt in the Road:	James Misciagno	919-372-7470
Sediment (dirt) and mud gets into the	e existing roads due to rain events	and/or vehicle traffic. These incidents
should be reported to James Misciagno	He will coordinate the cleaning of	the roadways with the developer.
Dirt on Properties or in Streams:	James Misciagno	919-3/2-/4/0
Codimont (dist) can be up the site and g	Danny Smith	Danny.Smitn@ncdenr.gov
seament (dirt) can leave the site and ge	aco incidents should be reported t	a James Missiagno at 010 272 7470 se
that he can coordinate the appropriat	ese incidents should be reported t	o James Misciagno at 919-372-7470 so
should also be reported to Dappy Smith	h (dappy smith@pcdopr goy) with t	bo Stato
Dust	lames Misciagno	919-372-7470
During dry weather dust often becom	nes a problem blowing into existin	ng neighborhoods or roadways. These
incidents should be reported to lame	s Misciagno at 919-372-7470 so th	at he can coordinate the use of water
trucks onsite with the grading contract	or to help control the dust.	
Trash:	James Misciagno	919-372-7470
Excessive garbage and construction del	pris can blow around on a site or eve	en off of the site. These incidents should
be reported to James Misciagno at 91	9-372-7470. He will coordinate the	e cleanup and trash collection with the
developer/home builder.		
Temporary Sediment Basins:	James Misciagno	919-372-7470
Temporary sediment basins during cor	struction (prior to the conversion t	to the final stormwater pond) are often
quite unattractive. Concerns should be	e reported to James Misciagno at 9	19-372-7470 so that he can coordinate
the cleaning and/or mowing of the slop	pes and bottom of the pond with th	e developer.
Stormwater Control Measures:	Jessica Bolin	919-249-3537
Post-construction concerns related to	o Stormwater Control Measures (typically a stormwater pond) such as
conversion and long-term maintenance	e should be reported to Jessica Boli	n at 919-249-3537.
Electric Utility Installation:	Rodney Smith	919-249-3342
Concerns with electric utility installation	on can be addressed by the Apex	Electric Utilities Department. Contact
Rodney Smith at 919-249-3342.		
	- Page 339 -	

Neighborhood Means margaret & Affidavit



Sweetwater PUD - Vicinity Map



<u>Disclaimer</u> iMaps makes every effort to produce and publish the most current and accurate information possible. However, the maps are produced for information purposes, and are **NOT** surveys. No warranties, expressed or implied , are provided for the data therein, its use, or its interpretation.

Sweetwater PUD Amendment

Proposed Rezoning Changes

December 23, 2021

The PUD will retain all of the conditions from rezoning #16CZ21, #17CZ21 and #18CZ01 except:

- Section 11: Public Facilities Roadways #2: The developer shall propose a conceptual design for the future interchange at US 64 if offered as an alternative to the interchange recommended in the US 64 corridor study. Reservation of future public right-of-way for the interchange shall be determined based on Town of Apex ad NCDOT review and approval of the interchange concept(s) if not based on the US 64 Corridor Study. This reservation shall be included in development plans and occur at the time of platting parcels for development adjacent to US 64.
- 2. Office: A minimum of 80,000 square feet of office will be provided in this section.
 - This requirement is requested to be reduced to 55,000 sf instead of 80,000 sf



PIN	Real Estate ID Owner	Mail Address 1	Mail Address 2	Deed Book	Deed Page	Deed Acres Site Address	City
0722-55-0034	148944 KEP APEX LLC	7001 BRUSH HOLLOW RD STE 200	WESTBURY NY 11590-1743	16739	1802	18.33 3233 US 64 HWY W	APEX
0722-54-4876	120755 KEP APEX LLC	7001 BRUSH HOLLOW RD STE 200	WESTBURY NY 11590-1743	16739	1798	5.9 1051 NEWLAND AVE	APEX
0722-54-4404	476653 SWEETWATER LIGHTBRIDGE LLC	PO BOX 5509	CARY NC 27512-5509	17764	1056	1.38 1075 NEWLAND AVE	APEX
0722-45-3275	436595 KEPE1 HOLDINGS LLC	7001 BRUSH HOLLOW RD STE 200	WESTBURY NY 11590-1743	18792	2056	13.43 0 CORE BANKS ST	APEX
0722-45-8740	444531 KEPE1 HOLDINGS LLC	7001 BRUSH HOLLOW RD STE 200	WESTBURY NY 11590-1743	18792	2056	0.59 0 US 64 HWY W	APEX
0722-45-6374	436584 KEPE1 HOLDINGS LLC	7001 BRUSH HOLLOW RD STE 200	WESTBURY NY 11590-1743	18792	2056	1.79 0 US 64 HWY W	APEX

NEIGHBORHOOD MEETING SIGN-IN SHEET

This document is a public record under the North Carolina Public Records Act and may be published on the Town's website or disclosed to third parties.

Meeting Address:	Halle Cultural Arts Center (237 N	N. Salem St. Apex, NC 27502)
Date of meeting:	01/25/2022	Time of meeting: <u>6:30-8:30 pm</u>
Property Owner(s)	name(s): See Attached List	
Applicant(s): Mitc	h Craig - CE Group, Inc.	

Please <u>print</u> your name below, state your address and/or affiliation with a neighborhood group, and provide your phone number and email address. Providing your name below does not represent support or opposition to the project; it is for documentation purposes only. For virtual meetings, applicants must include all known participants and request the information below.

	NAME/ORGANIZATION	ADDRESS	PHONE #	EMAIL	SEND PLANS & UPDATES
1.	Wendy Raposo	1122 Russet Lane Apex, NC	(508) 287-3006		X
2.	Gennell Kessler	1110 Russet Lane Apex, NC	(919) 389-5239		x
3.					
4.					
5.					
6.					
7.					
8.					
9.					
10.					
11.					
12.					
13.					
14.	_				

Use additional sheets, if necessary.

SUMMARY OF DISCUSSION FROM THE NEIGHBORHOOD MEETING

This document is a public record under the North Carolina Public Records Act and may be published on the Town's website or disclosed to third parties.

Property Owner(s)	name(s): See Attached L	ist
Applicant(s): Mitc	h Craig - CE Group, In	C.
Contact informatio	n (email/phone): Mitch@C	EGroupInc.com/(919) 367-8790
Meeting Address:	Halle Cultural Arts Center	er (237 N. Salem St. Apex, NC 27502)
Date of meeting:	01/25/2022	Time of meeting: 6:30-8:30 pm

Please summarize the questions/comments and your responses from the Neighborhood Meeting or emails/phone calls received in the spaces below (attach additional sheets, if necessary). Please state if/how the project has been modified in response to any concerns. The response should not be "Noted" or "No Response". There has to be documentation of what consideration the neighbor's concern was given and justification for why no change was deemed warranted.

Question/Concern #1:

Is there going to be an overpass @ US-64 and Richardson Road

Applicant's Response:

The NCDOT has a plan for one in their long range plan but there are no designs in the works for it. The PUD Amendment is being submitted in order to remove the area of reservation that is intended for this future interchange.

Question/Concern #2:

Are the Michigan Lefts (Superstreet) on US 64 going to be signalized.

Applicant's Response:

A design for these signals has been approved by the Town and the NCDOT.

The NCDOT will control when these can be installed. The Town has requested the improvements to US 64 and Richardson Road be completed before the first CO in Sweetwater.

Question/Concern #3:

Applicant's Response:

Question/Concern #4:

Applicant's Response:

AFFIDAVIT OF CONDUCTING A NEIGHBORHOOD MEETING, SIGN-IN SHEET AND ISSUES/RESPONSES SUBMITTAL

This document is a public record under the North Carolina Public Records Act and may be published on the Town's website or disclosed to third parties.

, Joseph M. Craig , do hereby declare as follows:

Print Name

- 1. I have conducted a Neighborhood Meeting for the proposed Rezoning, Major Site Plan, Residential Master Subdivision Plan, or Special Use Permit in accordance with UDO Sec. 2.2.7 *Neighborhood Meeting*.
- 2. The meeting invitations were mailed to the Apex Department of Planning and Community Development, all property owners and tenants abutting and within 300 feet of the subject property and any neighborhood association that represents citizens in the notification area via first class mail a minimum of 14 days in advance of the Neighborhood Meeting.
- 3. The meeting was conducted at <u>Halle Cultural Arts Center (Apex, NC)</u> (location/address) on <u>01/25/2022</u> (date) from <u>6:30</u> (start time) to <u>8:30</u> (end time).
- 4. I have included the mailing list, meeting invitation, sign-in sheet, issue/response summary, and zoning map/reduced plans with the application.
- 5. I have prepared these materials in good faith and to the best of my ability.

STATE OF NORTH CAROLINA

Bv:

Sworn and subscribed	before m	ne, John	DuBois		, a Notary Pul	olic for the above State and
County, on this the	\ ^{sr} _da	ay of February	, 20	22		



Notary Public Print Name

1/21/2023



Sweetwater PUD Amendment

Proposed Rezoning Changes

March 22, 2022

(Limited to Mixed-Use Portion of Project – North of Core Banks Street Only)

The PUD will retain all of the conditions from rezoning #16CZ21, #17CZ21 and #18CZ01 except:

I. <u>Revision to Section 6:</u>

Section 6: Design Controls

NONRESIDENTIAL/MIXED-USE AREAS:

Residential: Maximum 230 units: 2nd story and above only (no other residential permitted in this section).

Office: A minimum of 80,000 55,000 square feet of office will be provided in this section.

II. <u>Revision to Section 11:</u>

Section 11: Public Facilities

<u>Water and Sanitary Sewer</u>: All lots will be served by Town of Apex public sanitary sewer and water. Refer to PD Plan Sheet 3 for conceptual connections to infrastructure within adjacent development and roadways in accordance with the minimum criteria of the Town of Apex Standards and Specifications. The utility design shall meet the requirements of the Town of Apex Utilities Master Plan. Concurrently with the Town of Apex construction plan review, the Town of Cary will only review and approve the sewer connection directly connecting to Reedy Branch outfall. Developer shall construct all water and sewer infrastructure for any specific phase prior to approval of the first plat for that specific phase.

<u>Roadway</u>: Internal Streets will be designed to Town of Apex public roads standards. The proposed development roadway system will be in accordance with the Apex Thoroughfare and Collector Street Plan. A functional alignment for the future Richardson Road thoroughfare will be created with the input from NCDOT and Town of Apex from its intersection with US 64 to the edge of the project area. The ultimate cross-section for the future Richardson Road will be 4 lane median divided facility on a 100-foot public right-of-way. In the initial phases of the development, the developer will construct a 2-lane median divided road. The final design will be determined at Master Subdivision Plan. The intersection of the future Richardson Road and US Highway 64 will comply with the NCDOT US 64 corridor plan, with interim measures. to accommodate the ultimate

design for the interchange. The developer will be responsible for construction of the interim measures deemed appropriate for by the Traffic Impact Analysis and NCDOT design criteria. Traffic calming devices, such as roundabouts, neighborhood traffic mini-circles and neckdown traffic facilities, will be incorporated at various locations within the proposed street network system. Based on neighborhood input and concurrences with Staff, a proposed traffic circle with directional islands will be located on Timken Forest Drive and the proposed street to the portion of the residential subdivision located adjacent to Abbington Subdivision.

Refer to PD Plan Sht-2 for proposed access points and planned/future connectivity access points shown are conceptual and will be finalized at the subdivision plan stage based on review of the Traffic Impact Analysis findings and recommendations. These findings and recommendations are:

- The developer shall construct Richardson Road, serving as the major north-south thoroughfare south of US 64, on a minimum 100-foot public right-of-way as a median divided two-lane shoulder section thoroughfare or similar to be determined at the time of the subdivision and site plan submittal, allowing for future expansion to four-lane divided when needed. Developer shall construct Richardson Road and the required collector streets (except for the final lift of asphalt) prior to the first building permit.
- 2. The developer shall propose a conceptual design for the future interchange at US 64 if offered as an alternative to the interchange recommended in the US 64 Corridor Study. Reservation of future public right of way for the interchange shall be determined based on Town of Apex and NCDOT review and approval of the interchange concept(s) if not based on the US 64 Corridor Study. This reservation shall be included in development plans and occur at the time of platting parcels for development adjacent to US 64. Surplus parking and related facilities (lighting, landscaping, and storm drainage, etc.) can be constructed within the reservation area; with the understanding that these improvements may be removed in the future. The developer shall make the necessary provisions to accommodate future loss of parking by appropriate site planning including addition of a 50' Type A Buffer behind the reservation area.
- 3. The developer shall construct a superstreet with left turn crossovers and downstream U-Turns on US 64 at the intersection of Richardson Road and Jenks Road based on the recommendations in the TIA and the US 64 Corridor Study subject to final approval. Final approval of storage lengths, lane geometry, and installation of traffic signals is subject to Town of Apex and NCDOT review and approval at the time of site and/or subdivision plans. The developer shall construct improvements according to the Town of Apex and NCDOT during site and subdivision plan approval. Developer shall construct these US 64 improvements prior to the first building permit: the signal will be installed when warranted.
- 4. The developer shall monitor the superstreet intersections on US 64 during the development of Phase 1 (residential) and install traffic signals when warranted if not determined to be a responsibility of others prior to that time. Traffic signals at one or more locations on the superstreet may be warranted prior to build-out of Phase 1. This requirement does not prevent other developers from studying and installing traffic signals

and/or additional turning lanes if determined to be necessary improvements by other as part of other development approvals. If not installed in prior years, the developer shall install traffic signals and additional lanes recommended in the TIA as needed to serve site traffic during Phase 2 subject to Town of Apex and NCDOT review and approval.

- 5. The developer shall remove the concrete diverter island on Beaver Creek Commons Drive at Kelly Road and restripe as a through-left lane prior to first plat.
- 6. The developer shall provide traffic calming features in the horizontal design and layout of the street(s) connecting the proposed development and Stratford at Abbington subject to Town of Apex review and approval at the time of subdivision plans.

<u>Alleys</u>: The alleys will be constructed in accordance with Town of Apex Standards and Specifications.

<u>Sidewalks</u>: Sidewalks shall be provided on both sides of all streets and cul-de-sacs within the subdivision.

The following is a new condition that is being added with this rezoning:

I. <u>New Section 17: Environmental Advisory Board</u>

1. At least one (1) pet waste station shall be installed near the Hotel if the Hotel permits pets.



OWNERS SWEETWATER LIGHTBRIDGE, LLC	
	PO BOX 5509 CARY, NC 27512
KEP APEX, LLC	
	7001 BRUSH HOLLOW ROAD STE 200 WESTBURY, NY 11590
KEPE1 HOLDINGS, LLC	
	7001 BRUSH HOLLOW ROAD STE 200 WESTBURY, NY 11590
DEVELOPERS	
DAVID SCHMIDT LANNY CALDWELL COREY SCHMIDT	ExperienceOne Homes, LLC POST OFFICE BOX 5509 CARY, NC 27512 PHONE: 919-991-1402
ENGINEER	
MITCH CRAIG, PE LICENCE# 034332	CE GROUP, INC. 301 GLENWOOD AVE STE 220 RALEIGH. NC 27603

PHONE: 919-367-8790

- THIS PROJECT WAS REVIEWED BY THE PRCR ADVISORY COMMISSION ON DECEMBER 10, 2014 AND UNANIMOUSLY RECOMMENDS DEDICATION OF THE NECESSARY PUBLIC GREENWAY EASEMENTS AND CONSTRUCTION OF THE PUBLIC GREENWAY CONSISTENT WITH THE PRGOS MASTER PLAN. THE DEVELOPER WILL RECEIVE CREDIT FOR CONSTRUCTING THE GREENWAY AGAINST THE SUBDIVISION PARKS AND RECREATION FEES.
- **REQUIRED ROADWAY IMPROVEMENTS:**
- A. THE DEVELOPER SHALL CONSTRUCT RICHARDSON ROAD, SERVING AS THE MAJOR NORTH-SOUTH THOROUGHFARE SOUTH OF US 64, ON A MINIMUM 100 FOOT PUBLIC RIGHT OF WAY AS A MEDIAN DIVIDED TWO-LAN SHOULDER SECTION THOROUGHFARE OR SIMILAR TO BE DETERMINED AT THE TIME OF SUBDIVISION AND SITE PLAN SUBMITTAL, ALLOWING FOR FUTURE EXPANSION TO FOUR-LANE DIVIDED WHEN NEEDED. DEVELOPER SHALL CONSTRUCT RICHARDSON ROAD AND THE REQUIRED COLLECTOR STREETS EXCEPT FOR THE FINAL LIFT OF ASPHALT PRIOR TO THE FIRST BUILDING PERMIT.
- B. THE DEVELOPER SHALL PROPOSE A CONCEPTUAL DESIGN FOR THE FUTURE INTERCHANGE AT US 64 IF OFFERED AS AN ALTERNATIVE TO THE INTERCHANGE RECOMMENDED IN THE US 64 CORRIDOR STUDY. RESERVATION OF FUTURE PUBLIC RIGHT OF WAY FOR THE INTERCHANGE SHALL BE DETERMINED BASED ON TOWN OF APEX AND NCDOT REVIEW AND APPROVAL OF THE INTERCHANGE CONCEPT(S) IF NOT BASED ON US 64 CORRIDOR STUDY. THIS RESERVATION SHALL BE INCLUDED IN DEVELOPMENT PLANS AND OCCUR AT THE TIME OF PLATTING PARCELS FOR DEVELOPMENT ADJACENT TO US 64. SURPLUS PARKING AND RELATED FACILITIES (LIGHTING, LANDSCAPING, AND STORM DRAINAGE, ETC.) CAN BE CONSTRUCTED WITHIN THE RESERVATION AREA; WITH THE UNDERSTANDING THAT THESE IMPROVEMENTS MAY BE REMOVED IN FUTURE. THE DEVELOPER SHALL MAKE NECESSARY PROVISIONS TO ACCOMMODATE FUTURE LOSS
- OF PARKING BY APPROPRIATE SITE PLANNING INCLUDING ADDITION OF A 50' TYPE A BUFFER BEHIND THE RESERVATION AREA. THE DEVELOPER SHALL CONSTRUCT A SUPERSTREET WITH LEFT TURN CROSSOVERS AND DOWNSTREAM U-TURNS ON US 64 AT THE INTERSECTION OF RICHARDSON ROAD AND JENKS ROAD BASED ON TOWN OF APEX AND NCDOT REVIEW AND APPROVAL OF THE INTERSECTION OF RICHARDSON ROAD AND JENKS ROAD BASED ON THE RECOMMENDATIONS IN THE TIA AND THE US 64 CORRIDOR STUDY SUBJECT TO FINAL APPROVAL. FINAL APPROVAL OF STORAGE LENGTHS, LANE GEOMETRY, AND INSTALLATION OF TRAFFIC SIGNALS IS SUBJECT TO TOWN OF APEX AND NCDOT REVIEW AND APPROVAL AT THE TIME OF SITE AND/OR SUBDIVISION PLANS. THE DEVELOPER SHALL CONSTRUCT IMPROVEMENTS ACCORDING TO THE TOWN OF APEX TIA REVIEW LETTER DATED JANUARY 2, 2015, OR AS OTHERWISE APPROVED BY TOWN OF APEX AND NCDOT DURING SITE AND SUBDIVISION PLAN APPROVAL. DEVELOPER SHALL CONSTRUCT THESE US 64 IMPROVEMENTS PRIOR TO THE FIRST BUILDING PERMIT: THE SIGNAL WILL BE INSTALLED WHEN WARRANTED.
- D. THE DEVELOPER SHALL MONITOR THE SUPERSTREET INTERSECTIONS ON US 64 DURING DEVELOPMENT OF PHASE 1 RESIDENTIAL AND INSTALL TRAFFIC SIGNALS WHEN WARRANTED IF NOT DETERMINED TO BE A RESPONSIBILITY OF OTHERS PRIOR TO THAT TIME. TRAFFIC SIGNALS AT ONE OR MORE LOCATIONS ON THE SUPERSTREET MAY BE WARRANTED PRIOR TO BUILD-OUT OF PHASE1. THIS REQUIREMENT DOES NOT PREVENT OTHER DEVELOPERS FROM STUDYING AND INSTALLING TRAFFIC SIGNALS AND/OR ADDITIONAL TURNING LANES IF DETERMINED TO BE NECESSARY IMPROVEMENTS BY OTHERS AS PART OF OTHER DEVELOPMENT APPROVALS. IF NOT INSTALLED IN PRIOR YEARS, THE DEVELOPER SHALL INSTALL TRAFFIC SIGNALS AND ADDITIONAL LANES RECOMMENDED IN THE TIA AS NEEDED TO SERVE SITE TRAFFIC DURING PHASE 2 SUBJECT TO TOWN OF APEX AND NCDOT REVIEW AND APPROVAL.
- E. THE DEVELOPER SHALL REMOVE THE CONCRETE DIVERTER ISLAND ON BEAVER CREEK COMMONS DRIVE AT KELLY ROAD AND RE-STRIPE AS A THROUGH-LEFT LAN PRIOR TO FIRST PLAT.
- F. THE DEVELOPER SHALL PROVIDE TRAFFIC CALMING FEATURES IN THE HORIZONTAL DESIGN AND LAYOUT OF THE STREET(S) CONNECTING THE PROPOSED DEVELOPMENT AND STRATFORD AT ABBINGTON SUBJECT TO TOWN OF APEX REVIEW AND APPROVAL AT THE TIME OF SUBDIVISION PLANS.
- WATER AND SEWER IMPROVEMENTS: DEVELOPER SHALL CONSTRUCT ALL WATER AND SEWER INFRASTRUCTURE FOR ANY SPECIFIC PHASE PRIOR TO APPROVAL OF THE FINAL PLAT FOR THAT SPECIFIC PHASE.



SWEETWATER PUD AMENDMENT PLANS APEX, NC **JANUARY 2, 2018** REVISED: SEPTEMBER 18, 2018 REVISED: FEBRUARY 1, 2022 **REVISED: MARCH 11, 2022**

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LAND USE SUMMARY	
RESIDENTIAL	
ACREAGE 106.38 + 13.20 AC =	119 58 AC
PROPOSED UNITS	410
TOTAL DWELLING UNITS	640
PROPOSED DENSITY (SINGLE FAMILY, TOWNHOMES, APARTMENTS)	3.89 DU/AC
NON-RESIDENTIAL/MIXED USE AREAS	
ACREAGE	45 65 AC
APARTMENTS	230
MAX BUILDING HEIGHT	52 FT
WATERSHED PROTECTION DISTRICT:	PRIMARY
FLOODPLAIN:	
THERE IS FEMA FLOODPLAIN LOCATED ON THE SUBJECT PROPERTY	Y PER
FIRM MAP #3720072200J, PANEL 0722J	
EFEECTIVE MAY 2 2006	

SITE SUMMARY

СА	AREAS (16CZ21, 17CZ21, 18CZ01) REQUIRED:	
	TOTAL	TRACT(S) AREA:	164.79 AC
		AREA OF DEVELOPMENT:	164.79 AC
		- PERCENTAGES BELOW ARE OF DEVELOPED AREA RC	A BUFFERS
	NON-RE	SIDENTIAL AREA (PHASES 9 & 10)	45.65 AC (
	RCA1	STREAM BUFFERS	0.00 AC
	RCA2	PERIMETER BUFFERS	1.90 AC
	RCA3	OTHER BUFFERS (TRACT PIN 0722730032)	0.00 AC
	RCA4	STREET BUFFERS (RICHARDSON RD)	1.70 AC
		TOTAL RCA AREA =	3.60 AC (2
	RESIDE	NTIAL AREA (PHASES 1-8) 106.38 AC (65.55%)	
	RCA1	STREAM BUFFERS	26.41 AC
	RCA2	PERIMETER BUFFERS	1.34 AC
	RCA4	STREET BUFFERS (RICHARDSON RD)	1.88 AC
		TOTAL RCA AREA =	29.63 AC (
	DEDICA	TED VACANT TRACT (NOT PART OF DEVELOPED AREA)	
	RCA3	OTHER BUFFERS (TRACT PIN 0722730032)	13.20 AC
		TOTAL RCA AREA	46.43 AC
		RCA AREA AS A PERCENTAGE OF DEVELOPED AREA:	28.18%

EXISTING EXHIBIT INFORMATION PROVIDED BY WITHERS RAVENEL

4	REVISED PER COMMENTS DATED 2/18/22	03/11/22
3	OWNER REVISIONS	02/01/22
2	REVISED PER COMMENTS DATED 2/19/18	09/07/18
1	REVISED PER COMMENTS DATED 1/22/18	02/09/18
NO.	REVISION	DATE

AREA OF PUD MODIFICATION:

SWEETWATER LIGHTBRIDGE, LLC 0722544404	
<u>KEP APEX, LLC</u> 0722544876, 0722550034	41.42 AC.
KEPE1 HOLDINGS, LLC 0722453275, 0722456374, 0722458740	

(17.98%)

OVERALL PUD INFORMATION:

MIXED USE DESIGNATED AREA= AREA IN R.O.W. = TOTAL MIXED USE DESIGNATED AREA=	45.65 AC 4.23 AC 41.42 AC
0722730032* = *PARCEL LOCATED OUTSIDE OF MIXED USED DESIGNATED AREA	13.20 AC.
TOTAL ACRES FOR ZONING=	164.79 AC.
CURRENT ZONING:	PUD-CZ
PROPOSED ZONING:	PUD-CZ
WATERSHED:	PRIMARY
HISTORIC STRUCTURES:	NONE



SWEETWATER EXISTING CONDITIONS

APEX, NORTH CAROLINA JANUARY 2, 2018 (REVISED SEPTEMBER 18, 2018) (REVISED FEBRUARY 1, 2022) (REVISED MARCH 11, 2022)

INTERIOR PROPERTY OWNERS WITH PIN

SWEETWATER LIGHTBRIDGE, LLC

KEP APEX, LLC 0722544876, 0722550034

KEPE1 HOLDINGS, LLC 0722453275, 0722456374, 0722458740

FEMA FLOODPLAIN - 10.78 AC



FEMA FLOODWAY - 11.80 AC





EXISTING EXHIBIT INFORMATION PROVIDED BY WITHERS RAVENEL

- BOUNDARY, TOPOGRAPHIC, AND UTILITY INFORMATION BASED ON ACTUAL FIELD SURVEY AND AVAILABLE WAKE COUNTY G.I.S. MAPPING
- 2. ADJACENT PROPERTY OWNERSHIP AND ZONING INFORMATION FROM WAKE
- 3. THIS PROPERTY LIES WITHIN THE JORDAN LAKE WATERSHED
- 4. WETLANDS DELINEATION PENDING. 5. 100-YEAR FLOODPLAIN PER FEMA FLOOD INSURANCE RATE MAP
- 3720072200J, DATED MAY 2, 2006. 6. WETLAND BUFFER CALLS BY WITHERS & RAVENEL, APEX PROJECT ID 14-014.

SHEET NO.





|Agenda Item | cover sheet

for consideration by the Apex Town Council

Item Type: CONSENT AGENDA Meeting Date: April 12, 2022

Item Details

Presenter(s):	Lauren Staudenmaier, Planner II
Department(s):	Planning and Community Development
	Requested Motion

Motion to adopt a Resolution Directing the Town Clerk to Investigate Petition Received, to accept the Certificate of Sufficiency by the Town Clerk, and to adopt a Resolution Setting Date of Public Hearing for April 26, 2022, on the Question of Annexation - Apex Town Council's intent to annex the Jessica and Abel Figueroa property containing 5.88 acres located at 804 and 808 Wimberly Road, Annexation #723 into the Town's corporate limits.

Approval Recommended?

Yes

<u>Item Details</u>

The Town Clerk certifies to the investigation of said annexation. Adoption of the Resolution authorizes the

Town Clerk to advertise said public hearing by electronic means and on the Town of Apex's website.

<u>Attachments</u>

- Resolution Directing the Town Clerk to Investigate Petition
- Certificate of Sufficiency by the Town Clerk
- Resolution Setting Date of Public Hearing
- Legal Description
- Vicinity Map
- Plot Plan
- Zoning Map
- Jurisdictional Map
- Annexation Petition





RESOLUTION DIRECTING THE TOWN CLERK TO INVESTIGATE PETITION RECEIVED UNDER G.S.§ 160A-31

Annexation Petition# 723 804 and 808 Wimberly Road

WHEREAS, G.S. §160A-31 provides that the sufficiency of the petition shall be investigated by the Town Clerk before further annexation proceedings may take place; and

WHEREAS, the Town Council of the Town of Apex deems it advisable to proceed in response to this request for annexation;

NOW, THEREFORE, BE IT RESOLVED by the Town Council of the Town of Apex, that the Town Clerk is hereby directed to investigate the sufficiency of the above-described petition and to certify to the Town Council the result of her investigation.

This the 12th day of April, 2022.

Jacques K. Gilbert Mayor

ATTEST:

Julie Reid Interim Town Clerk



CERTIFICATE OF SUFFICIENCY BY THE TOWN CLERK

Annexation Petition #723 804 and 808 Wimberly Road

To: The Town Council of the Town of Apex, North Carolina

I, Julie Reid, Interim Town Clerk, do hereby certify that I have investigated the annexation petition attached hereto, and have found, as a fact, that said petition is signed by all owners of real property lying in the area described therein, in accordance with G.S.§ 160A-31, as amended.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed the seal of the Town of Apex, North Carolina this 12th day of April, 2022.

Julie Reid Interim Town Clerk

(Seal)



RESOLUTION SETTING DATE OF PUBLIC HEARING ON THE QUESTION OF ANNEXATION PURSUANT TO G.S.§ 160A-31 AS AMENDED

Annexation Petition #723 804 and 808 Wimberly Road

WHEREAS, a petition requesting annexation of the area described herein has been received; and

WHEREAS, the Town Council of Apex, North Carolina has by Resolution directed the Town Clerk to investigate the sufficiency thereof; and

WHEREAS, Certification by the Town Clerk as to the sufficiency of said petition has been made;

NOW, THEREFORE, BE IT RESOLVED by the Town Council of the Town of Apex, North Carolina that:

Section 1. A public hearing on the question of annexation of the area described herein will be held at the Apex Town Hall at 6 o'clock p.m. on the 26th day of April, 2022.

Section 2. The area proposed for annexation is described as attached.

Section 3. Notice of said public hearing shall be published on the Town of Apex Website, www.apexnc.org, Public Notice, at least ten (10) days prior to the date of said public hearing.

This the 12th day of April, 2022.

Jacques K. Gilbert, Mayor

ATTEST:

Julie Reid Interim Town Clerk

Attachment: Legal Description

- Page 357 -

A portion of that certain parcel of land, situated in White Oak Township, Wake County, State of North Carolina, Recorded in Deed Book 16154 Page 548 in the Wake County Registry, and more particularly described as follows:

Lot#I

Beginning at a point in the southeastern corner of the lot situated at 808 Wimberly Road, Apex, North Carolina, said point being an Iron Pipe Found at the Right of Way of Wimberly Road, and being the Point and Place of BEGINNING. Thence from said point N 88°36'02" W 653.72 feet to an Iron Pipe Found, thence from said Iron Pipe Found N 50°05'13" W 14.38 feet to a Computed Point, thence from said point N 19°58'44" W 41.06 feet to a Computed Point, thence from said point N 09°04'28" W 41.51 feet to a Computed Point, thence from said point N 31°25'34" W 38.28 feet to a Computed Point, thence from said point N 15°13'02" W 37.28 feet to a Computed Point, thence from said point N 41°43'58" W 23.91 feet to a Computed Point, thence from said point N 00°40'17" W 46.42 feet to a Computed Point, thence from said point N 03°19'31"W 36.43 feet to a Computed Point, thence from said point N 05°18'36"E 48.53 feet to a Computed Point, thence from said point N 13°30'07"W 21.02 feet to a Computed Point, thence from said point N 21°46'00"E 31.17 feet to a Computed Point, thence from said point S 71°16'22"E 11.45 feet to a Computed Point, thence from said point N 15°56'21"E 10.81 feet to a Computed Point, thence from said point N 83°01'58"E 180.69 feet to an Iron Pipe Found, thence from said Iron Pipe Found S 40°20'30"E 312.47 feet to an Iron Pipe Found, thence from said Iron Pipe Found N 84°24'39"E 154.87 feet to an Iron Pipe Found, thence from said Iron Pipe Found N 69°24'36"E 99.34 feet to an Iron Pipe Found, thence from said Iron Pipe Found S 20°35'24"E 226.73 feet to an Iron Pipe Found and being the Point and Place of **BEGINNING** containing 174,327 square feet and 4.00 acres.

Lot#2

Beginning at a point in the northeastern corner of the lot situated at 804 Wimberly Road, Apex, North Carolina, said point being an Iron Pipe Found at the Right of Way of Wimberly Road, and being the Point and Place of **BEGINNING.** Thence from said point S 25°21'11" E 77.64 feet to an Iron Pipe Found, thence from said Iron Pipe Found S 20°35'24" E 172.44 feet to an Iron Pipe Found, thence from said Iron Pipe Found S 69°24'36" W 99.34 feet to an Iron Pipe Found, thence from said Iron Pipe Found S 84°24'39" W 154.87 feet to an Iron Pipe Found, thence from said Iron Pipe Found N 40°20'30" W 312.47 feet to an Iron Pipe Found, thence from said Iron Pipe Found N 83°01'58" E 358.16 feet to an Iron Pipe Found and being the Point and Place of **BEGINNING** containing 80,240 square feet and 1.84 acres.

Wimberly Road Right-of-Way

Beginning at a point in the southeastern corner of the lot situated at 804 Wimberly Road, Apex, North Carolina, said point being an Iron Pipe Found at the Right of Way of Wimberly Road, thence from said point N 20°35'24" W 11.19 feet to a Computed Point, and being the Point and Place of **BEGINNING**. Thence from said point N 20°35'24" W 32.36 feet to a Computed Point, thence from said Computed Point S 69°24'36" W 59.77 feet to a Computed Point, thence from said Computed Point S 19°38'07" E 32.37 feet to a Computed Point, thence from said Computed Point N 69°24'36" E 59.24 feet to a Computed Point and being the Point and Place of **BEGINNING** containing 1,926 square feet and 0.04 acres.




PETITION FOR VOLUNTARY ANNEXATION Town of Apex, North Carolina



ANNEXATION PETITION SUBMISSION: Applications are due by 12:00 pm on the first business day of each month. See the "<u>Annexation Petition Schedule</u>" on the website for details.

ANNEXATION FEE: \$200.00

VOLUNTARY ANNEXATION: Upon receipt of a valid petition signed by all of the owners of real property in the area described therein, the Town may annex an area either contiguous or not contiguous to its primary corporate limits when the area meets the standards set out under North Carolina General Statutes 160A-31 and 160A-58.1. A petition submitted pursuant to North Carolina General Statute 160A-58.1 need not be signed by the owners of real property that is wholly exempt from property taxation under the Constitution and laws of North Carolina, nor by railroad companies, public utilities as defined in G.S. 62-3(23), or electric or telephone membership corporations.

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HARD COPY SUBMITTAL	REQUIREMENTS:
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- ELECTRONIC SUBMITTAL REQUIREMENTS: IDT Plans
- Town of Apex Petition for Annexation with original wet ink signatures. No photocopies or scanned images.
- Town of Apex Petition for Annexation Written Metes and Bounds Legal Description: Submit original PDF. Scanned documents will not be accepted.

Petition Fee

• Electronic plat submittal (18" x 24")

REVIEW AND APPROVAL PROCESS:

- **SUBMITTAL:** Submit hard copy application with original wet signatures (no photo copies or scanned images) and fee to the Department of Planning and Community Development and upload an electronic copy of the application, legal description and Annexation Plat via <u>IDT Plans</u>.
- **REVIEW BY STAFF:** The Planning and Community Development Department and Development Services Department review the annexation submission. Comments will be sent to the applicant via email.
- **DESIGNATION OF ANNEXATION NUMBER:** The application is assigned an annexation number once the annexation petition is received.
- **ANNEXATION PLAT SUBMISSION:** After the map and legal description are deemed sufficient by the Town of Apex, the applicant is required to submit three (3) Mylar annexation plats to the Department of Planning and Community Development by the due date on the attached Annexation Schedule.
- **1**st **TOWN COUNCIL MEETING:** This Town Council Meeting is typically held the second Tuesday of each month. The Town Council will pass a resolution directing the Town Clerk to investigate the annexation petition. The Town Clerk will present to the Town Council a Certificate of Sufficiency indicating that the annexation petition is complete. A resolution setting the date of the public hearing is then approved.
- LEGAL ADVERTISEMENT: A legal advertisement will be published on the Town of Apex's website no more than 25 days and no less than 10 days prior to the date of the public hearing.
- **2ND TOWN COUNCIL MEETING/PUBLIC HEARING:** This Town Council Meeting is typically held the fourth Tuesday of each month. The Town Council will either adopt or deny an ordinance to extend the corporate limits of the Town of Apex.
- **RECORDATION:** If the annexation is approved by the Town Council, the Town Clerk will have the Annexation Plats recorded at the Wake County or Chatham County Register of Deeds, as appropriate. Wake County or Chatham County will keep one of the recorded plats, one copy will be returned to the Department of Planning and Community Development, and the surveying company is given the remaining recorded Annexation Plat.

FOR WELL AND/OR SEPTIC FAILURES:

If the purpose of the petition is to connect to public water and/or sewer, contact Water Resources Director Michael Deaton at 919-249-3413 or <u>michael.deaton@apexnc.org</u> to confirm that public water and/or sewer is available to the property. In order to receive public water and/or sewer services from the Town of Apex, refer to the checklist of items below to assist with obtaining one or both of these services:

- Apply for a plumbing permit with the Building Inspections and Permitting Department.
- The plumbing permit and associated costs for water and/or sewer will be included with the permit.

Please refer to the <u>Town of Apex Fee Schedule</u> for the <u>list of current</u> fees.

Petition for Verance, Annual on

PETITION FOR VOLUNTARY ANNEXATION

This document is a public record under the North Carolina Public Records Act and may be published on the Town's website or disclosed to third parties.

Application #:

Fee Paid

Submittal Date:

Check #

TO THE TOWN COUNCIL APEX, NORTH CAROLINA

\$

- 1. We, the undersigned owners of real property, respectfully request that the area described in Part 4 below be annexed to the Town of Apex, ☑ Wake County, □ Chatham County, North Carolina.
- 2. The area to be annexed is □ contiguous, non-contiguous (satellite) to the Town of Apex, North Carolina and the boundaries are as contained in the metes and bounds description attached hereto.
- 3. If contiguous, this annexation will include all intervening rights-of-way for streets, railroads, and other areas as stated in G.S. 160A-31(f), unless otherwise stated in the annexation amendment.

OWNER INFORMATION					
Abel & Jessica Figueroa		0723230271			
Owner Name (Please Print)		Property PIN or Deed Book & Page #			
(919) 960-3791		abel@artisanqualityroofing.com			
Phone		E-mail Address			
Abel & Jessica Figueroa		0723232326			
Owner Name (Please Print)		Property PIN or Deed Book & Page #			
(919) 960-3791		abel@artisanqualityroofing.com			
Phone		E-mail Address			
Owner Name (Please Print)		Property PIN or Deed Book & Page #			
Phone		E-mail Address			
SURVEYOR INFORMATION					
Surveyor: Dean Rhoads, PLS-Res	idential Land Serv	vices			
Phone: (919) 378-9316		_ Fax:			
E-mail Address: dean@rls-nc.com					
ANNEXATION SUMMARY CHART					
Property Information		Reason(s) for annexation (select all that apply	y)		
Total Acreage to be annexed:	5.88	Need water service due to well failure			
Population of acreage to be annexed:	8	Need sewer service due to septic system failure			
Existing # of housing units:	2	Water service (new construction)			
Proposed # of housing units:	2	Sewer service (new construction)	V		
Zoning District*:	RR (CZ)	Receive Town Services	r		

*If the property to be annexed is not within the Town of Apex's Extraterritorial Jurisdiction, the applicant must also submit a rezoning application with the petition for voluntary annexation to establish an Apex zoning designation. Please contact the Department of Planning and Community Development with questions.

- Page 362 -Petition for Verence - Page 362 -

PETITION FOR VOLUNTARY / Application #:	ANNEXATION
COMPLETE IF SIGNED BY INDIVIDU	ALS:
All individual owners must sign	
Abol Figure	(if additional signatures are necessary, please attach an additional sheet.)
Please Prin	oa Alve I
	1 Signature
Jessica Figue Please Prin	eroa de la companya de la
	Signature
Please Print	it Signature
Please Print	t Signature
COUNTY OF WAKE	F
NUNINININI	Jessica Figueroa
Sworn and subscribed before the	Aby Louis Figueroa Notary Public for the above State and County
this the day of, Okk	<u>122177</u> , 20 <u>20</u> .
W. W.	milody m yongs
SEAL SEAL PUBLIC	Notary Public
TA 28-202	
COUN IN	My Commission Expires: November 28, 202
n witness whereof, said corporatio ecretary by order of its Board of D	on has caused this instrument to be executed by its President and attested by its Directors, this the day of, 20 Corporate Name
SEAL	
Attact.	Ву:
Allesi.	President (Signature)
Secretary (Signature)	
TATE OF NORTH CAROLINA OUNTY OF WAKE	
worn and subscribed before me,	a Notary Public for the above State and C
is theday of	, 20
SEAL	Notary Public
	My Commission Expires:
je 3 of 5	Petition for Vo
	Last Opualeu: November 8, 2021

PETITION FOR VOLUNTARY ANNEXAT	
Application #:	Submittal Date:
COMPLETE IF IN A LIMITED LIABILITY COMPAN	NY
n witness whereof, ts name by a member/manager pursuant to	a limited liability company, caused this instrument to be exec to authority duly given, this the day of, 20, 20,
Name of Limited	d Liability Company
	Ву:
	Signature of Member/Manager
TATE OF NORTH CAROLINA COUNTY OF WAKE	
Sworn and subscribed before me, his theday of	, a Notary Public for the above State and County, 20
SEAL	Notary Public
	M. Commission Engine
	My Commission Expires:
COMPLETE IF IN A PARTNERSHIP	
n witness whereof, name by a member/manager pursuant to a	, a partnership, caused this instrument to be execute authority duly given, this the day of , 20
Ν	Name of Partnership
	By:
	Signature of General Partner
STATE OF NORTH CAROLINA COUNTY OF WAKE	
	, a Notary Public for the above State and Count
worn and subscribed before me,	
his theday of	, 20
before me,day of	, 20
worn and subscribed before me, his theday of	, 20 Notary Public

FOR APPLICANT USE ONLY PLEASE DO NOT INCLUDE THIS CHECKLIST WITH YOUR APPLICATION SUBMITTAL

COMMON ACRONYMS/DEFINITIONS					
IDT Website	Contractor's Plan Ro	om	<u>UDO</u>	Town's Unified Develo	opment Ordinance
ТОА	Town of Apex		NCDEQ	North Carolina Dept.	of Environmental Quality
RCA	Resource Conservati	on Area	DDM	Design & Developmer	nt Manual
	CONTACT INFORMATION				
Department of Pla Community Develo	nning and opment	(919) 249-3426	Soil & Erosio	n Control Officer	(919) 249-1166
Parks, Recreation, Resources Departr	and Cultural ment	(919) 372-7468	7468 Electric Utilities Department (919) 24		(919) 249-3342
Transportation En	gineer	(919) 249-3358	Stormwater	& Utility Engineering	(919) 249-3413

#	REQUIRED PLAT ITEMS					
1	The exact boundary lines of the area to be annexed fully dimensioned by lengths and bearings, and the location of					
	intersecting boundary lines of existing town limits, labeled and distinctly marked. Include full right-of-way if the area					
	on both sides is or will be in the corporate limits.					
2	Show and label any utility easements with metes and bounds.					
3	Accurate locations and descriptions of all monuments, markers, and control points.					
4	Ultimate right-of-way widths on all streets.					
5	Entitle "ANNEXATION MAP for the TOWN OF APEX" or "SATELLITE ANNEXATION MAP for the TOWN OF APEX", as					
	appropriate.					
6	Name of property owner.					
7	Name, seal, and registration of Professionally Licensed Surveyor (PLS).					
8	Date of the survey and map preparation; a north arrow indicating whether the index is true magnetic North Carolina					
	grid (NAD 83 of NAD 27) or deed; graphic scale; and declination.					
9	Names of the township, county, and state.					
10	A detailed vicinity map.					
11	Include address of property if assigned.					
12	Show all contiguous or non-contiguous town limits.					
13	The following certification must be placed on the map near a border to allow the map to be sealed:					
	Annexation #					
	I, Donna B. Hosch, MIML, NCCML, Town Clerk, Apex, North Carolina certify this a true and exact map of					
	annexation adopted the day of, 20, by the Town Council. Tset my hand and					
	seal of the Town of Apex,					
	Day/Month/rear					
	Donna B. Hosch, MMC, NCCMC, Town Clerk					
	-Seal-					
14	Leave 2 inch by 2 inch space for the Wake County or Chatham County Register of Deeds stamp on the plat. All final					
1.	plats must be stamped and signed before they can be accepted by the Town.					

|Agenda Item | cover sheet

for consideration by the Apex Town Council

Item Type: CONSENT AGENDA Meeting Date: April 12, 2022

<u>Item Details</u>

Presenter(s):Lauren Staudenmaier, Planner IIDepartment(s):Planning and Community Development

Requested Motion

Motion to set Public Hearing for the April 26, 2022 Town Council meeting regarding Rezoning Application #22CZ04 804 & 808 Wimberly Road and Ordinance. The applicant, Zak Shipman, Shipman Engineering, PLLC., seeks to rezone approximately 5.84 acres from Wake County Residential-80W (R-80W) to Rural Residential-Conditional Zoning (RR-CZ). The proposed rezoning is located at 804 & 808 Wimberly Road.

Approval Recommended?

The Planning and Community Development Department recommends approval.

Item Details

The properties to be rezoned are identified as PINs 0723230271 & 0723232326.

<u>Attachments</u>

- Vicinity Map
- Application





PETITION T	O AMEND THE	OFFICIAL ZONING MAP					
This documer	nt is a public recor	d under the North Carolina Public	c Records Act	t and may be	published on th	ie Town's website	or disclosed to
Application	#:	22CZ04	Subm	ittal Date:	2/1/22		
			Fee P	aid:			
Project Info	ormation						
Project Nam	ne: 808 Wim	berly Recombination					
Address(es)	804 & 80	8 Wimberly Road					
PIN(s): 0	723230271 &	0723232326					
(-)						Acreage: 5.	84
Current Zon	ing: R-80W	(Wake Co.)	Proposed	Zoning:	RR-CZ	<u> </u>	
Current 204	5 LUM Classific	ation(s): Rural Density	Resident	ial			
Is the propo	osed rezoning co	posistent with the 2045 LUM	Classificat	ion(s)? Ye	es	No 🖌]
If any port	ion of the proje	ct is shown as mixed use (3 c	or more str	ipes on the	2045 Land Us	se Map) provide	e the following:
Are	a classified as m	ixed use:			Acreage:		
Are	a proposed as n	on-residential development	:		Acreage:		
Perc	cent of mixed us	se area proposed as non-resi	dential:		Percent:		
Applicant I	nformation						
Name:	Abel and Je	ssica Figueroa					
Address:	808 Wimber	ly Road					
City:	Apex		State:	NC		Zip:	27523
Phone:	(919) 960-3	791	E-mail:	abel@ar	tisanquality	vroofing.com	
Owner Info	ormation						
Name:	Abel and Je	ssica Figueroa					
Address:	808 Wimber	ly Road					
City:	Apex		State:	NC		Zip:	27523
Phone:	(919) 960-37	791	E-mail:	abel@ar	rtisanquality	vroofing.com	
Agent Info	rmation						
Name:	Zak Shipma	n, PE-Shipman Enginee	ring, PLL	C			
Address:	137 Middleg	reen Place					
City:	Holly Spring	S	State:	NC		Zip:	27540
Phone:	(919) 900-0	006	E-mail:	zak@shi	pmanengir	eering.com	
Other conta	acts:		_				
			- Page 368 -				

Rezoning Application

PETITION INFORMATION				
Application #:	22CZ04	Submittal Date:	2/1/22	

An application has been duly filed requesting that the property described in this application be rezoned from <u>R-80W (Wake Co.)</u> to <u>RR-CZ</u>. It is understood and acknowledged that if the property is rezoned as requested, the property described in this request will be perpetually bound to the use(s) authorized and subject to such conditions as imposed, unless subsequently changed or amended as provided for in the Unified Development Ordinance (UDO). It is further understood and acknowledged that final plans for any specific development to be made pursuant to any such Conditional Zoning shall be submitted for site or subdivision plan approval, as required by the UDO. Use additional pages as needed.

PROPOSED USES:

The Rezoned Lands may be used for, and only for, the uses listed immediately below. The permitted uses are subject to the limitations and regulations stated in the UDO and any additional limitations or regulations stated below. For convenience, some relevant sections of the UDO may be referenced; such references do not imply that other sections of the UDO do not apply.

1	Single Family Residential	21	
2	Accessory Apartment	22	
3	Accessory Structure	23	
4		24	
5		25	
6		26	
7		27	
8		28	
9		29	
10		30	
11		31	
12		32	
13		33	
14		34	
15		35	
16		36	
17		37	
18		38	
19		39	
20		40	

PETITION INFORMATION				
Application #:	22CZ04	Submittal Date:	2/1/22	

PROPOSED CONDITIONS:

The applicant hereby requests that the Town Council of the Town of Apex, pursuant to the Unified Development Ordinance, approve the Conditional Zoning for the above listed use(s) subject to the following condition(s). Use additional pages as needed.

Please see the attached proposed conditions sheet.

LEGISLATIVE CONSIDERATIONS - CONDITIONAL ZONING

The applicant shall propose site-specific standards and conditions that take into account the following considerations, which are considerations that are relevant to the legislative determination of whether or not the proposed conditional zoning district rezoning request is in the public interest. These considerations do not exclude the legislative consideration of any other factor that is relevant to the public interest. Use additional pages as needed.

1) *Consistency with 2045 Land Use Map.* The proposed Conditional Zoning (CZ) District use's appropriateness for its proposed location and consistency with the purposes, goals, objectives, and policies of the 2045 Land Use Map.

The 2045 LUM shows this as Rural Density Residential, or 1 DU per 5 acres or 0.20 DU/Acre density.

Our proposal to zone this as Rural Residential and cap the development at a maximum of 4

dwelling units, with a proposed density of 0.68 un/acre max density.

2) *Compatibility.* The proposed Conditional Zoning (CZ) District use's appropriateness for its proposed location and compatibility with the character of surrounding land uses.

The existing land area around this property is more rural in nature, however significant development is ongoing in the areas

surrounding the property. The Point at Lake Castleberry, Castleberry Trails, and Lake Castleberry developments

are located to the north and feature single family development at much higher densities. Our proposed

density of 0.68 units per acre is much more in line with the 2045 LUM and the surrounding character of residences on Wimberly.

804 & 808 Wimberly Road Rezoning Petition-Proposed Conditions

- 1. Use shall be limited to the following land uses: single family detached residential, accessory structure, accessory apartment.
- 2. A maximum of 4 dwelling units are permitted.
- 3. Exterior lighting shall have a color temperature of 3000k or less for outside installations.
- 4. All exterior lighting shall include timers or light sensors.
- 5. Include solar conduit in new building design.
- 6. An additional 25 feet of riparian buffer shall be observed on the existing stream on the rear of the lot if it is intermittent, or 50 feet of buffer if it is ephemeral.
- 7. Vinyl siding is not permitted; however vinyl windows, decorative elements, and trim are permitted.
- 8. The roof shall be pitched at 5:12 or greater for 75% of the building designs.
- 9. Eaves shall project at least 12 inches from the wall of the structure.
- 10. Garage doors shall have windows or decorative details on them.
- 11. Garages on the front façade of a home that faces the street shall not exceed 40% of the total width of the house and garage together.
- 12. House entrances for units with front-facing single car garages shall have a prominent covered porch/stoop area leading to the front door.
- 13. The rear and side elevations of the units that can be seen from the right-of-way shall have trim around the windows.
- 14. Front porches shall be a minimum of 6 feet deep.
- 15. The visible side of a home on a corner lot facing the public street shall contain at least three decorative elements such as, but not limited to:
 - a. Windows
 - b. Bay Window
 - c. Recessed Window
 - d. Trim around the windows
 - e. Two or more building materials
 - f. Decorative Brick/Stone
 - g. Decorative Trim
 - h. Decorative Shake
 - i. Decorative air vents on gable
 - j. Decorative gable
 - k. Column
 - I. Portico
 - m. Dormer

PETITION INFORMATIO	N		
Application #:	22CZ04	Submittal Date:	2/1/22
3) Zoning district suppl Supplemental Standard	emental standards. The p s, if applicable.	roposed Conditional Zoning (CZ) District use's compliance with Sec 4.4
The proposed devel	opment and recombir	ation is for single family	detached residences and complies
with all the applica	ble Supplemental St	andards noted in Sect	ion 4.4.
4) Design minimizes and adverse effects, includ impacts on surroundin vibration and not create	<i>lverse impact.</i> The design ing visual impact of the p g lands regarding trash, t e a nuisance.	of the proposed Conditional roposed use on adjacent lar raffic, service delivery, park	l Zoning (CZ) District use's minimization of nds; and avoidance of significant adverse ing and loading, odors, noise, glare, and
The project does no	ot create any adverse	e impact on adjacent lar	nds for the following reasons. We
are proposing a rec	ombination of the site	e to move lot lines arou	nd without adding additional lots.
The result will be that	at the second lot, whic	h is currently vacant, will	l be adjusted such that a residence
can be built with greater	setbacks to adjacent prope	erties and more opportunity to	preserve existing features, vegetation, etc
5) Design minimizes en impacts and protection other natural resources	<i>vironmental impact.</i> The po from significant deteriora	roposed Conditional Zoning D ation of water and air resour	istrict use's minimization of environmental ces, wildlife habitat, scenic resources, and
The proposed zonir	ig district allows for co	onstruction of single fam	ily residential units while protecting
environmental resourc	es. No stream, riparian	buffer, or wetland impacts a	are proposed, and the second residenc
will be constructed	in such a way to pre	eserve a significant por	tion of the existing vegetation on
the site.			
6) <i>Impact on public fact</i> public facilities and serve facilities.	<i>lities.</i> The proposed Condi rices, including roads, pota	itional Zoning (CZ) District use ble water and wastewater fa	e's avoidance of having adverse impacts on cilities, parks, schools, police, fire and EMS
The proposed zoni	ng district creates mi	nimal impact on public	facilities and services. Two new
single family reside	ences will be connec	ted to the public water	and gravity sewer infrastructure.
There are currently two	existing lots on record h	nere, and we are not propos	sing any new lots at this time. Therefore
we believe impact	to parks, schools, ar	nd emergency services	s are negligible.
7) <i>Health, safety, and w</i> of the residents of the	<i>velfare.</i> The proposed Con Fown or its ETJ.	ditional Zoning (CZ) District u	se's effect on the health, safety, or welfare
The proposed zonin	g district does not crea	ate adverse effects on th	he health, safety, and welfare of the
residents of the To	wn. There are curre	ently two lots recorded	in this area, and our intent is to

retain two lots and connect to Town services in a manner consistent with existing development in this area.

PETITION INFORMATION				
Application #:	22CZ04	Submittal Date:	2/1/22	

8) *Detrimental to adjacent properties.* Whether the proposed Conditional Zoning (CZ) District use is substantially detrimental to adjacent properties.

We do not believe the proposed zoning district is detrimental to adjacent properties. Development as an

RR-CZ district allows for orderly construction of the second residence while maintaining significant

existing vegetation, buffers, setbacks, and other screening from adjacent property using the existing

tree cover.

9) Not constitute nuisance or hazard. Whether the proposed Conditional Zoning (CZ) District use constitutes a nuisance or hazard due to traffic impact or noise, or because of the number of persons who will be using the Conditional Zoning (CZ) District use.

The proposed zoning district does not create a nuisance due to noise or other impacts. Since there

are two lots on record and we are not creating any additional lots, traffic and noise levels should

remain consistent with current levels associated to the property.

10) Other relevant standards of this Ordinance. Whether the proposed Conditional Zoning (CZ) District use complies with all standards imposed on it by all other applicable provisions of this Ordinance for use, layout, and general development characteristics.

We believe that the intent and standards of the Ordinance are met by using the RR-CZ zoning

district in this location. Development of the lots meets the applicable provisions of the ordinance for

layout, Town services, environmental considerations, etc.

	1413.4	220704	Standard 1	2/1/22
Application #: 22		220204	Submittal Date:	2/1/22
Abel and	d Jessica Figu	ieroa	is the owner* of the p	roperty for which the attached
applica	tion is being s	ubmitted:		
	Land Use A	mendment		
V	Rezoning: F	For Conditional Zoning and Plan authorization includes express o Agent which will apply if the ap	ned Development rezoning consent to zoning conditior plication is approved.	applications, this ns that are agreed to by the
	Site Plan			
	Subdivision	1		
	Variance			
	Other:			
The pro	perty address	is: 804 & 808 Wimberly R	Road	
The age	ent for this pro	ject is: Shipman Engineering,	PLLC	
	🗆 I am the	owner of the property and will	be acting as my own agent	
Agent N	lame:	Zak Shipman, PE		
Address	5:	137 Middlegreen Place, Holl	y Springs, NC 27540	
Telepho	one Number:	(919) 900-0006		
F-Mail 4	ddross.	zak@shipmanengineering.co	om	
		Signature(s) of Owner(s)* Abel Figueroa	Abel Figueros Type or print n	name 1/4/22 Dat

Attach additional sheets if there are additional owners.

*Owner of record as shown on the latest equalized assessment rolls of Wake County. An option to purchase does not constitute ownership. If ownership has been recently transferred, a copy of the deed must accompany this authorization.

Pursuant to Article 40 of Chapter 66 of the North Carolina General Statutes (the Uniform Electronic Transactions Act) this application and all documents related hereto containing an electronic or digitized signature are legally binding in the same manner as are hard copy documents executed by hand signature. The parties hereby consent to use electronic or digitized signatures in accordance with the Town's Electronic Signature Policy and intend to be bound by the application and any related documents. If electronic signatures are used the application shall be delivered in an electronic record capable of retention by the recipient at the time of receipt.

AFFIDAVIT OF O	WNERSHIP		-	1.
Application #:	22CZ04	Submittal Date:	2/1/22	

The undersigned, Abel and Jessica Figueroa (the "Affiant") first being duly sworn, hereby swears or affirms as follows:

- 1. Affiant is over eighteen (18) years of age and authorized to make this Affidavit. The Affiant is the sole owner, or is the authorized agent of all owners, of the property located at and legally described in **Exhibit "A"** attached hereto and incorporated herein (the "Property").
- This Affidavit of Ownership is made for the purpose of filing an application for development approval with the Town of Apex.
- 3. If Affiant is the owner of the Property, Affiant acquired ownership by deed, dated <u>September 2, 2015</u>, and recorded in the Wake County Register of Deeds Office on <u>September 17, 2015</u>, in Book <u>016154</u> Page <u>00548-00550</u>.
- 4. If Affiant is the authorized agent of the owner(s) of the Property, Affiant possesses documentation indicating the agency relationship granting the Affiant the authority to apply for development approval on behalf of the owner(s).
- 5. If Affiant is the owner of the Property, from the time Affiant was deeded the Property on September 2, 2015, Affiant has claimed sole ownership of the Property. Affiant or Affiant's predecessors in interest have been in sole and undisturbed possession and use of the property during the period of ownership. Since taking possession of the Property on September 2, 2015, no one has questioned Affiant's ownership or right to possession nor demanded any rents or profits. To Affiant's knowledge, no claim or action has been brought against Affiant (if Affiant is the owner), or against owner(s) (if Affiant is acting as an authorized agent for owner(s)), which questions title or right to possession of the property, nor is any claim or action pending against Affiant or owner(s) in court regarding possession of the Property.

This the day of Jan (seal) 55100 10 COA Type or print name

STATE OF NORTH CAROLINA

I, the undersigned, a Notary Public in and for the County of <u>Wake</u>, hereby certify that <u>Abel Figueroa</u>, Affiant, personally known to me or known to me by said Affiant's presentation of said Affiant's <u>Tessica Figueroa</u>, personally appeared before me this day and acknowledged the due and voluntary execution of the foregoing Affidavit.



ruge

Notary Public State of North Carolina My Commission Expires: NOV, 9 - 202

- Page 375 -

AFFIDAVIT OF OWNERSHIP: EXHIBIT A – LEGAL DESCRIPTION

Application #:

22CZ04

Submittal Date: 2/1/22

Insert legal description below.

A portion of that certain parcel of land, situated in White Oak Township, Wake County, State of North Carolina, Recorded in Deed Book 16154 Page 548 in the Wake County Registry, and more particularly described as follows:

Lot #1

Beginning at a point in the southeastern corner of the lot situated at 808 Wimberly Road, Apex, North Carolina, said point being an Iron Pipe Found at the Right of Way of Wimberly Road, and being the Point and Place of BEGINNING. Thence from said point N 88°36'02" W 653.72 feet to an Iron Pipe Found, thence from said Iron Pipe Found N 50°05'13" W 14.38 feet to a Computed Point, thence from said point N 19°58'44" W 41.06 feet to a Computed Point, thence from said point N 09°04'28" W 41.51 feet to a Computed Point, thence from said point N 31°25'34" W 38.28 feet to a Computed Point, thence from said point N 15°13'02" W 37.28 feet to a Computed Point, thence from said point N 41°43'58" W 23.91 feet to a Computed Point, thence from said point N 00°40'17" W 46.42 feet to a Computed Point, thence from said point N 03°19'31"W 36.43 feet to a Computed Point, thence from said point N 05°18'36"E 48.53 feet to a Computed Point, thence from said point N 13°30'07"W 21.02 feet to a Computed Point, thence from said point N 21°46'00"E 31.17 feet to a Computed Point, thence from said point S 71°16'22"E 11.45 feet to a Computed Point, thence from said point N 15°56'21"E 10.81 feet to a Computed Point, thence from said point N 83°01'58"E 180.69 feet to an Iron Pipe Found, thence from said Iron Pipe Found S 40°20'30"E 312.47 feet to an Iron Pipe Found, thence from said Iron Pipe Found N 84°24'39"E 154.87 feet to an Iron Pipe Found, thence from said Iron Pipe Found N 69°24'36"E 99.34 feet to an Iron Pipe Found, thence from said Iron Pipe Found S 20°35'24" E 226.73 feet to an Iron Pipe Found and being the Point and Place of BEGINNING containing 174,327 square feet and 4.00 acres.

Lot #2

Beginning at a point in the northeastern corner of the lot situated at 804 Wimberly Road, Apex, North Carolina, said point being an Iron Pipe Found at the Right of Way of Wimberly Road, and being the Point and Place of **BEGINNING**. Thence from said point S 25°21′11″ E 77.64 feet to an Iron Pipe Found, thence from said Iron Pipe Found S 20°35′24″ E 172.44 feet to an Iron Pipe Found, thence from said Iron Pipe Found S 69°24′36″ W 99.34 feet to an Iron Pipe Found, thence from said Iron Pipe Found S 84°24′39″ W 154.87 feet to an Iron Pipe Found, thence from said Iron Pipe Found N 40°20′30″ W 312.47 feet to an Iron Pipe Found, thence from said Iron Pipe Found N 83°01′58″ E 358.16 feet to an Iron Pipe Found and being the Point and Place of **BEGINNING** containing 80,240 square feet and 1.84 acres.

> - Page 376 -Rezoning Applicatio



Wake County Residential Development Notification

Developer Company Information					
Company Name	Abel and Jessica Figueroa				
Company Phone Number	(919) 960-3791				
Developer Representative Name	Zak Shipman, PE-Shipman Engineering, PLLC				
Developer Representative Phone Number	(919) 900-0006				
Developer Representative Email	zak@shipmanengineering.com				

New Residential Subdivision Information						
Date of Application for Subdivision	12/16/21					
City, Town or Wake County Jurisdiction	Apex					
Name of Subdivision	804 & 808 Wimberly Road					
Address of Subdivision (if unknown enter nearest cross streets)	808 Wimberly Road					
REID(s)	0182266 & 0440404					
PIN(s)	0723232326 & 0723230271					

Projected Dates Information				
Subdivision Completion Date	Fall, 2022			
Subdivision Projected First Occupancy Date	Fall, 2022			

	Lot by Lot Development Information																
Unit Type	Total # of Units	Senior Living	Studio	1 Bedroom	2 Bedroom	3 Bedroom	4 Bedroom	Squar Rai	e Foot nge	Price	Range	ļ	Anticipate	d Compl	etion Uni	ts & Date	25
								Min	Max	Low	High	Year	# Units	Year	# Units	Year	# Units
Single Family							2	6000	7000	\$1.2M	\$1.5M	2022	2				
Townhomes																	
Condos																	
Apartments																	
Other																	

Please complete each section of this form and submit with your application.

Town of Apex staff will enter this information into the online WCPSS form.

Please send any questions about this form to:

studentassignment-gisgroup@wcpss.net

Revised 08/10/2018

NOTICE OF NEIGHBORHOOD MEETING

This document is a public record under the North Carolina Public Records Act and may be published on the Town's website or disclosed to third parties.

12/16/21 Date

Dear Neighbor: You are invited to a neighborhood meeting to review and c	liscuss the development proposal at		
804 Wimberly Road	0723232326		
808 Wimberly Road	0723230271		
Address(es)	PIN(s)		

in accordance with the Town of Apex Neighborhood Meeting procedures. This meeting is intended to be a way for the applicant to discuss the project and review the proposed plans with adjacent neighbors and neighborhood organizations before the submittal of an application to the Town. This provides neighbors an opportunity to raise questions and discuss any concerns about the impacts of the project before it is officially submitted. If you are unable to attend, please refer to the Project Contact Information page for ways to contact the applicant. Notified neighbors may request that the applicant provide updates and send plans via email or mail. Once an application has been submitted to the Town, it may be tracked using the Interactive Development Map or the Apex Development Report located on the Town of Apex website at http://www.apexnc.org/180/Planning-Community-Development.

A Neighborhood Meeting is required because this project includes (check all that apply):

Арр	plication Type	Approving Authority
~	Rezoning (including Planned Unit Development)	Town Council
	Major Site Plan	Town Council (QJPH*)
	Special Use Permit	Town Council (QJPH*)
	Residential Master Subdivision Plan (excludes exempt subdivisions)	Technical Review Committee (staff)

*Quasi-Judicial Public Hearing: The Town Council cannot discuss the project prior to the public hearing.

The following is a description of the proposal (also see attached map(s) and/or plan sheet(s)):

We are proposing annexation and rezoning of the two lots into the Town of Apex Corporate limits for the purpose

of submitting a recombination plat to adjust lot lines. Additionally we are proposing to extend Town sewer service

to provide service for the two lots. A total of 2 residential units are proposed.

Estimated submittal date: February, 2022

MEETING INFORMATION:				
Property Owner(s) name(s):	Abel and Jessica Figueroa			
Applicant(s):	Zak Shipman, PE-Shipman Engineering, PLLC			
Contact information (email/phone):	zak@shipmanengineering.com / (919) 900-0006			
Meeting Address:	Virtual			
Date/Time of meeting**:	January 10, 2021, 5:00 pm to 7:00 pm			
MEETING AGENDA TIMES:				

Welcome: 5:00 pm Project Presentation: 5:15 pm

Question & Answer: 5:30 pm

**Meetings shall occur between 5:00 p.m.-9:00 p.m. on a Monday through Thursday (excluding Town recognized holidays). If you have questions about the general process for this application, please contact the Planning and Community Development Department at 919-249-3426. You may also find information about the Apex Planning Department and on-going planning efforts at http://www.apexnc.org/180/Planning-Community-Development.

PROJECT CONTACT INFORMATION

This document is a public record under the North Carolina Public Records Act and may be published on the Town's website or disclosed to third parties.

Development Contacts:							
Project Name: 808 Wimber	Zoning: RR-CZ						
Location: 808 & 804 Wimberly Road							
Property PIN(s): 0723232326 & 0)723230271 Acrea	ge/Square Fee	et: <u>5.84</u>				
Property Owner: Abel and Jes	ssica Figueroa						
Address: 808 Wimberly Road							
City: Apex		State: NC	Zip: 27523				
Phone: (919) 960-3791	Email: ab	el@artisanq	ualityroofing.com				
Developer: Abel and Jessica R	igueroa						
Address: 808 Wimberly Road							
_{City:} Apex	State	e: NC	Zip: 27523				
Phone: (919) 960-3791	Fax:		Email: abel@artisanqualityroofing.com				
Engineer: Shipman Engineeri	ng, PLLC- Zak S	hipman, PE					
Address: 137 Middlegreen Plac	ce						
_{City:} Holly Springs		State: NC	_{Zip:} 27540				
Phone: (919) 900-0006	Fax:		Email: zak@shipmanengineering.com				
Builder (if known):							
Address:							
City:		State:	Zip:				
Phone:	Fax:		Email:				

Please note that Town staff will not have complete information about a proposed development until the application is submitted for review. If you have a question about Town development standards and how they relate to the proposed development, please contact the appropriate staff person listed below.

Town of Apex Department Contacts	
Planning and Community Development Department Main Number	
(Provide development name or location to be routed to correct planner)	(919) 249-3426
Parks, Recreation & Cultural Resources Department	
Angela Reincke, Parks and Greenways Planner	(919) 249-7468
Public Works - Transportation	
Russell Dalton, Senior Transportation Engineer	(919) 249-3358
Water Resources Department	
Jessica Bolin, Environmental Engineering Manager (Stormwater, Sedimentation &	(919) 249-3537
Erosion Control)	
James Gregg, Utility Engineering Manager (Water & Sewer)	(919) 249-3324
Electric Utilities Division	
Rodney Smith, Electric Technical Services Manager	(919) 249-3342

Providing Input to Town Council:

Each Town Council meeting agenda includes a Public Forum time when anyone is permitted to speak for three (3) minutes on any topic with the exception of items listed as Public Hearings for that meeting. The Town Council meets on the 2nd and 4th Tuesdays of each month at 6:00 p.m. (except for holidays, see schedule of meetings at <u>http://www.apexnc.org/838/Agendas-Minutes</u>). You may also contact Town Council by e-mail at <u>AllCouncil@apexnc.org</u>.

Private Agreements and Easement Negotiation:

The Town of Apex cannot enforce private agreements between developers and neighbors and is not a party to the easement and right-of-way negotiation that occurs between developers and neighboring property owners for easements or rights-of-way that are necessary to build the project.

It is recommended that all private agreements be made in writing and that if a property owner feels it necessary, they should obtain private legal counsel in order to protect their interests in both private agreements and during easement negotiations. The only conditions that the Town of Apex can enforce are those conditions that are made a part of the conditional zoning of the property by agreement of the developer and the Town.

As an example, if a developer offers to build a fence for a neighbor to mitigate some impact, the Town can only enforce the construction of the fence if the fence becomes a condition of the rezoning. This would occur by the developer offering the condition as part of their conditional zoning application package or at the Town Council public hearing on the conditional zoning and the Town accepting it as a condition. Private agreements regarding a fence being constructed will not be enforced by the Town.

To request that any agreement with a developer is made a part of the conditional zoning at the time of approval, you may ask at the Town Council public hearing if the agreement is included in the conditions. If it is not, you may request that the Town Council not approve the rezoning without the agreement being included in the conditions (note that it is up to Town Council whether to approve or deny the rezoning but they cannot impose conditions that the applicant does not agree to add). The developer's proposed conditions can be viewed any time after a rezoning is submitted on the Interactive Development Map at: http://apexnc.maps.arcgis.com/apps/OnePane/basicviewer/index.html?appid=fa9ba2017b784030b15ef4d a27d9e795

Documentation:

Neighbors to a requested new development and/or rezoning are strongly encouraged to fully document (such as through dated photographs) the condition of their property before any work is initiated for the new development. Stormwater controls installed on developed property are not designed to and will likely not remove 100% of the soil particles transported by stormwater runoff. As a result, creeks and ponds could become cloudy for a period of time after rain events.

NEIGHBORHOOD MEETING SIGN-IN SHEET

This document is a public record under the North Carolina Public Records Act and may be published on the Town's website or disclosed to third parties.

Meeting Address: Virtual	
Date of meeting:	_ Time of meeting:
Property Owner(s) name(s): <u>Abel and Jessica Figueroa</u>	
Applicant(s): Zak Shipman, PE-Shipman Engineering, PLL	C

Please <u>print</u> your name below, state your address and/or affiliation with a neighborhood group, and provide your phone number and email address. Providing your name below does not represent support or opposition to the project; it is for documentation purposes only. For virtual meetings, applicants must include all known participants and request the information below.

	NAME/ORGANIZATION	ADDRESS	PHONE #	EMAIL	SEND PLANS & UPDATES
1.	Zak Shipman-Shipman Engineering	137 Middlegreen Place, Holly Springs, NC 27540			
2.	Scott & Martha Sutton	8621 Castleberry Road, Apex, NC 27523			x
3.					
4.					
5.					
6.					
7.					
8.					
9.					
10.					
11.					
12.					
13.					
14.					

Use additional sheets, if necessary.

SUMMARY OF DISCUSSION FROM THE NEIGHBORHOOD MEETING

This document is a public record under the North Carolina Public Records Act and may be published on the Town's website or disclosed to third parties.

Property Owner(s) name(s): Abel and Jessica Figueroa			
Applicant(s): Zak Shipman, PE-Shipman Engineering, PLLC			
Contact information (email/phone):	zak@shipmanengineering.com / (919) 900-0006		
Meeting Address: Virtual			
Date of meeting: Jan. 10, 2021	Time of meeting: 5:00 pm-7:00 pm		

Please summarize the questions/comments and your responses from the Neighborhood Meeting or emails/phone calls received in the spaces below (attach additional sheets, if necessary). Please state if/how the project has been modified in response to any concerns. The response should not be "Noted" or "No Response". There has to be documentation of what consideration the neighbor's concern was given and justification for why no change was deemed warranted.

Question/Concern #1:

From Scott Sutton-will location of sewer block him from extending Town sewer to his property in the future

Applicant's Response:

No, it would not. Gravity sewer can be extended up the existing stream to the Sutton property

and connect into the manhole at Castleberry Estates. We would be willing to connect the applicant

with Sutton to discuss. Mr. Sutton was not ready to do anything with sewer currently.

Question/Concern #2:

From Mr. Sutton: Do we know where house on Lot 2 would go?

Applicant's Response:

We are not entirely sure at the moment, but we suspect the house on Lot 2 would have a similar front setback

as the existing house so they sit roughly at the same depth from Wimberly.

Question/Concern #3:

Applicant's Response:

Question/Concern #4:

Applicant's Response:

AFFIDAVIT OF CONDUCTING A NEIGHBORHOOD MEETING, SIGN-IN SHEET AND ISSUES/RESPONSES SUBMITTAL

This document is a public record under the North Carolina Public Records Act and may be published on the Town's website or disclosed to third parties.

Abel Figueroa

Print Name

_____, do hereby declare as follows:

- 1. I have conducted a Neighborhood Meeting for the proposed Rezoning, Major Site Plan, Residential Master Subdivision Plan, or Special Use Permit in accordance with UDO Sec. 2.2.7 Neighborhood Meeting.
- 2. The meeting invitations were mailed to the Apex Department of Planning and Community Development, all property owners and tenants abutting and within 300 feet of the subject property and any neighborhood association that represents citizens in the notification area via first class mail a minimum of 14 days in advance of the Neighborhood Meeting.
- 3. The meeting was conducted at <u>VIRTUAL ZOOM</u> (location/address) on <u>Jaw 10, 2022</u> (date) from <u>5:00 pm</u> (start time) to <u>7:00 pm</u> (end time).
- 4. I have included the mailing list, meeting invitation, sign-in sheet, issue/response summary, and zoning map/reduced plans with the application.
- 5. I have prepared these materials in good faith and to the best of my ability.

STATE OF NORTH CAROLINA COUNTY OF WAKE

Sworn and subscribed before me, <u>Abel</u> Fro	LUEYOG, a Notary Public for the above State and
County, on this the <u>U</u> day of <u>Farm</u>	, 20_22.

SEAL ANTIN SWINCH ASWIND A

Nov ICEME

Notary Public der Print Name

Nov My Commission Expires:

SITE ADDRESS	PIN NUMBER	OWNER	MAILING ADDRESS	
728 WIMBERLY RD	0723230517	DEMARTINO, ROBERT	728 WIMBERLY RD	APEX NC 27523-6764
815 WIMBERLY RD	0723238124	DOWNS, LEE TRUSTEE DOWNS, JANET P TRUSTEE	2601 PICKETT RD APT 3047	DURHAM NC 27705-5608
804 WIMBERLY RD	0723232326	FIGUEROA, ABEL L. FIGUEROA, JESSICA	804 WIMBERLY RD	APEX NC 27523-6765
717 WIMBERLY RD	0723236877	GUADAGNO, MICHAEL G TRUSTEE MICHAEL G GUADAGNO LIVING TRUST	717 WIMBERLY RD	APEX NC 27523-9677
905 WIMBERLY RD	0723229734	HOFFMAN, BRADFORD CLIFF HOFFMAN, CHELSEA DANIELLE	204 ECHO CREEK PL	APEX NC 27539-4182
8625 CASTLEBERRY RD	0723134513	JOHNSON, WILLIAM R III JOHNSON, SHERRY W	3511 NC 55 HWY	CARY NC 27519-8371
704 WIMBERLY RD	0723138845	LAMBERT, MATTHEW EDWARD LAMBERT, ANITA W	704 WIMBERLY RD	APEX NC 27523-6764
8639 CASTLEBERRY RD	0723111191	MARCOM, TEMPIE M	8637 CASTLEBERRY RD	APEX NC 27523-9695
805 WIMBERLY RD	0723237376	MONACO, SYLVIA S MONACO, MICHAEL A	805 WIMBERLY RD	APEX NC 27523-9678
8621 CASTLEBERRY RD	0723136582	SUTTON, DON SCOTT JR	8621 CASTLEBERRY RD	APEX NC 27523-9695
729 WIMBERLY RD	0723237553	THALHAMER, CRAIG A THALHAMER, DEBRA MARTIN	729 WIMBERLY RD	APEX NC 27523-9677
0 WIMBERLY RD	0723224206	TOLL SOUTHEAST LP COMPANY INC	250 GIBRALTAR RD	HORSHAM PA 19044-2323
0 GREEN LEVEL WEST RD	0723434927	WEDDINGTON OWNERS ASSOCIATION INC	11010 RAVEN RIDGE RD	RALEIGH NC 27614-8837
		APEX TOWN OF	PO BOX 250	APEX NC 27502-0250
		Current Tenant	8625 Castleberry RD	APEX NC 27523
		Current Tenant	8639 Castleberry RD	APEX NC 27523
		Current Tenant	808 Wimberly RD	APEX NC 27523
		Current Tenant	815 Wimberly RD	APEX NC 27523

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|Agenda Item | cover sheet

for consideration by the Apex Town Council

Item Type:CONSENT AGENDAMeeting Date:April 12, 2022

<u>Item Details</u>

Presenter(s): Liz Loftin, Senior Planner

Department(s): Planning and Community Development

Requested Motion

Motion to approve Statement of the Town Council and Ordinance for Rezoning Case #21CZ32 Chapel Ridge Towns PUD, Toll Bros., Inc., petitioner, for the properties located at 1412 Olive Chapel Road; 1400, 1401, 1408, 1409 Barnside Lane; and Barnside Lane right-of-way.

Approval Recommended?

The Planning and Community Development Department recommends approval.

<u>Item Details</u>

Rezoning Case #21CZ32 was approved at the March 22, 2022 Town Council meeting.

<u>Attachments</u>

- Statement & Ordinance of the Town Council
- Attachment A- Legal Description
- Attachment B- PUD text/plan sheets



STATEMENT OF TOWN COUNCIL AND ORDINANCE AMENDING THE OFFICIAL ZONING DISTRICT MAP OF THE TOWN OF APEX TO CHANGE THE ZONING OF APPROXIMATELY 21.6 ACRES LOCATED AT 1412 OLIVE CHAPEL ROAD; 1400, 1401, 1408, 1409 BARNSIDE LANE & BARNSIDE LANE RIGHT-OF-WAY FROM RURAL RESIDENTIAL (RR) TO PLANNED UNIT DEVELOPMENT-CONDITIONAL ZONING (PUD-CZ)

#21CZ32

WHEREAS, Toll Brothers, Inc., owner/applicant (the "Applicant"), submitted a completed application for a conditional zoning on the 1st day of December 2021 (the "Application"). The proposed conditional zoning is designated #21CZ32;

WHEREAS, the Director of Planning and Community Development for the Town of Apex, Dianne Khin, caused proper notice to be given (by publication and posting) of a public hearing on #21CZ32 before the Planning Board on the 14thday of March 2022;

WHEREAS, the Apex Planning Board held a public hearing on the 14th day of March 2022, gathered facts, received public comments and formulated a recommendation regarding the application for conditional zoning #21CZ32. A motion was made by the Apex Planning Board to recommend approval; the motion passed unanimously for the application for #21CZ32;

WHEREAS, pursuant to N.C.G.S. §160D-601 and Sec. 2.2.11.E of the Unified Development Ordinance, the Director of Planning and Community Development caused proper notice to be given (by publication and posting), of a public hearing on #21CZ32 before the Apex Town Council on the 22nd day of March 2022;

WHEREAS, the Apex Town Council held a public hearing on the 22nd day of March 2022. Amanda Bunce, Current Planning Manager, presented the Planning Board's recommendation at the public hearing;

WHEREAS, all persons who desired to present information relevant to the application for #21CZ32 and who were residents of Apex or its extraterritorial jurisdiction, or who owned property adjoining the property for which the conditional zoning is sought, were allowed to present evidence at the public hearing before the Apex Town Council. No one who wanted to speak was turned away;

WHEREAS, the Apex Town Council finds that the approval of the rezoning is consistent with the 2045 Land Use Plan and other adopted plans in that: The 2045 Land Use Map designates this area as Medium Denity Residential. This designation on the 2045 Land Use Map includes the zoning district Planned Unit Development-Conditional Zoning (PUD-CZ) and the Apex Town Council has further considered that the proposed rezoning to Planned Unit Development-Conditional Zoning (PUD-CZ) will maintain the character and appearance of the area and provide the flexibility to accommodate the growth in population, economy, and infrastructure consistent with that contemplated by the 2045 Land Use Map;

WHEREAS, the Apex Town Council finds that the approval of the rezoning is reasonable and in the public interest in that: The site provides increased perimeter buffers, higher planting standards, a crosswalk on Chapel Ridge Rd from the site to the future transit stop, and sidewalk infrastructure along Olive Chapel Road. In addition, the project proposes to provide two units that will be affordable to median income households earning up to 100% AMI; and

WHEREAS, the Apex Town Council by a vote of 4 to 1 approved Application #21CZ32 rezoning the subject tract located at 1412 Olive Chapel Road; 1400, 1401, 1408, 1409 Barnside Lane and Barnside Lane right-of-way from Rural Residential (RR) to Planned Unit Development-Conditional Zoning (PUD-CZ).

NOW, THEREFORE, BE IT ORDAINED BY THE TOWN COUNCIL OF THE TOWN OF APEX

Section 1: The lands that are the subject of the Ordinance are those certain lands described in Attachment "A" – Legal Description which is incorporated herein by reference, and said lands are hereafter referred to as the "Rezoned Lands."

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Section 2: The Town of Apex Unified Development Ordinance, including the Town of Apex North Carolina Official Zoning District Map which is a part of said Ordinance, is hereby amended by changing the zoning classification of the "Rezoned Lands" from Rural Residential (RR) to Planned Unit Development-Conditional Zoning (PUD-CZ) District, subject to the conditions stated herein.

<u>Section 3</u>: The Director of Planning and Community Development is hereby authorized and directed to cause the said Official Zoning District Map for the Town of Apex, North Carolina, to be physically revised and amended to reflect the zoning changes ordained by this Ordinance.

Section 4: The "Rezoned Lands" are subject to the conditions in Attachment "B" Chapel Ridge Towns PUD which are imposed as part of this rezoning.

<u>Section 5</u>: The "Rezoned Lands" shall be perpetually bound to the conditions imposed including the uses authorized, unless subsequently changed or amended as provided for in the Unified Development Ordinance. Site plans for any development to be made pursuant to this amendment to the Official Zoning District Map shall be submitted for site plan approval as provided for in the Unified Development Ordinance.

Section 6: This Ordinance shall be in full force and effect from and after its adoption.

Motion by Council Member_____

Seconded by Council Member_____

With _____ Council Member(s) voting "aye."

With _____ Council Member(s) voting "no."

This the _____ day of ______ 2022.

TOWN OF APEX

ATTEST:

Mayor

Title: _____

APPROVED AS TO FORM:

Town Attorney

"Attachment A"

Beginning at an existing iron pipe on the eastern right of way of Chapel Ridge Rd (50' Public R/W), said pipe having NC grid coordinates (NAD 83 – 2011) of N=724,296.53, E=2,033,345.72, thence from said beginning point South 83°24'52" East 567.88 feet to an existing iron pipe, thence South 83°21'57" East 99.74 feet to an existing iron pipe, thence South 06°32'09" West 153.92 feet to an existing iron pipe, thence South 73°20'32" East 112.24 feet to an existing iron pipe, thence South 51°49'45" East 259.77 feet to an existing iron pipe, thence South 17°49'15" West 448.39 feet to an existing iron pipe, thence South 06°52'59" West 114.60 feet to an existing iron pipe on the northern right of way of Olive Chapel. Road (SR 1160) (Public Variable R/W), thence with said right of way South 81°11'19" West 253.55 feet to an existing iron pipe, thence South 81°09'09" West 256.96 feet to an existing iron pipe, thence South 81°34'12" West 538.21 feet to a new iron pipe, thence South 81°52'03" West 43.17 feet to a new iron pipe, thence leaving said right of way along a curve to the right having a radius of 30.00 feet, an arc length of 51.52 feet, and a chord bearing and distance of North 48°56'05" West 45.42 feet to a new iron pipe on the eastern right of way of Chapel Ridge Road (50' Public R/W), thence with said right of way along a curve to the right having a radius of 177.00 feet, an arc length of 140.62 feet, and a chord bearing and distance of North 23°01'22" East 136.95 feet to a new iron pipe, thence North 45°46'57" East 115.00 feet to a new iron pipe, thence along a curve to the left having a radius of 244.00 feet, an arc length of 253.38 feet, and a chord bearing and distance of North 16°01'55" East 242.15 feet to a new iron pipe, thence along a curve to the right having a radius of 374.54 feet, an arc length of 158.98 feet, and a chord bearing and distance of North 01°33'27" West 157.79 feet to a new iron pipe, thence North 10°36'09" East 78.30 feet to a new iron pipe, thence North 10°36'09" East 95.00 feet to a new iron pipe, thence North 10°46'29" East 230.80 feet to a new iron pipe, thence along a curve to the right having a radius of 400.00 feet, an arc length of 108.42 feet, and a chord bearing and distance of North 18°11'52" East 108.09 feet to the point and place of beginning, containing 21.569 acres (939,562 Sq Ft) more or less.

"Attachment B"

CHAPEL RIDGE TOWNS

PLANNED UNIT DEVELOPMENT

December 1, 2021 Updated March 15, 2022

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VICINITY MAP



PROJECT INFORMATION

Name of Project	Chapel Ridge Towns
PIN(s)	0732333570, 0732337537, 0732347080, 0732345135, 0732430661
Preparer Information	WithersRavenel 115 MacKenan Drive, Cary, NC 27511 Phone: 919.469.3340 Fax: 919.467.6008 Email: <u>bvega@withersravenel.com</u> <u>bmayo@withersravenel.com</u> Attn: Brendie Vega, AICP, CNU-A Ben Mayo, PE
Contract Purchaser	Toll Bros. Inc 900 Perimeter Park Drive, Suite B3, Morrisville, NC 27560 (919) 321-4800 Attn: Jeff Westmoreland, PLA
Attorney	Morningstar Law Group 421 Fayetteville St, Suite 530, Raleigh, NC 27601 (919)590-0371 Attn: Jason L. Barron, Partner
Traffic Consultant	Exult Engineering 304-F West Millbrook Road Raleigh, NC 27609 Attn: Lisa Lundeen, PE
Current Zoning Designation	Rural Residential (RR)
Proposed Zoning Designation	Planned Unit Development (PUD-CZ)
Current 2045 Land Use Map Designation	Medium Density Residential
Proposed 2045 Land Use Map Designation	Medium Density Residential
Area of Tracts (ac.)	21.17 Parcel Area 0.40 Barnside Lane R/W 21.57 Total Rezoning

LIST OF USES

The Rezoned Lands may be used for, and only for, the uses listed immediately below. The permitted uses are subject to the limitations and regulations stated in the UDO and any additional limitations or regulations stated below. For convenience, some relevant sections of the UDO may be referenced; such references do not imply that other sections of the UDO do not apply.

<u>Residential</u>	Non-Residential
Single-Family	Utility, Minor
Accessory Apartment	Park, Active
Townhouse	Park, Passive
	Greenway

PURPOSE STATEMENT

The Chapel Ridge Towns PUD meets the standards of the Town of Apex UDO Sections 2.3.4.F.1.iv-vi as follows:

- The PD Plan encourages cluster and compact development to the greatest extent possible. The PD plan will be interrelated and linked internally and externally by pedestrian ways, bikeways and other transportation systems.
- Sidewalks are provided on all streets throughout the subdivision, as well as sidewalk that will be installed on the frontage of Chapel Ridge and Olive Chapel Road.
- Cul-de-sacs will be avoided and instead will provide connectivity in the form of connections to existing roads and provide stubs to future connection points.
- The development is compatible with the character of the site, where a change to existing land use patterns in the area has increased the surrounding densities and introduced non-residential uses.
- The site will be across from a proposed transit stop and is walkable to many shopping opportunities in the area.
- The PD Plan proposes architectural standards that are exceptional and provide high quality while incorporating energy saving features.

The Chapel Ridge Towns PD Plan meets the Legislative Considerations as defined in the Town of Apex UDO Sections 2.3.3.F.1-10:

- The PD Plan is consistent with the 2045 Land Use Map, which has identified this area as Medium Density Residential which allows for Single-family homes, duplexes, and townhomes.
- The proposed plan is consistent with the changing character of the neighborhood. The Town's adopted 2045 plans, are demonstrative of the changes that have occurred and are proposed for this area.
- The Zoning district supplemental standards do not apply to the uses that have been listed in the List of Uses.
- Adverse impacts will be minimal since there are currently residences in this location that are served by private services. Annexation into the Town will provide the new subdivision with trash, public water and sewer, and Town of Apex public safety services.
- While not yet designed, the subdivision will incorporate recommendations made by the Environmental Advisory Board to minimize environmental impacts.
- The proposed Conditional Zoning District uses will meet the UDO's requirements for public improvement. The introduction of public water and sewer to a neighborhood currently served by multiple wells and septic systems will improve the facilities on the site as well as to the adjoining parcels. Several of the existing homes contain underground propane tanks, which will be removed. Improvements made to the existing infrastructure as well as new infrastructure will improve the public facilities. A fee-in-lieu will be provided to the Town of Apex for parks and recreation, while other public services will benefit from the tax base provided by the increased tax value of the current properties.
- The proposed District will meet or exceed the Town's requirements which are meant to protect the health, safety and welfare of the Town and ETJ residents.
- There will be no substantial detriment to the adjacent properties. The addition of residential at a slightly higher density than what is existing will not be a substantial detriment to adjacent properties.
- The use will not constitute a nuisance or hazard as residential uses are inherently intended for the use, enjoyment and safety of residents in their homes.
- The proposed Conditional Zoning district use will meet or exceed the applicable provisions of the Ordinance except where noted in this document and as permitted by the Conditional Zoning process.

DESIGN CONTROLS

Intensity and Density

Maximum Density (du/Acre)	4.7 du/acre			
Maximum Dwelling Units	100			
Maximum Height of Buildings	35 feet, 2 stories			
Setbacks, Townhome:	Front: 19' from garage to lot line and 20' from garage to back	Side: O' 8' Building to Building	Rear: 5'	
	of sidewalk	Corner Side: 8'		
Setbacks, Single Family:	Front: 19' from garage to lot line and 20' from garage to back of sidewalk	Side: 5'	Rear: 10'	
		Corner Side: 8'		
Amount and Percentage of Built Upon Area Allowed	70%			
Amount and Percentage of Proposed Built Upon Area (Max)	Not to exceed 65%			

Perimeter Buffers

North	20' Type A Buffer
East	20' Type B Buffer
South	30' Type B Buffer
West	20' Type B Buffer

Additional Buffer Conditions for West Buffer Along Chapel Ridge Road

- North and South of the proposed access points, the buffer will be increased to a 20' Type A Buffer. *No buffer will be provided along the Colonial Pipeline easement due to planting restrictions.
- Between the two access points, an opaque fence will be placed either along the buffer or aligned with backs of units.

2. The developer shall include signage identifying environmentally sensitive areas to discourage

pet waste and chemical use in the vicinity. A minimum of 2 signs will be provided. The development shall provide diverse and abundant pollinator sources (e.g. larval host plants, nectar, pollen, berries and blooming plants) that bloom in succession from spring to fall.

1. The developer shall provide pedestrian-friendly connections to the future Beaver Creek

Species shall be selected from the Design & Development Manual or otherwise approved by Planning Staff.

SIGNAGE

All signage on the Chapel Ridge Towns site will comply with the requirements in Section 8.7 of the Town of Apex Unified Development Ordinance.

The parking requirements of the Town of Apex UDO Section 8.3 will be met.

The Environmental Advisory Board held a meeting on November 18, 2021. The following

PARKING

RECOMMENDATIONS

recommendations are proposed by the applicant:

ENVIRONMENTAL ADVISORY BOARD

greenway expansion and surrounding neighborhoods.

ARCHITECTURAL CONTROLS

- 1. Vinyl siding is not permitted; however, vinyl windows, decorative elements and trim are permitted.
- 2. The roofline cannot be a single mass; it must be broken up horizontally and vertically between every unit.
- Garage doors must have windows, decorative details or carriage-style adornments on them. 4. Entrances for units with front-facing single-car garages shall have a prominent covered
- porch/stoop area leading to the front door.
- 5. Building facades shall have horizontal relief achieved by the use of recesses and projections.
- 6. The visible side of a townhome on a corner lot facing the public street shall contain at least 3 decorative elements such as, but not limited to, the following elements:
 - Windows
 - Bay window
 - Recessed window
 - Decorative window
 - Trim around the windows

 - Wrap-around porch or side porch
 - Two or more building materials
 - Decorative brick/stone
 - Decorative trim

- Decorative shake
- Decorative air vents on gables
- Decorative gable
- Decorative cornice
- Column
- Portico
- Balcony
- Dormer
- The development shall provide native species listed in the Design and Development Manual or otherwise approved by Planning Staff to increase the native diversity of hardwood trees on site. No species shall constitute more than 25% of the required plantings for each planting type (trees, shrubs, etc.).
- 6. All homes shall be pre-configured with conduit for a solar energy system.
- 7. The builder will provide EV charging outlets as an option to individual units.
- 8. The developer shall provide at least 2 pet stations.
- 9. Outdoor lighting shall be full cut off and shielded to prevent glare and light spill over to minimize impact of neighboring residential properties. LED fixtures shall be used, and the lighting temperature shall be a maximum of 3500 Kelvin.

NATURAL RESOURCE AND ENVIRONMENTAL DATA

Watershed

The properties in the PD Plan are located in the Primary Watershed Overlay District and the Beaver Creek Basin.

FEMA Floodplain

The properties are not in a 100-Year FEMA Flood Plain as shown on the existing conditions plan.

Resource Conservation Area

The Site is subject to the Resource Conservation Area requirements outlined in the Town of Apex Unified Development Ordinance.

The PUD will meet the requirements of:

8.1.2.C.1 Planned Developments. The RCA for all planned developments shall be determined by the Town Council per Sec. 2.3.4.F.1.c and per Sec. 8.1.2.C.4, 5, 6, 7, or 10 as applicable.

Development located north and east of NC 540 and outside Apex Peakway which do not meet the criteria of subsections 8.1.2.C.2, 3, or 10 and which are located north and east of NC 540 and outside existing and future Apex Peakway shall provide buffers and RCA equal to or greater than 20% of the gross site acreage per UDO Section 8.1.2.C.4.

Per UDO Section 7.2.5.B.8, if any mass grading is proposed in the single-family sections of the PUD, the following provision will apply to lot coverage area for single-family: An additional five percent (5%) Resource Conservation Area (RCA) shall be set aside. This requirement is added to the standard RCA percentage requirement found in Sec. 8.1.2.C Size of the RCA.

According to the North Carolina Historic Preservation Office's records, the subject site does not contain historic structures.

Tree Replanting

Existing deciduous trees greater than 18" in diameter (DBH), as identified in the tree survey, that are removed by site development shall be replaced by planting a 1.5" caliper native tree from the Town of Apex Design and Development Manual as a street tree or as other required landscaping. Excess required tree replacement will occur in common open space areas.

Toll.	Bro	oth	ers
AMERICA'S	LUXURY	HOME	BUILDER'

STORMWATER MANAGEMENT REQUIREMENTS

This project is located within the Upper Beaver Creek basin and will be required to attenuate the 1-year, 10-year, and 25-year storms.

PARKS, RECREATION AND CULTURAL RESOURCES ADVISORY COMMISSION

The project was presented to the Parks, Recreation and Cultural Resources Advisory Commission meeting on February 23, 2022. The recommendation by the Advisory Commission is for a fee-in-lieu of dedication for single family attached units with a 2022 rate of \$2,528.25.

PUBLIC FACILITIES REQUIREMENTS

All utilities shall meet the Town of Apex Master Utility Maps.

Sanitary Sewer Service

Sewer is not directly available and will require an extension. This will flow to Beaver Creek Pump Station. A capacity study will be required at Construction Document phase.

Water Service

Water extension along the property frontage will be required. Currently there is water on Chapel Ridge that goes to Olive Chapel Professional Park.

Gas & Electric Service

Electric service currently exists on-site and will be improved.

Roadways

A Trip Generation Letter was prepared showing the proposed land use and number of units would be below the threshold for requiring a Traffic Impact Analysis, so recommended improvements are limited to development frontage and proposed access. The Site will require an internal public roadway network and privately maintained parking spaces. The transportation system shall be consistent with the Town of Apex Transportation Plan and the Town of Apex Standard Specifications and Standard Details. Frontage improvements along Olive Chapel Road and Chapel Ridge Road have been identified and will incorporated into the design of the development, subject to approval by the Town of Apex and NCDOT.

Olive Chapel Road is identified as a 4-lane median divided thoroughfare with 6' bike lanes and 5' sidewalks on 110' ROW.

- Developer shall provide frontage improvements on Olive Chapel Road, maintaining the existing westbound through lane, widening for a 6' bike lane, constructing curb and gutter along with 5' sidewalk, and ROW dedication for half of the ultimate 110' ROW, measured 55' from centerline. The existing two way left turn lane shall be restriped as needed to serve eastbound left turns at the proposed access.
- Developer shall provide a deceleration taper at the site access on westbound Olive Chapel Road with 50' of full width deceleration lane and 50' taper.



Chapel Ridge Road is identified as a minor collector street with 5' sidewalks on 60' ROW.

• Developer shall provide frontage improvements based on a minimum 27' curb and gutter roadway with 5' sidewalk and ROW dedication a minimum of 30' from roadway centerline.

Transit

GoApex Route 1 is planned to include a bus stop at the Olive Chapel Professional Park directly across Chapel Ridge Road from this site and begin service by 2022. The Route will tie into a larger network of transit that provides ridership to downtown Raleigh and the greater Triangle. A crosswalk will be provided across the stop-controlled approach of Chapel Ridge Road at Olive Chapel Road with the addition of sidewalk along the development frontage.

Pedestrian Facilities

Sidewalks shall be provided along the property frontage on Olive Chapel Road and Chapel Ridge Road as well as both sides of all proposed subdivision streets.

PHASING PLAN

Currently the intent is to prepare the site in one phase. More details will be developed at subdivision plan.

AFFORDABLE HOUSING

Of the 100 permitted townhouse dwellings, at least two (2) residential restricted median-income affordable housing townhome ownership units (Affordable Housing Units) shall be constructed on-site and sold at a mutually agreeable maximum affordable housing median-income ownership initial sales price (includes unit price and lot price) that is calculated based upon the one-hundred percent (100%) of the Raleigh, NC Metropolitan Statistical Area (MSA) Area Median Income (AMI) as published by the U.S. Department of Housing and Urban Development (HUD). The Affordable Housing Units shall be occupied by low or median-income households earning no more than one-hundred percent (100%) of the Raleigh, NC MSA AMI, adjusted for family size as published by HUD. A restrictive covenant (i.e. resale deed restriction) with a minimum affordability period of ten (10) years shall be recorded against each residential restricted median-income affordable housing townhome ownership unit concurrently at the close of escrow upon the sale of the Affordable Housing Units to memorialize the affordable housing terms and conditions. The two (2) Affordable Housing Unit lots shall be identified on the Master Subdivision Final Plat, which may be amended from time to time. A restrictive covenant (i.e. affordable housing agreement) between the Town and Applicant shall be recorded against the two (2) Affordable Housing Unit lots prior to the issuance of a building permit for such lots to memorialize the affordable housing terms and conditions of the approved zoning condition. Final Affordable Housing Unit floor plan selection which includes the unit size and bedroom size will be at the discretion of the developer. Developer will coordinate with Town staff to determine the maximum affordable housing medianincome ownership initial sales prices, marketing, screening and selection process of the Affordable Housing Units.

AGE RESTRICTION

Dwellings constructed on the Property shall be age-restricted in compliance with the Fair Housing Act (42 U.S.C Sec 3601, et. seq.), and the North Carolina State Fair Housing Act (N.C. Gen. Stat. 41A-1, et seq.), such that at least 80% of the dwellings shall be occupied by at least one person aged 55 or older.

ELEVATIONS

Elevations will comply with the Architectural and Design Controls for the Chapel Ridge Towns PUD. Elevations submitted with this PD Plan are representative of what may be provided. Elevations will be customized to the site and may differ from what is shown in the PD Plan or on other Toll Bros. residential townhome products.

CONSISTENCY WITH ADVANCE APEX, THE 2045 PLAN

The PD Plan is consistent with the Advance Apex Plan and Maps as follows:

- The Apex 2045 Future Land Use Map identifies the subject parcels as Medium Density Residential.
- The Transit Plan Map dated April 27, 2021 shows the Future Apex Go Route 1 having a stop at the Olive Chapel Business Park. With close access to the transit stop, residents of this subdivision will be able to take transit locally and connect to the larger transit system.
- The Thoroughfare and Collector Street Plan Map dated March 29, 2021 identifies Chapel Ridge Road as an existing Minor collector Road, and Olive Chapel Road as a 4-Lane with Median, Widening.
- The Bicycle, Pedestrian and Equestrian Plan identifies proposed sidewalks along Chapel Ridge Road, and proposed sidewalks along this section of Olive Chapel Road.

CONSISTENCY WITH UNIFIED DEVELOPMENT ORDINANCE

The proposed development is consistent with all applicable requirements of the Town of Apex Unified Development Ordinance.

PLANNED UNIT DEVELOPMENT CHAPEL RIDGE TRACTS TOWN OF APEX, WAKE COUNTY, NORTH CAROLINA

		SITE	DAT	A					
2045 LAND USE PLAN DESIGNATION	CURRENT	CURRENT M PROPOSED N			MEDIUM DENSITY RESIDENTIAL				
	PROPOSE				Ε				
ZONING	CURRENT			RURAL RE	SIDENTIAL (R	RR)			
	PROPOSE	D		PLANNED	JNIT DEVELO	OPMENT (PUI	D)		
AREA OF TRACTS IN PROPOSED PUD	0732-43-06	61		4.50 AC.					
	0732-45-51	35		3.33 AC.					
	0732-34-70	80		3.25 AC.					
	0732-33-75	37		3.99 AC.					
	0732-33-35	70		6.09 AC.					
	BARNSIDE	LANE ROW		0.40 AC.					
	TOTAL =			21.57 AC.					
REQUESTED SEWER CAPACITY	120 GPD *	3 BEDROOM	IS/TOWNHOMI	IE * 100 TOWNHOMES = 36,000 GPD					
RESIDENTIAL DENSITY	MAXIMUM			4.7 DU/ACRE					
BUILDING HEIGHT	MAXIMUM			35 FT, 2 STORIES					
TOWNHOUSE BUILDING SETBACKS	FRONT	19 FT*	REAR	5 FT	SIDE	0 FT**	CORNER	8 FT	
SINGLE FAMILY BUILDING SETBACKS	FRONT	19 FT*	REAR	10 FT	SIDE	5 FT	CORNER	8 FT	
WATERSHED	PROPERT	Y LOCATED	WITHIN THE P	Rimary wat	ERSHED PR	OTECTION C	VERLAY DIS	TRICT.	
HISTORIC STRUCTURES	NONE								
COMMUNITY AMENITIES	0.7 ACRE	RECREATIO	NAL PLAY LAV	٧N					
SITE BUFFERS	NORTH			20' TYPE A	BUFFER				
	EAST			20' TYPE B BUFFER					
	SOUTH			30' TYPE B BUFFER					
	WEST			20' TYPE B BUFFER					
MAXIMUM ALLOWED IMPERVIOUS SURFACE	70%			1					
PROPOSED IMPERVIOUS SURFACE	65%								
*19' FROM GARAGE TO LOT LINE AND 20' FRO **8' BUILDING TO BUILDING SETBACK	M GARAGE T	O BACK OF	SIDEWALK						



NOTE: THE PARKS AND RECREATION ADVISORY COMMISSION VOTED TO APPROVE FEE-IN-LIEU OF PARK LAND DEDICATION ON _ , 2021. FEE-IN-LIEU AMOUNT TO BE DETERMINED AT THE TIME OF MASTER SUBDIVISION PLANS ACCORDING TO THE TOWN OF APEX FEE SCHEDULE.

ZONING CONDITIONS

- DEVELOPER SHALL PROVIDE FRONTAGE IMPROVEMENTS ON OLIVE CHAPE ROAD, MAINTAINING THE EXISTING WESTBOUND THROUGH LANE, WIDENING FOR A 6' BIKE LANE, CONSTRUCTING CURB AND GUTTER ALONG WITH 5' SIDEWALK, AND ROW DEDICATION FOR HALF OF THE ULTIMATE 110' ROW, MEASURED 55' FROM CENTERLINE. THE EXISTING TWO WAY LEFT TURN LANE SHALL BE RE-STRIPED AS NEEDED TO SERVE EASTBOUND LEFT TURNS AT THE PROPOSED ACCESS.
- DEVELOPER SHALL PROVIDE A DECELERATION TAPER AT THE SITE ACCESS ON WESTBOUND OLIVE CHAPEL ROAD WITH 50' OF FULL WIDTH DECELERATION LANE AND 50' TAPER.
- DEVELOPER SHALL PROVIDE FRONTAGE IMPROVEMENTS ON CHAPEL RIDGE ROAD BASED ON A MINIMUM 27' CURB AND GUTTER ROADWAY WITH 5' SIDEWALK AND ROW DEDICATION A MINIMUM OF 30' FROM ROADWAY CENTERLINE.

1ST SUBMITTAL: DECEMBER 1, 2021 2ND SUBMITTAL: JANUARY 14, 2022 3RD SUBMITTAL: MARCH 7, 2022



PREPARED BY:



115 MacKenan Drive | Cary, NC 27511 | t: 919.469.3340 | license #: C-0832 | www.withersravenel.com

PLANNER: BRENDIE VEGA, AICP BVEGA@WITHERSRAVENEL.COM

CIVIL ENGINEER: BEN MAYO, PE BMAYO@WITHERSRAVENEL.COM

	INDEX OF SHEETS
0	COVER
1	EXISTING CONDITIONS
2	CONCEPTUAL PUD PLAN
3	CONCEPTUAL UTILITY PLAN
4	CONCEPTUAL STORM WATER PLAN



DEVELOPER

TOLL BROTHERS INC. 900 PERIMETER PARK DRIVE, SUITE B3 MORRISVILLE, NC 27560

ATTN: JEFF WESTMORELAND, PLA - LAND ENTITLEMENTS MANAGER

- NO NGS MONUMENT FOUND WITHIN 2,000 FEET OF THE SITE.
- 2. THE FOLLOWING INFORMATION WAS USED TO OBTAIN NC GRID NAD 83 (2011), NAVD 88 (GEOID 12B) STATE PLANE COORDINATES (SPC) FOR THIS PROJECT:
- 2.1. CLASS OF SURVEY: URBAN LAND SURVEYS (CLASS A)
- 2.2. POSITIONAL ACCURACY: 0.03' (H), 0.07' (V) GPS FIELD PROCEDURE: VRS 2.3.
- DATE OF SURVEY: 03/31/2021 2.4.
- 2.5. DATUM/EPOCH: NAD 83 (2011), EPOCH 2010.00
- PUBLISHED DATE/FIXED CONTROL USED: VRS, NCRD 2.6 2.7. GEOID MODEL: GEOID 12B
- COMBINED GRID FACTOR: 0.99989615 2.8.
- 2.9. UNITS: U.S. SURVEY FEET
- 2.10. GRID/GROUND POINT: Y(N) 724,296.53 X(E) 2,033,345.72 ALL DISTANCES ARE HORIZONTAL GROUND DISTANCES IN U.S. SURVEY FEET UNLESS OTHERWISE NOTED.
- ALL AREAS DERIVED BY THE COORDINATE COMPUTATION METHOD.
- PROPERTY SUBJECT TO ALL EASEMENTS AND RESTRICTIONS OF RECORD. THIS PLAT IS A CORRECT REPRESENTATION OF THE LAND PLATTED AND HAS BEEN PREPARED IN CONFORMITY WITH NORTH CAROLINA STANDARDS, G.S. 47-30, AND REQUIREMENTS OF LAW, BUT A NORTH CAROLINA LICENSED ATTORNEY-AT-LAW SHOULD BE CONSULTED REGARDING CORRECT OWNERSHIP, WIDTH, AND LOCATION OF EASEMENTS AND OTHER TITLE QUESTIONS REVEALED BY TITLE EXAMINATION.
- LINES NOT SURVEYED ARE SHOWN AS BROKEN LINES FROM INFORMATION REFERENCED ON THE FACE OF THIS PLAT. PORTIONS OF SUBJECT PROPERTY IS LOCATED WITHIN A FLOOD HAZARD AREA ACCORDING TO FLOOD INSURANCE RATE MAP 3720073200J DATED MAY 02,2006.
- 8. LOCATION OF UTILITIES, WHETHER PUBLIC OR PRIVATE, IS BASED UPON FIELD LOCATION OF VISIBLE APPURTENANCES ONLY. IT IS THE CONTRACTOR'S RESPONSIBILITY TO VERIFY LOCATION PRIOR TO COMMENCEMENT OF ANY CONSTRUCTION. WITHERSRAVENEL CANNOT ASSUME RESPONSIBILITY FOR MISIDENTIFICATION OR OMISSION OF UNDERGROUND UTILITIES.



LEGEND

EXISTING IRON PIPE IRON PIPE SET SIGN CLEANOUT	o EIP o IPS ⊠ ● CO	FIBER OPTIC MARKER WATER MANHOLE BASKETBALL GOAL	₽ ₩WMH
SEWER MANHOLE CATCH BASIN	S SSMH ■ CB	SATELLITE DISH	SAT
DROP INLET FLARED END SECTION WATER SPIGOT		AIR CONDITION UNIT POWER POLE	□ AC● PP● LD
TELEPHONE PEDESTA	spg L <u>∆</u> TLP	TRANSFORMER	● LP E TRANS
CATV BOX GAS VALVE	C CBX	UNDERGROUND TELEPHONE BOX	Τ
WELL	W WELL	MAILBOX	MB
FIRE HYDRANT	V	WATER VALVE	\bowtie

EXISTING CONDITION NOTES:

- TOPOGRAPHIC AND UTILITY INFORMATION BASED ON SURVEY BY WITHERSRAVENEL DATED 4/13/2021. PRELIMINARY BOUNDARY SURVEY PREPARED BY WITHERSRAVENEL DATED 4/13/21.
- WETLAND/STREAM INFORMATION BASED ON EVALUATION BY WITHERSRAVENEL DATED 4/27/21. BUFFERS BASED ON TOWN OF APEX STREAM BUFFER DETERMINATION (APEX #20-011).
- REGULATORY FEMA MAPPED FLOODPLAIN EXISTS ON SITE PER FIRM MAP #3720073200J (5/2/06).
- 4. THE SUBJECT PROPERTY IS LOCATED WITHIN THE TOWN OF APEX PRIMARY WATERSHED PROTECTION OVERLAY DISTRICT.
- TREE INFORMATION BASED ON SURVEY BY WITHERSRAVENEL DATED 4/13/21..
- ALL EXISTING STRUCTURES ON THE SUBJECT PROPERTY SHALL BE REMOVED PER TOWN OF APEX STANDARDS AND **REQUIREMENTS**



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10 X 70 SIGHT TRIANGLE BOOK OF MAPS, 1986 PAGE 1

No. 1 2	Revision Revised per town comments Revised per town comments	Date 06/11/21 07/09/21	By wr wr	Designer Drawn By	WR WR	Scale AS NOTED Date 04/20/2021		CHAPE
				Checked by	WR	02201034	APEX	



EL RIDGE PUD

EXISTING CONDITIONS

NORTH CAROLINA

115 MacKenan Drive | Cary, NC 27511 | t: 919.469.3340 | license #: C-0832 | www.withersravenel.com



rinternal01.com/wrcorp-nasuni/WRShare/Projects/20/20-1030/20/1034-Toll Brothers - Chapel Ridge Tracts/CAD/Drawing Sets/PUD/2 Conceptual Layout Plan.dwg-Wednesday, January 12, 2022 3:48:09 PM - SHARMIN, RIFA1



- 1. WATER AND SANITARY SEWER WILL BE OWNED AND MAINTAINED BY THE TOWN OF APEX.
- 2. FIRE HYDRANTS, VALVES, SERVICES, METERS, AND APPURTENANCES SHALL BE DESIGNED PER THE TOWN OF APEX CONSTRUCTION SPECIFICATIONS AND SHALL BE SHOWN ON THE CONSTRUCTION PLANS.
- 3. ALL UTILITY EASEMENTS SHALL BE PROVIDED AS NECESSARY. DELINEATION WILL BE DETERMINED WITH FINAL DESIGN OF INTERNAL PUBLIC STREETS AT THE SUBDIVISION PLAN STAGE. MINIMUM UNDISTURBED BUFFER WIDTHS SHALL BE EXCLUSIVE OF UTILITY EASEMENTS UNLESS APPROVED BY THE DIRECTOR OF THE PUBLIC WORKS & UTILITIES DEPARTMENT.
- 4. THE DEVELOPER WILL ACTIVELY WORK WITH THE TOWN OF APEX TO PRESERVE EXISTING TREES ON SITE. THESE AREAS SHALL INCLUDE REQUIRED LANDSCAPE BUFFERS, RCA AREAS, NON-BUFFERED AND NON-RCA AREAS, AREAS OF PROPOSED UTILITY LINES, AND ADJACENT TO THE SUBJECT PROPERTY, TO THE MAXIMUM EXTENT POSSIBLE.
- 5. UTILITY LAYOUT FOR WATER AND SEWER IS CONCEPTUAL. FINAL DESIGN WILL BE DETERMINED AT THE SUBDIVISION PLAN STAGE.
- IN NATURAL DRAINAGE WAYS, SEWER SHALL BE EXTENDED TO PROPERTY LINES TO READILY ENABLE FUTURE CONNECTIONS TO ADJOINING PROPERTY. SEWER DESIGN SHALL ACCOUNT FOR FUTURE UPSTREAM DEVELOPMENT BASED ON THE CURRENT LAND USE PLAN, AND SHALL INCLUDE EVALUATION OF EXISTING DOWNSTREAM SEWER CAPACITY.



No.	Revision	Date	By	Designer		Scale		
1	REVISED PER TOWN COMMENTS	06/11/21	WR		WR	AS NOTED		
2	REVISED PER TOWN COMMENTS	07/09/21	WR	Drawn By		Date		
					WR	04/20/2021		LUAP
				Checked By		Job No.		
					WR	02201034	APEX	
		-				-		







|Agenda Item | cover sheet

for consideration by the Apex Town Council

Item Type: CONSENT AGENDA Meeting Date: April 12, 2022

Item Details

Presenter(s):	Dianne Khin, Director of Planning and Community Development
Department(s):	Planning and Community Development
	Requested Motion

Motion to adopt a Resolution Directing the Town Clerk to Investigate Petition Received, to accept the Certificate of Sufficiency by the Town Clerk, and to adopt a Resolution Setting Date of Public Hearing for April 26, 2022, on the Question of Annexation – Apex Town Council's intent to annex the Tony C. Sears and Judy T. Sears property containing 1.6209 acres located at 0 Kelly Road, Annexation #731 into the Town's corporate limits.

Approval Recommended?

Yes

<u>Item Details</u>

The Town Clerk certifies to the investigation of said annexation. Adoption of the Resolution authorizes the Town Clerk to advertise said public hearing by electronic means and on the Town of Apex's website.

Attachments

- Resolution Directing the Town Clerk to Investigate Petition
- Certificate of Sufficiency by the Town Clerk
- Resolution Setting Date of Public Hearing
- Legal Description
- Vicinity Map
- Plot Plan
- Zoning Map
- Jurisdictional Map
- Annexation Petition





TOWN OF APEX OFFICE OF THE TOWN CLERK PO Box 250, Apex, North Carolina 27502 Phone (919) 249-3303 Fax (919) 249-3305 E-mail: julie.reid@apexnc.org

PUBLIC NOTICE

The Town Council of Apex, North Carolina has scheduled a Public Hearing to be held at 7:00 p.m. at Apex Town Hall, 73 Hunter Street, on the 26th day of April 2022 on the question of annexation of the following property requested by petition filed pursuant to G.S. 160A-31:

Annexation Petition #731 0 Kelly Road



Julie Reid Interim Town Clerk

Post dates April 13, 2022 through April 26, 2022.

Attachment: Legal Description

- Page 407 -

TOWN OF APEX, NORTH CAROLINA Municipality No. 333



After recording, please return to: Town Clerk Town of Apex P.O. Box 250 Apex, NC 27502

ORDINANCE NO. 2022-0426-12 ANNEXATION PETITION NO. # 731 0 Kelly Road

AN ORDINANCE TO EXTEND THE CORPORATE LIMITS OF THE TOWN OF APEX, NORTH CAROLINA P.O. Box 250, Apex, North Carolina 27502

WHEREAS, the Apex Town Council has been petitioned under G.S.§160A-58.1, as amended, to annex the area described herein; and

WHEREAS, the Apex Town Council has by Resolution directed the Town Clerk to investigate the sufficiency of said petition; and

WHEREAS, the Town Clerk has certified the sufficiency of said petition and a public hearing on the question of this annexation was held at Apex Town Hall at 7:00 p.m. on April 26, 2022, after due notice by posting to the Town of Apex website, http://www.apexnc.org/news/public-notices-legal-ads; and

WHEREAS, the Apex Town Council does hereby find as a fact that said petition meets the requirements of G.S.§160A-58.1, as amended.

NOW, THEREFORE, BE IT ORDAINED by the Town Council of Apex, North Carolina:

Section 1. By virtue of the authority granted by G.S.§160A-58.1, as amended, the territory described in the attached property description and also shown as "Annexation Area" on the below identified survey plat is hereby annexed and made part of the Town of Apex, North Carolina, as of the date of adoption of this Ordinance on April 26, 2022, The survey plat that describes the annexed territory is that certain survey plat entitled "Satellite Annexation Map for the Town of Apex (property of Tony C. Sears and Judy T. Sears), dated May 5, 2021" and recorded in Book of Maps book number 2022 and page number , Wake County Registry.

<u>Section 2</u>. Upon and after the adoption of this ordinance, the territory described herein and its citizens and property shall be subject to all debts, laws, ordinances and regulations in force in the Town of Apex, North Carolina, and shall be entitled to the same

privileges and benefits as other parts of the Town of Apex. Said territory shall be subject to municipal taxes according to G.S.§160A-58.10, as amended.

Page 2 of 4

<u>Section 3</u>. The Clerk of the Town of Apex, North Carolina shall cause to be recorded in the Office of the Register of Deeds of Wake County and in the Office of the Secretary of State at Raleigh, North Carolina and in the Office of the Wake County Board of Elections an accurate map of the annexed territory, described in Section 1 hereof, together with a duly certified copy of this Ordinance.

Adopted this the 26th day of April, 2022.

Jacques K. Gilbert Mayor

ATTEST:

Julie Reid Interim Town Clerk

APPROVED AS TO FORM:

Laurie L. Hohe Town Attorney

Legal Description

AREA 1 PROPERTY DESCRIPTION:

COMMENCING FROM AN EXISTING IRON PIPE, SAID PIPE BEING A NORTHEASTERN PROPERTY CORNER OF LANDS NOW OR FORMERLY OWNED BY SM RALEIGH, LLC AS RECORDED IN DEED BOOK 16983, PAGE 2335, WAKE COUNTY REGISTRY AND SHOWN IN BOOK OF MAPS 2018, PAGES 176-178, WAKE COUNTY REGISTRY AND HAVING NC GRID (NAO 83'/2011) COORDINATES OF N = 711681.7505 FEET AND E = 2033307.6379 FEET; THENCE ALONG AND WITH SAID NORTHERN PROPERTY LINES 88°58'16'' EA DISTANCE OF 243.48 FEETTO A POINT; THENCE ALONG A CURVE TO THE RIGHT AN ARC DISTANCE OF 275.29 FEET, SAID CURVE HAVING A RADIUS OF 751.50 FEET, A CHORD BEARING OF N 34°43'31'' E AND A CHORD DISTANCE OF 273.76 FEET TO A POINT; THENCE N 45°13'11" EA DISTANCE OF 120.83 FEET TO A POINT; THENCE ALONG A CURVETO THE RIGHT AN ARC DISTANCE OF 107.02 FEET, SAID CURVE HAVING A RADIUS OF 576.50 FEET, A CHORD BEARING OF N 50°32'17" E AND A CHORD DISTANCE OF 106.87 FEET TO A POINT, SAID POINT BEING THE POINT OF BEGINNING; THENCE N 47°55'37" EA DISTANCE OF 243.05 FEET TO A POINT; THENCE ALONG A CURVE TO THE LEFT AN ARC DISTANCE OF 12.33 FEET, SAID CURVE HAVING A Poge 3 off 4

RADIUS OF 99.00 FEET, A CHORD BEARING OF N 44°21'33" E AND A CHORD DISTANCE OF 12.32 FEET TO A POINT: THENCE N 40°47'28" EA DISTANCE OF 55.37 FEET; THENCE ALONG A CURVE TO THE LEFT AN ARC DISTANCE OF 57.66 FEET, SAID CURVE HAVING A RADIUS OF 87.50 FEET, A CHORD BEARING OF N 21°54'48" E AND A CHORD DISTANCE OF 56.62 FEET TO A POINT; THENCE ALONG A CURVE TO THE RIGHT AN ARC DISTANCE OF 270.29 FEET, SAID CURVE HAVING A RADIUS OF 83.25 FEET, A CHORD BEARING OF S 83°57'09" E AND A CHORD DISTANCE OF 166.27 FEET TO A POINT; THENCE ALONG A CURVE TO THE LEFT AN ARC DISTANCE OF 70.33 FEET, SAID CURVE HAVING A RADIUS OF 87.50 FEET, A CHORD BEARING OF \$ 13°58'00" E AND A CHORD DISTANCE OF 68.45 FEET TO A POINT; THENCE \$ 36°59'35" EA DISTANCE OF 11.50 FEET TO A POINT; THENCE ALONG A CURVE TO THE RIGHT AN ARC DISTANCE OF 197.41 FEET, SAID CURVE HAVING A RADIUS OF 581.00 FEET, A CHORD BEARING OFS 27°15'32" E AND A CHORD DISTANCE OF 196.47 FEET TO A POINT; THENCE S 17°31'30" EA DISTANCE 100.00 FEET TO A POINT; THENCE ALONG A CURVE TO THE LEFT AN ARC DISTANCE OF 171.82 FEET, SAID CURVE HAVING A RADIUS OF 519.00 FEET, A CHORD BEARING OF \$ 27°00'33" E AND A CHORD DISTANCE OF 171.04 FEETTO A POINT; THENCE ALONG A CURVETOTHE LEFT AN ARC DISTANCE OF 18.30 FEET, SAID CURVE HAVING A RADIUS OF 37.50 FEET, A CHORD BEARING OF \$ 50°28'14" E AND A CHORD DISTANCE OF 18.11 FEET TO A POINT ON THE WESTERN RIGHT OF WAY LINE OF OLD U.S. 1 HIGHWAY; THENCE ALONG AND WITH SAID RIGHT OF WAYS 38°31'18" WA DISTANCE OF 43.17 FEET TO A POINT; THENCE LEAVING SAID RIGHT OF WAY N 50°09'57" WA DISTANCE OF 13.19 FEET TO A POINT; THENCE ALONG A CURVE TO THE RIGHT AN ARC DISTANCE OF 107.66 FEET, SAID CURVE HAVING A RADIUS OF 519.00 FEET, A CHORD BEARING OF N 44°13'23" WAND A CHORD DISTANCE OF 107.47 FEET TO A POINT; THENCE ALONG A CURVE TO THE RIGHT AN ARC DISTANCE OF 211.09 FEET, SAID CURVE HAVING A RADIUS OF 519.00 FEET, A CHORD BEARING OF N 26°37'42" WAND A CHORD DISTANCE OF 209.64 FEET TO A POINT; THENCE N 14°58'35" WA DISTANCE OF 16.08 FEET TO A POINT; THENCE ALONG A CURVETO THE RIGHT AN ARC DISTANCE OF 11.84 FEET, SAID CURVE HAVING A RADIUS OF 87.50 FEET, A CHORD BEARING OF N 11°05'54" WAND A CHORD DISTANCE OF 11.84 FEETTO A POINT: THENCE N 07°13'14" WA DISTANCE OF 8.57 FEET TO A POINT; THENCE ALONG A CURVE TO THE RIGHT AN ARC DISTANCE OF 38.61 FEET, SAID CURVE HAVING A RADIUS OF 87.50 FEET, A CHORD BEARING OF N 05°25'16" E AND A CHORD DISTANCE OF 38.30 FEET TO A POINT; THENCE ALONG A CURVE TO THE RIGHT AN ARC DISTANCE OF 19.05 FEET, SAID CURVE HAVING A RADIUS OF 87.50 FEET, A CHORD BEARING OF N 24°17'56" E AND A CHORD DISTANCE OF 19.01 FEET TO A POINT; THENCE ALONG A CURVETO THE LEFT AN ARC DISTANCE OF 229.41 FEET, SAID CURVE HAVING A RADIUS OF 83.25 FEET, A CHORD BEARING OF N 48°24'32" WAND A CHORD DISTANCE OF 163.41 FEET TO A POINT; THENCE ALONG A CURVE TO THE LEFT AN ARC DISTANCE OF 35.07 FEET, SAID CURVE HAVING A RADIUS OF 83.25 FEET, A CHORD BEARING OF \$ 40°34'43" WAND A CHORD DISTANCE OF 34.81 FEET TO A POINT; THENCE ALONG A CURVE TO THE RIGHT AN ARC DISTANCE OF 57.66 FEET, SAID CURVE HAVING A RADIUS OF 87.50 FEET, A CHORD BEARING OF S 47°23'17" WAND A CHORD

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AND A CHORD DISTANCE OF 175.85 FEET TO THE POINT OF BEGINNING, CONTAINING 1.6055 ACRES.

Page

AREA 2 PROPERTY DESCRIPTION:

COMMENCING FROM AN EXISTING IRON PIPE, SAID PIPE BEING A NORTHEASTERN PROPERTY CORNER OF LANDS NOW OR FORMERLY OWNED BY SM RALEIGH, LLC AS RECORDED IN DEED BOOK 16983, PAGE 2335, WAKE COUNTY REGISTRY AND SHOWN IN BOOK OF MAPS 2018, PAGES 176-178, WAKE COUNTY REGISTRY AND HAVING NC GRID (NAD 83'/2011) COORDINATES OF N = 711681.7505 FEET AND E = 2033307.6379 FEET; THENCE ALONG AND WITH SAID NORTHERN PROPERTY LINES 88°58'16" EA DISTANCE OF 301.55 FEET TO A POINT: THENCE ALONG A CURVE TO THE RIGHT AN ARC DISTANCE OF 232.99 FEET, SAID CURVE HAVING A RADIUS OF 698.50 FEET, A CHORD BEARING OF N 35°39'50" E AND A CHORD DISTANCE OF 231.92 FEET TO THE POINT OF BEGINNING; THENCE N 45°13'11" EA DISTANCE OF 120.83 FEET TO A POINT; THENCE ALONG A CURVE TO THE RIGHT AN ARC DISTANCE OF 100.77 FEET, SAID CURVE HAVING A RADIUS OF 523.50 FEET, A CHORD BEARING OF N 50°44'03" E AND A CHORD DISTANCE OF 100.61 FEET TO A POINT; THENCE S 47°55'37" WA DISTANCE OF 188.19 FEET TO A POINT: THENCE ALONG A CURVE TO THE LEFT AN ARC DISTANCE OF 33.00 FEET, SAID CURVE HAVING A RADIUS OF 698.50 FEET, A CHORD BEARING OF \$ 46°34'24" WAND A CHORD DISTANCE OF 33.00 FEETTO THE POINT OF BEGINNING, CONTAINING 0.0154 ACRES.

STATE OF NORTH CAROLINA

COUNTY OF WAKE

CLERK'S CERTIFICATION

I, Julie Reid, Interim Town Clerk, Town of Apex, North Carolina, do hereby certify the foregoing is a true and correct copy of Annexation Ordinance No. 2022-0426-12, adopted at a meeting of the Town Council, on the 26th day of April, 2022, the original of which will be on file in the Office of the Town Clerk of Apex, North Carolina.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed the official Seal of the Town of Apex, North Carolina, this the 26th day of April 2022.

Julie Reid Interim Town Clerk

(SEAL)

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Annexation # 731

PETITION FOR VOLUNTARY ANNEXATION

This document is a public record under the North Carolina Public Records Act and may be published on the Town's website or disclosed to third parties.

Application #	t:
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Fee Paid

2022-006	
\$ 200.00	

Submittal Date:

Check	#
011001	

2-1-22	_
Harter Card	

TO THE TOWN COUNCIL APEX, NORTH CAROLINA

- 1. We, the undersigned owners of real property, respectfully request that the area described in Part 4 below be annexed to the Town of Apex, Wake County, North Carolina.
- 2. The area to be annexed is <u>contiguous</u>, <u>non-contiguous</u> (satellite) to the Town of Apex, North Carolina and the boundaries are as contained in the metes and bounds description attached hereto.
- 3. If contiguous, this annexation will include all intervening rights-of-way for streets, railroads, and other areas as stated in G.S. 160A-31(f), unless otherwise stated in the annexation amendment.

OWNER INFORMATION		
TONY & JUDY SEARS	0731329405	
Owner Name (Please Print)	Property PIN or Deed Book & Page #	
Phone	E-mail Address	
Owner Name (Please Print)	Property PIN or Deed Book & Page #	
Phone	E-mail Address	
Owner Name (Please Print)	Property PIN or Deed Book & Page #	
Phone	E-mail Address	
SURVEYOR INFORMATION		- 17
Surveyor: DAN GREGORY, PLS		
Phone: 919-851-4422	Fax:	
E-mail Address: DAN.GREGORY@BNKINC.CO	Μ	
ANNEXATION SUMMARY CHART		
Property Information	Reason(s) for annexation (select all that apply	()
Total Acreage to be annexed: <u>1.6209</u>	Need water service due to well failure	
Population of acreage to be annexed:	Need sewer service due to septic system failure	
Existing # of housing units:	Water service (new construction)	
Proposed # of housing units:	Sewer service (new construction)	

*If the property to be annexed is not within the Town of Apex's Extraterritorial Jurisdiction, the applicant must also submit a rezoning application with the petition for voluntary annexation to establish an Apex zoning designation. Please contact the Planning Department for questions.

Receive Town Services

Zoning District*:

☑

Application #:	Submittal Date:
COMPLETE IF SIGNED BY INDIVIDUALS:	
All individual owners must sign. (If additional s	signatures are necessary, please attach an additional sheet.)
TONY C Sears	from clean
/ Please Print	Signature
Judy T. SEQRS	may T. Sean
Please Print	Signature
Please Print	Signature
Please Print	Signature
STATE OF NORTH CAROLINA COUNTY OF WAKE	
Sworn and subscribed before me .) a clux	A Notary Public for the above State and Coun
this the 28 day of, January	, 20 22 .
STATER STATE	aclyn Elek
The mice milling	Notary Public
SEAL	
Note Nor NY EXP A	My Commission Expires: 12-4-2023
COM 20 C	,
NN 22 CATILITY	
COVERTENE CORPORATION:	
In witness whereof, said corporation has cause	ed this instrument to be executed by its President and attested by its
In witness whereof, said corporation has cause Secretary by order of its Board of Directors, th	ed this instrument to be executed by its President and attested by its is the day of
In witness whereof, said corporation has cause Secretary by order of its Board of Directors, th	ed this instrument to be executed by its President and attested by its is the day of, 20
In witness whereof, said corporation has cause Secretary by order of its Board of Directors, th Cor SEAL	ed this instrument to be executed by its President and attested by its is the day of, 20 rporate Name
In witness whereof, said corporation has cause Secretary by order of its Board of Directors, th Cor SEAL	ed this instrument to be executed by its President and attested by its is the day of, 20
In witness whereof, said corporation has cause Secretary by order of its Board of Directors, th Cor SEAL	ed this instrument to be executed by its President and attested by its is the day of, 20 rporate Name By:
In witness whereof, said corporation has cause Secretary by order of its Board of Directors, th Cor SEAL Attest:	ed this instrument to be executed by its President and attested by its is the day of, 20 rporate Name By: President (Signature)
In witness whereof, said corporation has cause Secretary by order of its Board of Directors, th Con SEAL Attest:	ed this instrument to be executed by its President and attested by its is the day of, 20 rporate Name By: President (Signature)
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Petition for Voluntary Annexation

PETITION FOR VOLUNTARY ANNI	EXATION	
Application #:	Submittal Date:	
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		Signature of Member/Manager
STATE OF NORTH CAROLINA COUNTY OF WAKE		
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		Notary Public
SEAL		
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	Name of Partnersh	ip
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		Signature of General Partner
STATE OF NORTH CAROLINA COUNTY OF WAKE		
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this the day of	. 20 .	
6541		Notary Public
SEAL		
	1	My Commission Expires:

- Page 421 -Petition for Voluntary Annexation **PAYMENT DATE** 02/01/2022

COLLECTION STATION Jeri Pederson

Jen Pederson

RECEIVED FROM Brian Ketchem

TOWN OF APEX P O BOX 250 APEX, NC 27502 (919) 362-8676 - Utility Payments (919) 249-3418 - Permits Only (919) 249-3426 - Planning & Zoning Only

BATCH NO. 2022-00002373 RECEIPT NO. 2022-00145913

CASHIER Jeri Pederson

DESCRIPTION

Annexation #731 West Village Ph 2 - 2022-00000006

			TRANSACTION AMOUNT
	Annexation #731 West Vil	lage Ph 2 - 2022-00000006	ψ200.00
Payments:	Type Detail	Amount	
	Other	\$200.00	
		Total Amounts	00 00C\$
	Custor	- Page 422 -	φ200.00
Printed by: Jeri Pederson		Page 1 of 1	02/01/2022 10:47:46 AM

|Agenda Item | cover sheet

for consideration by the Apex Town Council

Item Type: CONSENT AGENDA Meeting Date: April 12, 2022

Item Details

Presenter(s):Dianne Khin, Director of Planning and Community DevelopmentDepartment(s):Planning and Community DevelopmentRequested Motion

Motion to adopt a Resolution Directing the Town Clerk to Investigate Petition Received, to accept the Certificate of Sufficiency by the Town Clerk, and to adopt a Resolution Setting Date of Public Hearing for April 26, 2022, on the Question of Annexation - Apex Town Council's intent to annex the WFINV, LLC property containing 1.910 acres located at 1016 N. Salem Street, Annexation #730 into the Town's corporate limits.

Approval Recommended?

Yes

<u>Item Details</u>

The Town Clerk certifies to the investigation of said annexation. Adoption of the Resolution authorizes the

Town Clerk to advertise said public hearing by electronic means and on the Town of Apex's website.

<u>Attachments</u>

- Resolution Directing the Town Clerk to Investigate Petition
- Certificate of Sufficiency by the Town Clerk
- Resolution Setting Date of Public Hearing
- Legal Description
- Vicinity Map
- Plot Plan
- Zoning Map
- Jurisdictional Map
- Annexation Petition





RESOLUTION DIRECTING THE TOWN CLERK TO INVESTIGATE PETITION RECEIVED UNDER G.S.§ 160A-31

Annexation Petition#730 1016 N. Salem Street

WHEREAS, G.S. §160A- 31 provides that the sufficiency of the petition shall be investigated by the Town Clerk before further annexation proceedings may take place; and

WHEREAS, the Town Council of the Town of Apex deems it advisable to proceed in response to this request for annexation;

NOW, THEREFORE, BE IT RESOLVED by the Town Council of the Town of Apex, that the Town Clerk is hereby directed to investigate the sufficiency of the above-described petition and to certify to the Town Council the result of her investigation.

This the 12th day of April, 2022.

Jacques K. Gilbert Mayor

ATTEST:

Julie Reid Interim Town Clerk



CERTIFICATE OF SUFFICIENCY BY THE TOWN CLERK

Annexation Petition #730 1016 N. Salem Street

To: The Town Council of the Town of Apex, North Carolina

I, Julie Reid, Interim Town Clerk, do hereby certify that I have investigated the annexation petition attached hereto, and have found, as a fact, that said petition is signed by all owners of real property lying in the area described therein, in accordance with G.S.§ 160A-31, as amended.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed the seal of the Town of Apex, North Carolina this 12th day of April, 2022.

Julie Reid Interim Town Clerk

(Seal)



RESOLUTION SETTING DATE OF PUBLIC HEARING ON THE QUESTION OF ANNEXATION PURSUANT TO G.S.§ 160A-31 AS AMENDED

Annexation Petition #730 1016 N. Salem Street

WHEREAS, a petition requesting annexation of the area described herein has been received; and

WHEREAS, the Town Council of Apex, North Carolina has by Resolution directed the Town Clerk to investigate the sufficiency thereof; and

WHEREAS, Certification by the Town Clerk as to the sufficiency of said petition has been made;

NOW, THEREFORE, BE IT RESOLVED by the Town Council of the Town of Apex, North Carolina that:

Section 1. A public hearing on the question of annexation of the area described herein will be held at the Apex Town Hall at 6 o'clock p.m. on the 26th day of April, 2022.

Section 2. The area proposed for annexation is described as attached.

Section 3. Notice of said public hearing shall be published on the Town of Apex Website, www.apexnc.org, Public Notice, at least ten (10) days prior to the date of said public hearing.

This the 12th day of April, 2022.

Jacques K. Gilbert, Mayor

ATTEST:

Julie Reid, Interim Town Clerk

Attachment: Legal Description

- Page 426 -

Annexation Legal Description for 1016 N. Salem Street

Beginning at an Existing Iron Pipe located on the Eastern Right of Way of North Salem Street. Said Existing Iron Pipe having North Carolina Geodetic Coordinates (NAD 83; 2011) N: 725,445.26', E: 2,044,527.61' Thence leaving said Right of Way, North 69°43'32" East a distance of 204.66' to an Existing Angle Iron; Thence North 69°43'31" East a distance of 244.09' to an Existing Iron Pipe located on the Western Railroad Right of Way of CSX Transportation; Thence crossing said Railroad Right of Way, South 87°41'39" East a distance of 100.00' to a Point located on the Eastern Railroad Right of Way of CSX Transportation; Thence along the Eastern Railroad Right of Way, South 02°15'16" West a distance of 161.17' to a Point; Thence crossing said Railroad Right of Way, North 87°44'44" West a distance of 100.00' to an Existing Iron Pipe located on the Western Railroad Right of Pipe located on the Western Railroad Right of Way of CSX Transportation; Thence South 69°38'26" West a distance of 387.75' to an Existing Iron Pipe located on the Eastern Right of Way of North Salem Street; Thence South 69°38'26" West a distance of 33.25' to a Point; Thence North 18°26'31" West a distance of 149.65' to a Point; Thence North 69°43'32" East a distance of 29.25' to an Existing Iron Pipe, being the point and place of **Beginning**, and having an area of 1.910 Acres, 83,206 Square Feet, more or less.





- Page 429 -





PETITION FOR VOLUNTARY ANNIE	YATION			
This document is a public record under the Nor	th Carolina Public Reserve	le Act and may be published on the	Town's website or disclosed to third pa	ortion
		is Act and may be published on the		arties.
Application #:	05	Submittal Date:	126/22	
Fee Paid \$ 200.00		Check #	1319	
TO THE TOWN COUNCIL APEX, NORTH C	AROLINA			
 We, the undersigned owners of re to the Town of Apex, <u>Wake Cou</u> 	al property, respect nty, 🗆 Chatham Cou	fully request that the area o <u>unty</u> , North Carolina.	described in Part 4 below be an	nexed
 The area to be annexed is <u>e con</u> boundaries are as contained in the 	tiguous, \Box non-con metes and bounds	tiguous (satellite) to the To description attached hereto	own of Apex, North Carolina ar	nd the
 If contiguous, this annexation will i G.S. 160A-31(f), unless otherwise s 	nclude all intervenir tated in the annexa	ng rights-of-way for streets, tion amendment.	railroads, and other areas as sta	ated in
OWNER INFORMATION				
WFINV, LLC		0742457443		
Owner Name (Please Print)		Property PIN or Deed Book & Page #		
919-427-1646		brandon.hafner@captiveaire.com		
Phone		E-mail Address		
<u>.</u>				5
Owner Name (Please Print)		Property PIN or Deed Book & Page #		
Phone		E-mail Address		
Owner Name (Please Print)		Property PIN or Deed Book & Page #		
Phone		E-mail Address		
SURVEYOR INFORMATION				
Surveyor: WithersRavenel				
Phone: 308-249-4632		Fax:		
E-mail Address: bdayton@withersr	avenel.com			
ANNEXATION SUMMARY CHART				
Property Information		Reason(s) for	annexation (select all that appl	y)
Total Acreage to be annexed:	1.910	Need water service	e due to well failure	
Population of acreage to be annexed:	2	Need sewer service	e due to septic system failure	
Existing # of housing units:	1	Water service (nev	v construction)	
Proposed # of housing units:	1	Sewer service (new	v construction)	
Zoning District*:	MD-CZ	Receive Town Serv	ices	\checkmark
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*If the property to be annexed is not within the Town of Apex's Extraterritorial Jurisdiction, the applicant must also submit a rezoning application with the petition for voluntary annexation to establish an Apex zoning designation. Please contact the Department of Planning and Community Development with questions.

Petition for Voluntary Annexation

- Page 432 -
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| individual owners must sign. (If add | ditional signatures are nec | essary, please attach an additional sheet.) |
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- Page 433 -

PETITION FOR VOLUNTARY ANNEXATION Application #: Submittal Date:
COMPLETE IF IN A LIMITED LIABILITY COMPANY
In witness whereof, <u>VFIN</u> a limited liability company, caused this instrument to be executed in its name by a member/manager pursuant to authority duly given, this the <u>JOINTARY</u> , 20 <u>77</u> Name of Limited Liability Company WFINV, <u>LLL</u>
By: Jette July Manager
STATE OF NORTH CAROLINA COUNTY OF FRANKLIN
Sworn and subscribed before me, HINCKAWISOOM BOWGAN BOTARY Public for the above State and County, this that ISOON day of January, 2022 Huncka Wisdom Bowers SEAN OTARY SEE
PUBLIC My Commission Expires: Sept 4, 2022 COMPLETE IF IN A PARTNERSHIP
In witness whereof,, a partnership, caused this instrument to be executed in its name by a member/manager pursuant to authority duly given, this the day of, 20, 20
Name of Partnership
By:Signature of General Partner
STATE OF NORTH CAROLINA COUNTY OF WAKE
Sworn and subscribed before me,, a Notary Public for the above State and County, this theday of, 20
SEAL Notary Public
My Commission Expires:
Page 4 of 5 Petition for Voluntary Annexation Last Updated: November 8, 2021

PAYMENT DATE 01/25/2022

COLLECTION STATION Jeri Pederson

RECEIVED FROM Withers Ravenel

TOWN OF APEX P O BOX 250 APEX, NC 27502 (919) 362-8676 - Utility Payments (919) 249-3418 - Permits Only (919) 249-3426 - Planning & Zoning Only

BATCH NO. 2022-00002305 RECEIPT NO. 2022-00142048 CASHIER Jeri Pederson

DESCRIPTION

Annexation #730 Thales Academy Expansion - 2022-00000005

PAYMENT CODE	PROJECT PLANNIN Annexation #730 Th	RECEIPT DESCRIPTION NG CENTER FEES ales Academy Expansion - 2022-00000005	TRANSACTION AMOUNT \$200.00
Payments:	Type Detai Check 1379	il Amou \$200.0	nt <u>10</u>
	Cu	Iston Page 435	t: \$200.00

|Agenda Item | cover sheet

for consideration by the Apex Town Council

Item Type: CONSENT AGENDA Meeting Date: April 12, 2022

<u>Item Details</u>

Presenter(s): Michael S. Deaton, PE, Director

Department(s): Water Resources

Requested Motion

Motion to approve a 3-year agreement with Buckhorn Vegetation Control, LLC., and to authorize the Town Manager to execute the agreement on behalf of the Town.

Approval Recommended?

Yes

<u>Item Details</u>

The Water Resources Operations Division is responsible for maintaining over 30 sewer pump stations and 150 miles of sewer outfall. Buckhorn Vegetation Control, LLC., is a licensed pesticide applicator that sprays environmentally safe, vegetative growth retardant in hard to access areas near pump stations and along sanitary sewer outfalls. Having a licensed and qualified contractor to perform these services allows the Town to maintain compliance with our NCDEQ Collection System Permit (WQCS00064) as well as protect Town staff from unnecessary chemical exposures.

<u>Attachments</u>

• Vendor Signed Master Services Agreement



STATE OF NORTH CAROLINA

Contract Identification #_____

COUNTY OF WAKE

MASTER SERVICES AGREEMENT

THIS MASTER SERVICES AGREEMENT (hereinafter "Agreement") is entered into this the _____day of ______, 2022, by and between, Buckhorn Vegetation Control, LLC, a limited liability company with its principal business offices located at 875 Corbett Hill Road, Mount Olive, NC 28365 (the "Contractor"), and the Town of Apex, a municipal corporation of the State of North Carolina, (the "Town"). Town and Contractor may collectively be referred to as "Parties" hereinafter.

WITNESSETH:

WHEREAS, Town, is engaged in the operation of water and sewer utilities, including pipes, drains, facilities, and associated equipment, which from time to time require maintenance, repair, installation, removal, testing, and inspection as well as other projects related to wastewater treatment and soil and erosion control; and

WHEREAS, the professional services of outside firms or consultants and/or others will from time to time in the future be needed by the Town for the services as described above; and

WHEREAS, Contractor provides professional services of the nature required by the Town and employs trained and experienced technical personnel possessing adequate knowledge, skills, and experience to provide such professional services to the Town; and

WHEREAS, the Parties contemplate that the services of the Contractor will be performed in various stages in accordance with separate authorizations to be issued by the Town, and the Parties desire to set forth the basic terms of their agreement in this Master Services Agreement rather than in the separate authorizations issued by the Town; and

WHEREAS, the Parties acknowledge and agree that this Agreement shall act as a base agreement under which the Parties can enter into multiple specific transactions by executing a Purchase Order and written confirmation to proceed pursuant to a Scope of Services, quote, and/or rate sheet; and

WHEREAS, the Parties agree that this Agreement is non-exclusive and does not require or commit the Contractor to being available to perform services until a Scope of Services and quote is submitted, and does not preclude the Town from hiring other vendors or contractors to perform the same or similar work.

NOW THEREFORE, in consideration of the foregoing recitals, and the premises and mutual covenants herein contained, the receipt and adequacy of which is hereby acknowledged, the Parties, intending to be legally bound, hereto do contract and agree as follows:

1. SCOPE OF SERVICES.

The Contractor agrees to perform for the Town the following general services when requested by the Town: Annual vegetation management at 31 pump stations and approximately 15 miles of sewer outfall at the prices indicated in the proposal dated March 21, 2022.

When service is requested by the Town, Contractor shall provide a detailed Scope of Services and quote that shall be governed by the terms of this Agreement. If a rate sheet is provided and attached to this Agreement then the quote shall be consistent with the rate sheet. The quote and Scope of Services shall reference this Agreement and this Agreement shall be incorporated into and made a part of the Scope of Services and quote whether or not expressly incorporated by reference in the Scope of Services and quote.

In the event of a conflict between the terms of a Scope of Services, quote, or estimate and this Agreement, this Agreement shall control.

2. SPECIFICATIONS.

Upon request by the Town, Contractor will provide plans and specifications prior to engaging in any services under this Agreement. Contractor hereby acknowledges that it is fully licensed to perform the work contemplated by this Agreement. In the event of a conflict between the provided plans and specifications and this Agreement, this Agreement shall control.

3. TIME OF COMMENCEMENT AND COMPLETION.

This Agreement shall terminate on June 30, 2025 unless terminated sooner in accordance with the terms of this Agreement. Contractor shall commence and complete the work required by this Agreement in accordance with the dates provided in the Scope of Services as agreed upon by the Parties. Contractor shall immediately notify the Town of any event or circumstance that may, immediately or in the future, impede the proper and timely execution of any work so that remedial action may be taken. Contractor shall not begin any work pursuant to this Agreement or a Scope of Services until written confirmation has been provided by the Town. The Parties hereby agree that written confirmation may be provided through electronic communication from the Town's representative identified in Section 13 of this Agreement. If Contractor has not satisfactorily commenced or completed the work within the times specified, the Town may declare such delay a material breach of contract and may pursue all available legal and equitable remedies. Any changes to the schedule(s) provided in the Scope of Services must be agreed to in writing by the Town and the Contractor.

4. CONSIDERATION AND PAYMENT OF SERVICES.

In consideration of the above services, the Town will pay the Contractor the amount authorized by the issued Purchase Order corresponding to the agreed upon Scope of Services and proposal. After services are agreed upon pursuant to this Agreement and the associated Scopes of Service, Contractor will invoice the Town for work performed. Town has the right to require the Contractor to produce for inspection all of Contractor's records and charges to verify the accuracy of all invoices. Town shall pay Contractor's invoices within thirty (30) days of receipt unless a bona fide dispute exists between Town and Contractor concerning the accuracy of said invoice or the services covered thereby.

5. INDEMNIFICATION.

To the extent permitted by law, the Contractor agrees to defend, pay on behalf of, indemnify, and hold-harmless the Town of Apex, its elected and appointed officials, employees, agents, and volunteers against any and all claims, demands, suits or losses, including all costs connected therewith, for any damages which may be asserted, claimed or recovered against or from the Town of Apex its elected or appointed officials, employees, agents, and volunteers by reason of personal injury, including bodily injury or death and/or property damage, including loss of use thereof resulting from the negligence of the Contractor.

6. APPLICABILITY OF LAWS AND REGULATIONS.

The Contractor shall adhere to all laws, ordinances, and regulations of the United States, the State of North Carolina, the County of Wake, and the Town of Apex in the performance of the services outlined in this contract and any attached specifications.

This Agreement shall be governed by the laws of the State of North Carolina. Any and all suits or actions to enforce, interpret or seek damages with respect to any provision of, or the performance or nonperformance of, this Agreement shall be brought in the General Court of Justice of North Carolina sitting in Wake County, North Carolina, or the United States District Court sitting in Wake County, North Carolina, and it is agreed by the Parties that no other court shall have jurisdiction or venue with respect to such suits or actions.

7. E-VERIFY COMPLIANCE.

The Contractor shall comply with the requirements of Article 2 of Chapter 64 of the North Carolina General Statutes (E-Verify). Contractor shall require all of the Contractor's subcontractors to comply with the requirements of Article 2 of Chapter 64 of the North Carolina General Statutes (E-Verify).

8. QUALITY AND WORKMANSHIP.

All work shall be performed to the satisfaction of the Town. The work shall not be considered complete nor applicable payments rendered until the Town is satisfied with the services provided. Contractor shall provide services in accordance with all federal, state and local law and in accordance with all governing agency regulations and shall be held to the same standard and shall exercise the same degree of care, skill and judgment in the performance of services for

the Town as is ordinarily provided by a similar professional under the same or similar circumstances at the time in North Carolina.

9. INSURANCE.

The Contractor shall maintain valid general liability insurance in the minimum amount of \$1,000,000, commercial automobile liability insurance in the minimum amount of \$2,000,000, and provide certificates of such insurance naming the Town of Apex as an *additional insured* by endorsement to the policies. If the policy has a blanket additional insured provision, the contractor's insurance shall be primary and non-contributory to other insurance. Additionally, the contractor shall maintain and show proof of workers' compensation and employer's liability insurance in the minimum amount of \$1,000,000. The Contractor shall provide notice of cancellation, non-renewal or material change in coverage to the Town of Apex within 10 days of their receipt of notice from the insurance company.

All required certificates of insurance, endorsements, and blanket additional insured policy provisions are attached and considered part of this document. Notwithstanding the foregoing, neither the requirement of Contractor to have sufficient insurance nor the requirement that Town is named as an additional insured, shall constitute waiver of the Town's governmental immunity in any respect, under North Carolina law.

10. PRE-PROJECT SAFETY REVIEW MEETING.

If requested by the Town, the Contractor shall attend a pre-project safety review meeting with the contacting Department Head and Supervisors and Safety and Risk Manager prior to the start of work.

11. DEFAULT.

In the event of substantial failure by Contractor to perform in accordance with the terms of this Agreement, Town shall have the right to terminate Contractor upon seven (7) days written notice in which event Contractor shall have neither the obligation nor the right to perform further services under this Agreement.

12. TERMINATION FOR CONVENIENCE.

Town shall have the right to terminate this Agreement for the Town's convenience upon thirty (30) days written notice to Contractor. Contractor shall terminate performance of services on a schedule acceptable to the Town. In the event of termination for convenience, the Town shall pay Contractor for all services satisfactorily performed.

13. NOTICE.

Any formal notice, demand, or request required by or made in connection with this Agreement shall be deemed properly made if delivered in writing or deposited in the United States mail, postage prepaid, to the address specified below.

TO CONTRACTOR:	Attn:	Chad Davis
	Contractor:	Buckhorn Vegetation Control, LLC.
	Address:	875 Corbett Hill Road
		Mount Olive, NC 28365
	Email:	buckhornvegetation@gmail.com

TO TOWN: Town of Apex Attention: Michael Deaton PO Box 250 Apex, NC 27502

14. DELAY BEYOND THE CONTROL OF THE PARTIES.

Neither Contractor nor Town, having taken commercially reasonable precautions, shall be in default of the provisions of this Agreement for delays in performance due to forces beyond the control of the parties. "Forces beyond the control of the parties" shall mean, but is not limited to, delay caused by natural disaster, fire, flood, earthquakes, storms, lightning, epidemic, pandemic, war, riot, civil disobedience, or other event reasonably outside of the parties' control. Due to the ever-changing circumstances surrounding the COVID-19 pandemic, situations may arise during the performance of this Agreement that affect availability of resources and staff of Contractor or the Town. There could be changes in anticipated performance times and service costs. Contractor will exercise reasonable efforts to overcome the challenges presented by current circumstances. In the event of changes in performance times or service costs caused by the COVID-19 pandemic the Town reserves the right to terminate this Agreement in accordance with its terms. The Parties agree that they shall not be liable to each other for any delays, expenses, losses, or damages of any kind arising out of the impact of the COVID-19 pandemic.

15. NONWAIVER FOR BREACH.

No breach or non-performance of any term of this Agreement shall be deemed to be waived by either party unless said breach or non-performance is waived in writing and signed by the parties. No waiver of any breach or non-performance under this Agreement shall be deemed to constitute a waiver of any subsequent breach or non-performance and for any such breach or non-performance each party shall be relegated to such remedies as provided by law.

16. CONSTRUCTION.

Should any portion of this Agreement require judicial interpretation, it is agreed that the Court or Tribunal construing the same shall not apply a presumption that the terms hereof shall be more strictly construed against any one party by reason of the rule of construction that a document is to be more strictly construed against the party who prepared the documents.

17. NO REPRESENTATIONS.

The parties hereby warrant that no representations about the nature or extent of any claims, demands, damages, or rights that they have, or may have, against one another have been made to them, or to anyone acting on their behalf, to induce them to execute this Agreement, and they rely on no such representations; that they have fully read and understood this Agreement before signing their names; and that they act voluntarily and with full advice of counsel.

18. SEVERABILITY.

In the event for any reason that any provision or portion of this Agreement shall be found to be void or invalid, then such provision or portion shall be deemed to be severable from the remaining provisions or portions of this Agreement, and it shall not affect the validity of the remaining portions, which portions shall be given full effect as if the void or invalid provision or portion had not been included herein.

19. COUNTERPARTS.

This Agreement may be executed in two or more counterparts, each of which shall be deemed an original, and all of which together shall constitute one instrument.

20. MODIFICATION.

This Agreement contains the full understanding of the parties. Any modifications or addendums to this Agreement must be in writing and executed with the same formality as this Agreement.

21. BINDING EFFECT.

The terms of this Agreement shall be binding upon the parties' heirs, successors, and assigns.

22. ASSIGNMENT.

Contractor shall not assign, sublet, or transfer any rights under or interest in (including, but without limitation, monies that may become due or monies that are due) this Agreement without the written consent of the Town. Nothing contained in this paragraph shall prevent Contractor from employing such independent consultants, associates, and sub-contractors as it may deem appropriate to assist Contractor in the performance of services rendered.

23. INDEPENDENT CONTRACTOR.

Contractor is an independent contractor and shall undertake performance of the services pursuant to the terms of this Agreement as an independent contractor. Contractor shall be wholly responsible for the methods, means and techniques of performance.

24. NON-APPROPRIATION.

Notwithstanding any other provisions of this Agreement, the parties agree that payments due hereunder from the Town are from appropriations and monies from the Town Council and any other governmental entities. In the event sufficient appropriations or monies are not made available to the Town to pay the terms of this Agreement for any fiscal year, this Agreement shall terminate immediately without further obligation of the Town.

25. IRAN DIVESTMENT ACT CERTIFICATION.

N.C.G.S. 147-86.60 prohibits the State of North Carolina, a North Carolina local government, or any other political subdivision of the State of North Carolina from contracting with any entity that is listed on the Final Divestment List created by the North Carolina State Treasurer pursuant to N.C.G.S. 147-86.58. N.C.G.S. 147-86.59 further requires that contractors with the State, a North Carolina local government, or any other political subdivision of the State of North Carolina must not utilize any subcontractor found on the State Treasurer's Final Divestment List. As of the date of execution of this Agreement the Contractor hereby certifies that the Contractor is not listed on the Final Divestment List created by the North Carolina State Treasurer and that the Contractor will not utilize any subcontractors found on the Final Divestment List.

26. ANTI-HUMAN TRAFFICKING.

The Contractor warrants and agrees that no labor supplied by the Contractor or the Contractor's subcontractors in the performance of this Agreement shall be obtained by means of deception, coercion, intimidation or force, or otherwise in violation of North Carolina law, specifically Article 10A, Subchapter 3 of Chapter 14 of the North Carolina General Statutes, Human Trafficking.

27. NONDISCRIMINATION.

Pursuant to Section 3-2 of the Town of Apex Code of Ordinances, Contractor hereby warrants and agrees that Contractor will not discriminate against a protected class in employment, subcontracting practices, or the solicitation or hiring of vendors, suppliers, or commercial customers in connection with this Agreement. For the purposes of this Agreement "protected class" includes age, race, religious belief or non-belief, ethnicity, color, national origin, creed, sex, sexual orientation, gender identity, marital status, natural hair style, genetic information, pregnancy, familial status, disability, veteran or military status, or disabled veteran status.

28. ELECTRONIC SIGNATURE.

Pursuant to Article 40 of Chapter 66 of the North Carolina General Statutes (the Uniform Electronic Transactions Act) this Agreement and all documents related hereto containing an electronic or digitized signature are legally binding in the same manner as are hard copy documents executed by hand signature. The Parties hereby consent to use electronic or digitized signatures in accordance with the Town's Electronic Signature Policy and intend to be bound by the Agreement and any related documents. If electronic signatures are used the Agreement shall be delivered in an electronic record capable of retention by the recipient at the time of receipt.

In witness thereof, the contracting parties, by their authorized agents, affix their signatures and seals this day of , 2022.

Contractor

Town of Apex

Name: Buck Horn Vegetation

Catherine Crosby, Town Manager

By: Chad Davis (Signature)

Title: Owner

Attest:

(Secretary, if a corporation)

Attest:

Town Clerk

This instrument has been preaudited in the manner required by the Local Government Budget and Fiscal Control Act.

Vance Holloman, Finance Director

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Weed Control Proposal – 3/21/2022

Buckhorn Vegetation Chad Davis 875 Corbett Hill Road Mt. Olive, NC 28365 919-223-3090

Buckhorn Vegetation agrees to provide vegetation management services for:

Location Address: Various

Billing Address: PO Box 250 Town of Apex Water Resources 105 A Upchurch St Apex, NC 27502 Jessica Sloan 919-372-7478 Jessica.sloan@apexnc.org

Under the following terms:

- 1. Materials used will be environmentally safe
- 2. Buckhorn Vegetation will maintain adequate insurance

\$12950

3. Payment due upon receipt

Areas to be treated are:		Cost of treatment:
These prices are for 3 year	S	
Spray 31 pump stations:		
2022	\$2150	
2023	\$2200	
2024	\$2250	
Spray 15 miles of outfall rig grass.	ght of way controlling woody stem	n and broadleaf weeds. This will not kill
2022	\$12750	
2023	\$12800	

Buckhorn Vegetation representative

2024

Customer

|Agenda Item | cover sheet

for consideration by the Apex Town Council

Item Type: CONSENT AGENDA Meeting Date: April 12, 2022

Item Details

Presenter(s):Russell H. Dalton, PE, Traffic Engineering ManagerDepartment(s):Public Works & Transportation

Requested Motion

Motion to approve an amendment to Ordinance 20-61, with the addition of part (2) under subsection (a) prohibiting the left turn movement on Knollwood Drive approaching Laura Duncan Road on days that school is in session for Apex High School between the hours of 6:45 a.m. and 7:30 a.m.

Approval Recommended?

Yes

<u>Item Details</u>

Based on a review of school traffic operations along the site frontage of Apex High School, recommendations provided by the Apex Police Department, and a meeting held with the school principal of Apex High School on 3/11/22, staff recommend this turn restriction to prevent left turns from exiting Knollwood Drive onto Laura Duncan Road during peak school carpool time in the morning only. The restriction will be signed accordingly, for "School Days" during the hours of "6:45-7:30 a.m." and enforced by Apex Police Department. The intent of the ordinance is to discourage drop-off activities on Knollwood Drive and reduce turning movement conflicts at the intersection during this 45-minute period where the flashing beacon crosswalk is located. Local traffic has alternative routes for turning left to go south on Laura Duncan Road during this time using the intersections of Indian Trail or Pinewood Drive further south of the school.

Attachments

Ordinance No. 2022-



ORDINANCE NO. 2022-

AN ORDINANCE TO AMEND SECTION 20-61 OF THE CODE OF ORDINANCES OF THE TOWN OF APEX

NOW, THEREFORE, BE IT ORDAINED by the Town Council of the Town of Apex as follows:

Section 1. Section 20-61 of the Code of Ordinances of the Town of Apex is hereby amended with the addition of part (2) under subsection (a) as follows:

Sec. 20-61. – Turn signs, lane markers, etc.

(b) Whenever signs are placed, erected or installed as designated below indicating that no right, left or "U" turn is permitted, no driver of a vehicle shall disobey the directions of any such sign. Intersection approaches designated in this section shall have restricted turning movements at hours specified or at all hours if not specified.

(2) Knollwood Drive approaching Laura Duncan Road, left turn prohibited on days that school is in session for Apex High School between the hours of 6:45 a.m. and 7:30 a.m.

- **Section 2.** All ordinances or parts of ordinances in conflict with this ordinance are hereby repealed. If any part of this ordinance shall be adjudged invalid, such adjudication shall apply only to such part so adjudged and the remainder of the ordinance shall be deemed valid and effective.
- **Section 3.** This ordinance shall be effective on the 12th day of April 2022.

{Signatures on the following page}

Introduced by Council Member _____

Seconded by Council Member _____

Attest:

TOWN OF APEX, NORTH CAROLINA

Julie Reid Interim Town Clerk Jacques K. Gilbert Mayor

Approved As To Form:

Laurie L. Hohe Town Attorney

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for consideration by the Apex Town Council

Item Type:CONSENT AGENDAMeeting Date:April 12, 2022

<u>Item Details</u>

Presenter(s): Russell H. Dalton, PE, Traffic Engineering Manager

Department(s): Public Works & Transportation

Requested Motion

Motion to approve installation of a traffic calming speed hump device on Blackburn Road.

Approval Recommended?

Yes

Item Details

Staff have studied Blackburn Road and recommended a single location for a traffic calming speed hump to be installed at the request of the Haddon Hall HOA. The total cost is \$8,278.00 in contracted services for the asphalt speed hump with pavement markings and \$574.54 for Town installation of warning signs. The HOA has provided a valid petition in support of the request and submitted a payment for \$1,770.51 (20%) toward the cost of installation in accordance with the UDO.

<u>Attachments</u>

- Traffic data summary and proposed location for traffic calming speed hump
- Traffic calming petition map





Study by: Serge Grebenschikov

Location: Blackburn Rd– between Abby Knoll Dr and Haddon Hall Dr



STATISTICS

- Average Daily Traffic = 2,800 veh/day
- Posted Speed Limit = 25 mph
- Average Speeds = 28.2 mph
- 85th % Speed = 32 mph
- % Vehicles speeding = 26%
 (over 30 mph)
- % Truck Traffic Speeding = 1.3%



Avg Speed vs Volume



Study by: Serge Grebenschikov

Location: Blackburn Rd– between Abby Knoll Dr and Haddon Hall Dr



SCHOOL TIME TRAFFIC VOLUMES

COMMENTS

- Speeds greater than 30 mph were observed during school AM and PM drop off times.
 - School AM Peak over 100 vehicles observed to drive over 30 mph on Monday – Thursday
 - School PM Peak over 100 vehicles observed to drive over 30 mph on Thursday.
- There's an observed speeding issue associated with school peak times.





Study by: Serge Grebenschikov

Location: Blackburn Rd- between Abby Knoll Dr and Haddon Hall Dr

TRAFFIC CALMING CRITERIA

- Posted speed is 25 miles per hour MET
- Roadway is not a Collector Street or Thoroughfare MET
- The average speed exceeds 30 miles per hour during any one-hour period in which the number of vehicles meets or exceeds 100. **NOT MET**
- The data collected to determine average speed may be based on an average of 100 vehicles per hour or more over multiple days.- **MET**
- Installation of traffic calming devices along the street is not anticipated to create unacceptable delays in emergency response times for residences served by the street in the judgment of the Town's Police Chief and Fire Chief.- TO BE DETERMINED

RESULTS AND RECOMMENDATIONS

- SPEED HUMPS ARE RECOMMENDED BASED ON NUMBER OF SPEEDERS DURING SCHOOL BELL TIMES
 - Per the UDO, traffic calming devices (speed humps) are not warranted based on traffic volume and speed data gathered from the traffic study. However, due to large traffic volumes on Blackburn Rd, the speeding issue is not evident without closer investigation of the number of violators.
 - Violators (or speeders over 30 mph) exceeded 100 vehicles per hour on 4 of the 5 school days.
 - Traffic staff recommends speed humps based on the number of violators.
 - Traffic staff does not think that enforcement will permanently solve the speeding issue that was observed.



Study by: Serge Grebenschikov

Location: Blackburn Rd– between Abby Knoll Dr and Haddon Hall Dr

Proposed Location of Speed Humps



TOWN OF APEX The Peak of Good Living PO Box 250 Apex, NC 27502 + (010) 249-3400 | www.apexnc.org - Page 453 -





|Agenda Item | cover sheet

for consideration by the Apex Town Council

Item Type: CONSENT AGENDA Meeting Date: April 12, 2022

<u>Item Details</u>

Presenter(s):Marty Stone, Assistant Town ManagerDepartment(s):Administration

Requested Motion

Motion to approve an encroachment agreement between the Town and property owner Lennar Carolinas, LLC to install a driveway that will encroach 334 square feet (SF) onto the Public Utility Easement and a sidewalk that will encroach 14 square feet (SF) onto the Public Drainage Easement and authorize the Town Manager to execute the same.

Approval Recommended?

Yes

<u>Item Details</u>

The proposed Encroachment Agreement is between the Town and property owner Lennar Carolinas, LLC (Grantee) for the property described as a residential lot known as Wake County PIN #0722-34-4137, Book of Maps 2021, Page 01131 (Sheet 6 of 9), lot is also known as 1142 Herb Garden Way, Apex, NC 27502. Grantee wishes to install certain improvements, more particularly described as a driveway that will encroach 334 square feet (SF) onto the Town's new Public Utility Easement and a sidewalk that will encroach 14 square feet (SF) onto the Town's Public Drainage Easement.

<u>Attachments</u>

- Encroachment Agreement
- Exhibit A



After Recording Mail To: Development Services Town of Apex PO Box 250 Apex, NC 27502

STATE OF NORTH CAROLINA COUNTY OF WAKE

ENCROACHMENT AGREEMENT

THIS ENCROACHMENT AGREEMENT, being made this _____ day of _____, 2022, by and between Lennar Carolinas, LLC hereinafter referred to as "Grantee," and the Town of Apex, hereinafter referred to as the "Town."

WHEREAS, the Grantee is the owner of a certain residential lot of land in the County of Wake, State of North Carolina, which is designated as **PIN #0722-34-4137** by the Wake County Revenue Department and more particularly described as **Lot 332** of the subdivision known as **Smith Farm Phase 3B** as shown on that certain plat recorded in **Book of Maps 2021, Page 01131 (Sheet 6 of 9)**, Wake County Registry (hereinafter the **"Subdivision Plat"**). The residential lot is also known as **1142 Herb Garden Way, Apex, NC 27502.** The residential lot described in this paragraph is hereinafter referred to as the **"Residential Lot."**

WHEREAS, the Town is the owner of a **New TOAPUE 1,369 sf** and **New PDE 352 sf** as shown on the **Subdivision Plat** hereinafter referred to as the **"Public Utility Easement"** and **"Public Drainage Easement," respectively.**

WHEREAS, Grantee wishes to install certain improvements more particularly described as a **driveway that will encroach 334 square feet (SF) onto the Public Utility Easement** and a **sidewalk that will encroach 14 square feet (SF) onto the Public Drainage Easement**, which serves the Residential Lot, hereinafter referred to as the "**Encroachment**", all as shown on the attached **Exhibit A**. Grantee desires to make certain agreements and covenan

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WHEREAS, the Town, under the terms and conditions herein set forth, is willing to allow the abovedescribed Encroachment upon the **Public Utility Easement** and **Public Drainage Easement**.

NOW, THEREFORE, in consideration of these promises and other consideration, the receipt and sufficiency of which is hereby acknowledged, Grantee and the Town hereby covenant and agree:

 Subject to the terms herein, the Town agrees to allow Grantee, and Grantees' successors and assigns at Grantee sole risk and expense, to encroach into the **Public Utility Easement** and **Public Drainage Easement** of the Town as shown in the attached **Exhibit A**, and incorporated by reference as though fully set forth herein.

2. The Encroachment shall not be enlarged or increased beyond the Encroachment shown in **Exhibit A** and described in this Encroachment Agreement. Grantee is responsible for any and all expenditures of labor or materials required for the installation, erection, repair, removal, or maintenance of the above-referenced Encroachment and shall be allowed to maintain the Encroachment and to perform all necessary repairs, maintenance, and replacement of the Encroachment as may be necessary from time to time.

3. The Town shall not be held responsible for any and all property damage or injury or death of any person which results from any and all negligence, omission, defect in design, maintenance, or workmanship created by the Encroachment described herein, or any cause of action arising out of the installation, maintenance, removal, destruction, or location of said Encroachment.

4. Grantee agrees to and does hereby hold the Town, its officers, council members and employees harmless from any and all liability arising out of such negligence, omission, defect or other cause of action; that it will defend the Town, its officers, council members and employees, and pay all attorney fees in any and all actions brought as a result of such; and that it will indemnify the Town, its officers, council members, and employees against any and all loss sustained by reason of such negligence, omission, defect, or other cause of action, claim, cost, or expense arising out of the installation, maintenance, removal, or location of said Encroachment; provided that, Grantee shall not be obligated hereunder to indemnify the Town for any negligent acts or omissions of the Town, its contractor(s) (including sub-contractors) and their respective officers, agents and employees.

5. Sections 3 and 4 shall survive the termination of this Encroachment Agreement for any reason.

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6. All notices required herein shall be deemed given by depositing such in the United States mail, first class, and addressed to:

To Town:	Town Manager
	Town of Apex
	PO Box 250
	Apex, NC 27502

To Grantee: Lennar Carolinas, LLC 1100 Perimeter Park Drive, Suite 112 Raleigh, NC 27560-9119

7. In the event there is a dispute between the parties concerning the interpretation of the terms of this Encroachment Agreement or their respective rights and obligations hereunder, such dispute or controversy shall be adjudged pursuant to the laws of the State of North Carolina.

8. Grantee agrees to abide by all applicable laws, regulations, statutes and ordinances.

9. This Encroachment Agreement shall not divest the Town of any rights or interest in said **Public Utility Easement** and **Public Drainage Easement**.

10. If the Town deems, within its sole discretion, that removal of all or apportion of the Encroachment is necessary in order to operate, protect, maintain, modify, replace, add-to or improve its facilities located within the **Public Utility Easement** and **Public Drainage Easement**, then Grantee shall cause such removal to be made at Grantee's sole expense within 30 days after receipt of notice from the Town and shall be completed in a manner that will allow the Town complete and safe access to the **Public Utility Easement** and **Public Drainage Easement**. In the event that the Grantee fails to timely remove the Encroachment or in the event of an emergency associated with the condition of the **Public Utility Easement** and **Public Drainage Easement**, the Town is authorized to remove all or such portion of the Encroachment as the Town determines in its sole discretion to be reasonably necessary, convenient or advisable to operate, protect, maintain, modify, replace, add-to or improve its facilities located within the **Public Utility Easement** and **Public Drainage Easement**. The Town shall have the sole discretion to determine the existence of an emergency associated with the condition of the **Public Utility Easement** and **Public Drainage Easement**.

11. Grantee agrees to pay and reimburse the Town the entire expense and cost of removal of the Encroachment in the event that the Town removes the Encroachment as provided in the Paragraph 10 or if Grantee fails to remove the Encroachment within the time limit after receiving notice under Paragraph

9.

12. Grantee, during the life of this Encroachment Agreement, agrees to procure or cause to be procured from a responsible insurance carrier or carriers authorized under the laws of the State of North Carolina, insurance in the minimum amounts of \$300,000/\$500,000/\$300,000 covering full liability for any and all personal injury, property damage or wrongful death caused by the construction, maintenance, location, repair or visual obstruction of said Encroachment. Grantee shall furnish the Town, without demand, each July a certification from the insurance carrier or carriers with whom the insurance herein mentioned is carried, stating that such compensation is covered by such carrier or carriers and showing such insurance to be in full force and effect. Both Grantee and the Town shall be named as insured parties by endorsement of the policy. In the event of any change in the insurance policy, Grantee shall give the Town thirty (30) days' notice of such change. Should Grantee fail to pay premiums upon said insurance or to perform any of the agreement, terms or conditions herein contained, the Town, at its option, by written notice may declare this Encroachment Agreement canceled and terminated and all rights acquired hereunder by Grantee shall thereupon terminate.

13. Notwithstanding Section 14 below, Grantee shall be released from its obligation under this Encroachment Agreement only upon the assumption of said obligations either by a successor in title to the **Residential Lot**, or by assumption of said obligations by an incorporated party approved by the Town. The Town's consent to such assumption and release shall be required but shall not be withheld, conditioned or delayed if, as reasonably determined by the Town, the party assuming Grantee's obligations possesses adequate financial resources and ownership interest, and Grantee's delegate and proposed assignee assume and agree to fulfill, in writing, all of Grantee's duties set forth in this Encroachment Agreement.

14. The right to encroach is appurtenant to and runs with the land hereinabove referred to and shall forever by subject to the conditions above agreed on between the parties. This Encroachment Agreement is binding upon the heirs, assigns, transferees, and successors in interest of the Grantee and shall, upon execution, be recorded in the Office of the Register of Deeds of Wake County, North Carolina.

[REMAINDER OF PAGE LEFT INTENTIONALLY BLANK]

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In testimony whereof, said Grantee and said Town have here unto set their hands and seals, the day and year first above written.

GRANTEE

Lennar Carolinas, LLC Bv: (SEAL) Troy George Vice President

NORTH CAROLINA COUNTY OF Weke [county in which acknowledgement taken]

Karen HROZell, a Notary Public of Wake County, North Carolina, certify that Troy George, personally appeared before me this day and acknowledged that he is the Vice President for Lennar Carolinas, LLC Grantee herein, and that by authority duly given as Vice President for the company, the foregoing instrument was signed and sealed by him on behalf of the company and acknowledged said writing to be the act and deed of said company.

Witness my hand and official stamp or seal, this 25 day of March 2022.

Kanger Rebut [Signature of Notary Public]

Karen HRozell

My Commission Expires: ____

(Affix Notarial Stamp-Seal)



TOWN OF APEX

Catherine Crosby Town Manager

(Corporate Seal)		
ATTEST:		
Julie A. Reid Interim Town Clerk		
STATE OF NORTH CAROLINA		
COUNTY OF	[county in which acknowle	dgement taken]
I, County, North Carolina, certify that acknowledged that she is <u>Interim Tov</u> and that by authority duly given and a name by its <u>Town Manager</u> , sealed w	Julie A. Reid <u>vn Clerk</u> of the <u>Town of Ape</u> as the act of the corporation ith its corporate seal and at	_, a Notary Public of personally came before me this day and <u>ex, a North Carolina Municipal Corporation</u> , n, the foregoing instrument was signed in its tested by her as its <u>Interim Town Clerk</u> .
Witness my hand and official stamp c	or seal, this day of	, 2022.
[Signature of Notary Public] My Commission Expires:		(Seal)



|Agenda Item | cover sheet

for consideration by the Apex Town Council

Item Type: CONSENT AGENDA Meeting Date: April 12, 2022

Item Details

Presenter(s): Marty Stone, Assistant Town Manager

Department(s): Administration

Requested Motion

Motion to approve an encroachment agreement between the Town and property owners Colin John McGinley and spouse Melissa Beth McGinley to install a fence that will encroach 370 square (SF) onto the Town's Public Utility Easement and authorize the Town Manager to execute the same.

Approval Recommended?

Yes

<u>Item Details</u>

The proposed Encroachment Agreement is between the Town and property owners Colin John McGinley and spouse Melissa Beth McGinley (Grantees) for the property described as a residential lot known as Wake County PIN #0721-35-3663, Book of Maps 2020, Page 00089, lot is also known as 1849 Rothesay Drive, Apex, NC 27502. Grantees wish to install certain improvements, more particularly described as a fence that will encroach 370 square feet (SF) onto the Town's Public Utility Easement

<u>Attachments</u>

- Encroachment Agreement
- Exhibit A



After Recording Mail To: Development Services Town of Apex PO Box 250 Apex, NC 27502

STATE OF NORTH CAROLINA COUNTY OF WAKE

ENCROACHMENT AGREEMENT

THIS ENCROACHMENT AGREEMENT, being made this _____ day of _____, 2022, by and between Colin John McGinley and spouse Melissa Beth McGinley, hereinafter referred to as "Grantees," and the Town of Apex, hereinafter referred to as the "Town."

WHEREAS, the Grantees are the owners of a certain residential lot of land in the County of Wake, State of North Carolina, which is designated as **PIN #0721-35-3663** by the Wake County Revenue Department and more particularly described as **Lot 280** of the subdivision known as **Buckhorn Preserve Phase 3B** as shown on that certain plat recorded in **Book of Maps 2020, Page 00089**, Wake County Registry (hereinafter the **"Subdivision Plat"**). The residential lot is also known as **1849 Rothesay Drive**, **Apex, NC 27502.** The residential lot described in this paragraph is hereinafter referred to as the **"Residential Lot."**

WHEREAS, the Town is the owner of a **"40' Town of Apex Public Utility Easement** BM 2018 PG 1041-1051 as shown on the **Subdivision Plat** hereinafter referred to as the **"Public Utility Easement."**

WHEREAS, Grantees wish to install certain improvements, more particularly described as a **fence that will encroach 370 square feet (SF) onto the Public Utility Easement**, which serves the Residential Lot, hereinafter referred to as the "**Encroachment**," all as shown on the attached **Exhibit A**. Grantees desire to make certain agreements and covenants regarding the Encroachment.

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WHEREAS, the Town, under the terms and conditions herein set forth, is willing to allow the abovedescribed Encroachment upon the **Public Utility Easement.**

NOW, THEREFORE, in consideration of these promises and other consideration, the receipt and sufficiency of which is hereby acknowledged, Grantees and the Town hereby covenant and agree:

1. Subject to the terms herein, the Town agrees to allow Grantees, and Grantees' successors and assigns at Grantees' sole risk and expense, to encroach into the **Public Utility Easement** of the Town as shown in the attached **Exhibit A**, and incorporated by reference as though fully set forth herein.

2. The Encroachment shall not be enlarged or increased beyond the Encroachment shown in the **Exhibit A** and described in this Encroachment Agreement. Grantees are responsible for any and all expenditures of labor or materials required for the installation, erection, repair, removal, or maintenance of the above-referenced Encroachment.

3. Grantees are to be fully responsible for any and all property damage or injury or death of any person which results from any and all negligence, omission, defect in design, maintenance, or workmanship created by the Encroachment described herein, or any cause of action arising out of the installation, maintenance, removal, destruction, or location of said Encroachment.

4. Grantees agree to and do hereby hold the Town, its officers, council members and employees harmless from any and all liability arising out of such negligence, omission, defect or other cause of action; that it will defend the Town, its officers, council members and employees, and pay all attorney fees in any and all actions brought as a result of such; and that it will indemnify the Town, its officers, council members, and employees against any and all loss sustained by reason of such negligence, omission, defect, or other cause of action, claim, cost, or expense arising out of the installation, maintenance, removal, or location of said Encroachment.

5. Sections 3 and 4 shall survive the termination of this Encroachment Agreement for any reason.

6. All notices required herein shall be deemed given by depositing such in the United States mail, first class, and addressed to:

To Town: Town Manager Town of Apex PO Box 250 Apex, NC 27502

To Grantees: Colin John McGinley and spouse Melissa Beth McGinley 1849 Rothesay Drive Apex, NC 27502

7. In the event there is a dispute between the parties concerning the interpretation of the terms of this Encroachment Agreement or their respective rights and obligations hereunder, such dispute or controversy shall be adjudged pursuant to the laws of the State of North Carolina.

8. Grantees agree to abide by all applicable laws, regulations, statutes and ordinances.

9. This Encroachment Agreement shall not divest the Town of any rights or interest in said **Public Utility Easement** and the Town may terminate this Encroachment Agreement by giving Grantees ninety (90) days written notice of termination. Prior to the termination date, Grantees shall remove, at their own expense, all or part of the Encroachment as specified by the Town.

10. If the Town deems, within its sole discretion, that there is not time to give Grantees notice as provided in Paragraph 9 and that removal of the Encroachment is necessary in order to operate, protect, maintain, modify, replace, add-to or improve its facilities located within the **Public Utility Easement**, then no notice shall be required and the Town may remove the Encroachment from the **Public Utility Easement** without cost, risk or liability to the Town.

11. Grantees agree to pay and reimburse the Town the entire expense and cost of removal of the Encroachment in the event that the Town removes the Encroachment as provided in Paragraph 10 or if Grantees fail to remove the Encroachment within the time limit after receiving notice under Paragraph 9.

12. Grantees, if not self-performing the installations that are the subject of this Agreement, agree to purchase or cause to be procured from a responsible insurance carrier or carriers authorized under the laws of the State of North Carolina, valid general liability insurance in the minimum amount of \$500,000 and provide a certificate of such insurance naming the Town of Apex as additional insured by endorsement to the policy. Where the Grantees are self-performing the installations, Grantees shall show proof of homeowner's insurance with personal liability coverage in a minimum amount of at least \$300,000. Grantees shall provide notice of cancellation, non-renewal or material change in coverage to the Town of Apex within 10 days of their receipt of notice from the insurance company.

13. Notwithstanding Section 14 below, Grantees shall be released from its obligation under this Encroachment Agreement only upon the assumption of said obligations either by a successor in title to real property known as **Wake County PIN #0721-35-3663**, **1849 Rothesay Drive, Apex, NC 27502.** The Town's consent to such assumption and release shall be required but shall not be withheld, conditioned or delayed if, as reasonably determined by the Town, the party assuming Grantees' obligations possesses adequate financial resources and ownership interest, and Grantees' delegate and proposed assignee assume and agree to fulfill, in writing, all of Grantees' duties set forth in this Encroachment Agreement.

14. The right to encroach is appurtenant to and runs with the land hereinabove referred to and shall forever be subject to the conditions above agreed on between the parties. This Encroachment Agreement is binding upon the heirs, assigns, transferees, and successors in interest of the Grantees and shall, upon execution, be recorded in the Office of the Register of Deeds of Wake County, North Carolina.

[REMAINDER OF PAGE INTENTIONALLY LEFT BLANK]

In testimony whereof, said Grantees and said Town have here unto set their hands and seals, the day and year first above written.

GRANTEES By: Colin John McGinley Bv: Melissa Beth McGinley

STATE OF NORTH CAROLINA COUNTY OF Walk [county in which acknowledgement taken]

I, do hereby certify that <u>Colin John McGinley</u>, personally appeared before me this day and acknowledged the due execution of the foregoing instrument.

Witness my hand and official stamp or seal, this 12 day of 2022. [\$ignature of Notary Public] My Commission Expires:



STATE OF NORTH CAROLINA

_____ [county in which acknowledgement taken]

I, do hereby certify that <u>Melissa Beth McGinley</u>, personally appeared before me this day and acknowledged the due execution of the foregoing instrument.

uch, 2022. Witness my hand and official stamp or seal, this day of [Signature of Notary Public] vil 08 2024 My Commission Expires: 41010000000000000
TOWN OF APEX

Catherine Crosby Town Manager

(Corporate Seal)

ATTEST:

Julie A. Reid Interim Town Clerk

STATE OF NORTH CAROLINA

COUNTY OF _____ [county in which acknowledgement taken]

I, ______, a Notary Public of ______ County, North Carolina, certify that Julie A. Reid personally came before me this day and acknowledged that she is Interim Town Clerk of the Town of Apex, a North Carolina Municipal Corporation, and that by authority duly given and as the act of the corporation, the foregoing instrument was signed in its name by its Town Manager, sealed with its corporate seal and attested by her as its Interim Town Clerk.

Witness my hand and official stamp or seal, this _____ day of _____, 2022.

[Signature of Notary Public]

(Seal)

My Commission Expires: _____



Bateman Civil Survey Company

Engineers • Surveyors • Planners

2524 Reliance Avenue, Apex, NC 27539 Ph: 919.577.1080 Fax: 919.577.1081 www.batemancivilsurvey.com info@batemancivilsurvey.com NCBELS Firm No. C-2378

Fence will encroach 370 Square Feet (SF) onto the 40' Town of Apex

THIS MAP MAY NOT BE A CERTIFIED SURVEY AND HAS NOT BEEN REVIEWED BY A LOCAL GOVERNMENT AGENCY FOR COMPLIANCE WITH ANY APPLICABLE LAND DEVELOPMENT **REGULATIONS AND HAS NOT BEEN REVEIWED** FOR COMPLIANCE WITH RECORDING **REQUIREMENTS FOR PLATS.**

BUCKHORN PRESERVE - PHASE 3B - LOT 280 1849 ROTHESAY DRIVE, APEX, NC **BUCKHORN TOWNSHIP, WAKE COUNTY**

DATE: 12/29/21 DRAWN BY: HTC CHECKED BY: SPC

REFERENCE: BM 2020, PGS 87-90

PROJECT# 180320

SCALE: 1"=20'

|Agenda Item | cover sheet

for consideration by the Apex Town Council

Item Type:CONSENT AGENDAMeeting Date:April 12, 2022

<u>Item Details</u>

Presenter(s): Matt Echols, PE, Utilities Engineer

Department(s): Water Resources

Requested Motion

Motion to adopt the enclosed resolution to apply for an Asset Inventory and Assessment (AIA) grant from the NC Division of Water Infrastructure (DWI).

Approval Recommended?

Yes

<u>Item Details</u>

DWI's administration of American Rescue Plan Act (ARPA) funds allocated \$77.6M to fund AIAs and other studies for public water and wastewater utilities. Up to \$400,000 per applicant is available as 100% grant funding. If awarded, the town will use these funds to conduct a Sanitary Sewer Evaluation Survey (SSES). The SSES will identify problem areas in the sewer collection system and help staff proactively plan for future capital improvements to the collection system.

<u>Attachments</u>

• 02 Apex Sewer AIA Resolution



Resolution No. 22-

RESOLUTION BY TOWN COUNCIL OF THE TOWN OF APEX

WHEREAS. The Federal Clean Water Act Amendments of 1987 and the North Carolina the Water Infrastructure Act of 2005 (NCGS 159G) have authorized the making of loans and grants to aid eligible units of government in financing the cost of construction of wastewater treatment works, wastewater collection system, stream restoration, stormwater treatment, drinking water treatment works, and/or drinking water distribution system or other "green" project, and

WHEREAS, The Town of Apex has need for and intends to develop asset inventories, condition assessment of critical assets, and other components of a comprehensive asset management program for their sewer system, and

WHEREAS, The Town of Apex intends to request state grant assistance for the project.

NOW THEREFORE BE IT RESOLVED, BY THE TOWN COUNCIL OF THE TOWN OF **APEX:**

- 1. That the Town of Apex, the Applicant, will arrange financing for all remaining costs of the project, if approved for a State grant award.
- 2. That the **Applicant** will provide for efficient completion of the project per program guidelines.
- 3. That Catherine Crosby, the Authorized Official, and successors so titled, are hereby authorized to execute and file an application on behalf of the Applicant with the State of North Carolina for a grant to aid in the construction of the project described above.
- 4. That the Authorized Official, and successors so titled, are hereby authorized and directed to furnish such information as the appropriate State agency may request in connection with such application or the project: to make the assurances as contained above; and to execute such other documents as may be required in connection with the application.
- 5. That the **Applicant** has substantially complied or will substantially comply with all Federal, State, and local laws, rules, regulations, and ordinances applicable to the project and to Federal and State grants and loans pertaining thereto.

Upon motion duly made by Council Member _ and duly seconded by Council Member ______, the above Resolution was duly adopted by the Town Council of the Town of Apex, North Carolina at a meeting held on the 18th day of April, 2022.

Jacques Gilbert, Mayor

|Agenda Item | cover sheet

for consideration by the Apex Town Council

Item Type: CONSENT AGENDA Meeting Date: April 12, 2022

<u>Item Details</u>

Presenter(s): Marty Stone, PE, Assistant Town Manager

Department(s): Administration

Requested Motion

Motion to amend the electric / finance policies to remove the solar capacity limit.

Approval Recommended?

Yes

Item Details

In order for the town to continue providing billing options that encourage solar, staff recommends removing the solar capacity limit of 5% of the town's peak load for the prior calendar year from both the Bilateral Metering for Renewable Energy Facilities Credit Rider and the Net Metering for Renewable Energy Facilities Rider.

<u>Attachments</u>

- Bilateral Metering for Renewable Energy Facilities Credit Rider- amended
- Net Metering for Renewable Energy Facilities Rider- amended



TOWN OF APEX

BILATERAL METERING FOR RENEWABLE ENERGY FACILITIES CREDIT RIDER

AVAILABILITY

This Rider is available in conjunction with any of the Town's Electric Rate Schedules to Customers who operate a photovoltaic, wind-powered, or biomass-fueled generating system, without battery storage, located and used at the Customer's primary residence or business where a part or all of the electrical requirements of the Customer can be supplied from the Customer's generating system. Bilateral Metering utilizes two meters. The Utility meter may be on any of the Town's TOU or non-TOU Electric Rate Schedules, and the Customer's Generating System meter shall be set up on the same rate schedule as the utility meter. The rated capacity of the generating system shall not exceed the lesser of the Customer's estimated maximum annual kilowatt demand or 20 kilowatts for a residential system or 100 kilowatts for a non-residential system. The generating system that is connected in parallel operation with service from the Town and located on the Customer's premises must be manufactured, installed, and operated in accordance with governmental and industry standards and must fully conform with the Town's applicable renewable energy interconnecting interface criteria. Customers with qualified systems may apply for NC Green Power credits.

This Rider is available on a first come, first serve basis, except that the aggregate capacity of all of the Customergenerators shall not exceed 5% of the Town's retail peak load for the prior calendar year.

TYPE OF SERVICE

This Rider is applicable to all electric service of the same available type supplied to Customer's premises at one point of delivery.

MONTHLY CREDIT

An amount computed under this rider based on the amount of energy delivered to the Town during specific times as stated below.

- I. For electric service under only either a Residential time-of use (TOU) schedule or Small General Service time-of use (TOU) schedule per the respective schedule:
 - 1. The Customer will receive credit for all **on-peak** kWh delivered to the Town during the current month at a rate of \$0.095 per kWh. In no case shall the on-peak kWh billed be less than zero.
 - 2. The Customer will receive credit for all **off-peak** kWh delivered to the Town during the current month at a rate of \$0.041 per kWh. In no case shall the off-peak kWh billed be less than zero.
 - 3. In no event will energy delivered to the Town be used to offset purchases in a different period or a different season.
- II. For electric service under only either a Medium General Service time-of use (TOU) schedule or Large General Service time-of use (TOU) schedule as per the respective schedule, all kWh is billed at the same rate regardless of the time of day or the time of year.

DEFINITIONS

- 1. The on-peak and off-peak periods and seasons shall be defined in the applicable time-of-use rate schedule.
 - All participators in the Bilateral Metering For Renewable Energy Facilities Credit Rider that have any Residential Rate Schedule shall use the Residential Service Time-of-Use Rate Schedule to determine on-peak and off-peak times if they opt to use the time of use schedule.-
 - All participants in the Bilateral Metering For Renewable Energy Facilities Credit Rider that have any Small Commercial Rate Schedule shall use the Small General Service Time-of-Use Rate Schedule to determine on-peak and off-peak times if they opt to use the time of use schedule.
 - All participants in the Bilateral Metering For Renewable Energy Facilities Credit Rider that have any Medium Commercial Rate Schedule shall use the Medium General Service Time-of-Use Rate Schedule to determine on-peak and off-peak times if they opt to use the time of use schedule.
 - All participants in the Bilateral Metering For Renewable Energy Facilities Credit Rider that have any Large Commercial Rate Schedule shall use the Large General Service Time-of-Use Rate Schedule to determine on-peak and off-peak times if they opt to use the time of use schedule.

SPECIAL CONDITIONS

- 1. The Customer must complete any applicable alternative energy interconnection request ("Application") and submit same to the Town of Apex prior to receiving service under this Rider.
- 2. The Customer's service shall be metered with two meters the Utility Meter and the Customer's Generating System Meter. The Utility meter may be on any of the Town's TOU (Time-of-Use) or non-TOU Electric Rate Schedules, and the Customer's Generating System meter shall be set on the same rate schedule as the utility meter. For this service, the Basic Customer Charge is that of the applicable Electric Rate Schedule with charges for on-peak and off-peak determined as described in the section above titled "Monthly Credit" instead of by the applicable TOU Electric Rate Schedule.
- 3. In the event the Town determines that it is necessary to install a dedicated transformer or other equipment to protect the safety and adequacy of electric service provided to other customers, the Customer shall pay a Monthly Facilities Charge of 2% of the total installed cost of the additional facilities except that the Monthly Facilities Charge cannot be less than \$25.00.
- 4. The Town reserves the right to test the Customer's alternative energy generator for compliance with the applicable interface criteria. Should it be determined that Customer's installation is in violation the Town will disconnect the alternative energy generator from the Town's distribution system and it will remain disconnected until the installation is brought into compliance.

CONTRACT PERIOD

The Contract Period for service under this Rider shall be one year and thereafter shall be renewed for successive oneyear periods. After the initial period, Customer may terminate service under this Rider by giving at least sixty (60) days previous notice of such termination in writing to the Town.

The Town may terminate service under this Rider at any time upon written notice to Customer. In the event that Customer violates any of the terms or conditions of this Rider, or operates the generating system in a manner which is detrimental to the Town or its customers, service under this Rider may be terminated immediately.

Effective with billing after January 20, 2009.

TOWN OF APEX

NET METERING FOR RENEWABLE ENERGY FACILITIES RIDER

AVAILABILITY

This Rider is available in conjunction with any of the Electric Rate Schedules to Customers who operate a photovoltaic, wind-powered, or biomass-fueled generating system, without battery storage, located and used at the Customer's primary residence or business where a part or all of the electrical requirements of the Customer can be supplied from the Customer's generating system. Net Metering utilizes one meter which shall be on any of the Town's Electric Rate Schedules with charges for on-peak and off-peak determined as described in the section below titled "Monthly Credit" if on a Time of Use rate schedule. The rated capacity of the generating system shall not exceed 20 kilowatts for a residential system or 100 kilowatts for a non-residential system. The generating system that is connected in parallel operation with service from the Town and located on the Customer's premises must be manufactured, installed, and operated in accordance with governmental and industry standards and must fully conform with the Town's applicable renewable energy interconnecting interface criteria. Net metering systems may not apply for NC Green Power credits.

This Rider is available on a first come, first serve basis, except that the aggregate capacity of all of the Customergenerators shall not exceed 5% of the Town's retail peak load for the prior calendar year.

TYPE OF SERVICE

This Rider is applicable to all electric service of the same available type supplied to Customer's premises at one point of delivery.

MONTHLY BILLING

An amount computed under the applicable rate schedule and any other applicable riders with which this Rider is used, as adjusted to reflect excess energy delivered to Town as follows:

- I. For electric service under only either a Residential time-of use (TOU) schedule or Small General Service time-of use (TOU) schedule per the respective schedule:
 - 1. Customer's on-peak usage for service rendered shall be reduced by the sum of (a) any on-peak excess energy delivered to Town in the current month plus (b) any accumulated on-peak excess energy balance from prior months. In no case shall the on-peak kWh billed be less than zero.
 - 2. Customer's off-peak usage for service rendered shall be reduced by the sum of (a) any off-peak excess energy delivered to Town in the current month plus (b) any accumulated off-peak excess energy balance from prior months plus (c) any accumulated on-peak excess energy balance in the current or prior months that was not used to reduce on-peak usage. In no case shall the off-peak kWh billed be less than zero.
 - 3. Customer's on-peak and off-peak demands for service rendered shall be billed pursuant to the applicable schedule. In months when demand charges are prorated based upon seasonal on-peak usage and the usage to be billed exceeds the excess energy available to reduce such usage, excess energy delivered to Town shall be used to reduce billed kWh usage based upon the ratio of on-peak energy consumed in each season.
 - 4. Excess energy not used in the current billing month to reduce billed kWh usage shall be accumulated and used to reduce usage in future months for as long as the customer maintains the account. There will be no compensation paid to Customer for excess energy granted to Town nor may credits be transferred to another customer.
- II. For electric service under only either a Medium General Service time-of use (TOU) schedule or Large General Service time-of use (TOU) schedule as per the respective schedule, all kWh is billed at the same rate regardless of the time of day or the time of year.

DEFINITIONS

1. The on-peak and off-peak periods and seasons shall be defined in the applicable time-of-use rate schedule.

All participators in the Net Metering For Renewable Energy Facilities Rider that have any Residential Rate Schedule shall use the Residential Service Time-of-Use Rate Schedule to determine on-peak and off-peak times if they opt to use the time of use schedule.

All participants in the Net Metering For Renewable Energy Facilities Rider that have any Small Commercial Rate Schedule shall use the Small General Service Time-of-Use Rate Schedule to determine on-peak and off-peak times if they opt to use the time of use schedule.

All participants in the Net Metering For Renewable Energy Facilities Rider that have any Medium Commercial Rate Schedule shall use the Medium General Service Time-of-Use Rate Schedule to determine on-peak and off-peak times if they opt to use the time of use schedule.

All participants in the Net Metering For Renewable Energy Facilities Rider that have any Large Commercial Rate Schedule shall use the Large General Service Time-of-Use Rate Schedule to determine on-peak and off-peak times if they opt to use the time of use schedule.

SPECIAL CONDITIONS

- 1. The Customer must complete an applicable alternative energy interconnection request ("Application") and submit same to the Town of Apex prior to receiving service under this Rider.
- 2. The Customer's service shall be metered with a TOU (Time-of-Use) meter if they opt to use the time of use schedule. For this service, the Basic Customer Charge is that of the applicable Electric Rate Schedule with charges for on-peak and off-peak determined as described in the section above titled "Monthly Credit" instead of by the applicable Electric Rate Schedule.
- 3. In the event the Town determines that it is necessary to install a dedicated transformer or other equipment to protect the safety and adequacy of electric service provided to other customers, the Customer shall pay a Monthly Facilities Charge of 2% of the total installed cost of the additional facilities except that the Monthly Facilities cannot be less than \$25.00.
- 4. The Town reserves the right to test the Customer's alternative energy generator for compliance with the applicable interface criteria. Should it be determined that Customer's installation is in violation the Town will disconnect the alternative energy generator from the Town's distribution system and it will remain disconnected until the installation is brought back into compliance.

CONTRACT PERIOD

The Contract Period for service under this Rider shall be one year and thereafter shall be renewed for successive oneyear periods. After the initial period, Customer may terminate service under this Rider by giving at least sixty (60) days previous notice of such termination in writing to the Town.

The Town may terminate service under this Rider at any time upon written notice to Customer. In the event that Customer violates any of the terms or conditions of this Rider, or operates the generating system in a manner which is detrimental to the Town or its customers, service under this Rider may be terminated immediately.

Effective with billing after August 7, 2013.

|Agenda Item | cover sheet

for consideration by the Apex Town Council

Item Type: CONSENT AGENDA Meeting Date: April 12, 2022

<u>Item Details</u>

Presenter(s): Vance Holloman, Finance Director

Department(s): Finance Department

Requested Motion

A motion to approve Budget Ordinance Amendment No. 18 which appropriates insurance proceeds to be used for the purchase of a replacement Police vehicle.

Approval Recommended?

Yes

<u>Item Details</u>

A 2017 Ford Explorer used by the Police Department was involved in an accident resulting in the vehicle being declared a total loss. The Town received insurance proceeds of \$21,877.which will be needed to partially fund the purchase of a replacement vehicle.

<u>Attachments</u>

• Budget Ordinance Amendment No. 18





Town of Apex Budget Ordinance Amendment No. 18

BE IT ORDAINED, by the Council of the Town of Apex that the following Budget Amendment for the Fiscal Year 2021-2022 Budget Ordinance be adopted:

GENERAL FUND

Section 1. Revenues:

Total Expenditures	\$21,877
Section 2. Expenditures: Police Department-Capitol Outlay-Vehicles	\$21,877
Total Revenues	\$21,877
Insurance Proceeds	\$21,877

Section 3. Within five (5) days after adoption, copies of this Amendment shall be filed with the Finance Officer and Town Clerk.

Adopted this the 12th day of April, 2022

Attest:

Jacques K. Gilbert, Mayor

Julie Reid, Interim Town Clerk

|Agenda Item | cover sheet

for consideration by the Apex Town Council

Item Type:CONSENT AGENDAMeeting Date:April 12, 2022

Item Details

Presenter(s): Dennis Brown, PE Senior Capital Projects Manager

Department(s): Administration

Requested Motion

Approval of Duke Energy Progress (DEP) easement and authorization for Town Manager to sign easement.

Approval Recommended?

Yes

<u>Item Details</u>

This easement is for the relocation of existing DEP electrical lines that currently span across the site to an underground location along the side of the road.

<u>Attachments</u>

- Duke Energy Progress Easement
- Duke Energy Easement Exhibit



Parcel # 0055788

Prepared by: Duke Energy Progress, LLC Return to: Duke Energy Progress, LLC Attn: Melissa West 1020 West Chatham Street Cary, NC 27511

EASEMENT

State of North Carolina

County of Wake

THIS EASEMENT ("**Easement**") is made this _____ day of ______ 20____, from **TOWN OF APEX**, a North Carolina municipal corporation ("**Grantor**", whether one or more), to **DUKE ENERGY PROGRESS**, LLC, a North Carolina limited liability company ("**Grantee**").

Grantor, for and in consideration of the sum of One and 00/100 Dollar (\$1.00) and other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, does hereby grant unto Grantee a perpetual and non-exclusive easement, to construct, reconstruct, operate, patrol, maintain, repair, replace, relocate, add to, modify, and remove electric and communication lines including, but not limited to, all necessary supporting structures, and all other appurtenant apparatus and equipment for the transmission and distribution of electrical energy, and for technological purposes related to the operation of the electric facilities and for the communication purposes of Incumbent Local Exchange Carriers (collectively, "**Facilities**"). Grantor is the owner of that certain property described <u>: 1</u>) as Tracts 1 and 2 in that instrument recorded in Deed Book 15835, Page 35; and 1) as Tract A in that instrument recorded in Deed Book 15835, Page 35; and 1) as Tract A in that instrument recorded in Deed Book 15835, Page 35; and 1) as Tract A in that instrument recorded in Deed Book 15835, Page 35; and 1) as Tract A in that instrument recorded in Deed Book 15835, Page 35; and 1) as Tract A in that instrument recorded in Deed Book 15835, Page 35; and 1) as Tract A in that instrument recorded in Deed Book to a plat, entitled "Progressive Farms, LLC & Hazel J. Pleasant" as recorded in Book of Maps 2014, Page 1359, Wake County Register of Deeds ("**Property**"). The Facilities shall be underground, except as needed on or above the ground to support the underground Facilities, and located in, upon, along, under, through, and across a portion of the Property within an easement area described as follows: A strip of land twenty feet (20') in uniform width, lying equidistant on both sides of a centerline, which centerline shall be established by the center of the Facilities as installed, along with an area ten feet (10') wide on all sides of the foundation of any Grantee enclosure/transformer, vault and/or manhole,

The rights granted herein include, but are not limited to, the following:

For Grantee's Internal Use: Work Order #: 39210265

1

- 1. Grantee shall have the right of ingress and egress over the Easement Area, Property, and any adjoining lands now owned or hereinafter acquired by Grantor (using lanes, driveways, and adjoining public roads where practical as determined by Grantee).
- 2. Grantee shall have the right to trim, cut down, and remove from the Easement Area, at any time or times and using safe and generally accepted arboricultural practices, trees, limbs, undergrowth, other vegetation, and obstructions.
- 3. Grantee shall have the right to trim, cut down, and remove from the Property, at any time or times and using safe and generally accepted arboricultural practices, dead, diseased, weak, dying, or leaning trees or limbs, which, in the opinion of Grantee, might fall upon the Easement Area or interfere with the safe and reliable operation of the Facilities.
- 4. Grantor shall not place, or permit the placement of, any structures, improvements, facilities, or obstructions, within or adjacent to the Easement Area, which may interfere with the exercise of the rights granted herein to Grantee. Grantee shall have the right to remove any such structure, improvement, facility, or obstruction at the expense of Grantor.
- 5. Excluding the removal of vegetation, structures, improvements, facilities, and obstructions as provided herein, Grantee shall promptly repair or cause to be repaired any physical damage to the surface area of the Easement Area and Property resulting from the exercise of the rights granted herein to Grantee. Such repair shall be to a condition which is reasonably close to the condition prior to the damage, and shall only be to the extent such damage was caused by Grantee or its contractors or employees.
- 6. Notwithstanding anything to the contrary above, the general location of the Facilities is shown on the sketch attached hereto as <u>Exhibit A</u> and incorporated herein by reference. The final and definitive location of the Easement Area shall become established by and upon the final installation and erection of the Facilities by Grantee in substantial compliance with Exhibit A.
- 7. All other rights and privileges reasonably necessary, in Grantee's sole discretion, for the safe, reliable, and efficient installation, operation, and maintenance of the Facilities.

The terms Grantor and Grantee shall include the respective heirs, successors, and assigns of Grantor and Grantee. The failure of Grantee to exercise or continue to exercise or enforce any of the rights herein granted shall not be construed as a waiver or abandonment of the right thereafter at any time, or from time to time, to exercise any and all such rights.

TO HAVE AND TO HOLD said rights, privilege, and easement unto Grantee, its successors, licensees, and assigns, forever. Grantor warrants and covenants that Grantor has the full right and authority to convey to Grantee this perpetual Easement, and that Grantee shall have quiet and peaceful possession, use and enjoyment of the same.

IN WITNESS WHEREOF , G, 20	rantor has signed this Easement under sea	al effective this day of
	TOWN OF APEX a North Carolina municipal corporat	ion
		(SEAL)
	Catherine Crosby, Town Mana	ager
Attest:		
, Town Cle	rk	
STATE OF		
COUNTY OF		
I,	_, a Notary Public of	County, State of
, certify th	hat personally appeared before	e me this day and acknowledged
that she is Town Clerk of the TOWN OF A	APEX, a North Carolina municipal corporation,	, and that by authority duly given
and as the act of said TOWN, the foregoin	g EASEMENT was signed in its name by its	Town Manager, sealed with
its official seal, and attested by herself as i	ts Town Clerk.	
Witness my hand and notarial seal, this	day of, 20	
	Notary Public:	
(Notary Seal)	Commission expires:	



|Agenda Item | cover sheet

for consideration by the Apex Town Council

Item Type: CONSENT AGENDA Meeting Date: April 12, 2022

Item Details

Presenter(s): Matt Echols, PE, Utilities Engineer

Department(s): Water Resources

Requested Motion

Motion to award a sewer rehabilitation contract to Pipeline Utilities, Inc and to authorize the Town Manager to execute the contract on behalf of the Town and approve Budget Ordinance Amendment 17 and Capital Project Ordinance Amendment 2022-03.

Approval Recommended?

Yes

<u>ltem Details</u>

The Town received two bids for the Lawrence Crossing Sewer Outfall Replacement Project on the original bid date of February 1, 2022. The second bid date of February 10, 2022 also received two bids. Pipeline Utilities, Inc of Raleigh, North Carolina, was the low bidder with a total bid price of \$1,281,000.00. The Town's engineering consultant for the project, Hydrostructures, PA, recommends awarding the contract to Pipeline Utilities, and staff agrees with this recommendation.

This project is funded in the FY20/21 departmental budget and by the proposed budget amendment. The current available balance for the project is \$1,031,306 was based on the Engineer's Report from June 2020. Due to an increase in construction costs based on current volatile market conditions, the bid exceeded the original budget amount. The proposed \$300,000 transfer will cover this difference.

<u>Attachments</u>

- 02 Budget Ordinance Amendment 17
- 03 Capital Project Ordinance Amendment 2022-03
- 04 Recommendation of Award
- 05 Certified Bid Tab
- 06 Notice of Award
- 07 Pipeline Utilities Bid Package and Good Faith Efforts
- 08 Agreement (For Reference Only Do

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- Page 485 -



Town of Apex Budget Ordinance Amendment No. 17

BE IT ORDAINED, by the Council of the Town of Apex that the following Budget Amendment for the Fiscal Year 2021-2022 Budget Ordinance be adopted:

Water & Sewer Fund

Section 1. Revenues:

Appropriated Fund Balance	\$300,000
Total Revenues	\$300,000
Section 2. Expenditures:	
Transfer to Water & Sewer Capital Project Fund	\$300,000
Total Expenditures	\$300,000

Section 5. Within five (5) days after adoption, copies of this Amendment shall be filed with the Finance Officer and Town Clerk.

Adopted this the 12th day of April, 2022.

Attest:

Jacques K. Gilbert, Mayor

Julie Reid, Interim Town Clerk



65 - Water & Sewer Capital Project Fund

BE IT ORDAINED, by the Council of the Town of Apex that the Capital Project Ordinance previously entitled "Water & Sewer Capital Project Fund" be amended as follows:

Section 1. The revenues anticipated for the projects are:

300,000
\$300,000

Section 2. The expenditures anticipated are:

Total Expenditures	\$300,000
47761: Lawrence Crossing Sewer Rehab	300,000

Section 3. Within five (5) days after adoption, copies of this Amendment shall be filed with the Finance Officer and Town Clerk.

Adopted this the 12th day of April, 2022.

Attest:

Jacques K. Gilbert, Mayor

Julie Reid, Interim Town Clerk

February 15, 2022

Matt Echols, P.E. Town of Apex Water Resources Department 105-B Upchurch Street Apex, NC 27502

Re: Recommendation of Award Lawrence Crossing Sewer Outfall Replacement Town of Apex, North Carolina 27502

Dear Mr. Echols:

Sealed bids for the Lawrence Crossing Sewer Outfall Replacement Project were originally advertised for submittal on February 1, 2022. Only two bids were submitted on this date, so they were returned to the bidders and the project was re-advertised in an effort to attract more bidders.

The second Bid date was set for February 10, 2022, at 2 p.m. Two bids were received and opened; they are detailed on the attached Certified Bid Tabulation. A summary of the bids follows:

BIDDER	TOT	TAL BID PRICE
Pipeline Utilities, Inc.	\$	1,281,000.00
T.A. Loving Company	\$	1,325,250.00

Pipeline Utilities (NCGC# 13040) is currently licensed in North Carolina. They hold an Unlimited, Unclassified License which qualifies them to complete all the work included in this project. The required submittals outlined in the bid proposal appear to be in order and contain no deviations. Therefore, Hydrostructures recommends award of this project to Pipeline Utilities, Inc. in the amount of \$1,281,000.00.

If you have any questions, please feel free to contact me.

Sincerely, Hydrostructures, PA

Decky

Becky Smith, P.E. Project Engineer

Side Co

Attachments: Certified Bid Tabulation

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Lawrence Crossing Sewer Outfall Replacement

				TA	Loving	Pipeline	Utilities, Inc
ltem No.	Description	Unit	Estimated Quantity	Bid Unit Price	Bid Price	Bid Unit Price	Bid Price
	Sewer Main Replacement						
1	Mobilization [Max. 3% of Base Bid]	LS	1	\$39,500.00	\$39,500.00	\$37,000.00	\$37,000.00
2	Open-cut Installation of 8-inch C900 DR18	LF	660	\$155.00	\$102,300.00	\$125.00	\$82,500.00
3	Open-cut Installation of 12-inch C900 DR18	LF	1,230	\$200.00	\$246,000.00	\$141.00	\$173,430.00
4	Open-cut Installation of 12-inch DIP Class 350	LF	192	\$235.00	\$45,120.00	\$128.00	\$24,576.00
5	Open-cut Installation of 18-inch C905 DR18	LF	270	\$315.00	\$85,050.00	\$285.00	\$76,950.00
6	Bore and Jack 16-Inch Casing	LF	30	\$1,500.00	\$45,000.00	\$1,110.00	\$33,300.00
7	Install New 4-foot Dia. Manhole (8'-12' Deep)	EA	4	\$7,000.00	\$28,000.00	\$6,600.00	\$26,400.00
8	Install New 5-foot Dia. Manhole (0'-8' Deep)	EA	1	\$8,900.00	\$8,900.00	\$6,500.00	\$6,500.00
9	Install New 5-foot Dia. Manhole (8'-16' Deep)	EA	4	\$13,000.00	\$52,000.00	\$11,900.00	\$47,600.00
10	Install New 5-foot Dia. Composite Manhole (Proposed MH9)	LS	1	\$50,000.00	\$50,000.00	\$39,000.00	\$39,000.00
11	İnstall New 6-foot Dia. Manhole (8'-16' Deep)	EA	1	\$17,500.00	\$17,500.00	\$13,500.00	\$13,500.00
12	Abandon Existing Manhole In-Place	EA	12	\$1,250.00	\$15,000.00	\$1,928.00	\$23,136.00
13	Abandon Existing Manhole by Removal	EA	3	\$2,500.00	\$7,500.00	\$1,928.00	\$5,784.00
14	Connect New Sewer Main to Existing Manhole	EA	2	\$2,500.00	\$5,000.00	\$4,500.00	\$9,000.00
15	Transfer / Reroute / Extend Service Lateral and Connect to New Manhole	EA	3	\$3,000.00	\$9,000.00	\$1,730.00	\$5,190.00
16	Transfer / Reroute / Extend Service Lateral and Connect to New Sewer Main	EA	11	\$3,600.00	\$39,600.00	\$2,340.00	\$25,740.00
17	Install Cleanout on Service Lateral	EA	10	\$500.00	\$5,000.00	\$511.00	\$5,110.00
18	Connect Existing Force Main to Proposed Manhole 9.	LS	1	\$6,432.50	\$6,432.50	\$3,900.00	\$3,900.00
19	Plug Existing Sewer Main Inside Existing Manhole	EA	2	\$2,000.00	\$4,000.00	\$750.00	\$1,500.00
20	Cementitious Lining of Existing Manhole (1- inch thickness)	VF	15.5	\$900.00	\$13,950.00	\$900.00	\$13,950.00
21	Cementitious Lining of Existing Manhole (2- inch thickness)	VF	7.5	\$2,075.00	\$15,562.50	\$2,074.00	\$15,555.00
22	Bypass Pumping	LS	1	\$150,000.00	\$150,000.00	\$150,000.00	\$150,000.00
23	Allowance for Miscellaneous Utility Adjustments	N/A	1	N/A	\$25,000.00	N/A	\$25,000.00
	Site Work					4	
24	Asphalt Cut & Patch Town Road	SY	780	\$65.00	\$50,700.00	\$115.00	\$89,700.00
25	Asphalt Cut & Patch NCDOT Road (5" 119.0B)	SY	40	\$150.00	\$6,000.00	\$231.00	\$9,240.00
26	Asphalt Milling and Final Overlay NCDOT (Mill 1.5", 1.5" S9.5A Overlay)	SY	200	\$30.00	\$6,000.00	\$39.00	\$7,800.00
27	Concrete Sidewalk Replacement	SY	150	\$100.00	\$15,000.00	\$94.00	\$14,100.00
28	Concrete Curb and Gutter Replacement	LF	100	\$75.00	\$7,500.00	\$61.00	\$6,100.00
29	Flowable Fill	CY	100	\$300.00	\$30,000.00	\$410.00	\$41,000.00
30	Exploratory Excavation (up to 4' x 4' Pit)	EA	4	\$2,500.00	\$10,000.00	\$975.00	\$3,900.00

Lawrence Crossing Sewer Outfall Replacement

		TA Loving Pipe		TA Loving		Pipeline	eline Utilities, Inc	
ltem No.	Description	Unit	Estimated Quantity	Bid Unit Price	Bid Price	Bid Unit Price	Bid Price	
31	Remove and Replace Existing Residential Privacy Fence	LF	50	\$60.00	\$3,000.00	\$32.00	\$1,600.00	
32	Temporary Stream Pump Around	EA	1	\$10,000.00	\$10,000.00	\$6,300.00	\$6,300.00	
33	Undercut Pipe Trench and Replace with No. 67 Stone for Pipe Foundation	СҮ	100	\$60.00	\$6,000.00	\$84.00	\$8,400.00	
34	Select Backfill	CY	300	\$30.00	\$9,000.00	\$65.00	\$19,500.00	
35	Rock Excavation Mechanical method	CY	50	\$350.00	\$17,500.00	\$387.00	\$19,350.00	
36	Stream Bank Stabilization Class II Rip Rap	TON	10	\$100.00	\$1,000.00	\$129.00	\$1,290.00	
37	Install Rock Check Dam	EA	20	\$300.00	\$6,000.00	\$245.00	\$4,900.00	
38	Wattle Inlet Protection Device	EA	40	\$125.00	\$5,000.00	\$236.00	\$9,440.00	
39	Erosion Control slope and ditch stabilization matting	SY	220	\$5.00	\$1,100.00	\$4.00	\$880.00	
40	Traffic and Pedestrian Control	LS	1	\$66,035.00	\$66,035.00	\$98,000.00	\$98,000.00	
41	Tree Protection Fencing	LF	3000	\$4.50	\$13,500.00	\$3.00	\$9,000.00	
42	Stabilized Construction Entrance	EA	2	\$2,000.00	\$4,000.00	\$4,900.00	\$9,800.00	
43	Clearing & Grubbing	LS	1	\$7,500.00	\$7,500.00	\$49,000.00	\$49,000.00	
44	Cleanup & Seeding (Min. 5% of Total Bid Items (#2, #3, #4 and #5)	LS	1	\$30,000.00	\$30,000.00	\$22,079.00	\$22,079.00	
45	Allowance for 3 rd Party Vibration Monitoring and Soil Compaction Testing	N/A	1	N/A	\$5,000.00	N/A	\$5,000.00	
	Total of All Unit Price Bid Items (1-45)				\$1,325,250.00		\$1,281,000.00	

Bids Certified By: Leberca Smith

Rebecca L. Smith, PE

1911199999 CARO OZ-

Date: 2.14.22



NORTH CAROLINA LICENSING BOARD FOR GENERAL CONTRACTORS

Pipeline Utilities, Inc. Name: Number: 13040 Valid Status: Last Renewal Date: 2022-01-01 Address: 2204 Associate Dr Ste F City: Raleigh State: NC Zip: 27603-8125 County: WAKE Telephone: (919) 772-4310 limitation: Unlimited Classifications : Unclassified Johnny Blankenship Qualifiers : Marshall David Moser, II Dana Mason Kenyon

Lawrence Crossing Sewer Outfall Replacement

TA Loving Pipeline Utilities, Inc ltem Estimated **Bid Unit Bid Unit** Unit Description **Bid Price Bid Price** Quantity Price Price No. Sewer Main Replacement 1 Mobilization [Max. 3% of Base Bid] LS 1 \$39,500.00 \$39,500.00 \$37,000.00 \$37,000.00 Open-cut Installation of 8-inch C900 DR18 2 LF 660 \$155.00 \$102,300.00 \$125.00 \$82,500.00 3 Open-cut Installation of 12-inch C900 DR18 LF 1,230 \$200.00 \$246,000.00 \$141.00 \$173,430.00 4 Open-cut Installation of 12-inch DIP Class 350 LF 192 \$235.00 \$45,120.00 \$128.00 \$24,576.00 LF 5 Open-cut Installation of 18-inch C905 DR18 270 \$315.00 \$85,050.00 \$285.00 \$76,950.00 Bore and Jack 16-Inch Casing LF 30 \$1,500.00 6 \$45,000.00 \$1,110.00 \$33,300.00 7 Install New 4-foot Dia. Manhole (8'-12' Deep) EA 4 \$7,000.00 \$28,000.00 \$6,600.00 \$26,400.00 Install New 5-foot Dia. Manhole (0'-8' Deep) EA 1 8 \$8,900.00 \$8,900.00 \$6,500.00 \$6,500.00 9 Install New 5-foot Dia. Manhole (8'-16' Deep) 4 EA \$13,000.00 \$52,000.00 \$11,900.00 \$47,600.00 Install New 5-foot Dia. Composite Manhole 10 LS 1 \$50,000.00 \$50,000.00 \$39,000.00 \$39,000.00 (Proposed MH9) Install New 6-foot Dia. Manhole (8'-16' Deep) \$17,500.00 11 EA 1 \$17,500.00 \$13,500.00 \$13,500.00 Abandon Existing Manhole In-Place EA 12 12 \$1,250.00 \$15,000.00 \$1,928.00 \$23,136.00 13 Abandon Existing Manhole by Removal EA 3 \$2,500.00 \$7,500.00 \$1,928.00 \$5,784.00 14 Connect New Sewer Main to Existing Manhole EA 2 \$2,500.00 \$5,000.00 \$4,500.00 \$9,000.00 Transfer / Reroute / Extend Service Lateral and EA 3 \$3,000.00 15 \$9,000.00 \$1,730.00 \$5,190.00 Connect to New Manhole Transfer / Reroute / Extend Service Lateral and 16 EA 11 \$3,600.00 \$39,600.00 \$2,340.00 \$25,740.00 Connect to New Sewer Main 17 Install Cleanout on Service Lateral EA 10 \$500.00 \$5,000.00 \$511.00 \$5,110.00 Connect Existing Force Main to Proposed 18 1 LS \$6,432.50 \$6,432.50 \$3,900.00 \$3,900.00 Manhole 9. Plug Existing Sewer Main Inside Existing 19 EA 2 \$2,000.00 \$4,000.00 \$750.00 \$1,500.00 Manhole Cementitious Lining of Existing Manhole (1- inch VF 20 15.5 \$900.00 \$13,950.00 \$900.00 \$13,950.00 thickness) Cementitious Lining of Existing Manhole (2- inch VF 21 7.5 \$2,075.00 \$15,562.50 \$2,074.00 \$15,555.00 thickness) Bypass Pumping 22 LS 1 \$150,000.00 \$150,000.00 \$150,000.00 \$150,000.00 23 Allowance for Miscellaneous Utility Adjustments N/A 1 N/A \$25,000.00 N/A \$25,000.00 Site Work 24 Asphalt Cut & Patch Town Road SY \$65.00 780 \$50,700.00 \$115.00 \$89,700.00 25 Asphalt Cut & Patch NCDOT Road (5" 119.0B) SY 40 \$150.00 \$6,000.00 \$231.00 \$9,240.00 Asphalt Milling and Final Overlay NCDOT (Mill 26 SY 200 \$30.00 \$6,000.00 \$39.00 \$7,800.00 1.5", 1.5" S9.5A Overlay) 27 Concrete Sidewalk Replacement SY 150 \$100.00 \$15,000.00 \$94.00 \$14,100.00 28 Concrete Curb and Gutter Replacement LF 100 \$75.00 \$7,500.00 \$61.00 \$6,100.00 Flowable Fill CY 100 29 \$300.00 \$30,000.00 \$410.00 \$41,000.00 30 Exploratory Excavation (up to 4' x 4' Pit) ËA 4 \$2,500.00 \$10,000.00 \$975.00 \$3,900.00

Lawrence Crossing Sewer **Outfall Replacement**

·				TA Loving		Pipeline	Utilities, Inc
ltem No.	Description	Unit	Estimated Quantity	Bid Unit Price	Bid Price	Bid Unit Price	Bid Price
31	Remove and Replace Existing Residential Privacy Fence	LF	50	\$60.00	\$3,000.00	\$32.00	\$1,600.00
32	Temporary Stream Pump Around	EA	1	\$10,000.00	\$10,000.00	\$6,300.00	\$6,300.00
33	Undercut Pipe Trench and Replace with No. 67 Stone for Pipe Foundation	сү	100	\$60.00	\$6,000.00	\$84.00	\$8,400.00
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35	Rock Excavation Mechanical method	CY	50	\$350.00	\$17,500.00	\$387.00	\$19,350.00
36	Stream Bank Stabilization Class II Rip Rap	TON	10	\$100.00	\$1,000.00	\$129.00	\$1,290.00
37	Install Rock Check Dam	EA	20	\$300.00	\$6,000.00	\$245.00	\$4,900.00
38	Wattle Inlet Protection Device	EA	40	\$125.00	\$5,000.00	\$236.00	\$9,440.00
39	Erosion Control slope and ditch stabilization matting	SY	220	\$5.00	\$1,100.00	\$4.00	\$880.00
40	Traffic and Pedestrian Control	LS	1	\$66,035.00	\$66,035.00	\$98,000.00	\$98,000.00
41	Tree Protection Fencing	LF	3000	\$4.50	\$13,500.00	\$3.00	\$9,000.00
42	Stabilized Construction Entrance	EA	2	\$2,000.00	\$4,000.00	\$4,900.00	\$9,800.00
43	Clearing & Grubbing	LS	1	\$7,500.00	\$7,500.00	\$49,000.00	\$49,000.00
44	Cleanup & Seeding (Min. 5% of Total Bid Items (#2, #3, #4 and #5)	LS	1	\$30,000.00	\$30,000.00	\$22,079.00	\$22,079.00
45	Allowance for 3 rd Party Vibration Monitoring and Soil Compaction Testing	N/A	1	N/A	\$5,000.00	N/A	\$5,000.00
	Total of All Unit Price Bid Items (1-45)				\$1,325,250.00		\$1,281,000.00

Bids Certified By: _

Smith Rebecca L. Smith, PE

ebecca

WIIIIIIII CARO

2.14.22

Date: ____



NOTICE OF AWARD

Date of Issuance:	February 28, 2022		
Owner:	Town of Apex	Owner's Contract No.:	
Engineer:	Hydrostructures	Engineer's Project No.:	NCAP.19.01
Project:	Lawrence Crossing Rehabilitation Project - 2020	Contract Name:	
Bidder:	Pipeline Utilities, Inc		
Bidder's Address:	2204-F Associate Drive, Raleigh, NC 2	27603	

TO BIDDER:

You are notified that Owner has accepted your Bid dated <u>February 10, 2022</u> for the above Contract, and that you are the Successful Bidder and are awarded a Contract for: <u>installation of approximately 2,325 LF of 8"</u>, <u>12"</u>, and 18" gravity sewer to replace an existing 24" sewer outfall. The Contract Price of the awarded Contract is: \$ 1,281,000.00.

[4] unexecuted counterparts of the Agreement accompany this Notice of Award, and one copy of the Contract Documents accompanies this Notice of Award, or has been transmitted or made available to Bidder electronically.

a set of the Drawings will be delivered separately from the other Contract Documents.

You must comply with the following conditions precedent within 15 days of the date of receipt of this Notice of Award:

- 1. Deliver to Owner [4] counterparts of the Agreement, fully executed by Bidder.
- 2. Deliver with the executed Agreement(s) the Contract security [*e.g., performance and payment bonds*] and insurance documentation as specified in the Instructions to Bidders and General Conditions, Articles 2 and 6.
- 3. Other conditions precedent: None

Failure to comply with these conditions within the time specified will entitle Owner to consider you in default, annul this Notice of Award, and declare your Bid security forfeited.

Within ten days after you comply with the above conditions, Owner will return to you one fully executed counterpart of the Agreement, together with any additional copies of the Contract Documents as indicated in Paragraph 2.02 of the General Conditions.

Owner:	Town of Apex
	Authorized Signature
By:	
Title:	Catherine Crosby, Apex Town Manager
Copy: Er	gineer
Acceptan	ce of Notice
Receipt of	the above Notice of Award is hereby acknowledged by
this the	day of, 20
Ву:	Title:
	EJCDC [®] <u>C-510. Notice of</u> Award. Prepared and published 2013 by the Page 494 - t Contract Documents Committee.

BIDDER'S CHECKLIST

This checklist shall be included as the first page of the submitted bidding documents. As outlined in article 7 of the Bid Form the following items shall be included with the submitted bidding documents:

	-	
	-	Properly Executed Bid Form (Including the acknowledgement of all Addenda)
~	A.	Required Bid security in the form of a Bid Bond (EJCDC No. C-430) or Certified Check (circle type of security provided); Bid Bond shall be include an executed Power of Attorney.
~	B1.	Identification of Minority Business Participation
V	B2.	Affidavit A, Listing of Good Faith Efforts; or Affidavit B, Intent to Perform Contract with Own Workforce
-		

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BID FORM

Project: Lawrence Crossing Sewer Outfall Replacement

Bid From: Pipeline Utilities, Inc

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ARTICLE 1 – BID RECIPIENT

1.01 This Bid is submitted to:

TOWN OF APEX P.O. BOX 250, 105-B UPCHURCH STREET APEX, NC 27502

1.02 The undersigned Bidder proposes and agrees, if this Bid is accepted, to enter into an Agreement with Owner in the form included in the Bidding Documents to perform all Work as specified or indicated in the Bidding Documents for the prices and within the times indicated in this Bid and in accordance with the other terms and conditions of the Bidding Documents.

ARTICLE 2 – BIDDER'S ACKNOWLEDGEMENTS

2.01 Bidder accepts all of the terms and conditions of the Instructions to Bidders, including without limitation those dealing with the disposition of Bid security. This Bid will remain subject to acceptance for 60 days after the Bid opening, or for such longer period of time that Bidder may agree to in writing upon request of Owner.

ARTICLE 3 – BIDDER'S REPRESENTATIONS

- 3.01 In submitting this Bid, Bidder represents that:
 - A. Bidder has examined and carefully studied the Bidding Documents, and any data and reference items identified in the Bidding Documents, and hereby acknowledges receipt of the following Addenda:

Addendum No.	Addendum Date
1	01/07/2022
2	01/20/2022
3	01/26/2022

- B. Bidder has visited the Site, conducted a thorough, alert visual examination of the Site and adjacent areas, and become familiar with and satisfied itself as to the general, local, and Site conditions that may affect cost, progress, and performance of the Work.
- C. Bidder is familiar with and has satisfied itself as to all Laws and Regulations that may affect cost, progress, and performance of the Work.
- D. Bidder has carefully studied all: (1) reports of explorations and tests of subsurface conditions at or adjacent to the Site and all drawings of physical conditions relating to existing surface or subsurface structures at the Site that have been identified in the Supplementary Conditions, especially with respect to Technical Data in such reports and drawings, and (2) reports and drawings relating to Hazardous Environmental Conditions, if any, at or adjacent to the Site that have been identified in the Supplementary Conditions, especially with respect and drawings.
- E. Bidder has considered the information known to Bidder itself; information commonly known to contractors doing business in the locality of the Site; information and observations obtained from visits to the Site; the Bidding Documents; and any Site-related

reports and drawings identified in the Bidding Documents, with respect to the effect of such information, observations, and documents on (1) the cost, progress, and performance of the Work; (2) the means, methods, techniques, sequences, and procedures of construction to be employed by Bidder; and (3) Bidder's safety precautions and programs.

- F. Bidder agrees, based on the information and observations referred to in the preceding paragraph, that no further examinations, investigations, explorations, tests, studies, or data are necessary for the determination of this Bid for performance of the Work at the price bid and within the times required, and in accordance with the other terms and conditions of the Bidding Documents.
- G. Bidder is aware of the general nature of work to be performed by Owner and others at the Site that relates to the Work as indicated in the Bidding Documents.
- H. Bidder has given Engineer written notice of all conflicts, errors, ambiguities, or discrepancies that Bidder has discovered in the Bidding Documents, and confirms that the written resolution thereof by Engineer is acceptable to Bidder.
- I. The Bidding Documents are generally sufficient to indicate and convey understanding of all terms and conditions for the performance and furnishing of the Work.
- J. The submission of this Bid constitutes an incontrovertible representation by Bidder that Bidder has complied with every requirement of this Article, and that without exception the Bid and all prices in the Bid are premised upon performing and furnishing the Work required by the Bidding Documents.
- K. Bidder will submit written evidence of its authority to do business in the state where the Project is located not later than the date of its execution of the Agreement.

ARTICLE 4 – BIDDER'S CERTIFICATION

- 4.01 Bidder certifies that:
 - A. This Bid is genuine and not made in the interest of or on behalf of any undisclosed individual or entity and is not submitted in conformity with any collusive agreement or rules of any group, association, organization, or corporation;
 - B. Bidder has not directly or indirectly induced or solicited any other Bidder to submit a false or sham Bid;
 - C. Bidder has not solicited or induced any individual or entity to refrain from bidding; and
 - D. Bidder has not engaged in corrupt, fraudulent, collusive, or coercive practices in competing for the Contract. For the purposes of this Paragraph 4.01.D:
 - 1. "corrupt practice" means the offering, giving, receiving, or soliciting of any thing of value likely to influence the action of a public official in the bidding process;
 - "fraudulent practice" means an intentional misrepresentation of facts made (a) to influence the bidding process to the detriment of Owner, (b) to establish bid prices at artificial non-competitive levels, or (c) to deprive Owner of the benefits of free and open competition;
 - 3. "collusive practice" means a scheme or arrangement between two or more Bidders, with or without the knowledge of Owner, a purpose of which is to establish bid prices at artificial, non-competitive levels; and

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4. "coercive practice" means harming or threatening to harm, directly or indirectly, persons or their property to influence their participation in the bidding process or affect the e execution of the Contract.

ARTICLE 5 - BASIS OF BID

5.01	Bidder will	complete	the	Work	in	accordance	with	the	Contract	Documents	for	the	following
	price(s):												

ltem No.	Description	Unit	Estimated Quantity	Bid Unit Price	Bid Price
	Sewer Main Replacement				
1	Mobilization [Max. 3% of Base Bid]	LS	1	37000	00010
2	Open-cut Installation of 8-inch C900 DR18	LF	660	125	82500-
3	Open-cut Installation of 12-inch C900 DR18	LF	1,230	141-	173430
4	Open-cut Installation of 12-inch DIP Class 350	LF	192	128	24,576
5	Open-cut Installation of 18-inch C905 DR18	LF	270	2%5	76950
6	Bore and Jack 16-Inch Casing	LF	30	1110	33,300
7	Install New 4-foot Dia. Manhole (8'-12' Deep)	EA	4	6,000	26400-
8	Install New 5-foot Dia. Manhole (0'-8' Deep)	EA	1	6500	6500-
9	Install New 5-foot Dia. Manhole (8'-16' Deep)	EA	4	11905	47600-
10	Install New 5-foot Dia. Composite Manhole (Proposed MH9)	LS	1	39,000	39,0007
11	Install New 6-foot Dia. Manhole (8'-16' Deep)	EA	1	13600	13,600-
12	Abandon Existing Manhole In-Place	EA	12	1928-	23,136-
13	Abandon Existing Manhole by Removal	EA	3	19,28	5784-
14	Connect New Sewer Main to Existing Manhole	EA	2	4500	9,000-
15	Transfer / Reroute / Extend Service Lateral and Connect to New Manhole	EA	3	1,730	6,190
16	Transfer / Reroute / Extend Service Lateral and Connect to New Sewer Main	EA	11	2340	26,740
17	Install Cleanout on Service Lateral	EA	10	511	5,110
18	Connect Existing Force Main to Proposed Manhole 9.	LS	1	3900	3900
19	Plug Existing Sewer Main Inside Existing Manhole	EA	2	750	1500

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		-			
20	Cementitious Lining of Existing Manhole (1- inch thickness)	VF	15.5	9005	13950
21	Cementitious Lining of Existing Manhole (2- inch thickness)	VF	7.5	2,074	15555
22	Bypass Pumping	LS	1	150000	160 000-
23	Allowance for Miscellaneous Utility Adjustments	N/A	1	N/A	\$25,000.00
	Site Work			1	
24	Asphalt Cut & Patch Town Road	SY	780	115	89.700-
25	Asphalt Cut & Patch NCDOT Road (5" I19.0B)	SY	40	231	9240-
26	Asphalt Milling and Final Overlay NCDOT (Mill 1.5", 1.5" S9.5A Overlay)	SY	200	-25	7800
27	Concrete Sidewalk Replacement	SY	150	94-	14100-
28	Concrete Curb and Gutter Replacement	LF	100	61	6.100
29	Flowable Fill	CY	100	410	41,000-
30	Exploratory Excavation (up to 4' x 4' Pit)	EA	4	975	3900
31	Remove and Replace Existing Residential Privacy Fence	LF	50	32-	1,600-
32	Temporary Stream Pump Around	EA	1	6305	6300
33	Undercut Pipe Trench and Replace with No. 67 Stone for Pipe Foundation	СҮ	100	84-	8400
34	Select Backfill	СҮ	300	65	19,500-
35	Rock Excavation Mechanical method	CY	50	387	19350
36	Stream Bank Stabilization Class II Rip Rap	TON	10	129-	1290
37	Install Rock Check Dam	EA	20	245	4900-
38	Wattle Inlet Protection Device	EA	40	236	9440-
39	Erosion Control slope and ditch stabilization matting	SY	220	4-	880-
40	Traffic and Pedestrian Control	LS	1	98000-	980007
41	Tree Protection Fencing	LF	3000	3	9000
42	Stabilized Construction Entrance	EA	2	4900	9800-
43	Clearing & Grubbing	LS	1	49000	49,000-
44	Cleanup & Seeding (Min. 5% of Total Bid Items (#2, #3, #4 and #5)	LS	1	22079	22079-

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	45	Allowance for 3 rd Party Vibration Monitoring and Soil Compaction Testing	N/A	1	N/A	\$5,000.00
--	----	---	-----	---	-----	------------

Total of All Unit Price Bid Items (1-45)

Bidder acknowledges that (1) each Bid Unit Price includes an amount considered by Bidder to be adequate to cover Contractor's overhead and profit for each separately identified item, and (2) estimated quantities are not guaranteed, and are solely for the purpose of comparison of Bids, and final payment for all unit price Bid items will be based on actual quantities, determined as provided in the Contract Documents.

1261000

1281,000

```
Total of Lump Sum and Unit Price Bids = Total Bid Price
```

Time of Completion

- 5.02 Bidder agrees that the Work will be substantially complete and will be completed and ready for final payment in accordance with Paragraph 15.06 of the General Conditions on or before the dates or within the number of calendar days indicated in the Agreement.
- 5.03 Bidder accepts the provisions of the Agreement as to liquidated damages.

ARTICLE 6 – ATTACHMENTS TO THIS BID

- 6.01 The following documents are submitted with and made a condition of this Bid. Failure to provide the documentation with the bid may be grounds for rejection of the bid.:
 - A. Required Bid security in the form of a Bid Bond (EJCDC No. C-430) or Certified Check (circle type of security provided).
 - B. In accordance with GS 143-128.2(c), Bidder shall identify on its bid the minority businesses that it will use on the project and the total dollar value of the bid that will be performed by the minority businesses and list the good faith efforts (Affidavit A) made to solicit participation. A Bidder that will perform all of the work with its own workforce may submit an Affidavit (B) to that effect in lieu of the affidavit (A) required above.
 - 1. Identification of Minority Business Participation.
 - 2. Affidavit A, Listing of Good Faith Efforts; or Affidavit B, Intent to Perform Contract with Own Workforce.
 - C. Submit the Bidder's Checklist as provided in the bidding documents with the bid submittal. The Checklist shall be completed and included as the first page of the submittal.
 - D. Evidence of authority to do business in the state of the Project; or a written covenant to obtain such license within the time for acceptance of Bids;
 - E. Contractor's License No.: 13040
- 6.02 After the bid opening the Owner will consider all bids and alternates and determine the lowest responsible, responsive bidder. Upon notification of being the apparent low Bidder, the Bidder shall then file within 72 hours of the notification of being the apparent lowest bidder, the following:

EJCDC [®] C-410, Bio	Form for Constru	ction Contracts.	
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and American Society of C		ghts reserved.	Page 5
	- Page 501 -		

- A. An Affidavit (C) that includes a description of the portion of work to be executed by minority businesses, expressed as a percentage of the total contract price, which is equal to or more than the goal established by the Owner and indicated in the Instruction to Bidders, paragraph Minority Participation Goals. This affidavit shall give rise to the presumption that the bidder has made the required good faith effort; or
- B. Affidavit (D) of its good faith effort to meet the goal. The document must include evidence of all good faith efforts that were implemented, including any advertisements, solicitations and other specific actions demonstrating recruitment and selection of minority businesses for participation in the contract.
- 6.03 Bidder understands that if this Bid is accepted by the Owner, Bidder shall not substitute for the subcontractors named in the Bid Documents except as allowed in the Supplementary Conditions.

ARTICLE 7 – DEFINED TERMS

7.01 The terms used in this Bid with initial capital letters have the meanings stated in the Instructions to Bidders, the General Conditions, and the Supplementary Conditions.

ARTICLE 8 – BID SUBMITTAL

Contractor's License

- A. Number: **13040**
- B. Classification: Unlimited
- C. Limitation: Unclassified

Employer's Tax ID No.: 56-1118588

BIDDER: [Indicate correct name of bidding entity]

Pipeline Utilities, Inc

Telephone Number:	919-7	72-4310
Fax Number:	919-7	72-3261
Contact Name and e-mail	address:	Bryon Brown
	-	bbrown@pui-nc.com
This Bid Submitted by:		
<u>An Individual</u>		
Name:	(Type or prin	t)
Ву:	(Individual's	Signature)
Copyright © 201	EJCDC® (3 National Society (and American Soc	C-410, Bid Form for Construction Contracts. of Professional Engineers, American Council of Engineering Companies, ciety of Ci

Doing Business As:(Type or print)
A Partnership
Partnership Name:
The Organization and Internal Affairs of the Partnership are governed by the laws of the State of:
By:
Name:
(Type or print)
Title:(Type or print)
Attest:
(Signature of Corporate Secretary)
A Corporation
Corporation Name: Pipeline Utilities, Inc
State of Incorporation: NC
Type (General Business, Profession, Service, Limited Liability): General Contracting
By: By (Signature, attach evidence of authority to sign)
Name: Bryon Brown
(Type or print)
Title: Vice President (Type or print)
Attest:Corporate Seal
Date of Qualification to do business in North Carolina is06/12/1981
Limited Liability Company – LLC
Name of LLC:
Name of State under whose Laws the Limited Liability Company was formed:
By:
(Signature of Wanager)
Name:
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(Type or print)

Title: _____

(Type or print)

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EJCDC

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BID BOND

Any singular reference to Bidder, Surety, Owner or other party shall be considered plural where applicable.

BIDDER <i>(Name and Address):</i> Pipeline Utilities, Inc. 2204-F Associate Drive Raleigh , NC 27603	
SURETY (Name, and Address of Principal Place of Busin Arch Insurance Company Harborside 3, 210 Hudson Street, Suite 300 Jersey City, NJ 07311	ness):
OWNER (Name and Address):	
Town of Apex P.O. Box 250, 105-B Hunter Street Apex, NC 27502 BID Bid Due Date: February 10, 2022 Description (<i>Project Name— Include Location</i>):	awrence Crossing Sewer Outfall Replacement
BOND	
Bond Number: Bid Bond Date: February 10, 2022	
Penal sum Five Percent of Amount Bid	\$ 5%
Surety and Bidder, intending to be legally bound herel this Bid Bond to be duly executed by an authorized off BIDDER Pipeline Utilities, Inc (Seal)	(Figures) by, subject to the terms set forth below, do each cause ficer, agent, or representative. SURETY Arch Insurance Company
Bidder's Name and Corporate Seal	Surety's Name and Corporate Seal
By: By B Signature	By: Signature (Attach Power of Attobey)
Bryon Brown	Heather Searist
Print Name	Print Name
Vice President	Attorney-In-Fact
Attest:	Title Attest: Booki Pendoctton Signature Bobbi Pendleton
Title Secretary	Title Account Manager
Note: Addresses are to be used for giving any required Provide execution by any additional parties, such as jo	notice. Nnt venturers, if necessary.
EJCDC® C-430, Bid Bond (Pena Prepared by the Engineers Joint C Page 1	il Sum Form). Published 2013. Contract Documents Committee. 1 of 2



1. Bidder and Surety, jointly and severally, bind themselves, their heirs, executors, administrators, successors, and assigns to pay to Owner upon default of Bidder the penal sum set forth on the face of this Bond. Payment of the penal sum is the extent of Bidder's and Surety's liability. Recovery of such penal sum under the terms of this Bond shall be Owner's sole and exclusive remedy upon default of Bidder.

2. Default of Bidder shall occur upon the failure of Bidder to deliver within the time required by the Bidding Documents (or any extension thereof agreed to in writing by Owner) the executed Agreement required by the Bidding Documents and any performance and payment bonds required by the Bidding Documents.

- 3. This obligation shall be null and void if:
 - 3.1 Owner accepts Bidder's Bid and Bidder delivers within the time required by the Bidding Documents (or any extension thereof agreed to in writing by Owner) the executed Agreement required by the Bidding Documents and any performance and payment bonds required by the Bidding Documents, or
 - 3.2 All Bids are rejected by Owner, or
 - 3.3 Owner fails to issue a Notice of Award to Bidder within the time specified in the Bidding Documents (or any extension thereof agreed to in writing by Bidder and, if applicable, consented to by Surety when required by Paragraph 5 hereof).

4. Payment under this Bond will be due and payable upon default of Bidder and within 30 calendar days after receipt by Bidder and Surety of written notice of default from Owner, which notice will be given with reasonable promptness, identifying this Bond and the Project and including a statement of the amount due.

5. Surety waives notice of any and all defenses based on or arising out of any time extension to issue Notice of Award agreed to in writing by Owner and Bidder, provided that the total time for issuing Notice of Award including extensions shall not in the aggregate exceed 120 days from the Bid due date without Surety's written consent.

6. No suit or action shall be commenced under this Bond prior to 30 calendar days after the notice of default required in Paragraph 4 above is received by Bidder and Surety and in no case later than one year after the Bid due date.

7. Any sult or action under this Bond shall be commenced only in a court of competent jurisdiction located in the state in which the Project is located.

8. Notices required hereunder shall be in writing and sent to Bidder and Surety at their respective addresses shown on the face of this Bond. Such notices may be sent by personal delivery, commercial courier, or by United States Registered or Certified Mail, return receipt requested, postage pre-paid, and shall be deemed to be effective upon receipt by the party concerned.

9. Surety shall cause to be attached to this Bond a current and effective Power of Attorney evidencing the authority of the officer, agent, or representative who executed this Bond on behalf of Surety to execute, seal, and deliver such Bond and bind the Surety thereby.

10. This Bond is intended to conform to all applicable statutory requirements. Any applicable requirement of any applicable statute that has been omitted from this Bond shall be deemed to be included herein as if set forth at length. If any provision of this Bond conflicts with any applicable statute, then the provision of said statute shall govern and the remainder of this Bond that is not in conflict therewith shall continue in full force and effect.

11. The term "Bid" as used herein includes a Bid, offer, or proposal as applicable.

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	EJCDC® C-430, Bid Bond (Penal Sum Form). Published 2013.	
	Prepared by the Engineers Joint Contract Documents Committee,	
	Page Z of 2	

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This Power of Attorney limits the acts of those named herein, and they have no authority to bind the Company except in the manner and to the extent herein stated. Not valid for Note, Loan, Letter of Credit, Currency Rate, Interest Rate or Residential Value Guarantees.

POWER OF ATTORNEY

Know All Persons By These Presents:

That the Areh Insurance Company, a corporation organized and existing under the laws of the State of Missouri, having its principal administrative office in Jersey City, New Jersey (hereinafter referred to as the "Company") does hereby appoint:

Adam Pfanmiller, Bobbi D. Pendleton, Brooke Gagne, Christopher A. Lydick, Heather Segrist, James H. Keen, Jason Lee Sayers, Jennifer Pollard, Julia C. McElligott, Kenneth J. Peeples, Megan S. Bartman, Phoebe C. Honeycutt and Rhonda Bush of Durham, NC (EACH)

its true and lawful Attorney(s)in-Fact, to make, execute, seal, and deliver from the date of issuance of this power for and on its behalf as surety, and as its act and deed: Any and all bonds, undertakings, recognizances and other surety obligations, in the penal sum not exceeding Ninety Million Dollars (\$90,000,000,00) This authority does not permit the same obligation to be split into two or more bonds In order to bring each such bond within the dollar limit of authority as set forth herein.

The execution of such bonds, undertakings, recognizances and other surety obligations in pursuance of these presents shall be as binding upon the said Company as fully and amply to all intents and purposes, as if the same had been duly executed and acknowledged by its regularly elected officers at its principal administrative office in Jersey City, New Jersey.

This Power of Attorney is executed by authority of resolutions adopted by unanimous consent of the Board of Directors of the Company on December 10, 2020, true and accurate copies of which are hereinafter set forth and are hereby certified to by the undersigned Secretary as being in full force and effect:

"VOTED, That the Chairman of the Board, the President, or the Executive Vice President, or any Senior Vice President, of the Surety Business Division, or their appointees designated in writing and filed with the Secretary, or the Secretary shall have the power and authority to appoint agents and attorneys-in-fact, and to authorize them subject to the limitations set forth in their respective powers of attorney, to execute on behalf of the Company, and attach the seal of the Company thereto, bonds, undertakings, recognizances and other surety obligations obligatory in the nature thereof, and any such officers of the Company may appoint agents for acceptance of process."

This Power of Attorney is signed, sealed and certified by facsimile under and by authority of the following resolution adopted by the unanimous consent of the Board of Directors of the Company on December 10, 2020;

VOTED. That the signature of the Chairman of the Board, the President, or the Executive Vice President, or any Senior Vice President, of the Surety Business Division, or their appointees designated in writing and filed with the Secretary, and the signature of the Secretary, the seal of the Company, and certifications by the Secretary, may be affixed by facsimile on any power of attorney or bond executed pursuant to the resolution adopted by the Board of Directors on December 10, 2020. and any such power so executed, sealed and certified with respect to any bond or undertaking to which it is attached, shall continue to be valid and binding upon the Company. In Testimony Whereof, the Company has caused this instrument to be signed and its corporate seal to be affixed by their authorized officers, this 29th day Insurance of January, 2021.

CORPORATE SEAL 1971

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Attested and Certified

STATE OF PENNSYLVANIA SS COUNTY OF PHILADELPHIA SS

I, Michele Tripodi, a Notary Public, do hereby certify that Regan A. Shulman and Stephen C. Ruschak personally known to me to be the same persons whose names are respectively as Secretary and Executive Vice President of the Arch Insurance Company, a Corporation organized and existing under the laws of the State of Missouri, subscribed to the foregoing instrument, appeared before me this day in person and severally acknowledged that they being thereunto duly authorized signed. sealed with the corporate seal and delivered the said instrument as the free and voluntary act of said corporation and as their own free and voluntary acts for the uses and purposes therein set forth.

Missouri



le Tripodi, Notary Public My commission expires 07/31/2021

Stephen C. Ruschak, Executive Vice President

Arch Insurance Company

CERTIFICATION

I, Regan A. Shulman, Secretary of the Arch Insurance Company, do hereby certify that the attached Power of Attorney dated January 29, 2021 on behalf of the person(s) as listed above is a true and correct copy and that the same has been in fall force and effect since the date thereof and is in fall force and effect on the date of this certificate; and I do further certify that the said Stephen C. Ruschak, who executed the Power of Attorney as Executive Vice President, was on the date of execution of the attached Power of Attorney the duly elected Executive Vice President of the Arch Insurance Company.

IN TESTIMONY WHEREOF, I have hereunto subscribed my name and affixed the corporate seal of the Arch Insurance Company on this D day of the Arch Insurance Company on this D day of the corporate seal of the Arch Insurance Company on this D day of the corporate seal of the Arch Insurance Company on this D day of the corporate seal of the Arch Insurance Company on this D day of the corporate seal of the Arch Insurance Company on this D day of the corporate seal of the Arch Insurance Company on this D day of the corporate seal of the Arch Insurance Company on this D day of the corporate seal of the Arch Insurance Company on this D day of the corporate seal of the Arch Insurance Company on this D day of the corporate seal of the corporate sear of the corporate seal of the corporate seal 20 22

Regan A. Shulman, Secretary

This Power of Attorney limits the acts of those named therein to the bonds and undertakings specifically named therein and they have no authority to bind the Company except in the manner and to the extent herein stated.

PLEASE SEND ALL CLAIM INQUIRIES RELATING TO THIS BOND TO THE FOLLOWING ADDRESS: Arch Insurance - Surety Division 3 Parkway, Suite 1500 Philadelphia, PA 19102



To verify the authenticity of this Power of Attorney, please contact Arch Insurance Company at SuretyAuthentic@archinsurance.com Please refer to the above named Attorney-in-Fact and the details of the bond to which the power is attached.

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Attach to Bid Attach to Bid Bidders must provide either Affidavit A or Affidavit B (not both) Attach to Bid Attach to Bid Identification of Minority Business Participation

Pipeline Utilities, Inc

(Name of Bidder)

do hereby certify that on this project, we will use the following minority business enterprises as construction subcontractors, vendors, suppliers or providers of professional services.

Firm Name, Address and Phone #	Work type	*Minority Category	
Puryear Trucking / 919-291-9785	trucking		
5844 Lease Lane, Raleigh, NC 27617		F	

*Minority categories: Black, African American (B), Hispanic (H), Asian American (A) American Indian (I), Female (F) Socially and Economically Disadvantaged (D)

The total value of minority business contracting will be (\$) $\frac{90,000,000}{2}$.

1,

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Attach to Bid Attach to Bid Bidders must provide either Affidavit A or Affidavit B (not both) Attach to Bid Attach to Bid State of North Carolina AFFIDAVIT A – Listing of Good Faith Efforts County of Wake

(Name of Bidder)			
Aff	idavit of Pipeline Utilities, Inc		
	I have made a good faith effort to comply under the following areas checked:		
Bic col	Iders must earn at least 50 points from the good faith efforts listed for their bid to be nsidered responsive. (1 NC Administrative Code 30 I.0101)		
	1 – (10 pts) Contacted minority businesses that reasonably could have been expected to submit a quote and that were known to the contractor, or available on State or local government maintained lists, at least 10 days before the bid date and notified them of the nature and scope of the work to be performed.		
	2(10 pts) Made the construction plans, specifications and requirements available for review by prospective minority businesses, or providing these documents to them at least 10 days before the bids are due.		
\boxtimes	3 – (15 pts) Broken down or combined elements of work into economically feasible units to facilitate minority participation.		
	4 – (10 pts) Worked with minority trade, community, or contractor organizations identified by the Office of Historically Underutilized Businesses and included in the bid documents that provide assistance in recruitment of minority businesses.		
X	5 - (10 pts) Attended prebid meetings scheduled by the public owner.		
	6 – (20 pts) Provided assistance in getting required bonding or insurance or provided alternatives to bonding or insurance for subcontractors.		
\boxtimes	7 – (15 pts) Negotiated in good faith with interested minority businesses and did not reject them as unqualified without sound reasons based on their capabilities. Any rejection of a minority business based on lack of qualification should have the reasons documented in writing.		
	8 – (25 pts) Provided assistance to an otherwise qualified minority business in need of equipment, loan capital, lines of credit, or joint pay agreements to secure loans, supplies, or letters of credit, including waiving credit that is ordinarily required. Assisted minority businesses in obtaining the same unit pricing with the bidder's suppliers in order to help minority businesses in establishing credit.		
	9 – (20 pts) Negotiated joint venture and partnership arrangements with minority businesses in order to increase opportunities for minority business participation on a public construction or repair project when possible.		
X	10 - (20 pts) Provided quick pay agreements and policies to enable minority contractors and suppliers to meet cash-flow demands.		
The	undersigned if apparent low bidder, will enter into a formal agreement with the firms listed in the		

The undersigned, if apparent low bidder, will enter into a formal agreement with the firms listed in the Identification of Minority Business Participation schedule conditional upon scope of contract to be executed with the Owner. Substitution of contractors must be in accordance with GS143-128.2(d) Failure to abide by this statutory provision will constitute a breach of the contract.

The undersigned hereby certifies that he or she has read the terms of the minority business commitment and is authorized to bind the bidder to the commitment herein set forth.

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resident
e h day of February 20 22

- Page 509 -

License year

2022

Auth Carolina

Tirense No.

13040

Tirensing Board for General Contractors

This is to Certify That:

Pipeline Utilities, Inc.

Raleigh, NC

is duly registered and entitled to practice

General Contracting

Limitation: Unlimited

Classification: Unclassified

until

December 31, 2022

when this Certificate expires. Witness our hands and seal of the Board. Dated, Kaleiyh, N.C. January 01, 2022

Fre E. Rismonau

C. Haule Wiesner

This certificate may not be altered.



AGREEMENT BETWEEN OWNER AND CONTRACTOR FOR CONSTRUCTION CONTRACT (STIPULATED PRICE)

THIS AGREEMENT is by and between	Town of Apex	("Owner") and
Pipeline Utilities, Inc.		("Contractor").

Owner and Contractor hereby agree as follows:

ARTICLE 1 – WORK

1.01 Contractor shall complete all Work as specified or indicated in the Contract Documents. The Work is generally described as follows:

ARTICLE 2 – THE PROJECT

2.01 The Project, of which the Work under the Contract Documents is a part, is generally described as follows: the <u>Lawrence Crossing Sewer Outfall Replacement consists of installation of</u> <u>approximately 2,325 LF of 8", 12", and 18" gravity sewer to replace an existing 24" sewer outfall.</u>

ARTICLE 3 – ENGINEER

- 3.01 The part of the Project that pertains to the Work has been designed by <u>Hydrostructures</u>.
- 3.02 The Owner has retained <u>Hydrostructures</u> to act as Owner's representative, assume all duties and responsibilities, and have the rights and authority assigned to Engineer in the Contract Documents in connection with the completion of the Work in accordance with the Contract Documents.

ARTICLE 4 – CONTRACT TIMES

- 4.01 *Time of the Essence*
 - A. All time limits for Milestones, if any, Substantial Completion, and completion and readiness for final payment as stated in the Contract Documents are of the essence of the Contract.
- 4.02 *Contract Times: Days*
 - A. The Work will be substantially completed within <u>90</u> days after the date when the Contract Times commence to run as provided in Paragraph 4.01 of the General Conditions, and completed and ready for final payment in accordance with Paragraph 15.06 of the General Conditions within <u>120</u> days after the date when the Contract Times commence to run.
 - B. Parts of the Work shall be substantially completed on or before the following Milestone(s):
 - 1. N/A
- 4.03 Liquidated Damages
 - A. Contractor and Owner recognize that time is of the essence as stated in Paragraph 4.01 above and that Owner will suffer financial and other losses if the Work is not completed and Milestones not achieved within the times specified in Paragraph 4.02 above, plus any

extensions thereof allowed in accordance with the Contract. The parties also recognize the delays, expense, and difficulties involved in proving in a legal or arbitration proceeding the actual loss suffered by Owner if the Work is not completed on time. Accordingly, instead of requiring any such proof, Owner and Contractor agree that as liquidated damages for delay (but not as a penalty):

- 1. Substantial Completion: Contractor shall pay Owner \$<u>750</u> for each day that expires after the time (as duly adjusted pursuant to the Contract) specified in Paragraph 4.02.A above for Substantial Completion until the Work is substantially complete.
- 2. Completion of Remaining Work: After Substantial Completion, if Contractor shall neglect, refuse, or fail to complete the remaining Work within the Contract Times (as duly adjusted pursuant to the Contract) for completion and readiness for final payment, Contractor shall pay Owner \$<u>750</u> for each day that expires after such time until the Work is completed and ready for final payment.
- 3. Liquidated damages for failing to timely attain Substantial Completion and final completion are not additive and will not be imposed concurrently.
- 4. Milestones: Contractor shall pay Owner \$<u>750</u> for each day that expires after the time (as duly adjusted pursuant to the Contract) specified above for achievement of Milestone 1, until Milestone 1 is achieved.

ARTICLE 5 – CONTRACT PRICE

- 5.01 Owner shall pay Contractor for completion of the Work in accordance with the Contract Documents the amounts that follow, subject to adjustment under the Contract:
 - A. All specific cash allowances are included in the above price in accordance with Paragraph 13.02 of the General Conditions.
 - B. Total of Unit Price Work \$_1,282,000.00___.
 - C. All Work, at the prices stated in Contractor's Bid, is attached hereto as an exhibit.

ARTICLE 6 – PAYMENT PROCEDURES

- 6.01 Submittal and Processing of Payments
 - A. Contractor shall submit Applications for Payment in accordance with Article 15 of the General Conditions. Applications for Payment will be processed by Engineer as provided in the General Conditions.
- 6.02 *Progress Payments; Retainage*
 - A. Owner shall make progress payments on account of the Contract Price on the basis of Contractor's Applications for Payment on or about the <u>25th</u> day of each month during performance of the Work as provided in Paragraph 6.02.A.1 below, provided that such Applications for Payment have been submitted in a timely manner and otherwise meet the requirements of the Contract. All such payments will be measured by the Schedule of Values established as provided in the General Conditions (and in the case of Unit Price Work based on the number of units completed) or, in the event there is no Schedule of Values, as provided elsewhere in the Contract.
 - 1. Prior to Substantial Completion, progress payments will be made in an amount equal to the percentage indicated below but, in each case, less the aggregate of payments

previously made and less such amounts as Owner may withhold, including but not limited to liquidated damages, in accordance with the Contract

- a. <u>95</u> percent of Work completed (with the balance being retainage). If the Work has been 50 percent completed as determined by Engineer, and if the character and progress of the Work have been satisfactory to Owner and Engineer, then as long as the character and progress of the Work remain satisfactory to Owner and Engineer, there will be no additional retainage; and
- b. <u>95</u> percent of cost of materials and equipment not incorporated in the Work (with the balance being retainage).
- B. Upon Substantial Completion, Owner shall pay an amount sufficient to increase total payments to Contractor to <u>100</u> percent of the Work completed, less such amounts set off by Owner pursuant to Paragraph 15.01.E of the General Conditions, and less <u>200</u> percent of Engineer's estimate of the value of Work to be completed or corrected as shown on the punch list of items to be completed or corrected prior to final payment.

6.03 Final Payment

A. Upon final completion and acceptance of the Work in accordance with Paragraph 15.06 of the General Conditions, Owner shall pay the remainder of the Contract Price as recommended by Engineer as provided in said Paragraph 15.06.

ARTICLE 7 – INTEREST

7.01 Interest on final payments due to prime contracts shall accrue in accordance with North Carolina General Statute 143-134.1.

ARTICLE 8 – CONTRACTOR'S REPRESENTATIONS

- 8.01 In order to induce Owner to enter into this Contract, Contractor makes the following representations:
 - A. Contractor has examined and carefully studied the Contract Documents, and any data and reference items identified in the Contract Documents.
 - B. Contractor has visited the Site, conducted a thorough, alert visual examination of the Site and adjacent areas, and become familiar with and is satisfied as to the general, local, and Site conditions that may affect cost, progress, and performance of the Work.
 - C. Contractor is familiar with and is satisfied as to all Laws and Regulations that may affect cost, progress, and performance of the Work.
 - D. Contractor has carefully studied all: (1) reports of explorations and tests of subsurface conditions at or adjacent to the Site and all drawings of physical conditions relating to existing surface or subsurface structures at the Site that have been identified in the Supplementary Conditions, especially with respect to Technical Data in such reports and drawings, and (2) reports and drawings relating to Hazardous Environmental Conditions, if any, at or adjacent to the Site that have been identified in the Supplementary Conditions, especially with respect and drawings.
 - E. Contractor has considered the information known to Contractor itself; information commonly known to contractors doing business in the locality of the Site; information and observations obtained from visits to the Site; the Contract Documents; and the Site-related reports and drawings identified in the Contract Documents, with respect to the effect of

such information, observations, and documents on (1) the cost, progress, and performance of the Work; (2) the means, methods, techniques, sequences, and procedures of construction to be employed by Contractor; and (3) Contractor's safety precautions and programs.

- F. Based on the information and observations referred to in the preceding paragraph, Contractor agrees that no further examinations, investigations, explorations, tests, studies, or data are necessary for the performance of the Work at the Contract Price, within the Contract Times, and in accordance with the other terms and conditions of the Contract.
- G. Contractor is aware of the general nature of work to be performed by Owner and others at the Site that relates to the Work as indicated in the Contract Documents.
- H. Contractor has given Engineer written notice of all conflicts, errors, ambiguities, or discrepancies that Contractor has discovered in the Contract Documents, and the written resolution thereof by Engineer is acceptable to Contractor.
- I. The Contract Documents are generally sufficient to indicate and convey understanding of all terms and conditions for performance and furnishing of the Work.
- J. Contractor's entry into this Contract constitutes an incontrovertible representation by Contractor that without exception all prices in the Agreement are premised upon performing and furnishing the Work required by the Contract Documents.

ARTICLE 9 – CONTRACT DOCUMENTS

- 9.01 *Contents*
 - A. The Contract Documents consist of the following:
 - 1. This Agreement (pages 1 to <u>7</u>, inclusive).
 - 2. Performance bond (pages <u>1</u> to <u>3</u>, inclusive).
 - 3. Payment bond (pages <u>1</u> to <u>3</u>, inclusive).
 - 4. Power of Attorney (pages <u>1</u> to <u>, inclusive</u>).
 - 5. Certificate of Insurance (pages <u>1</u> to <u>___</u>, inclusive).
 - 6. General Conditions (pages <u>1</u> to <u>65</u>, inclusive).
 - 7. Supplementary Conditions (pages <u>1</u> to <u>21</u>, inclusive).
 - 8. Specifications as listed in the table of contents of the Project Manual.
 - 9. Drawings (not attached but incorporated by reference) consisting of <u>17</u> sheets with each sheet bearing the following general title: <u>Lawrence Crossing Sewer Outfall</u> <u>Replacement</u>.
 - 10. Addenda (numbers <u>1</u> to <u>3</u>, inclusive).
 - 11. Exhibits to this Agreement (enumerated as follows):
 - a. Contractor's Bid (pages <u>1</u> to <u>9</u>, inclusive).
 - b. Notice of Award (pages <u>1</u> to <u>,</u> inclusive).
 - c. Documentation submitted by Contractor prior to Notice of Award.
 - d. Affidavits.

- 12. The following which may be delivered or issued on or after the Effective Date of the Contract and are not attached hereto:
 - a. Notice to Proceed.
 - b. Work Change Directives.
 - c. Change Orders.
- B. The documents listed in Paragraph 9.01.A are attached to this Agreement (except as expressly noted otherwise above).
- C. There are no Contract Documents other than those listed above in this Article 9.
- D. The Contract Documents may only be amended, modified, or supplemented as provided in the General Conditions.

ARTICLE 10 – MISCELLANEOUS

- 10.01 *Terms*
 - A. Terms used in this Agreement will have the meanings stated in the General Conditions and the Supplementary Conditions.
- 10.02 Assignment of Contract
 - A. Unless expressly agreed to elsewhere in the Contract, no assignment by a party hereto of any rights under or interests in the Contract will be binding on another party hereto without the written consent of the party sought to be bound; and, specifically but without limitation, money that may become due and money that is due may not be assigned without such consent (except to the extent that the effect of this restriction may be limited by law), and unless specifically stated to the contrary in any written consent to an assignment, no assignment will release or discharge the assignor from any duty or responsibility under the Contract Documents.
- 10.03 Successors and Assigns
 - A. Owner and Contractor each binds itself, its successors, assigns, and legal representatives to the other party hereto, its successors, assigns, and legal representatives in respect to all covenants, agreements, and obligations contained in the Contract Documents.

10.04 Severability

A. Any provision or part of the Contract Documents held to be void or unenforceable under any Law or Regulation shall be deemed stricken, and all remaining provisions shall continue to be valid and binding upon Owner and Contractor, who agree that the Contract Documents shall be reformed to replace such stricken provision or part thereof with a valid and enforceable provision that comes as close as possible to expressing the intention of the stricken provision.

10.05 Contractor's Certifications

- A. Contractor certifies that it has not engaged in corrupt, fraudulent, collusive, or coercive practices in competing for or in executing the Contract. For the purposes of this Paragraph 10.05:
 - 1. "corrupt practice" means the offering, giving, receiving, or soliciting of anything of value likely to influence the action of a public official in the bidding process or in the Contract execution;

- "fraudulent practice" means an intentional misrepresentation of facts made (a) to influence the bidding process or the execution of the Contract to the detriment of Owner, (b) to establish Bid or Contract prices at artificial non-competitive levels, or (c) to deprive Owner of the benefits of free and open competition;
- 3. "collusive practice" means a scheme or arrangement between two or more Bidders, with or without the knowledge of Owner, a purpose of which is to establish Bid prices at artificial, non-competitive levels; and
- 4. "coercive practice" means harming or threatening to harm, directly or indirectly, persons or their property to influence their participation in the bidding process or affect the execution of the Contract.

10.06 E-Verify

A. Contractor hereby acknowledges that "E-Verify" is the federal E-Verify program operated by the US Department of Homeland Security and other federal agencies which is used to verify the work authorization of newly hired employees pursuant to federal law and in accordance with Article 2, Chapter 64 of the North Carolina General Statutes. Contractor further acknowledges that all employers, as defined by Article 2, Chapter 64 of the North Carolina General Statutes, must use E-Verify and after hiring an employee to work in the United States, shall verify the work authorization of the employee through E-Verify in accordance with NCGS §64-26(a). Contractor hereby pledges, attests and warrants through execution of this Agreement that Contractor complies with the requirements of Article 2 of Chapter 64 of the North Carolina General Statutes and further pledges, attests and warrants that any subcontractors currently employed by or subsequently hired by Contractor shall comply with any and all E-Verify requirements. Failure to comply with the above requirements shall be considered a breach of this Agreement.

10.07 Iran Divestment Act Certification

A. N.C.G.S. 147-86.60 prohibits the State of North Carolina, a North Carolina local government, or any other political subdivision of the State of North Carolina from contracting with any entity that is listed on the Final Divestment List created by the North Carolina State Treasurer pursuant to N.C.G.S. 147-86.58. N.C.G.S. 147-86.59 further requires that contractors with the State, a North Carolina local government, or any other political subdivision of the State of North Carolina must not utilize any subcontractor found on the State Treasurer's Final Divestment List. As of the date of execution of this Agreement Contractor hereby certifies that it is not listed on the Final Divestment List created by the North Carolina State Treasurer and that Contractor will not utilize any subcontractors found on the Final Divestment List.

10.08 Anti-Human Trafficking

A. The Contractor warrants and agrees that no labor supplied by the Contractor or the Contractor's subcontractors in the performance of this Agreement shall be obtained by means of deception, coercion, intimidation or force, or otherwise in violation of North Carolina law, specifically Article 10A, Subchapter 3 of Chapter 14 of the North Carolina General Statutes, Human Trafficking.

This Agreement will be effective on (wh	ich is the Effective Date of the Contract).		
OWNER:	CONTRACTOR:		
Town of Apex	Pipeline Utilities, Inc.		
Ву:	Ву:		
Title: Catherine Crosby, Apex Town Manager	Title:		
	(If Contractor is a corporation, a partnership, or a joint venture, attach evidence of authority to sign.)		
Attest:	Attest:		
Title:	Title:		
Address for giving notices:	Address for giving notices:		
P.O. Box 250	2204-F Associate Drive		
Apex, NC 27502-0250	Raleigh, NC 27603		
	License No.: 13040		
	(where applicable)		

If Contractor is a corporation, partnership, or joint venture, attach evidence of authority to sign.

This instrument has been pre-audited in the manner required by the Local Government Budget and Fiscal Control Act.

Vance Holloman, Finance Director

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for consideration by the Apex Town Council

Item Type: CONSENT AGENDA Meeting Date: April 12, 2022

<u>Item Details</u>

Presenter(s): Marty Stone, PE, Assistant Town Manager

Department(s): Administration

Requested Motion

Motion to approve amendment to Section 12-21 of the Apex Town Code.

Approval Recommended?

Yes

<u>Item Details</u>

Staff recommends changing the language from "unlimited" to "agreed-upon" quantities of grass clippings, yard waste, leaves, wood chips, and other organic debris in order for the town to have more flexibility to work out agreements that may be beneficial to the Town. Staff believes an unlimited quantity is not a reasonable term given our continued significant growth.

<u>Attachments</u>

• Amendment to Section 12-21 of Town Code



ORDINANCE NO. 2022-0222-___

AN ORDINANCE TO AMEND SECTION 12-21 OF APEX TOWN CODE

THEREFORE, BE IT ORDAINED BY THE TOWN COUNCIL OF THE TOWN OF APEX AS FOLLOWS:

Section 1. Subsection (b) of section 12-21 of the Town of Apex Code of Ordinances is hereby amended to read as follows with deletions shown as struck-through text:

Sec. 12-21. - Out of town water and sewer service.

- (b) Notwithstanding anything in subsection (a) of this section, the town may offer and provide new utility services to customers located outside of the town's municipal corporate limits, as extended from time to time, as follows:
 - (1) New water customers may be connected to water lines existing as of September 7, 1999, which are located outside of the town's municipal corporate limits, to the extent that such connections facilitate the reimbursement of acreage fees to a party who constructed the water lines in reliance on a valid acreage fee reimbursement agreement with the town; such customers shall be subject to the same terms and conditions as applied on September 7,1999, and shall submit a covenant to be annexed upon the availability of sewer service; and
 - (2) The town may provide new municipal water and sewer service to any construction and debris landfill located outside of the town's municipal corporate limits (but within the town's extraterritorial jurisdiction) at the town's then prevailing in-town rates, rents, fees or other charges for such services (other than acreage fees and capacity fees), subject to such terms and conditions as the town deems necessary or desirable as reflected in an agreement approved by the town council, in consideration of the landfill's owner and operator permitting the town, for a period of not less than five years, to deposit, dump or otherwise dispose of at the landfill, <u>agreed-upon</u> unlimited-quantities of grass clippings, yard waste, leaves, wood chips and other organic debris collected by the town from properties located within the town's municipal corporate limits and extraterritorial jurisdiction, without charge to the town.

Section 2. It is the intention of the governing body, and it is hereby ordained that the provisions of this ordinance shall become and be made a part of the Code of Ordinances and the sections of this ordinance may be renumbered to accomplish such intention.

Section 3. Severability, Conflict of Laws. If this ordinance or application thereof to any person or circumstances is held invalid, such invalidity shall not affect other provisions or applications of the ordinance which can be given separate effect and to the end the provisions of this ordinance are declared to be severable. All ordinances or parts of ordinances in conflict with this ordinance are hereby repealed.

Section 4. Effective Date. This ordinance shall be effective upon adoption.

Introduced by Council Member:

Seconded by Council Member:

This the 22nd day of February, 2022.

Jacques K. Gilbert Mayor

ATTEST:

Julie A. Reid Interim Town Clerk

APPROVED AS TO FORM:

Laurie L. Hohe Town Attorney

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for consideration by the Apex Town Council

Item Type:CONSENT AGENDAMeeting Date:April 12, 2022

Item Details

Presenter(s): Chad Lemasters, Operations Manager

Department(s): Public Works & Transportation

Requested Motion

Motion to approve Apex Yard Waste Agreement with Greenway Waste Solution of Apex LLC.

Approval Recommended?

Yes

<u>Item Details</u>

The Town of Apex and Greenway Waste Solutions of Apex, LLC (formerly Highway 55 C&D Landfill, LLC) had an agreement that allowed the town to dispose of unlimited amounts of yard waste at their business located at 5940 Old Smithfield Road in Apex for free in exchange for the Town providing water and sewer services to the business for the term of the agreement at the Town's then-prevailing in-town rates and fees other than capacity fees. Due to limited space at Greenway's facility and the significant, unexpected growth in Apex, the terms of the agreement need to be changed from an unlimited capacity for free to a maximum of 50 truckloads per month with an average load weight of 6,500 pounds per truck. This agreement is for a term of 5 years and can be terminated immediately by the non-defaulting party. In addition, the Town may terminate this agreement upon six (6) months prior written notice to the company.

<u>Attachments</u>

• Apex Yard Waste Agreement 032822



STATE OF NORTH CAROLINA)) WAKE COUNTY)) YARD WASTE SERVICE AGREEMENT

THIS YARD WASTE SERVICE AGREEMENT (this "Agreement"), is made this the 28th Day of March, 2022_by and between <u>GREENWAY WASTE SOLUTIONS of APEX, LLC</u> a North Carolina limited liability company (the "Company"} and THE TOWN OF APEX, a North Carolina municipal corporation located in Wake County, North Carolina (the "Town") (collectively, the "Parties").

WITNESSETH:

WHEREAS, the Company owns and operates a construction and debris landfill in western Wake County, North Carolina, which is located within the Town's extraterritorial jurisdiction (the "Landfill"); and

WHEREAS, the Landfill is the closest such facility to the Town; and

WHEREAS, the Town currently offers and provides regularly-scheduled curbside collection of various yard wastes, including grass clippings, leaves, wood chips and other organic debris (collectively, the "Yard Wastes"); and

WHEREAS, the current and projected volume of the Yard Wastes collected by the Town has placed and will continue to place significant demands and responsibilities on the Town, and has exceeded and will continue to exceed the Town's capacity for disposing of the Yard Wastes; and

WHEREAS, in order to provide for the continued outstanding and efficient provision of waste collection and disposal services to the citizens of the Town, the Parties have agreed to the following terms to provide for disposal of the Yard Wastes.

NOW, THEREFORE, in consideration of the mutual benefits to the Parties and the citizens of the Town, and in consideration of the promises contained herein, the receipt and sufficiency of which are hereby acknowledged, the Parties agree as follows:

- 1. The initial term of this Agreement shall be five (5) years from the date of execution hereof (the "Initial Term"). Provided, however, that the Parties may renew this Agreement for successive renewal terms of five (5) years by mutual written agreement prior to expiration of the Initial Term or then-current renewal term.
- 2. <u>The Company authorizes the Town and its designated agents to deposit, dump, or</u> <u>otherwise dispose of (up to) 50 truckloads of yard waste per month without charge to the Town</u> <u>and its designated agents.</u> Provided, however, that the Town may only deposit, dump, or otherwise dispose of such Yard Wastes that originate from real property located within the Town's municipal corporate limits and extraterritorial jurisdiction, including extensions thereto

during the Initial Term or any renewal term of this Agreement. <u>A "truckload" is defined as the historical average load weight of 6,500 pounds.</u>

- 3. The Landfill shall obtain and maintain all necessary permits, certifications, authorizations and other governmental approvals to permit the Town and its designated agents to deposit, dump or otherwise dispose of <u>the above referenced</u> quantities of Yard Wastes at the Landfill and otherwise enjoy all rights granted to the Town by this Agreement, including but not limited to a recycling permit from the North Carolina Department of Environment and Natural Resources (the "Permit"). Provided, however, that nothing herein shall obligate the Town to dispose of any Yard Wastes or any other materials at the Landfill.
- 4. The Company shall weigh the Yard Wastes each time the Town or its designated agents deposit, dump or otherwise dispose of Yard Wastes at the Landfill pursuant to this Agreement, and shall provide the Town (by and through the Town's employee or designated agent responsible for depositing, dumping or otherwise disposing of the Yard Wastes at the Landfill with a weight ticket summarizing the type and weight of the Yard Wastes deposited, dumped or otherwise disposed of at the Landfill on each such occasion.
- 5. The Company may recycle the Yard Wastes and offer and provide such recycled materials (e.g., compost, mulch, etc.) for pick-up by the Town's citizens and property owners at the Landfill for a reasonable fee on a minimum of two (2) days each month during the Initial Term and any renewal term of this Agreement The Company authorizes the Town to advertise, publicize or otherwise notify the Town's citizens and property owners of the availability of such recycled materials at the Landfill (including but not limited to using the Company's and the Landfill's names, addresses, marks and other identifying information), and authorizes the Town to invite its citizens to visit the Landfill for the purpose of obtaining such recycled materials for a reasonable fee on such days. The Company shall notify the Town of the days on which such recycled materials will be available for pick-up at the Landfill at least thirty (30) days in advance so that the Town may advertise, publicize or otherwise notify the Town's citizens and property owners of the applicable dates. The Company shall properly dispose of any unclaimed recycled Yard Wastes in accordance with all applicable Federal, State and local laws, statutes, ordinances, rules, regulations, policies and specifications, including but not limited to the provisions of the Permit.
- 6. In consideration of the promises and covenants in this Agreement, the Town shall provide municipal water and sewer services to the existing structure at the Landfill during the term of this Agreement at the Town's then-prevailing in-town rates, rents, fees or other charges for such services (other than capital reimbursement fees), and subject to the Town's then-prevailing utilities ordinances, policies, rules, regulations and specification as amended hereafter by the Town. Provided, however, that the Town's obligation to provide such municipal services shall automatically terminate immediately upon (i) the expiration or termination of this Agreement for any reason, or (ii) the expiration or termination of the Permit. The Company shall install, construct and maintain, at its sole cost, all necessary utilities infrastructure and appurtenant facilities on its property in accordance with the Town's ordinances, policies, rules, regulations and specifications.

- 7. To the maximum extent permitted by law, the Company and its successors and assigns agree to and shall indemnify and hold the Town, its officials (elected and appointed), commissioners, council members, employees, managers, insurers, attorneys, agents, representatives, successors and assigns, jointly and severally, harmless from and against any and all threatened and actual claims, suits, demands, causes of action, actions, judgments, damages, liability, losses, penalties, fines, assessments, violations, notices of violations, costs, fees and expenses (including, without limitation, attorneys' fees and expenses) arising out of, or relating (or alleged to arise out of or relate) in any way to this Agreement, including but not limited to any claims, suits, demands, causes of action, actions, judgments, damages, liability, losses, penalties, fines, assessments, violations, notices of violations, costs, fees and expenses (including, without limitation, attorneys' fees and expenses) for alleged negligence, gross negligence, personal injury, bodily harm, property damage, or any other form of damages arising out of or relating (or alleged to arise out of or relate) in any way to the Company's alleged actions or omissions. The obligations in this Paragraph 7 shall survive the expiration or termination of this Agreement for any reason.
- 8. The company will maintain and show proof of commercial general liability insurance, and commercial automobile liability insurance in minimum amounts of \$1,000,000 each coverage; and workers compensation and employee liability coverage in the minimum amount of \$500,000. Likewise the Town of Apex agrees to maintain and show proof of commercial general liability insurance, and commercial automobile liability insurance in minimum amounts of \$1,000,000 each coverage, and workers compensation and employee liability coverage in the minimum amounts of \$1,000,000 each coverage, and workers compensation and employee liability coverage in the minimum amount of \$500,000.
- 9. The terms and provisions contained herein, together with the attachments hereto, constitute the entire agreement and understanding of the Parties, and shall supersede all previous communications, statements, negotiations, representations, promises, understandings, contracts or agreements, oral or written, with respect to the subject matter hereof. This Agreement may be modified or amended only by a written instrument duly executed by both Parties.
- 10. Upon the default by either party of any term or condition in this Agreement (and if such default is not cured within sixty (60) days after receipt of written notice thereof), this Agreement may be terminated immediately by the non-defaulting party by mailing or otherwise providing written notice thereof to the defaulting party. In addition, the Town may terminate this Agreement upon six (6) months prior written notice to the Company. Provided, however, that the provisions of Paragraphs 7-8 and 11-18, inclusive, shall survive the expiration or termination of this Agreement for any reason.
- 11. This Agreement shall remain in full force and effect until modified or terminated as herein provided.
- 12. This Agreement and all documents referred to herein shall be governed by and construed and interpreted in accordance with the laws of the State of North Carolina.
- 13. All communications and notices hereunder shall be in writing and shall be (i) delivered by hand, (ii) sent prepaid by overnight delivery, or (iii) sent by the United States Postal Service,

postage prepaid, certified mail, return receipt requested, to the addresses designated below, or to such other address(es) as either party hereto may hereafter designate in writing from time to time:

To the Company:

Greenway Waste Solutions of Apex, LLC <u>19109 W. Catawba Ave., Ste. 110</u> Cornelius, North Carolina 28031-5613

To the Town:

Town of Apex ATTN.: Director of Public Works Post Office Box 250 Apex, North Carolina 27502

- 14. The waiver by either of the Parties of any breach or violation of any terms or provisions of this Agreement by any other party hereto shall not operate as a waiver of any other breach or violation.
- 15. The provisions of this Agreement are hereby deemed by the Parties to be severable, and the invalidity or unenforceability of any one or more of the provisions of this Agreement shall not affect the validity and enforceability of the remaining provisions hereof.
- 16. The relationship between the Town and the Company is solely that of contracting parties, and nothing in this Agreement shall constitute the Company as the agent, employee or legal representative of the Town, or establish any fiduciary relationship of any kind, for any purpose whatsoever; nor shall the Company hold itself out as such. The Company shall have no authority to bind or commit the Town in any manner or for any purpose but rather shall act and conduct itself in all respects as an independent entity. This Agreement creates no relationship of agency, joint venturers, partners or associates between the Parties, and all parties hereto agree that they are acting as principals.
- 17. The rights, duties, and obligations of the Parties under this Agreement shall inure to the benefit of and shall be binding upon the Parties and their respective permitted successors and assigns. Neither this Agreement nor the respective rights, duties, obligations and responsibilities of the Company under this Agreement may be assigned or transferred, in whole or in part, including without limitation by operation of law or by merger of the Company, by the Company to any other person, firm or organization (including any sub-agents thereof) without the prior written consent of the Town.
- 18. Nothing in this Agreement shall create a contractual relationship with or create a benefit or cause of action in favor of any third party against a party hereto, and no third party shall be entitled to rely upon or enforce this Agreement or to be a third-party beneficiary thereof.

- 19. The rights and remedies stated in this Agreement are not exclusive. The Parties, in the event of a breach of this Agreement or any other dispute, are entitled to pursue any of the remedies provided in this Agreement or any other remedies available under North Carolina law. The Parties expressly acknowledge that the remedy of specific performance shall be an appropriate remedy to enforce the provisions of this Agreement. The Parties also acknowledge that any material breach of this Agreement will result in immediate and irreparable injury to the non-breaching party, and therefore the non-breaching party shall be entitled, without limitation of remedy, to an injunction or other equitable relief restraining the breaching Party from any continuing violation of this Agreement.
- 20. Pursuant to Section 3-2 of the Town of Apex Code of Ordinances, Company hereby warrants and agrees that Company will not discriminate against a protected class in employment, subcontracting practices, or the solicitation or hiring of vendors, suppliers, or commercial customers in connection with this Agreement. For the purposes of this Agreement "protected class" includes age, race, religious belief or non-belief, ethnicity, color, national origin, creed, sex, sexual orientation, gender identity, marital status, natural hair style, genetic information, pregnancy, familial status, disability, veteran or military status, or disabled veteran status.

IN WITNESS WHEREOF, the undersigned have caused this Agreement to be executed by the Company by and through its Manager, and attested by its Corporate Secretary. The Town has caused this Agreement to be executed in its name by the Town Manager and attested by the Town Clerk, all authorized by the Town's Council effective the day and year first above written.

Greenway Waste Solutions of Apex, LLC

By: Mit fit

Mike Griffin, Manager/Member

Attest: By:_____

Print Name: John Brown, COO

Town of Apex

By:		
Print Name:		

Attest:

By:_____ Print Name:

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for consideration by the Apex Town Council

Item Type:CONSENT AGENDAMeeting Date:April 12, 2022

Item Details

Presenter(s): Amanda Grogan, Budget and Performance Manager

Department(s): Administration Department

Requested Motion

Motion to approve the American Rescue Plan Act policies (Nondiscrimination, Cost Principles, Eligible Use, Project Review, Real Property, Record Retention) Uniform Guidance Procurement and Conflict of Interest Policy.

Approval Recommended?

Yes

<u>Item Details</u>

In order for the town to comply with the American Rescue Plan Act (ARPA) Final Rule requirements, staff recommends for the following policies be adopted.

<u>ARPA Nondiscrimination Policy</u> is not repealing or replacing the town's ordinance but clarifies that the town meets the federal contracting requirements related to nondiscrimination.

<u>ARPA Cost Principles Policy</u> adheres to Subpart E of the Uniform Guidance and specifies the allowable costs and cost principle for expenditure of ARP/CSLFRF funs.

<u>ARPA Eligible Use Policy</u> adheres the 2 CFR Part 200.303 which requires the Town to develop and implement effective internal controls to ensure that funding decisions under the SLFRF award constitute eligible uses of funds, and document determinations.

<u>ARPA Project Review Policy</u> aids the Town in management of the SLFRF funds and ensures compliance with the required compliance and reporting guidance. It establishes procedures for the Town to seek, receive, and expend ARPA funds.

<u>ARPA Real Property Policy</u> details post award requirements related to property management of property acquired or updated, in whole or in part, with funds from the CSLFRF.

<u>ARPA Record Retention Policy</u> follows the Treasury's record retention requirements, including the covered records, storage requirements, department responsibilities, and reporting policy violations.

<u>Uniform Guidance Procurement and Conflict of Interest Policy</u> establishes guidelines that meet or exceed the procurement requirements for purchases of goods, services, and construction and repair projects when federal funds are being uses in whole or in part to pay for the cost of the contract. Not ARPA specific, but will apply to all ARPA funds as it is federally funded.

<u>Attachments</u>

- ARPA Nondiscrimination Policy
- ARPA Cost Principles Policy
- ARPA Eligible Use Policy
- ARPA Project Review Policy
- ARPA Real Property Policy
- ARPA Record Retention Policy



TOWN OF APEX POLICY PROHIBITING DISCRIMINATION IN ADMINISTRATION OF CSLFRF FUNDS

WHEREAS, the Town of Apex has received an allocation of funds from the "Coronavirus State Fiscal Recovery Fund" or "Coronavirus Local Fiscal Recovery Fund" (together "CSLFRF funds"), established pursuant to Sections 602 and 603 of the Social Security Act, as added by Section 9901 of the American Rescue Plan Act of 2021, Pub. L. No. 117-2 (the "ARP/CSLFRF award"); and

WHEREAS, CSLFRF funds are subject to the U.S. Department of Treasury ("Treasury") regulations, including the Final Rule, the Award Terms and Conditions, and the Title VII implementing regulations at 31 C.F.R. Part 22; and

WHEREAS, pursuant to the ARP/CSLFRF Award Terms and Conditions, and as a condition of receiving CSLFRF funds, the Town of Apex agrees to follow all federal statutes and regulations prohibiting discrimination in its administration of CSLFRF under the terms and conditions of the ARP/CSLFRF award, including, without limitation, the following:

- 1. Title VI of the Civil Rights Act of 1964 (42 U.S.C. §§ 2000d et seq.) and Treasury's implementing regulations at 31 C.F.R. Part 22, which prohibit discrimination on the basis of race, color, or national origin within programs or activities receiving federal financial assistance;
- 2. The Fair Housing Act, Title VIII of the Civil Rights Act of 1968 (42 U.S.C. §§ 3601 et seq.), which prohibits discrimination in housing on the basis of race, color, religion, national origin, sex, familial status, or disability;
- 3. Section 504 of the Rehabilitation Act of 1973, as amended (29 U.S.C. § 794), which prohibits discrimination on the basis of disability under any program or activity receiving Federal financial assistance;
- 4. The Age Discrimination Act of 1975, as amended (42 U.S.C. §§ 6101 et seq.), and Treasury's implementing regulations at 31 C.F.R. Part 23, which prohibit discrimination on the basis of age in programs or activities receiving federal financial assistance; and
- 5. Title II of the Americans with Disabilities Act of 1990, as amended (42 U.S.C. §§ 12101 et seq.), which prohibits discrimination on the basis of disability under programs, activities, and services provided or made available by state and local governments or instrumentalities or agencies thereto.

WHEREAS, on or about June 8, 2021, the Town Council adopted a Nondiscrimination ordinance, the purpose of which is to protect and safeguard the right and opportunity of all persons in protected classes, as defined in the ordinance, to be free from discrimination.

BE IT RESOLVED that the Town Council of the Town of Apex hereby adopts and enacts the following nondiscrimination policy, which shall apply to the operations of any program, activity, or facility that is supported in whole, or in part, by expenditures CSLFRF pursuant to the ARP/CSLFRF award.



Nondiscrimination Policy Statement

It is the policy of the Town of Apex to ensure that no person shall, on the ground of race, color, national origin (including limited English Proficiency), familial status, sex, age, or disability, be excluded from participation in, be denied the befits of, or be otherwise subject to discrimination under any program or activity administered by the Town of Apex, including programs or activities that are funded in whole or part, with Coronavirus State and Local Fiscal Recovery Funds ("CSLFRF"), which the Town of Apex received from the U.S. Department of Treasury ("Treasury") pursuant to Sections 602 and 603 of the Social Security Act, as added by Section 9901 of the American Rescue Plan Act of 2021, Pub. L. No. 117-2 (herein the "ARP/CSLFRF").

It is further the policy of the Town of Apex, pursuant to Section 3-2 of the Town of Apex Code of Ordinances, not to enter into, or maintain a contractual relationship with, any business, entity, or company that discriminates against a protected class in employment, subcontracting practices, or the solicitation or hiring of vendors, supplies, or commercial customers in connection with a town contract. Protected class means an individual's age, race, religion, religious belief or non-belief, ethnicity, color, national origin, creed, sex, sexual orientation, gender identity, marital status, natural hair style, genetic information, pregnancy, familial status, disability, veteran or military status, or disabled veteran status.

I. <u>Governing Statutory & Regulatory Authorities</u>

As required by the CSLFRF <u>Award Terms and Conditions</u>, the Town of Apex shall ensure that each "activity," "facility," or "program"¹ that is funded in whole, or in part, with CSLFRF and administered under the ARP/CSLFRF award, will be facilitated, operated, or conducted in compliance with the following federal statutes and federal regulations prohibiting discrimination. These include, but are not limited to, the following:

- 1. Title VI of the Civil Rights Act of 1964 (42 U.S.C. §§ 2000d et seq.) and Treasury's implementing regulations at 31 C.F.R. Part 22, which prohibit discrimination on the basis of race, color, or national origin under programs or activities receiving federal financial assistance;
- 2. The Fair Housing Act, Title VIII of the Civil Rights Act of 1968 (42 U.S.C. §§ 3601 et seq.), which prohibits discrimination in housing on the basis of race, color, religion, national origin, sex, familial status, or disability;
- 3. Section 504 of the Rehabilitation Act of 1973, as amended (29 U.S.C. § 794), which prohibits discrimination on the basis of disability under any program or activity receiving federal financial assistance;

¹ 22 C.F.R. § 22.3 defines "program" and "activity" as all operations of an entity, including local governments, that receive Federal financial assistance, and the departments, agencies, or special purpose districts of the local governments to which Federal financial assistance is distributed. "Federal financial assistance" includes, among other things, grants and loans of federal funds. "Facility" includes all or any part of structures, equipment, or other real or personal property or interests therein, and the provision of facilities includes the construction, expansion, renovation, remodeling, alteration, or acquisition of facilities.

- 4. The Age Discrimination Act of 1975, as amended (42 U.S.C. §§ 6101 et seq.), and Treasury's implementing regulations at 31 C.F.R. Part 23, which prohibit discrimination on the basis of age within programs or activities receiving federal financial assistance; and
- 5. Title II of the Americans with Disabilities Act of 1990, as amended (42 U.S.C. §§ 12101 et seq.), which prohibits discrimination on the basis of disability under programs, activities, and services provided or made available by state and local governments or instrumentalities or agencies thereto.

II. <u>Discriminatory Practices Prohibited in the Administration of the ARP/CSLFRF</u> <u>Award</u>

To ensure compliance with Title VII of the Civil Rights Act of 1964, and Title 31 Code of Federal Regulations, Part 22, the Civil Rights Restoration Act of 1987, and other pertinent nondiscrimination authorities, the Town of Apex shall prohibit, at a minimum, the following practices in its administration of CSLFRF pursuant to the ARP/CSLFRF award:

- 1. Denying to a person any service, financial aid, or other program benefit without good cause;
- 2. Providing to a person any service, financial aid, or another benefit which is different in quantity or quality, or is provided in a different manner, from that provided to others under the program.
- 3. Subjecting a person to segregation or separate treatment in any matter related to the receipt of any service, financial aid, or other benefit under the program;
- 4. Restricting a person in the enjoyment of any advantages, privileges, or other benefits enjoyed by others receiving any service, financial aid, or other benefit under the program;
- 5. Treating a person differently from others in determining whether that person satisfies any admission, enrollment, quota, eligibility, membership, or other requirement or condition which persons must meet to be provided any service, financial aid, or other benefit provided under the program;
- 6. Implementing different standards, criteria, or other requirements for admission, enrollment, or participation in planning, advisory, contractual, or other integral activities to the program;
- 7. Adopting methods of administration which, directly or through contractual relationships, would defeat or substantially impair the accomplishment of effective nondiscrimination;
- 8. Selecting a site or location of facilities with the purpose or effect of excluding persons from, denying them the benefits of, subjecting them to discrimination, or with the purpose or effect of defeating or substantially impairing the accomplishment of the objectives of Title VI or related acts and regulations;
- 9. Discriminating against any person, either directly or through a contractual agreement, in any employment resulting from the program, a primary objective of which is to provide employment;
- 10. Committing acts of intimidation or retaliation, including threatening, coercing, or discriminating against any individual for the purpose of interfering with any right or privilege secured by any pertinent nondiscrimination law, or because an individual made a complaint, testified, assisted, or participated in an investigation, proceeding, or hearing.

III. <u>Reporting & Enforcement</u>

- 1. The Town of Apex shall cooperate in any enforcement or compliance review activities by the Department of the Treasury. Enforcement may include investigation, arbitration, mediation, litigation, and monitoring of any settlement agreements that may result from these actions. The Town of Apex shall comply with information requests, on-site compliance reviews, and reporting requirements.
- 2. The Town of Apex shall maintain a complaint log and inform the Treasury of any complaints of discrimination on the grounds of race, color, or national origin (including limited English proficiency) covered by Title VI of the Civil Rights Act of 1964 and implementing regulations and provide, upon request, a list of all such reviews or proceedings based on the complaint, whether pending or completed, including the outcome. The Town of Apex shall inform the Treasury if it has received no complaints under Title VI.
- 3. Any person who believes they have been aggrieved by a discriminatory practice under Title VI has a right to file a formal complaint with the Treasury. Any such complaint must be in writing and filed with the Treasury's Title VI Coordinator within one hundred eighty (180) days following the date of the alleged discriminatory occurrence.
- 4. Any person who believes that because of that person's race, color, national origin, limited English proficiency, familial status, sex, age, religion, or disability that he/she/they have been discriminated against or unfairly treated by the Town of Apex in violation of this policy should contact the following office within 180 days from the date of the alleged discriminatory occurrence:

Town Manager's Office Town of Apex PO Box 250 Apex, NC 27502 919-249-1042

IV. Policy Implementation

Severability. If any provision of this policy or any rule, regulation, or order thereunder of the application of such provision to any person or circumstances is held invalid, the remainder of this policy and the application of such remaining provisions of this policy or such rules, regulations, or orders to any person or circumstances other than those held invalid will not be affected thereby.

<u>Town Code of Ordinances</u>. This policy does not repeal or replace Chapter 3 of the Town of Apex Code of Ordinances. In the event of a conflict between Chapter 3 of the Code and this policy, the town shall interpret and apply the provisions of each in the manner most favorable to protecting and safeguarding the right and opportunity of all persons in protected classes to be free from discrimination and in compliance with all federal and state laws and constitutions.

Amendments. The Town Council has the authority to amend, revise, or repeal all or any portion of this policy as it sees fit.

Effective Date. This policy shall go into effect on April 12, 2022.



TOWN OF APEX ALLOWABLE COSTS AND COST PRINCIPLES POLICY

WHEREAS the Town of Apex, has received an allocation of funds from the Coronavirus State and Local Fiscal Recovery Funds of H.R. 1319 American Rescue Plan Act of 2021 (ARP/CSLFRF); and

WHEREAS the funds may be used for projects within the categories below, to the extent authorized by state law:

- 1. Support COVID-19 public health expenditures, by funding COVID-19 mitigation and prevention efforts, medical expenses, behavioral healthcare, preventing and responding to violence, and certain public health and safety staff;
- 2. Address negative economic impacts caused by the public health emergency, including economic harms to households, small businesses, non-profits, impacted industries, and the public sector;
- 3. Replace lost public sector revenue, using this funding to provide government services;
- 4. Provide premium pay for essential workers, offering additional support to those who have borne and will bear the greatest health risks because of their service in critical infrastructure sectors; and,
- 5. Invest in water, sewer, and broadband infrastructure, making necessary investments to improve access to clean drinking water, support vital wastewater and stormwater infrastructure, and to expand access to broadband internet.

WHEREAS the ARP/CSLFRF are subject to the provisions of the federal Uniform Grant Guidance, 2 CFR Sect. 200 (UG), as provided in the <u>Assistance Listing</u>; and

WHEREAS the <u>Compliance and Reporting Guidance for the State and Local Fiscal Recovery</u> <u>Funds</u> provides, in relevant part:

Allowable Costs/Cost Principles. As outlined in the Uniform Guidance at 2 CFR Part 200, Subpart E regarding Cost Principles, allowable costs are based on the premise that a recipient is responsible for the effective administration of Federal awards, application of sound management practices, and administration of Federal funds in a manner consistent with the program objectives and terms and conditions of the award. Recipients must implement robust internal controls and effective monitoring to ensure compliance with the Cost Principles, which are important for building trust and accountability.

[ARP/CSLFRF] Funds may be, but are not required to be, used along with other funding sources for a given project. Note that [ARP/CSLFRF] Funds may not be used for a non-Federal cost share or match where prohibited by other Federal programs, e.g., funds may not be used for the State share for Medicaid.

Treasury's Interim Final Rule and guidance and the Uniform Guidance outline the types of costs that are allowable, including certain audit costs. For example, per 2 CFR 200.425, a reasonably proportionate share of the costs of audits required by the Single Audit Act

Amendments of 1996 are allowable; however, costs for audits that were not performed in accordance with 2 CFR Part 200, Subpart F are not allowable. Please see 2 CFR Part 200, Subpart E regarding the Cost Principles for more information.

- a. Administrative costs: Recipients may use funds for administering the SLFRF program, including costs of consultants to support effective management and oversight, including consultation for ensuring compliance with legal, regulatory, and other requirements. Further, costs must be reasonable and allocable as outlined in 2 CFR 200.404 and 2 CFR 200.405. Pursuant to the [ARP/CSLFRF] Award Terms and Conditions, recipients are permitted to charge both direct and indirect costs to their SLFRF award as administrative costs. Direct costs are those that are identified specifically as costs of implementing the [ARP/CSLFRF] program objectives, such as contract support, materials, and supplies for a project. Indirect costs are general overhead costs of an organization where a portion of such costs are allocable to the [ARP/CSLFRF] award such as the cost of facilities or administrative functions like a director's office. Each category of cost should be treated consistently in like circumstances as direct or indirect, and recipients may not charge the same administrative costs to both direct and indirect cost categories, or to other programs. If a recipient has a current Negotiated Indirect Costs Rate Agreement (NICRA) established with a Federal cognizant agency responsible for reviewing, negotiating, and approving cost allocation plans or indirect cost proposals, then the recipient may use its current NICRA. Alternatively, if the recipient does not have a NICRA, the recipient may elect to use the de minimis rate of 10 percent of the modified total direct costs pursuant to 2 CFR 200.414(f).
- b. <u>Salaries and Expenses</u>: In general, certain employees' wages, salaries, and covered benefits are an eligible use of [ARP/CSLFRF] award funds; and

WHEREAS Subpart E of the UG dictates allowable costs and cost principles for expenditure of ARP/CSLFRF funds; and

WHEREAS Subpart E of the UG (specifically, 200.400) states that:

The application of these cost principles is based on the fundamental premises that:

- (a) The non-Federal entity is responsible for the efficient and effective administration of the Federal award through the application of sound management practices.
- (b) The non-Federal entity assumes responsibility for administering Federal funds in a manner consistent with underlying agreements, program objectives, and the terms and conditions of the Federal award.
- (c) The non-Federal entity, in recognition of its own unique combination of staff, facilities, and experience, has the primary responsibility for employing whatever form of sound organization and management

techniques may be necessary in order to assure proper and efficient administration of the Federal award.

- (d) The application of these cost principles should require no significant changes in the internal accounting policies and practices of the non-Federal entity. However, the accounting practices of the non-Federal entity must be consistent with these cost principles and support the accumulation of costs as required by the principles and must provide for adequate documentation to support costs charged to the Federal award.
- (e) In reviewing, negotiating and approving cost allocation plans or indirect cost proposals, the cognizant agency for indirect costs should generally assure that the non-Federal entity is applying these cost accounting principles on a consistent basis during their review and negotiation of indirect cost proposals. Where wide variations exist in the treatment of a given cost item by the non-Federal entity, the reasonableness and equity of such treatments should be fully considered.
- (f) For non-Federal entities that educate and engage students in research, the dual role of students as both trainees and employees (including pre- and post-doctoral staff) contributing to the completion of Federal awards for research must be recognized in the application of these principles.
- (g) The non-Federal entity may not earn or keep any profit resulting from Federal financial assistance, unless explicitly authorized by the terms and conditions of the Federal award;

BE IT RESOLVED that the governing board of Town of Apex hereby adopts and enacts the following Allowable Costs and Cost Principles Policy for the expenditure of ARP/CSLFRF funds.

I. ALLOWABLE COSTS AND COSTS PRINCIPLES POLICY OVERVIEW

Title 2 U.S. Code of Federal Regulations Part 200, Uniform Administrative Requirements, Cost Principles, and Audit Requirements for Federal Awards, commonly called Uniform Guidance (UG), specifically Subpart E, defines those items of cost that are allowable, and which are unallowable. The tests of allowability under these principles are: (a) the costs must be reasonable; (b) they must be allocable to eligible projects under the Coronavirus State and Local Fiscal Recovery Funds of H.R. 1319 American Rescue Plan Act of 2021 (ARP/CSLFRF); (c) they must be given consistent treatment through application of those generally accepted accounting principles appropriate to the circumstances; and (d) they must conform to any limitations or exclusions set forth in these principles or in the ARP/CSLFRF grant award as to types or amounts of cost items. Unallowable items fall into two categories: expenses which are by their nature unallowable (e.g., alcohol), and unallowable activities (e.g., fund raising).

<u>Town of Apex</u> shall adhere to all applicable cost principles governing the use of federal grants. This policy addresses the proper classification of both direct and indirect charges to ARP/CSLFRF funded projects and enacts procedures to ensure that proposed and actual expenditures are consistent with the ARP/CSLFRF grant award terms and all applicable federal regulations in the UG.

Responsibility for following these guidelines lies with all staff members and Department Directors that administer contracts, purchases, or other expenditures of ARP/CSLFRF funds and employees

that approve or oversee said expenditures. Further, all local government employees and officials who are involved in obligating, administering, expending, or monitoring ARP/CSLFRF grant funded projects should be well versed with the categories of costs that are generally allowable and unallowable. Questions on the allowability of costs should be directed to the Town of Apex Office of Budget, Performance & Strategy. As questions on allowability of certain costs may require interpretation and judgment, local government personnel are encouraged to ask for assistance in making those determinations.

II. GENERAL COST ALLOWABILITY CRITERIA

All costs expended using ARP/CSLFRF funds must meet the following general criteria:

1. Be necessary and reasonable for the proper and efficient performance and administration of the grant program.

A cost must be *necessary* to achieve a project object. When determining whether a cost is necessary, consideration may be given to:

- Whether the cost is needed for the proper and efficient performance of the grant project.
- Whether the cost is identified in the approved project budget or application.
- Whether the cost aligns with identified needs based on results and findings from a needs assessment.
- Whether the cost addresses project goals and objectives and is based on program data.

A cost is *reasonable* if, in its nature and amount, it does not exceed that which would be incurred by a prudent person under the circumstances prevailing at the time the decision to incur the cost was made. *For example, reasonable means that sound business practices were followed, and purchases were comparable to market prices.* When determining reasonableness of a cost, consideration must be given to:

- Whether the cost is a type generally recognized as ordinary and necessary for the operation of the Town of Apex or its services, or the proper and efficient performance of the federal award.
- The restraints or requirements imposed by factors, such as: sound business practices; arm's-length bargaining; federal, state, and other laws and regulations; and terms and conditions of the ARP/CSLFRF award.
- Market prices for comparable goods or services for the geographic area.
- Whether individuals concerned acted with prudence in the circumstances considering their responsibilities to Town of Apex, its employees, the public at large, and the federal government.

- Whether Town of Apex significantly deviates from its established practices and policies regarding the incurrence of costs, which may unjustifiably increase the ARP/CSLFRF award's cost.
- 2. Be allocable to the ARP/CSLFRF federal award. A cost is allocable to the ARP/CSLFRF award if the goods or services involved are chargeable or assignable to the ARP/CSLFRF award in accordance with the relative benefit received. This means that the ARP/CSLFRF grant program derived a benefit in proportion to the funds charged to the program. For example, if 50 percent of a local government program officer's salary is paid with grant funds, then the local government must document that the program officer spent at least 50 percent of his/her/their time on the grant program.

If a cost benefits two or more projects or activities in proportions that can be determined without undue effort or cost, the cost must be allocated to the projects based on the proportional benefit. If a cost benefits two or more projects or activities in proportions that cannot be determined because of the interrelationship of the work involved, then the costs may be allocated or transferred to benefitted projects on any reasonable documented basis. Where the purchase of equipment or other capital asset is specifically authorized by the ARP/CSLFRF, the costs are assignable to the Federal award regardless of the use that may be made of the equipment or other capital asset involved when no longer needed for the purpose for which it was originally required.

- 3. Be authorized and not prohibited under state or local laws or regulations.
- 4. Conform to any limitations or exclusions set forth in the principles, federal laws, ARP/CSLFRF award terms, and other governing regulations as to types or amounts of cost items.
- 5. Be consistent with policies, regulations, and procedures that apply uniformly to both the ARP/CSLFRF federal award and other activities of Town of Apex.
- 6. Be accorded consistent treatment. A cost MAY NOT be assigned to a federal award as a direct cost and also be charged to a federal award as an indirect cost. And a cost must be treated consistently for both federal award and non-federal award expenditures.
- 7. Be determined in accordance with generally accepted accounting principles (GAAP), unless provided otherwise in the UG.
- 8. Be net of all applicable credits. The term "applicable credits" refers to those receipts or reduction of expenditures that operate to offset or reduce expense items allocable to the federal award. Typical examples of such transactions are purchase discounts; rebates or allowances; recoveries or indemnities on losses; and adjustments of overpayments or erroneous charges. To the extent that such credits accruing to and received by the local government are related to the federal award, they shall be credited to the ARP/CSLFRF award, either as a cost reduction or a cash refund, as appropriate and consistent with the award terms.
- 9. Be adequately documented.

III. SELECTED ITEMS OF COST

The UG examines the allowability of fifty-five (55) specific cost items (commonly referred to as Selected Items of Cost) at 2 CFR § 200.420-.475.

The Office of Budget, Performance & Strategy or other department that is responsible for determining cost allowability must be familiar with the Selected Items of Cost. The Town of Apex must follow the applicable regulations when charging these specific expenditures to the ARP/CSLFRF grant. The Office of Budget, Performance& Strategy personnel will check costs against the selected items of cost requirements to ensure the cost is allowable and that all process and documentation requirements are followed. In addition, State laws, Town of Apex <u>ordinances and regulations</u>, and program-specific rules may deem a cost as unallowable, and <u>Town</u> personnel must follow those non-federal rules as well.

Exhibit A identifies and summarizes the Selected Items of Cost.

IV. DIRECT AND INDIRECT COSTS

Allowable and allocable costs must be appropriately classified as direct or indirect charges. It is essential that each item of cost be treated consistently in like circumstances either as a direct or an indirect cost.

Direct costs are expenses that are specifically associated with a particular ARP/CSLFRF-eligible project and that can be directly assigned to such activities relatively easily with a high degree of accuracy. Common examples of direct costs include salary and fringe benefits of personnel directly involved in undertaking an eligible project, equipment and supplies for the project, subcontracted service provider, or other materials consumed or expended in the performance of a grant-eligible project.

Indirect costs are (1) costs incurred for a common or joint purpose benefitting more than one ARP/CSLFRF-eligible project, and (2) not readily assignable to the project specifically benefited, without effort disproportionate to the results achieved. They are expenses that benefit more than one project or even more than one federal grant. Common examples of indirect costs include utilities, local telephone charges, shared office supplies, administrative or secretarial salaries.

For indirect costs, the Town of Apex may charge a 10 percent de minimis rate of modified total direct costs (MTDC). According to UGSection 200.68 MTDC means all direct salaries and wages, applicable fringe benefits, materials and supplies, services, travel, and up to the first \$25,000 of each subaward (regardless of the period of performance the subawards under the award). MTDC EXCLUDES equipment, capital expenditures, charges for patient care, rental costs, tuition remission, scholarships and fellowships, participant support costs and the portion of each subaward in excess of \$25,000.

V. SPECIAL PROVISIONS FOR STATE AND LOCAL GOVERNMENTS

There are some special provisions of the UG that apply only to states, local governments, and Indian Tribes.

§ 200.444 General costs of government.

(a) For states, local governments, and Indian Tribes, the general costs of government are unallowable (except as provided in $\S 200.475$). Unallowable costs include:

(1) Salaries and expenses of the Office of the Governor of a <u>state</u> or the chief executive of a <u>local government</u> or the chief executive of an <u>Indian tribe</u>;

(2) Salaries and other expenses of a <u>state</u> legislature, tribal council, or similar local governmental body, such as a county supervisor, city council, school board, etc., whether incurred for purposes of legislation or executive direction;

(3) Costs of the judicial branch of a government;

(4) Costs of prosecutorial activities unless treated as a direct cost to a specific program if authorized by statute or regulation (however, this does not preclude the allowability of other legal activities of the Attorney General as described in \S 200.435); and

(5) Costs of other general types of government services normally provided to the general public, such as fire and police, unless provided for as a direct cost under a program statute or regulation.

(b) For <u>Indian tribes</u> and Councils of Governments (COGs) (see definition for *Local government* in § 200.1 of this part), up to 50% of salaries and expenses directly attributable to managing and operating <u>Federal programs</u> by the chief executive and his or her staff can be included in the indirect cost calculation without documentation.

[NOTE THAT EXPENDITURES OF ARP/CSLFRF FUNDS IN THE REVENUE REPLACEMENT CATEGORY ARE EXPLICITLY AUTHORIZED IN THE FINAL RULE TO BE SPENT ON GENERAL GOVERNMENT SERVICES.]

§ 200.416 COST ALLOCATION PLANS AND INDIRECT COST PROPOSALS.

(a) For states, local governments and Indian tribes, certain services, such as motor pools, computer centers, purchasing, accounting, etc., are provided to operating agencies on a centralized basis. Since Federal awards are performed within the individual operating agencies, there needs to be a process whereby these central service costs can be identified and assigned to benefitted activities on a reasonable and consistent basis. The central service cost allocation plan provides that process.

(b) Individual operating agencies (governmental department or agency), normally charge Federal awards for indirect costs through an indirect cost rate. A separate indirect cost rate(s) proposal for each operating agency is usually necessary to claim indirect costs under Federal awards. Indirect costs include:

(1) The indirect costs originating in each department or agency of the governmental unit carrying out Federal awards and

(2) The costs of central governmental services distributed through the central service cost allocation plan and not otherwise treated as direct costs.

(c) The requirements for development and submission of cost allocation plans (for central service costs and public assistance programs) and indirect cost rate proposals are contained in appendices V, VI and VII to this part.

§ 200.417 INTERAGENCY SERVICE.

The cost of services provided by one agency to another within the governmental unit may include allowable direct costs of the service plus a pro-rated share of indirect costs. A standard indirect cost allowance equal to ten percent of the direct salary and wage cost of providing the service (excluding overtime, shift premiums, and fringe benefits) may be used in lieu of determining the actual indirect costs of the service. These services do not include centralized services included in central service cost allocation plans as described in Appendix V to Part 200.

VI. COST ALLOWABILITY REVIEW PROCESS

PREAPPROVAL COST ALLOWABILITY REVIEW

Before an ARP/CSLFRF-funded project is authorized, the Office of Budget, Performance & Strategy must review the proposed cost items within an estimated project budget to determine whether they are allowable and allocable and whether cost items will be charged as direct or indirect expenses. This review will occur concurrently with the review of project eligibility and *before* obligating or expending any ARP/CSLFRF funds.

- Department Directors or designee(s) must submit proposed ARP/CSLFRF projects to the Office of Budget, Performance & Strategy for review. In addition to other required information, all proposed project submissions must delineate estimated costs by cost item.
- Along with a general review of project eligibility and conformance with other governing board management directives, the Office of Budget, Performance & Strategy must review estimated costs for specific allowable cost requirements, budget parameters, indirect rates, fringe benefit rates, and those activities/costs that require pre-approval by the US Treasury. For additional information see Town of Apex Eligible Project Policy for the Expenditure of ARP/CSLFRF funds.
- If a proposed project includes a request for an unallowable cost, the Office of Budget, Performance & Strategy will return the proposal to the requesting party for review and, if practicable, resubmission with corrected cost items.
- Once a proposed project budget is pre-approved by the Office of Budget, Performance & Strategy, the staff responsible for implementing the project must conform actual obligations and expenditures to the pre-approved project budget.

POST-EXPENDITURE COST ALLOWABILITY REVIEW

Once an expenditure is incurred related to an eligible project, and an invoice or other demand for payment is submitted to the town, the Office of Budget, Performance & Strategy must perform a second review to ensure that actual expenditures comprise allowable costs.
- All invoices or other demands for payment must include a breakdown by cost item. The cost items should mirror those presented in the proposed budget for the project. If an invoice or other demand for payment does not include a breakdown by cost item, the Department Director or designee will return the invoice to the project manager and/or vendor, contractor, or subrecipient for correction.
- The Department Director must review the individual cost items listed on the invoice or other demand for payment to determine their allowability and allocability. Questions about allowability or allocability will be directed to the Office of Budget, Performance & Strategy.
- If all cost items are deemed allowable and properly allocable, the staff member administering the contract or expenditure will proceed through the town's normal disbursement process.
- If any cost item is deemed unallowable, the Department director or designee will notify the project management and/or vendor, contractor, or subrecipient that a portion of the invoice or other demand for payment will not be paid with ARP/CSLFRF funds. The Department director or designee may in their discretion, and consistent with this policy, allow an invoice or other demand for payment to be resubmitted with a revised cost allocation. If the town remains legally obligated by contract or otherwise to pay the disallowed cost item, it must identify other town funds to cover the disbursement. Departments will first consult with the Town Attorney's office regarding legal obligations. Town Council must approve any allocation of other funds for this purpose if not already otherwise budgeted.
- The Department administering the project, contract, or expenditure must retain appropriate documentation of budgeted cost items per project and actual obligations and expenditures of cost items per project.

VII. COST TRANSFERS

Any costs charged to the ARP/CSLFRF federal award that do not meet the allowable cost criteria must be removed from the award account and charged to an account that does not require adherence to federal UG or other applicable guidelines.

Failure to adequately follow this policy and related procedures could result in questioned costs, audit findings, potential repayment of disallowed costs and discontinuance of funding.

EXHIBIT A

Selected Items of Cost	Uniform Guidance General Reference	Allowability
Advertising and public relations costs	2 CFR § 200.421	Allowable with restrictions
Advisory councils	2 CFR § 200.422	Allowable with restrictions
Alcoholic beverages	2 CFR § 200.423	Unallowable
Alumni/ae activities	2 CFR § 200.424	Not specifically addressed
Audit services	2 CFR § 200.425	Allowable with restrictions
Bad debts	2 CFR § 200.426	Unallowable
Bonding costs	2 CFR § 200.427	Allowable with restrictions
Collection of improper payments	2 CFR § 200.428	Allowable
Commencement and convocation costs	2 CFR § 200.429	Not specifically addressed
Compensation – personal services	2 CFR § 200.430	Allowable with restrictions; Special conditions apply (e.g., § 200.430(i)(5))
Compensation – fringe benefits	2 CFR § 200.431	Allowable with restrictions
Conferences	2 CFR § 200.432	Allowable with restrictions
Contingency provisions	2 CFR § 200.433	Unallowable with exceptions
Contributions and donations	2 CFR § 200.434	Unallowable (made by non-federal entity); not reimbursable but value may be used as cost sharing or matching (made to non-federal entity)
Defense and prosecution of criminal and civil proceedings, claims, appeals and patent infringements	2 CFR § 200.435	Allowable with restrictions

Depreciation	2 CFR § 200.436	Allowable with qualifications			
Employee health and welfare costs	2 CFR § 200.437	Allowable with restrictions			
Entertainment costs	2 CFR § 200.438	Unallowable with exceptions			
Equipment and other capital expenditures	2 CFR § 200.439	Allowability based on specific requirement			
Exchange rates	2 CFR § 200.440	Allowable with restrictions			
Fines, penalties, damages and other settlements	2 CFR § 200.441	Unallowable with exceptions			
Fund raising and investment management costs	2 CFR § 200.442	Unallowable with exceptions			
Gains and losses on disposition of depreciable assets	2 CFR § 200.443	Allowable with restrictions			
General costs of government	2 CFR § 200.444	Unallowable with exceptions			
Goods and services for personal use	2 CFR § 200.445	Unallowable (goods/services); allowable (housing) with restrictions			
Idle facilities and idle capacity	2 CFR § 200.446	Idle facilities - unallowable with exceptions; Idle capacity - allowable with restrictions			
Insurance and indemnification	2 CFR § 200.447	Allowable with restrictions			
Intellectual property	2 CFR § 200.448	Allowable with restrictions			
Interest	2 CFR § 200.449	Allowable with restrictions			
Lobbying	2 CFR § 200.450	Unallowable			
Losses on other awards or contracts	2 CFR § 200.451	Unallowable (however, they are required to be included in the indirect cost rate base for allocation of indirect costs)			
Maintenance and repair costs	2 CFR § 200.452	Allowable with restrictions			

Materials and supplies costs, including costs of computing devices	2 CFR § 200.453	Allowable with restrictions
Memberships, subscriptions, and professional activity costs	2 CFR § 200.454	Allowable with restrictions; unallowable for lobbying organizations
Organization costs	2 CFR § 200.455	Unallowable except federal prior approval
Participant support costs	2 CFR § 200.456	Allowable with prior approval of the federal awarding agency
Plant and security costs	2 CFR § 200.457	Allowable; capital expenditures are subject to § 200.439
Pre-award costs	2 CFR § 200.458	Allowable if consistent with other allowabilities and with prior approval of the federal awarding agency
Professional services costs	2 CFR § 200.459	Allowable with restrictions
Proposal costs	2 CFR § 200.460	Allowable with restrictions
Publication and printing costs	2 CFR § 200.461	Allowable with restrictions
Rearrangement and reconversion costs	2 CFR § 200.462	Allowable (ordinary and normal)
Recruiting costs	2 CFR § 200.463	Allowable with restrictions
Relocation costs of employees	2 CFR § 200.464	Allowable with restrictions
Rental costs of real property and equipment	2 CFR § 200.465	Allowable with restrictions
Scholarships and student aid costs	2 CFR § 200.466	Not specifically addressed
Selling and marketing costs	2 CFR § 200.467	Unallowable with exceptions
Specialized service facilities	2 CFR § 200.468	Allowable with restrictions
Student activity costs	2 CFR § 200.469	Unallowable unless specifically provided for in the federal award

Taxes (including Value Added Tax)	2 CFR § 200.470	Allowable with restrictions
Termination costs	2 CFR § 200.471	Allowable with restrictions
Training and education costs	2 CFR § 200.472	Allowable for employee development
Transportation costs	2 CFR § 200.473	Allowable with restrictions
Travel costs	2 CFR § 200.474	Allowable with restrictions
Trustees	2 CFR § 200.475	Not specifically addressed

TOWN OF APEX ELIGIBLE PROJECT POLICY FOR THE EXPENDITURE OF AMERICAN RESCUE PLAN ACT OF 2021 CORONAVIRUS STATE AND LOCAL FISCAL RECOVERY <u>FUNDS</u>

WHEREAS the Town of Apex has received an allocation of funds from the Coronavirus State and Local Fiscal Recovery Funds of H.R. 1319 American Rescue Plan Act of 2021 (ARP/CSLFRF); and

WHEREAS US Treasury is responsible for implementing ARP/CSLFRF and has enacted a Final Rule outlining eligible projects; and

WHEREAS the funds may be used for projects within these categories, to the extent authorized by state law.

- 1. Support COVID-19 public health expenditures, by funding COVID-19 mitigation and prevention efforts, medical expenses, behavioral healthcare, preventing and responding to violence, and certain public health and safety staff;
- 2. Address negative economic impacts caused by the public health emergency, including economic harms to households, small businesses, non-profits, impacted industries, and the public sector;
- 3. Replace lost public sector revenue, using this funding to provide government services to the extent of the reduction in revenue experienced due to the pandemic;
- 4. Provide premium pay for essential workers, offering additional support to those who have borne and will bear the greatest health risks because of their service in critical infrastructure sectors; and,
- 5. Invest in water, sewer, and broadband infrastructure, making necessary investments to improve access to clean drinking water, support vital wastewater and stormwater infrastructure, and to expand access to broadband internet; and

WHEREAS the ARP/CSLFRF are subject to the provisions of the federal Uniform Grant Guidance, 2 CFR Part 200 (UG), as provided in the <u>Assistance Listing</u>; and

WHEREAS US Treasury has issued a <u>Compliance and Reporting Guidance v.2.1 (November 15,</u> <u>2021)</u> dictating implementation of the ARP/CSLFRF award terms and compliance requirements; and

WHEREAS the Compliance and Reporting Guidance states in Section C.2. that

Per 2 CFR Part 200.303, your organization must develop and implement effective internal controls to ensure that funding decisions under the SLFRF award constitute eligible uses of funds, and document determinations.

BE IT RESOLVED that the Town Council of the Town of Apex hereby adopts and enacts the following Eligibility Determination Policy for ARP/CSLFRF funds.

ELIGIBLE PROJECT POLICY FOR THE EXPENDITURE OF ARPA OF 2021 CSLRF

Eligibility Determination Policy for American Rescue Plan Act of 2021 Coronavirus State and Local Fiscal Recovery Funds

This policy defines the permissible and prohibited uses of the Coronavirus State and Local Fiscal Recovery Funds of H.R. 1319 American Rescue Plan Act of 2021 (ARP/CSLFRF) funds. It also outlines the procedures for determining how the Town of Apex will spend its ARP/CSLFRF funds.

I. PERMISSIBLE USES OF ARP/CSLFRF FUNDING

US Treasury issued its **Final Rule** regarding use of ARPA funds on January 6, 2022. (The Final Rule is effective as of April 1, 2022). Until that date, a local government may proceed under the regulation promulgated by US Department of the Treasury in its **Interim Final Rule** or the Final Rule.) The Final Rule (and the Interim Final Rule) identify permissible uses of ARP/CSLFRF funds and certain limitations and process requirements. Local governments must allocate ARP/CSLFRF funds no later than December 31, 2024 and disburse all funding no later than December 31, 2026. Failure of an entity to expend all funds by December 31, 2026 will result in forfeiture of ARPA funds.

ARP/CSLFRF funds may be used for projects within the following categories of expenditures:

- 1. Support COVID-19 public health expenditures, by funding COVID-19 mitigation and prevention efforts, medical expenses, behavioral healthcare, preventing and responding to violence, and certain public health and safety staff;
- 2. Address negative economic impacts caused by the public health emergency, including economic harms to workers, households, small businesses, non-profits, impacted industries, and the public sector;
- 3. Replace lost public sector revenue, using this funding to provide government services to the extent of the reduction in revenue experienced due to the pandemic;
- 4. Provide premium pay for essential workers, offering additional support to those who have borne and will bear the greatest health risks because of their service in critical infrastructure sectors; and
- 5. Invest in water, sewer, and broadband infrastructure, making necessary investments to improve access to clean drinking water, support vital wastewater and stormwater infrastructure, and to expand access to broadband internet; and

II. PROHIBITED USES OF ARPA FUNDING

The ARP/CSLFRF and US Treasury's Final Rule prohibit certain uses of ARP/CSLFRF funds. Specifically, ARP/CSLFRF funds may not be used for projects within the following categories of expenditures:

- 1. To make a deposit into a pension fund that constitutes an extraordinary payment of an accrued, unfunded liability (Note that routine contributions as part of a payroll obligation for an eligible project are allowed.);
- 2. To borrow money or make debt service payments;
- 3. To replenish rainy day funds or fund other financial reserves;
- 4. To satisfy an obligation arising from a settlement agreement, judgment, consent decree, or judicially confirmed debt restricting in a judicial, administrative, or regulatory proceeding (There is an exception to this prohibition if the settlement or judgment requires the Town of Apex to provide services to respond to the COVID-19 public



health emergency or its negative economic impacts or to provide government services, then the costs of those otherwise ARP/CSLFRF-eligible projects are allowed.);

- 5. For a project that includes a term or condition that undermines efforts to stop the spread of COVID-19 or discourages compliance with recommendations and guidelines in CDC guidance for stopping the spread of COVID-19;
- 6. In violation of the conflict-of-interest requirements imposed by the award terms and 2 CFR 200.318(c).
- 7. For any expenditure that would violate other applicable federal, state, and local laws and regulations.

The Town of Apex, and any of its contractors or subrecipients, may not expend any ARP/CSLFRF funds for these purposes.

III. PROCEDURES FOR PROJECT APPROVAL

The following are procedures for ARP/CSLFRF project (hereinafter "Project") approvals. All Town of Apex employees and officials must comply with these requirements.

- 1. Requests for ARP/CSLFRF funding, must be made in writing by department heads. A request form will be provided. Written requests shall include all the following:
 - a. Brief description of the Project.
 - b. Identification of ARP/CSLFRF Expenditure Category (EC) (A list of ECs is in the Appendix to the <u>US Treasury Compliance and Reporting Guidance</u>.)
 - c. Required justifications for applicable Projects, according to the requirements in the Final Rule. Employees or any applicant seeking ARPA funding should review the <u>Final Rule</u> and <u>Final Rule Overview</u> prior to submitting a proposal.
 - d. Proposed budget, broken down by cost item, in accordance with the Town of Apex's Allowable Cost Policy.
 - e. A Project implementation plan and estimated implementation timeline (All ARP/CSLFRF funds must be fully obligated by December 31, 2024, and fully expended by December 31, 2026.)
- 2. Requests for funding must be submitted to a representative from the Office of Budget, Performance & Strategy. All requests will be reviewed by the Office of Budget, Performance & Strategy for ARP/CSLFRF compliance and by the Finance Director for allowable costs and other financial review. A representative from the Office of Budget, Performance & Strategy will communicate requests with the Legal Department as needed to ensure compliance with federal, state, and local law.
- 3. No ARP/CSLFRF requests for funding may be obligated or expended before final written approval by a representative from the Office of Budget, Performance & Strategy as detailed in Section III(2) of this policy. Obligations or expenditures requiring a budget amendment require Town Council approval. For the purposes of this policy, written approval may be provided through electronic mail.
- 4. If a Project proposal does not meet the required criteria, it will be returned to the requesting party for revision and resubmittal.
- 5. Following all required approvals, employees responsible for implementing the Project must conform actual obligations and expenditures to the pre-approved Project budget. Changes in Project budgets must be approved by a representative from the Office of Budget, Performance & Strategy and may require a budget amendment approved by the

Town Council before proceeding. Any delay in the projected Project completion date shall be communicated to a representative from the Office of Budget, Performance & Strategy or designee(s) immediately.

- 6. A representative from the Office of Budget, Performance & Strategy must collect and document required information for each EC, for purposes of completing the required Project and Expenditure reports.
- 7. A representative from the Office of Budget, Performance & Strategy must maintain written project requests and approvals, all supporting documentation, and financial information at least until December 31, 2031.

Severability. If any provision of this policy or any rule, regulation, or order thereunder of the application of such provision to any person or circumstances is held invalid, the remainder of this policy and the application of such remaining provisions of this policy or such rules, regulations, or orders to any person or circumstances other than those held invalid will not be affected thereby.

Amendments. The Town Council has the authority to amend, revise, or repeal all or any portion of this policy as it sees fit.

Effective Date. This policy shall go into effect on April 12, 2022.

American Rescue Plan Act State and Local Fiscal Recovery Fund <u>Project Review Policy</u>

Purpose: This policy is designed to aid the Town of Apex in the management of American Rescue Plan Act (ARPA) funds and to ensure compliance with ARPA/State and Local Fiscal Recovery Fund (SLFRF) Compliance and Reporting Guidance. This policy establishes procedures for the Town to seek, receive, and expend ARPA funds. All Town projects and subrecipients of ARPA funds must comply with the Uniform Guidance as referenced in the ARPA Final Rule issued by the US Treasury Department.

Relevant Policies: The American Rescue Plan Act provides federal Coronavirus State and Local Fiscal Recovery Funds (SLFRF) to local governments across the United States. All federally funded projects, loans, grants, and sub-grants, whether funded in part or wholly, are subject to the Uniform Administrative Requirements, Cost Principles, and Audit Requirements for federal awards (collectively referred to as "Uniform Guidance" hereinafter), codified at 2 C.F.R. Part 200, unless otherwise directed in writing by the federal agency or state pass-through agency that awarded the funds. The following Town of Apex policies are required or recommended under Uniform Guidance and US Treasury Reporting and Compliance Guidance and may be applicable for the approval of Town projects and issuance of ARPA/SLFRF subawards: Procurement, Cost Allowability, Property Management, Nondiscrimination Policy, Record Retention, and Conflicts of Interest. Additionally, Uniform Guidance requires that subrecipients of ARPA/SLFRF funds have many of the above referenced policies and procedures in place and available for review by Town of Apex at all times.

Federal Procurement Policy: All procurements undertaken for ARPA approved projects shall comply with (a) Uniform Guidance; (b) all applicable State and federal laws; (c) local ordinances or directives established by the Town of Apex Council from time to time; (d) this Policy; and (e) all other applicable approved policies and procedures.

<u>Cost Allowability:</u> Staff responsible for all potential ARPA/SLFRF projects and subaward projects must submit a detailed budget to the Office of Budget, Performance & Strategy showing expenditures by cost item for staff evaluation of cost allowability under Uniform Guidance and the Town of Apex Allowable Cost Policy.

<u>Policies Adopted by the Town of Apex:</u> Prior to requesting an obligation of funds, staff shall review and ensure that all applicable projects and ARPA/SLFRF expenditures comply with the Town's Property Management Policy, Nondiscrimination Policy, Record Retention Policy, Procurement Policy, and Conflict of Interest Policy. Staff shall review the above referenced policies and communicate in writing to the Office of Budget, Performance & Strategy how said policies will be followed as part of any ARPA/SLFRF funding request.

<u>Project Eligibility:</u> Eligible projects must be allowable under the ARPA Final Rule and North Carolina State Law. The following are eligible use categories under the ARPA Final Rule:

1. Support Public Health Responses

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- 2. Replace Public Sector Revenue Loss
- 3. Make necessary investments to improve water, sewer, and broadband infrastructure
- 4. Address negative economic impacts
- 5. Offer Premium Pay for Essential Workers

Each eligible use category has separate and distinct standards for assessing whether a use of funds is eligible and are further detailed in the Town's Eligible Project Policy. All determinations on eligibility and allowable project costs will be documented on the Project Eligibility Determination and Documentation Form.

Project Eligibility Review and Recommendation: The Office of Budget, Performance & Strategy staff will review projects for eligibility and make determinations for all Town and subrecipient projects under consideration. All potential projects will be evaluated based on ARPA/SLFRF eligible use categories under the US Treasury Final Rule along with Federal Uniform Guidance, North Carolina State law, alignment with Town goals and initiatives, and the risk of non-compliance. Any eligibility uncertainty will be passed to the Town Attorney for a final determination. Staff may require interviews and concurrent reviews with other municipalities, funding agencies, or subaward applicants before making final determinations of eligibility and approval recommendations. A Project Eligibility Determination and Documentation form will be created and retained for each project proposal (Appendix 1).

Subrecipient Determination: Entities applying for ARPA/SLFRF funding will be designated as a subrecipient or a contractor through an initial review by a representative from the Office of Budget, Performance & Strategy. This determination will guide any contractual relationship between the potential subaward entity and Town of Apex. Any uncertainty from the initial review will be passed to the Town Attorney for a final determination. Programmatic responsibilities and reporting will increase if an entity receiving an award is determined to be a subrecipient and will be subject to additional compliance risk assessment. A contract with a nonprofit or other local government is not automatically a subaward. It must meet the criteria listed in the Town of Apex Subaward Policy. Characteristics which support the classification of the contractor as a subrecipient include when the contractor:

1. Determines who is eligible to receive what federal assistance;

2. Has its performance measured in relation to whether objectives of a federal program were met;

3. Has responsibility for programmatic decision-making;

4. In accordance with its agreement, uses the federal funds to carry out a program for a public purpose specified in authorizing statute, as opposed to providing goods or services for the benefit of the pass-through entity.

If assessed to be a subaward recipient see Subaward Recipient Policy for additional compliance.

TOWN OF APEX EXPENDITURE OF AMERICAN RESCUE PLAN ACT CORONAVIRUS STATE AND LOCAL FISCAL RECOVERY FUNDS PROPERTY MANAGEMENT POLICY

WHEREAS, the Town of Apex, has received an allocation of funds from the Coronavirus State and Local Fiscal Recovery Funds of H.R. 1319 American Rescue Plan Act of 2021 (ARP/CSLFRF); and

WHEREAS, the funds may be used for projects within these categories, to the extent authorized by state law:

- 1. Support COVID-19 public health expenditures, by funding COVID-19 mitigation and prevention efforts, medical expenses, behavioral healthcare, preventing and responding to violence, and certain public health and safety staff;
- 2. Address negative economic impacts caused by the public health emergency, including economic harms to households, small businesses, non-profits, impacted industries, and the public sector;
- 3. Replace lost public sector revenue, using this funding to provide government services to the extent of the reduction in revenue experienced due to the pandemic;
- 4. Provide premium pay for essential workers, offering additional support to those who have borne and will bear the greatest health risks because of their service in critical infrastructure sectors; and,
- 5. Invest in water, sewer, and broadband infrastructure, making necessary investments to improve access to clean drinking water, support vital wastewater and stormwater infrastructure, and to expand access to broadband internet; and

WHEREAS, the ARP/CSLFRF are subject to the Uniform Guidance provisions of 2 CFR Part 200 (UG), as provided in the <u>Assistance Listing</u>; and

WHEREAS, the <u>Compliance and Reporting Guidance for the State and Local Fiscal Recovery</u> <u>Funds</u> (v3.0 February 2022) provides, in relevant part:

Equipment and Real Property Management. Any purchase of equipment or real property with SLFRF funds must be consistent with the Uniform Guidance at 2 CFR Part 200, Subpart D. Equipment and real property acquired under this program must be used for the originally authorized purpose. Consistent with 2 CFR 200.311 and 2 CFR 200.313, any equipment or real property acquired using SLFRF funds shall vest in the non-Federal entity. Any acquisition and maintenance of equipment or real property must also be in compliance with relevant laws and regulations.

WHEREAS Subpart D of the UG regulates title possession, use, management, and disposal of real property, equipment, and supplies acquired in whole or in part with ARP/CSLFRF funds;

BE IT RESOLVED that the governing board of Town of Apex hereby adopts and enacts the following UG Property Management Policy for the expenditure of ARP/CSLFRF funds.

EXPENDITURE OF ARPA/SLFRF PROPERTY MANAGEMENT POLICY By Town of Apex, April 12, 2022 Page 1 Property Standards for Real Property, Equipment, and Supplies Acquired with American Rescue Plan Act of 2021 Coronavirus State and Local Fiscal Recovery Funds

I. POLICY OVERVIEW

<u>Title 2 U.S. Code of Federal Regulations Part 200</u>, Uniform Administrative Requirements, Cost Principles, and Audit Requirements for Federal Awards, commonly called Uniform Guidance (UG), specifically Subpart D, details post award requirements related to property management of property acquired or updated, in whole or in part, with funds from the Coronavirus State and Local Fiscal Recovery Funds of H.R. 1319 American Rescue Plan Act of 2021 (ARP/CSLFRF).

2 CFR 200.310 through 2 CFR 200.316 detail property standards related to the expenditure of ARP/CLSFRF funds. <u>The Town of Apex (hereinafter "Town")</u> shall adhere to all applicable property standards, as detailed below.

II. **DEFINITIONS**

The definitions in 2 CFR 200.1 apply to this policy, including the following:

Computing devices: machines used to acquire, store, analyze, process, and publish data and other information electronically, including accessories (or "peripherals") for printing, transmitting and receiving, or storing electronic information. See also the definitions of supplies and information technology systems in this section.

Equipment: tangible <u>personal property</u> (including information technology systems) having a useful life of more than one year and a per-unit <u>acquisition cost</u> which equals or exceeds the lesser of the capitalization level established by the Town for financial statement purposes, or \$5,000.

Information technology systems: computing devices, ancillary equipment, software, firmware, and similar procedures, services (including support services), and related resources. See also the definitions of computing devices and equipment in this section.

Intangible property: property having no physical existence, such as trademarks, copyrights, patents and patent applications and property, such as loans, notes and other debt instruments, lease agreements, stock and other instruments of property ownership (whether the property is tangible or intangible).

Personal property: property other than <u>real property</u>. It may be tangible, having physical existence, or intangible.

Property: real property or personal property.

Real property: land, including land improvements, structures and appurtenances thereto, but excludes moveable machinery and equipment.



Supplies: all tangible <u>personal property</u> other than those described in the definition of equipment in this section. A computing device is a supply if the <u>acquisition cost</u> is less than the lesser of the capitalization level established by the local government for financial statement purposes or \$5,000, regardless of the length of its useful life. See also the definitions of computing devices and equipment in this section.

III. REAL PROPERTY

Title to Real Property: Title to real property acquired or improved with ARP/CSLFRF funds vests with the Town upon acquisition. 2 CFR 200.311(a).

Use of Real Property: Real property acquired or improved with ARP/CSLFRF funds must be used for the originally authorized purpose as long as needed for that purpose, during which time the Town must not dispose of or encumber its title or other interests. 2 CFR 200.311(b). Any employee requesting that such property be deemed surplus will first review the source of acquisition and inform the Purchasing and Contracts Manager of the funding source as part of the surplus request. Department directors will maintain a list of any property acquired for use by their department that is acquired with ARP/CSLFRF funds.

Insurance of Real Property: The Town must provide the equivalent insurance coverage for real property and equipment acquired or improved with ARP/CSLFRF funds as provided to property owned by the Town. 2 CFR 200.310.

Disposition of Real Property: When the Town no longer needs real property purchased with ARP/CSLFRF for ARP/CSLFRF purposes, the Town must obtain disposition instructions from US Treasury. The instructions must provide for one of the following alternatives:

- 1. The Town retains title after compensating US Treasury. The amount paid to US Treasury will be computed by applying US Treasury's percentage of participation in the cost of the original purchase (and costs of any improvements) to the fair market value of the property. However, in those situations where the Town is disposing of real property acquired or improved with ARP/CSLFRF funds and acquiring replacement real property under the ARP/CSLFRF, the net proceeds from the disposition may be used as an offset to the cost of the replacement property.
- 2. The Town sells the property and compensates US Treasury. The amount due to US Treasury will be calculated by applying US Treasury's percentage of participation in the cost of the original purchase (and cost of any improvements) to the proceeds of the sale after deduction of any actual and reasonable selling and fixing-up expenses. If the ARP/CSLFRF award has not been closed out, the net proceeds from sale may be offset against the original cost of the property. When the Town is directed to sell property, sales procedures must be followed that provide for competition to the extent practicable and result in the highest possible return.
- 3. The Town transfers title to US Treasury or to a third party designated/approved by US Treasury. The Town is entitled to be paid an amount calculated by applying the Town's

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percentage of participation in the purchase of the real property (and cost of any improvements) to the current fair market value of the property. 2 CFR 200.311(c).

IV. EQUIPMENT

Title to Equipment: Title to equipment acquired or improved with ARP/CSLFRF funds vests with the Town upon acquisition. 2 CFR 200.313(a).

Use of Equipment: The Town must use equipment acquired with ARP/CSLFRF funds for the project for which it was acquired as long as needed, whether or not the project continues to be supported by the ARP/CSLFRF award, and the Town must not encumber the property without prior approval of US Treasury. 2 CFR 200.313(a)(1)-(2).

When no longer needed for the original project, the equipment may be used in other activities supported by a Federal awarding agency, in the following order of priority:

- 1. Activities under a Federal award from the Federal awarding agency which funded the original project, then
- 2. Activities under Federal awards from other Federal awarding agencies. This includes consolidated equipment for information technology systems. 2 CFR 200.313(c)(1).

During the time that equipment is used on the project for which it was acquired, the Town must also make equipment available for use on other projects or programs currently or previously supported by the Federal Government, provided that such use will not interfere with the work on the project for which it was originally acquired. First preference for other use must be given to other programs or projects supported by US Treasury and second preference must be given to programs or projects under Federal awards from other Federal awarding agencies. Use for non-federally-funded programs or projects is also permissible. User fees should be considered if appropriate. 2 CFR 200.313(c)(2).

Noncompetition: The Town must not use equipment acquired with the ARP/CSLFRF funds to provide services for a fee that is less than private companies charge for equivalent services unless specifically authorized by Federal statute for as long as the Federal Government retains an interest in the equipment. 2 CFR 200.313(c)(3).

Replacement Equipment: When acquiring replacement equipment, the Town may use the equipment to be replaced as a trade-in or sell the property and use the proceeds to offset the cost of the replacement property. 2 CFR 200.313(c)(4).

Management of Equipment: The Town will manage equipment (including replacement equipment) acquired in whole or in part with ARP/CSLFRF funds according to the following requirements.

- 1. The Town will maintain sufficient records that include
 - a) a description of the property,
 - b) a serial number or other identification number,
 - c) the source of funding for the property (including the Federal Award Identification Number (FAIN),



- d) who holds title,
- e) the acquisition date,
- f) cost of the property,
- g) percentage of Federal participation in the project costs for the Federal award under which the property was acquired,
- h) the location, use and condition of the property, and
- i) any ultimate disposition data including the date of disposal and sale price of the property.
- 2. The Town will conduct a physical inventory of the property and reconcile results with its property records at least once every two years.
- 3. The Town has or will develop a control system to ensure adequate safeguards to prevent loss, damage, or theft of the property. Any loss, damage, or theft will be investigated by the Town.
- 4. The Town has or will develop and implement adequate maintenance procedures to keep the property in good condition.
- 5. If the Town is authorized or required to sell the property, it will follow proper sales procedures to ensure the highest possible return, in accordance with state and federal law.

Insurance of Equipment: The Town will provide the equivalent insurance coverage for equipment acquired or improved with ARP/CSLFRF funds as provided to property owned by the Town. Upon acquisition of equipment subject to this policy the responsible department director or designee shall report the acquisition to the Town Safety and Risk Manager so it may be included in the Town's insurance coverage. 2 CFR 200.310.

Disposition of Equipment: When the equipment is no longer needed for its original ARP/CSLFRF purpose, the Town may either make the equipment available for use in other activities funded by a Federal agency, with priority given to activities funded by US Treasury, dispose of the equipment according to instructions from US Treasury, or follow the procedures below in accordance with US Treasury disposition instructions, if any. 2 CFR 200.313(e).

- 1. Equipment with a per-item fair market value of less than \$5,000 may be retained, sold or transferred by the Town, in accordance with state law, with no additional responsibility to US Treasury.
- 2. If no disposal instructions are received from US Treasury within the time frame noted in 2 CFR 200.313, equipment with a per-item fair market value of greater than \$5,000 may be retained or sold by the Town. The Town must establish proper sales procedures, in accordance with state law, to ensure the highest possible return. The Town must reimburse US Treasury for its federal share. Specifically, US Treasury is entitled to an amount calculated by multiplying the current market value or proceeds from sale by the ARP/CSLFRF funding percentage of participation in the cost of the original purchase. If the equipment is sold, US Treasury may permit the Town to deduct and retain from the

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Federal share \$500 or ten percent of the proceeds, whichever is less, for its selling and handling expenses.

3. Equipment may be transferred to US Treasury or to a third-party designated by US Treasury in return for compensation to the Town for its attributable percentage of the current fair market value of the property.

V. SUPPLIES

Title to Supplies. Title to supplies acquired with ARP/CSLFRF funds vests with the Town upon acquisition. 2 CFR 200.314(a).

Use and Disposition of Supplies: If there is a residual inventory of unused supplies exceeding \$5,000 in total aggregate value upon termination or completion of the ARP/CSLFRF project and the supplies are not needed for any other Federal award, the Town must retain the supplies for use on other activities or sell them, but must, in either case, compensate the Federal Government for its share. The amount of compensation must be computed in the same manner as for disposal of equipment. 2 CFR 200.314(a).

Noncompetition. As long as the Federal Government retains an interest in the supplies, the Town must not use supplies acquired under the ARP/CSLFRF to provide services to other organizations for a fee that is less than private companies charge for equivalent services, unless specifically authorized by Federal statute. 2 CFR 200.314(b).

VI. PROPERTY TRUST RELATIONSHIP

Real property, equipment, and intangible property, that are acquired or improved with ARP/CSLFRF funds must be held in trust by the Town as trustee for the beneficiaries of the project or program under which the property was acquired or improved. US Treasury may require the Town to record liens or other appropriate notices of record to indicate that personal or real property has been acquired or improved with a Federal award and that use and disposition conditions apply to the property. 2 CFR 200.316.

VII. IMPLEMENTATION OF POLICY

Department directors shall track all real property, equipment, and supplies (collectively, property) acquired or improved in whole or in part with ARP/CLSFRF funds. At a minimum, directors shall:

- Ensure proper insurance of property
- Document proper use of property
- Work with Finance department, record and maintain required data records for equipment
- Conduct periodic inventories of equipment, at least every two years
- Create processes for replacement and disposition of property
- Establish other internal controls to safeguard and properly maintain property



<u>Town of Apex Record Retention Policy for Documents Created or</u> <u>Maintained Pursuant to the ARP/CSLFRF Award</u>

<u>**Retention of Records**</u>: The Coronavirus Local Fiscal Recovery Funds ("CSLFRF") <u>Award Terms</u> and <u>Conditions</u> and the <u>Compliance and Reporting Guidance</u> set forth the U.S. Department of Treasury's ("Treasury") record retention requirements for the American Rescue Plan (ARP)/CSLFRF award.

It is the policy of the Town of Apex to follow the Treasury's record retention requirements referenced above as it expends CSLFRF pursuant to the ARP/CSLFRF award. Accordingly, the Town of Apex agrees to do the following related to said funds/award:

- Retain all financial and programmatic records related to the use and expenditure of CSLFRF pursuant to the ARP/CSLFRF award for a <u>period of five (5) years</u> after all CLFRF funds have been expended or returned to Treasury, whichever is later.
- Retain records for real property and equipment acquired with CSLFRF for five years after final disposition, including but not limited to, purchase contracts, memorandums of lease, invoices, quotes, bills of sale, cash receipts, and closing documents.
- Ensure that retained financial and programmatic records sufficiently evidence compliance with the ARPA Final Rule 31 CFR Part 35 issued by Treasury regarding the foregoing.
- Allow the Treasury Office of Inspector General and the Government Accountability Office, or their authorized representatives, the right of timely and unrestricted access to any records for the purpose of audits or other investigations.
- If any litigation, claim, or audit is started before the expiration of the 5-year period, the records will be retained until all litigation, claims, or audit findings involving the records have been settled, fully adjudicated, or otherwise resolved.

Covered Records: For purposes of this policy, records are information, regardless of physical form or characteristics, that are created, received, or retained that evidence the Town of Apex's expenditure of CSLFRF funds on eligible projects, programs, or activities pursuant to the ARP/CSLFRF award.

All records associated with ARP/CSLFRF awards shall be retained pursuant to this policy for a minimum of five (5) years.

Storage: Town of Apex's records must be stored in a safe, secure, and accessible manner. In addition to storage of hard copies, wherever practicable, such records should be collected, transmitted, and stored in open and machine-readable formats.

Departmental Responsibilities: Any department or unit of the Town of Apex, and its employees, who are responsible for creating or maintaining the covered documents in this policy shall comply with the terms of this policy. Any employee who fails to comply with the record retention

requirements set forth herein may be subject to disciplinary action consistent with the Town Personnel Policy.

A representative from The Office of Budget, Performance & Strategy is responsible for identifying the documents that Town of Apex must or should retain and arrange for the proper storage and retrieval of records. Department directors shall ensure that all personnel in their departments that will handle documents subject to the terms of this policy are aware of the record retention requirements set forth herein.

<u>Reporting Policy Violations</u>: The Town of Apex is committed to enforcing this policy as it applies to all forms of records related to the ARP/CSLFRF award expenditures. Any employee that suspects the terms of this policy have been violated shall report the incident immediately to that employee's supervisor. If an employee is not comfortable bringing the matter up with the supervisor, the employee may bring the matter to the attention of the Department director.

<u>Compliance with Municipal Records Retention and Disposition Schedule:</u> This policy is in addition to and does not repeal or replace the Municipal Records Retention and Disposition Schedule. In the event of a conflict between this policy and the Municipal Records Retention and Disposition Schedule issued by the NC Department of Cultural Resources and adopted by the Town, the most stringent policy shall apply and documents shall be retained for whichever policy period is longest.

Questions About the Policy: Any questions about this policy should be referred to the Budget Manager or designee.

Severability: If any provision of this policy or any rule, regulation, or order thereunder of the application of such provision to any person or circumstances is held invalid, the remainder of this policy and the application of such remaining provisions of this policy or such rules, regulations, or orders to any person or circumstances other than those held invalid will not be affected thereby.

<u>Amendments</u>: The Town Council has the authority to amend, revise, or repeal all or any portion of this policy as it sees fit.

Effective Date: This policy shall go into effect on April 12, 2022.



|Agenda Item | cover sheet

for consideration by the Apex Town Council

Item Type:CONSENT AGENDAMeeting Date:April 12, 2022

<u>Item Details</u>

Presenter(s): Mary Beth Manville, Human Resources Director

Department(s): Human Resources

Requested Motion

Motion to approve the authorization of seven (7) full-time positions, increasing the FTE of the Lab Supervisor position from .875 FTE to 1.0 FTE, and corresponding Budget Ordinance Amendment 19.

Approval Recommended?

Yes

<u>Item Details</u>

As a result of the initial recommendations from the Organizational & Workforce Study, and in anticipation of upcoming organizational changes, the following positions are being requested to be approved in advance, so that structures are in place for other positions to be hired and departments to be moved on or soon after July 1, 2022:

- Senior Human Resources Analyst, Human Resources
- Neighborhood & Community Connections Director, Neighborhood & Community Connections
- Neighborhood & Community Connections Coordinator, Neighborhood & Community
 Connections
- Transportation & Infrastructure Development Director, Transportation & Infrastructure Development
- Assistant Town Manager Community & Safety, Administration

In addition, the Police Department is requesting that one of their FY23 new position requests, for **Police Captain - Special Operations**, be approved early.

The Parks, Recreation, and Cultural Resources Department is also requesting early approval of the **Special Events Coordinator** position, to support upcoming special events that will be occurring prior to July 1, 2022.

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All of the positions being requested for early approval will be part of the full list of FY23 new position requests, and the position consultant, Baker-Tilly, will provide the appropriate classification.

Additionally, staff is requesting that the Laboratory Supervisor position in the Water Resources Department be approved for an increase from .875 FTE (35 hours/week) to 1.0 FTE (40 hours/week). Any additional funding for this change can be covered with lapse salaries for the remainder of this fiscal year.

Funding for the three positions and recruitment costs for positions are included in Budget Amendment 19. The Budget Amendment also includes funds to fill a projected gap in salaries for Public Safety (Police & Fire) in Fiscal Year 2022. Overages in hire back and overtime account for the majority of these expenses. This is attributable to the use of various types of leave for employees and covering their shifts as well as required training attendance.

<u>Attachments</u>

• Budget Ordinance Amendment 19





Town of Apex Budget Ordinance Amendment No. 19

BE IT ORDAINED, by the Council of the Town of Apex that the following Budget Amendment for the Fiscal Year 2021-2022 Budget Ordinance be adopted:

Water & Sewer Capital Reserve

Section 1. Revenues:

Appropriated Fund Balance Total Revenues ion 2. Expenditures: Human Resources Cultural Arts Center Police Fire Total Expenditures	\$789,700
Appropriated Fund Balance Total Revenues Section 2. Expenditures: Human Resources Cultural Arts Center Police Fire	\$789,700
Section 2. Expenditures:	
Human Resources	\$57,300
Cultural Arts Center	\$13,800
Police	\$406,400
Fire	\$312,200
Total Expenditures	\$789,700

Section 5. Within five (5) days after adoption, copies of this Amendment shall be filed with the Finance Officer and Town Clerk.

Adopted this the 12th day of April, 2022.

Attest:

Jacques K. Gilbert, Mayor

Julie Reid, Interim Town Clerk

|Agenda Item | cover sheet

for consideration by the Apex Town Council

Item Type:PRESENTATIONMeeting Date:April 12, 2022

Item Details

Presenter(s): Jason Armstrong, Chief of Police

Department(s): Police Department

Requested Motion

Presentation of National Telecommunicator Week Proclamation

Approval Recommended?

Yes

<u>Item Details</u>

Presentation of the National Telecommunicator Week Proclamation and acknowledgement of the selfless service provided by the Apex Police Department's Telecommunicators.

<u>Attachments</u>

• None



Town of Apex, North Carolina

PROCLAMATION

From the Office of the Mayor

National Telecommunicator Week 2022

WHEREAS, emergencies can occur at any time that require police, fire, or emergency medical services; and

WHEREAS, when an emergency occurs the prompt response of police officers, firefighters, and paramedics is critical to the protection of life and preservation of property; and

WHEREAS, the safety of our police officers and firefighters is dependent upon the quality and accuracy of information obtained from citizens who telephone the Apex communications center; and

WHEREAS, Public Safety Telecommunicators are the first and most critical contact our citizens have with emergency services; and

WHEREAS, Public Safety Telecommunicators are the single vital link for our police officers and firefighters by monitoring their activities by radio, providing them information, and insuring their safety; and

WHEREAS, Public Safety Telecommunicators of the Apex Police Department have contributed substantially to the apprehension of criminals, suppression of fires, and treatment of patients; and

WHEREAS, each has exhibited compassion, understanding, and professionalism during the performance of their job in the past year;

NOW, THEREFORE, I, Jacques Gilbert, Mayor of the Town of Apex, North Carolina, declare the week of April 10th through 16th, 2022 NATIONAL TELECOMMUNICATOR WEEK in Apex in honor of the men and women whose diligence and professionalism keep our Town and citizens safe.

IN WITNESS WHEREOF, I have hereunto set my hand and caused the seal of the Town of Apex, this 12th day of April, 2022.

Jacques K. Gilbert, Mayor

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|Agenda Item | cover sheet

for consideration by the Apex Town Council

Item Type: PRESENTATION Meeting Date: 4/12/2022

<u>Item Details</u>

Presenter(s):	Mayor Jacques Gilbert

Department(s): Economic Development

Requested Motion

N/A

Approval Recommended?

N/A

<u>Item Details</u>

Mayor Jacque Gilbert will present the 7th annual "Think Apex" Awards. Awards will be given to the "Top Thinker" and "Honorable Mention" in the categories of: Business, Individual or Group and Non-Profit. The "Think Apex" initiative was created in 2014 to encourage a local mindset by all parts of the Apex community, including businesses, residents and visitors. Think Apex empowers the community to celebrate, engage, play, volunteer, shop, eat and work locally.

The Think Apex Awards are intended to recognize local businesses, individuals, groups and non-profits for their dedicated service to others and to the Apex community as a whole. Nominations were received through a public, on-line application process. The nominees must be physically located in Apex and were considered for their acts of service in 2021.

For the presentation, the Council will be asked to leave their seats and stand in line in front of the podium while the Mayor announces each winner. Council and Mayor will shake each winners hand after they receive their award.

<u>Attachments</u>



Agenda Item cover sheet for consideration by the Apex Town Council						
		Item Type: Meeting Date:	PRESENTATION April 12, 2022			
Item Det	tails					
Presenter(s):	Donald Gintzig, President and CE	O, WakeMed Health a	nd Hospitals			
	Rick Shrum, Vice President and Ch Hospitals	nief Strategy Officer, W	/akeMed Health &			
Department(s):	WakeMed Health and Hospitals					
	Requested M	otion				
	Approval Recom	mended?				
WakeMed Menta Hospitals	<u>Item Deta</u> al Health Presentation presented by [^{ils} Donald Gintzig, WakeN	Ned Health and			
<u>Attachments</u> WakeMed Menta	al Health Presentation					
			APE+ 1873 •			







Behavioral Health Update

Town of Apex April 12, 2022

Our community needs us to be at our best more than ever!

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Exceptional **People**. Exceptional **Care**.



Mission

To improve the health and well-being of our community with outstanding and compassionate care to all

Strategic Plan

Vision

To be the preferred partner for quality care and health through collaboration and transformation of care delivery

Values

Foster trust and transparency * Quality experiences Financial stewardship * Leadership in safety, innovation and education Empower & partner with health care team * Partner with others who value our culture



Mental Health Truths



The current system is broken/fragmented and has been for quite some time.		The impact to mental well-being following a traumatic event is delayed.		Those experiencing crisis have very few paths for care – hospital emergency departments are not the right place for care.	
County state and federal				WakeMed and the	

Mental illness affects all of us.

support has not and will not meet the demand of a growing County.

The current crisis is not a medical issue – it's a societal issue.

nd the healthcare community can't meet the needs alone.

The economic impact of doing nothing is far more costly than an upfront investment in care.



When There Are Gaps in the System

						Behavioral Health ED Visits for			
City/Town	Patients	City/Town Population	% Population	Total ED Visits	Patients with a BH Encounter	Any BH Condition	Suicidal/Homici al Ideations	^d Overdoses	
Арех	9,420	58,780	16.0%	13,220	391	538	(101)	31	
Cary	14,015	171,012	8.2%	19,992	754	922	219	56	
Fuquay Varina	6,572	34,152	19.2%	9,754	312	386	93	19	
Garner	9,014	31,159	28.9%	14,911	360	453	115	30	
Holly Springs	4,257	41,239	10.3%	5,989	214	275	66	19	
Knightdale	4,693	19,435	24.1%	7,255	218	285	71	14	
Morrisville	2,622	29,423	8.9%	3,696	115	148	37	6	
Raleigh	66,210	466,106	14.2%	111,696	4,123	6,192	1,672	340	
Rolesville	963	9,475	10.2%	1,357	49	56	10	1	
Wake Forest	8,528	46,097	18.5%	12,387	419	562	140	36	
Wendell	3,452	9,793	35.2%	5,352	184	225	49	27	
Zebulon	4,273	6,903	61.9%	6,778	242	307	74	16	
TOTAL	134,019	923,574	14.5%	212,387	7,381	10,349	2,647	595	

Acuity is also increasing. Higher rates of patients presenting with an overdose (68%) or because of suicidal/homicidal ideations or attempts (28%)

Gaps Widened by a Pandemic



The behavioral health toll in children/adolescents during the COVID-19 pandemic has been particularly high, with <u>+66% increase</u> in ED presentations for this age group.



>155

Avg. number of children/month from Wake County presenting in the ED because of a BH/SU condition during the last quarter of 2021



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*At any point in the patients WakeMed journey they can be referred to me resources of the WakeMed Behavioral Health Network (WMBHN)



Getting to the Right Treatment More Quickly



71% increase in getting patients to th they need and deserve!

Our Key Next Steps



- 1. Continue to grow the WakeMed Behavioral Health Network in order to meet the needs of the community.
- 2. Enhance our technology platform that supports and connects the WMBHN members.
- 3. Evaluate adding more human capital to the WMBHN.
- 4. Conduct community-wide benefit study on the impacts of our collective efforts completed by a neutral third party. Could open the door to potential outside funding options (federal/state grants, philanthropic organizations, gifts/grants, etc.)
- 5. Evaluate developing a new Behavioral Health Hospital that would deliver high quality compassiona e to <u>all</u>.

Why We Need Municipalities for Help



- Your residents are telling you and us, it's important.
- Local municipalities can invest one-time ARPA funds in mental health services, with local non-profits.
- Investing ARPA funds is a visible commitment to a community culture reducing stigma and emphasizing the importance of getting care.
- Wake municipalities have a track record of acting beyond mandated services when the issue is a community priority.
- Our current mental health system can't be transformed solely through the health care environment. We must also address the social determinants of behavioral health – many of which are in the scope of local government services.

Overall Votes



WakeMed

How Your Investment Would be Used

- Expanding the outpatient network to add more services, more providers more patients can be seen, stabilized and on the way to healing.
- Expand technology platform capabilities of the WMBHN in order to provide even greater and more timely access to the care they need and deserve.
- Provides budget flexibility to allow WakeMed to make the large capital investment in a new inpatient psychiatric hospital.



\$1,735,000 or 10% of your total ARPA Funds


Questions

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for consideration by the Apex Town Council

Item Type:PRESENTATIONMeeting Date:April 12, 2022

<u>Item Details</u>

Presenter(s): Mayor and Council

Department(s):

Requested Motion

Presentation of National Science Appreciation Day Proclamation

Approval Recommended?

Yes

<u>Item Details</u>

Presentation of the National Science Appreciation Day Proclamation and acknowledgement of the valuable contributions made by science to the health and lives of the Citizens of the Town of Apex.

<u>Attachments</u>

• None



Town of Apex, North Carolina

PROCLAMATION

From the Office of the Mayor

National Science Appreciation Day

WHEREAS, on March 26, 1953, American medical scientist, Dr. Jonas Salk, announced he had developed a vaccine against polio; and,

WHEREAS, the CDC estimates the polio vaccine has prevented 13 million cases of paralysis and saved 650,000 lives worldwide since 1988; and,

WHEREAS, science has brought humanity vaccines, antibiotics, surgery, sanitation, increased agricultural yields, pasteurization, safe drinking water, and thousands of other interventions that have doubled the human lifespan in little more than a century; and WHEREAS, people have experienced longer and healthier lives, greater convenience and comfort, and enhances prosperity due to the benefits of science; and,

WHEREAS, the Town of Apex, North Carolina invites residents to show their appreciation for our workers in the fields of research, technology, science education, and medicine.

NOW, THEREFORE, do I, Jacques K. Gilbert, Mayor of the Town of Apex, North Carolina, hereby proclaim March 26th, 2022, in the Town of Apex as

National Science Appreciation Day

and encourage residents to reflect on and share how science advances have bettered their lives and those of their loved ones.

IN WITNESS WHEREOF, I have hereunto set my hand and caused the seal of the Town of Apex, this 12th day of April, 2022.

Jacques K. Gilbert, Mayor

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Agenda Item cover sheet for consideration by the Apex Town Council				
	Item Type:	PRESENTATION		
	Meeting Date:	April 12, 2022		
Item Detalls				
Presenter(s): Mayor and Council Department(s):				
Requested Moti	ion			
Presentation of AUTISM AWARENESS & ACC	EPTANCE MONTH F	Proclamation		
Approval Recomme	ended?			
Yes				
Presentation of the AUTISM AWARENESS & ACCEI encourages the community to join advocacy efforts.	PTANCE MONTH Pro	oclamation and		
Attachments				
Proclamation				
		APEH 1873 ZODINI		

Town of Apex, North Carolina

PROCLAMATION

From the Office of the Mayor

AUTISM AWARENESS & ACCEPTANCE MONTH

WHEREAS, The Town of Apex is guided by the principles of inclusivity in its commitment to help improve the lives of all individuals in the diverse community we serve; and

WHEREAS, Autism impacts people regardless of race, ethnicity, and social-economic backgrounds; and

WHEREAS, while conditions characterized with Autism may cause differences in communication, social skills, and behavior; and individuals within the Autistic community present, strengths and challenges; and

WHEREAS, in the month of April, we strive to promote Autism awareness, inclusion, and acceptance, and the Town is committed to providing equitable access to services, events and activities that support self-determination for all Autistic individuals; and

WHEREAS, the Town of Apex recognizes the importance of creating spaces that, beyond acceptance, provide opportunities for representation and celebration of all autistic people; and

WHEREAS, the Town of Apex seeks to create a socially conscience community that values and celebrates the unique individuals within the autistic community which celebrates all kinds of minds; and

NOW, THEREFORE, I, Jacques Gilbert, Mayor of the Town of Apex, North Carolina, declare the month of April 2022 **Autism Awareness & Acceptance Month** and encourages the community to join advocacy efforts.

IN WITNESS WHEREOF, I have hereunto set my hand and caused the seal of the Town of Apex, this 12th day of April, 2022.

Jacques K. Gilbert, Mayor

for consideration by the Apex Town Council

Item Type:PUBLIC HEARINGMeeting Date:April 12, 2022

Item Details

Presenter(s):Jenna Shouse, Senior Long Range PlannerDepartment(s):Planning and Community Development

Requested Motion

Public hearing and possible motion regarding an amendment to the Transportation Plan for Pristine Water Drive.

Approval Recommended?

Planning staff recommends adoption of the proposed amendment.

The Planning Board will consider the proposed amendment at their April 11, 2022 meeting. Their recommendation will be presented by staff.

Item Details

The amendment to the Thoroughfare and Collector Street Plan map includes shifting the future alignment of Pristine Water Drive at NC 55 slightly south, off of the easement for Colonial Pipeline. The amendment was requested by the developer of the Aquiline Planned Unit Development on the west side of NC 55.

<u>Attachments</u>

• Staff report



Transportation Plan Amendments

April 12, 2022 Town Council Meeting



The Thoroughfare and Collector Street Plan map (last amended March 22, 2022) represents a network of current and future facilities that provide guidance on what is likely to be suitable for long term growth and connectivity. The plan does not require a schedule for implementation nor does it set aside funding for improvements. The purpose of the public hearing is to consider a proposed amendment to the network of planned thoroughfare and collector streets in order to make a decision.

The proposed amendment would shift the planned alignment of Pristine Water Drive, a future Minor Collector street, to the south, as shown in Figure 1.



Figure 1. Proposed amendment to the Thoroughfare and Collector Street Plan map

The proposed amendment is requested by the developer of the Aquiline Planned Unit Development and with the support of Planning and Community Development staff. The shift is due to a conflict with the proposed alignment of the future minor collector street and the easement for the Colonial Pipeline. Colonial Pipeline has indicated to the developers of the Aquiline PUD that the roadway cannot be constructed within the easement. Aquiline PUD has secured support from Argos USA, LLC (see Attachment 1) on the east side of NC 55 to allow them to construct the intersection of Pristine Water Drive at NC 55 on the southern alignment, which will allow for a full-movement intersection with NC 55 in this location. The extension of Pristine Water Drive as a public street to the east would occur in the future.

Programmed Projects:

There are no programmed municipal or state projects to construct the full extent of Pristine Water Drive between NC 55 and Burma Drive. The Town's Capital Improvement Program anticipates a segment of Pristine Water Drive between Burma Drive and Lufkin Road will be improved and constructed as a public project. The anticipated timing is FY24, but this project is subject to reprioritization. The Aquiline PUD would construct the intersection of Pristine Water Drive east and west of NC 55 and extend Pristine Water Drive to the west as part of their development project.

Staff Recommendation:

Planning staff recommend supporting the proposed amendment to the Thoroughfare and Collector Street Plan map. Staff from Public Works and Transportation, Fire, and Police are also supportive of the proposed amendment.

Planning Board Recommendation:

The Planning Board will consider the proposed amendment at their April 11, 2022 meeting. Their recommendation will be presented by staff.

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Attachment 1 – Letter from Argos USA LLC

Page 3 of 3

Prepared by: Shannon Cox, Long Range Planning Manager

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Mark Wolinsky Argos USA LLC 3015 Windward Plz, Ste. 300 Alpharetta, GA 30005 (404) 379-2904 mwolinsky@argos-us.com

January 6, 2022

VIA: E-Mail Delivery

RE: Realignment of Pristine Water Drive, Apex, NC

To City of Apex North Carolina Government:

This letter is to confirm that, subject to agreement on the specific terms of development, ownership, and access rights, Argos supports the proposed realignment design as generally described in Exhibit A, attached to page two of this letter, and with the understanding that Madison Apex Owner, LLC performs and pays for the work in accordance with the agreed plans to be approved by the town of Apex.

Sincerely,

al Walinson

Mark Wolinsky US Real Estate Manager

{02187-001/00031009}

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Exhibit A



 $\{02187-001/00031009\}$

2

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for consideration by the Apex Town Council

Item Type: PUBLIC HEARING Meeting Date: April 12, 2022

Item Details

Presenter(s):Jenna Shouse, Senior Long Range PlannerDepartment(s):Planning & Community Development

Requested Motion

Public hearing and possible motion to amend the Bicycle and Pedestrian System Plan map to add a proposed greenway connection from the proposed Huxley subdivision to the proposed Reedy Branch Greenway.

Approval Recommended?

Planning and Community Development Department staff recommend approval of the proposed amendment.

The Parks, Recreation, and Cultural Resources Advisory Commission considered and unanimously recommended approval of the proposed amendment at their March 30, 2022 meeting.

Planning and Community Development Department staff will present this item to the Planning Board at their April 11, 2022 meeting. The Planning Board's recommendation will be presented by staff at the Council meeting.

Item Details

The purpose of this hearing is to consider a change to the bicycle and pedestrian network to provide a greenway connection from the proposed Huxley subdivision to the proposed Reedy Branch Greenway.

<u>Attachments</u>

• Staff Report



Transportation Plan Amendments

April 12, 2022 Town Council Meeting



The purpose of the public hearing is to consider the facts in order to formulate a decision. The Bicycle and Pedestrian System Plan map represents a network of current and future facilities that provide guidance on what is likely to be suitable for long term growth, connectivity, and recreation. The Plan does not require a schedule for implementation nor does it set aside funding for improvements. Instead, it helps the Town establish long term priorities and identify requirements for new development. The Plan was last amended on November 9, 2021.

The purpose of the public hearing is to consider an amendment to add a proposed greenway connection from the proposed Huxley subdivision to the proposed Reedy Branch Greenway.

A map of the proposed amendment to the Bicycle and Pedestrian System Plan map is displayed in Figure 1 below.



Figure 1. Proposed Bicycle and Pedestrian System Plan Map Amendment

The purpose of the proposed change to the bicycle and pedestrian network is to provide a greenway connection from the proposed Huxley subdivision to the proposed Reedy Branch Greenway. The proposed amendment aligns with the proposed Huxley Master Subdivision Plan.

Staff Recommendation:

Planning and Community Development Department staff recommend approval of the proposed amendments.

The Parks, Recreation, and Cultural Resources Advisory Commission considered and unanimously recommended approval of the proposed amendments at their March 30, 2022 meeting.

Transportation Plan Amendments

April 12, 2022 Town Council Meeting



Planning Board Recommendation:

Planning and Community Development Department staff will present these items to the Planning Board at their April 11, 2022 meeting. The Planning Board's recommendation will be presented by staff at the Council meeting.

for consideration by the Apex Town Council

Item Type: PUBLIC HEARING Meeting Date: April 12, 2022

<u>Item Details</u>

Presenter(s):Jenna Shouse, Senior Long Range PlannerDepartment(s):Planning & Community Development

Requested Motion

Public hearing and possible motion to amend the Bicycle and Pedestrian System Plan map to remove a segment of proposed greenway from the future Felton Grove High School site, realign and extend a proposed greenway through the future Felton Grove High School site, and add proposed side path along the south side of a proposed extension of Thriftwood Drive.

Approval Recommended?

Planning and Community Development Department staff recommend approval of the proposed amendments.

The Parks, Recreation, and Cultural Resources Advisory Commission considered and unanimously recommended approval of the proposed amendments at their March 30, 2022 meeting.

Planning and Community Development Department staff will present these items to the Planning Board at their April 11, 2022 meeting. The Planning Board's recommendation will be presented by staff at the Council meeting.

<u>Item Details</u>

The purpose of this hearing is to consider changes in the bicycle and pedestrian network to provide a complete bicycle and pedestrian connection to the future Felton Grove High School.

<u>Attachments</u>

• Staff Report



Transportation Plan Amendments

April 12, 2022 Town Council Meeting



The purpose of the public hearing is to consider the facts in order to formulate a decision. The Bicycle and Pedestrian System Plan map represents a network of current and future facilities that provide guidance on what is likely to be suitable for long term growth, connectivity, and recreation. The Plan does not require a schedule for implementation nor does it set aside funding for improvements. Instead, it helps the Town establish long term priorities and identify requirements for new development. The Plan was last amended on November 9, 2021.

The purpose of the public hearing is to consider the following proposed amendments to:

- 1. Remove a segment of proposed greenway from the future Felton Grove High School site.
- 2. Realign and extend a proposed greenway through the future Felton Grove High School site.
- 3. Add proposed side path along the south side of a proposed extension of Thriftwood Drive.

A map of the proposed amendments to the Bicycle and Pedestrian System Plan map is displayed in Figure 1 below.



Figure 1. Proposed Bicycle and Pedestrian System Plan Map Amendments

The purpose of the proposed changes to the bicycle and pedestrian network are to provide a complete bicycle and pedestrian connection to the future Felton Grove High School. The proposed amendments align with the proposed Felton Grove High School Major Site Plans.

Transportation Plan Amendments

April 12, 2022 Town Council Meeting



Staff Recommendation:

Planning and Community Development Department staff recommend approval of the proposed amendments.

The Parks, Recreation, and Cultural Resources Advisory Commission considered and unanimously recommended approval of the proposed amendments at their March 30, 2022 meeting.

Planning Board Recommendation:

Planning and Community Development Department staff will present these items to the Planning Board at their April 11, 2022 meeting. The Planning Board's recommendation will be presented by staff at the Council meeting.

for consideration by the Apex Town Council

Item Type:PUBLIC HEARINGMeeting Date:April 12, 2022

<u>Item Details</u>

Presenter(s):Jenna Shouse, Senior Long Range PlannerDepartment(s):Planning & Community Development

Requested Motion

Public hearing and possible motion to amend the Bicycle and Pedestrian System Plan map to add a proposed greenway between Terrmini Drive and Humie Olive Road.

Approval Recommended?

Planning and Community Development Department staff recommend approval of the proposed amendment.

The Parks, Recreation, and Cultural Resources Advisory Commission considered and unanimously recommended approval of the proposed amendment at their February 23, 2022 meeting.

Planning and Community Development Department staff will present this item to the Planning Board at their April 11, 2022 meeting. The Planning Board's recommendation will be presented by staff at the Council meeting.

Item Details

The purpose of this hearing is to consider a change to the bicycle and pedestrian network to provide a greenway connection between Terrmini Drive and Humie Olive Road.

<u>Attachments</u>

• Staff Report



Transportation Plan Amendments

April 12, 2022 Town Council Meeting



The purpose of the public hearing is to consider the facts in order to formulate a decision. The Bicycle and Pedestrian System Plan map represents a network of current and future facilities that provide guidance on what is likely to be suitable for long term growth, connectivity, and recreation. The Plan does not require a schedule for implementation nor does it set aside funding for improvements. Instead, it helps the Town establish long term priorities and identify requirements for new development. The Plan was last amended on November 9, 2021.

The purpose of the public hearing is to consider an amendment to add a proposed greenway between Terrmini Drive and Humie Olive Road.

A map of the proposed amendment to the Bicycle and Pedestrian System Plan map is displayed in Figure 1 below.



Figure 1. Proposed Bicycle and Pedestrian System Plan Map Amendment

The purpose of the proposed change to the bicycle and pedestrian network is to provide a greenway connection between Terrmini Drive and Humie Olive Road. The proposed amendment aligns with the proposed Friendship Village Master Subdivision Plans.

Staff Recommendation:

Planning and Community Development Department staff recommend approval of the proposed amendments.

The Parks, Recreation, and Cultural Resources Advisory Commission considered and unanimously recommended approval of the proposed amendments at their February 23, 2022 meeting.

Transportation Plan Amendments

April 12, 2022 Town Council Meeting



Planning Board Recommendation:

Planning and Community Development Department staff will present these items to the Planning Board at their April 11, 2022 meeting. The Planning Board's recommendation will be presented by staff at the Council meeting.

Agenda Item cover sheet						
			Item Type: Meeting Date:	CLOSED SESSION April 12, 2022		
<u>Item Details</u>						
Presenter(s):	Joanna Helms, Economic De	evelopment D	irector			
Department(s):	Economic Development					
	Req	uested Motior	<u>1</u>			
Possible motion to	go into Closed Session pursu	ant to NCGS 1	143-318.11(a)(4) to	discuss matters related to		
the location or expansion of business in the area.						
	<u>Approva</u>	al Kecommenc	<u>160 (</u>			
	ŀ	tem Details				
N/A	<u>1</u>					
<u>Attachments</u>						
	[- Page 597 -		A PE + 1873 1873 V A PE + 1873 V A PE + 1873 V A PE + 1873 V A PE + 1873 V A PE + 1873 V A PE + 1873 V A PE + 1873 V A PE + N A A A A A A A A A A A A A		

for consideration by the Apex Town Council

Item Type:CLOSED SESSIONMeeting Date:April 12, 2022

Item Details

Presenter(s): Laurie Hohe, Town Attorney]

Department(s): [Legal Services]

Requested Motion

[For Consent: Motion to.... / All others: Possible Motion to...]

Approval Recommended?

[Yes or No]

<u>Item Details</u>

Possible motion to go into closed session pursuant to NCGS 143-6318.11(a)(3) to preserve attorney-client privilege.

<u>Attachments</u>

• [List attachments or N/A]

