



Town of Elon

Planning Board Agenda

September 20, 2022

6:00 PM

Elon Town Hall, Town Council Chambers

104. S. Williamson Ave., Elon, NC

Agenda Items

A. Call to Order

B. New Business

- i. Approval of Minutes from the June 21, 2022 Planning Board Meeting.
- ii. Petition MDP-2022-02 - A request by the applicant Brad Moore, on behalf of the property owner, Elon University, for major development plan review for a residence hall located at the intersection of East Haggard Avenue and North Oak Avenue (Tax Parcel 115430) and zoned Public Institutional (PI).

C. Items from Board Members

D. Other Business

E. Adjournment

TOWN OF ELON PLANNING BOARD MINUTES

Town of Elon Town Hall, 104 S. Williamson Ave., Elon, NC 27244

June 21st, 2022, at 6:00 PM

Board members present: Jim Beasley, Clark Bennett, John Harmon, Mark Podolle, and Philip Owens.

Staff present: Carrie Spencer and Mary Kathryn Harward

Item A- Chairman Beasley called the meeting to order at 6:01 pm.

Item B- New Business

Item B-i- Approval of Minutes

Ms. Harward presented the board with minutes from the March 2022 meeting for approval

- Mr. Harmon made a motion to approve the March minutes; Mr. Podolle seconded the motion; the motion was approved unanimously (5-0) by the board.

Item B-ii- Rezoning Request RZ #2022-02

Mrs. Spencer presented the Board with a presentation containing the details for the rezoning request RZ #2022-02 regarding the Parc Northwest Development. Rezoning Request RZ #2022-02 was submitted by Greenhawk Corporation, Inc., for property located at the northeast corner of University Drive and Elon Ossipee/ Shallowford Church Road. Approval of the request would change the zoning of a +/- 57.72 acre parcel identified by Parcel ID #110257 from the Neighborhood Residential Planning District (NR) and Village Center Planning District (VC) with a Traditional Neighborhood Overlay (TND-O) to the Neighborhood Residential-Conditional Planning District (NR-CPD) and Village Center Conditional Planning District (VC-CPD) with the Traditional Neighborhood Development Overlay (TND-O).

The proposed conditions listed in the application include changes in the number of proposed residential units, changes in the proposed number of multi-family units, limitations of land uses, commitments to architectural standards, decrease in the minimum lot size, increase in size of open space, and changes to the NR and VC acreages. The site is currently undeveloped, with no environmental concerns save the on-site streams that will need to be buffered.

Mrs. Spencer reminded the board of what conditional zoning is, why it was established, and the Planning Board and Town Councils role in the process

Mrs. Spencer referenced the Town of Elon's Comprehensive Plan and outlined the goals and objectives that the proposed rezoning supported.

The staff recommendation was as follows:

- Multiple elements of the Plan provide support for the proposal.
- The plan and conditions align with illustrations for the Focus Area/Central.
- The property's Future Land Use and Conservation Map as mixed use, aligns with the intent of the proposed conditional zoning districts.
- Staff therefore considers the request to be consistent with the Land Development Plan with the conditions requested by the applicant.

After Mrs. Spencer's presentation, Mr. Tony Tate of TMTLA Associates gave a short presentation on the conditional zoning master plan for the proposed "parc northwest" development and Mr. Jeremy Medlin of Greenhawk Corporation, Inc., addressed concerns from the board and public. The common concerns from the board members and the public involved:

- Potential drainage into the adjoining Cable Square neighborhood
- Connections to Cable Square and the impact on the neighborhood/citizen safety
 - Impact of necessary crossing across University Drive and placement/effectiveness of crosswalks
- Location and safety of proposed sidewalk from parc northwest to the University's Schar center
- Results and implications of the Traffic Impact Analysis currently being carried out by NCDOT for the area
- Density and potential impacts on emergency services (specifically fire response)

After dialogue between the Board, Staff, Applicant, and community members, the Planning Board members voted on 3 motions, which were as follows:

1. Motion 1: Rezoning request RZ #2022-02 is consistent with the adopted Town of Elon Land Development Plan.
 - a. Motion was made by Mr. Clark Bennett, with Mr. John Harmon seconding the motion, all were in favor.
2. Motion 2: Rezoning request RZ #2022-02 does not have an acceptable level of impact on both the immediate area and the community as a whole.
 - a. Motion was made by Mr. Clark Bennett, with Mr. Philip Owens seconding the motion, all were in favor.
 - b. Concerns:
 - i. Density is an issue due to fire safety
 - ii. More conditions would be preferred
3. Motion 3: The Town of Elon Planning Board recommends approval, with conditions, of Rezoning Request RZ #2022-02, with the following additional conditions:
 - a. Developer will propose language for a condition that would prohibit access of construction vehicles through Cable Square; and the building located on the southeast corner of the Village Center zoned property be limited to 3 stories above street grade at the intersection; the Board requests professional review by the fire chief.
 - b. Motion to approve was made by Mr. Mark Podolle, with Mr. Philip Owens seconding the motion. Mr. Jim Beasley and Mr. John Harmon were in favor; Mr. Clark Bennett was not in favor. The motion passed 4-1.

Item B-iii- Major Development Plan MDP #2022-01

Mrs. Spencer gave a presentation to the board on Major Development Plan #2022-01 titled "Elon Gateway Project". The application for the project was submitted by Brad Moore, Architect with Elon University, on behalf of the University. The project is described as adding entrance signage to a vacant parcel and adjacent parcel and signifies an entry onto the university campus from University Dr. at O'Kelly Ave. Plans show the project consisting of two identical walls with university signs and one decorative bell tower. The properties are located on the southeast and southwest corner of University Avenue and O'Kelly Avenue, with parcel ID #s 110124 and 110188.

The sign requirements from the Town of Elon LDO, the Major Development Plan process, existing site conditions and zoning, and project renderings were presented in detail.

Staff recommended that the Planning Board consider this application, accept public input during the scheduled meeting, and consider a recommendation to the Board of Aldermen on the proposal at their earliest convenience. Staff recommends approval of the request.

- John Harmon made a motion to approve MDP-2022-01. Mr. Mark Podolle seconded the motion, and all the members voted in favor (5-0) of approving MDP-2022-01.

Item C- Board of Alderman Updates

- There were no Town Council updates

Item D- Motion to Adjourn

A motion to adjourn was made by Mr. Clark Bennett and seconded by Mr. John Harmon. The motion was approved by a unanimous vote (5-0).

Meeting was adjourned at 9:16 pm.

Respectfully Submitted,

Chair Jim Beasley

Recording Secretary, Mary Kathryn Harward
Town of Elon Planning Department – Planner I

DEVELOPMENT REVIEW APPLICATION FORM



Town of Elon Development Services

P.O. Box 595
104 S. Williamson Avenue
Elon, NC 27244 (336) 584-2859

PLAN TYPE:	REVIEW FEE:
Development Plan or Subdivision - Minor	\$250.00
- Major	\$450.00 + cost of mailed notices (calculated based on # of adjoining properties)
Special Use Permit (includes Dev. Plan approval)	\$450.00 + cost of mailed notices (calculated based on # of adjoining properties)
Final Plat	\$100.00 (Exempt s/d, recombination, or easement plats = \$50.00)
Technical Review Committee (TRC) Review	\$600.00 (includes two resubmittals); \$150.00 (per each submittal over two)
Traffic Impact Analysis Review	\$300.00

Minor Subdivision = less than 10 SF lots; Major Subdivision = 10 or more SF lots or any number of non-residential lots.
Minor Development Plan = Development of open land uses or up to 2 buildings or additions totaling less than 30,000 sf, without new streets or right-of-way.
Major Development Plan = MF, mixed-use, or non-residential development.

Submit three (3) printed copies and an electronic set of plans to the Planning Office for review.

PROJECT SUMMARY: 3 STORY RESIDENTS HALL

A. Project Name: EAST NEIGHBORHOOD COMMONS

B. Type of Plan: ☐ Minor Development Plan ☒ Major Development Plan ☐ Special Use
☐ Final Plat ☐ TRC Review ☐ Traffic Impact Analysis ☐ Schematic Design (Pre-application review)

C. Property Street Address: HAGGARD AVE.
Property Description: A PORTION OF 115430 ON HAGGARD AVE & N. OAK

D. Owner/Applicant: ELON UNIVERSITY

E. Report Comments to: BRAD MOORE

Telephone Number: 336 278 5492 Fax Number:
E-Mail: BMOORE6@ELON.EDU

Report Comments to (additional contact): TIM JENNINGS @STIMMELASSOCIATES

Telephone Number: 336 723 1067 Fax Number:
E-Mail: TJENNINGS@STIMMELPA.COM

F. Tax Map / Block / Parcel # (s): 115430 PIN 188 55264449

G. Total Tract Acreage: 4.20 AC

H. Zoning District: P1

I. Flood Plain: ☐ yes ☒ no (A Floodplain Development Permit may also be required if property is in the Floodplain)

J. Proposed Use: DORM

K. Number of Lots: ONE

L. Multifamily Developments: # of Units 52
Type: ☐ Apartments ☐ Townhomes ☐ Condominiums

M. Non-Residential Developments: Existing Gross Floor Area (GFA): 0 Proposed GFA: 15,137

N. Amount of Existing Built-upon Area (BUA): 1.59 AC

O. Amount of Proposed BUA: 1.81 AC

PLAN SUBMISSION GUIDELINES

Plans submitted for Major Development Plan Review must be submitted thirty (30) days prior to the desired Planning Board meeting in order to be included on the agenda. Final Decision by the Board of Aldermen shall be provided at their next available meeting. Plans submitted for TRC Review must be submitted seven (7) days prior to the desired TRC meeting (TRC meetings may be scheduled for the 2nd & 4th Wednesdays of each month). Submittals must be complete in order to be scheduled for review.

I have read, understood and completed the attached plan to the best of my knowledge and ability.

Applicant Signature: Tim Jennings Phone: 336 723 1067 Date: 8.3.22

East Neighborhood Commons Residence Hall
MDP-2022-02
Major Development Plan Review

Property Owner: Elon University
Applicant: Brad Moore
Request: Major Development Plan (Major Site Plan) Review and Recommendation
Location: Elon University, East Haggard Avenue and North Oak Avenue
Parcel ID: 115430
Site Acreage: Parcel = 11.2 acres Project Area = 1.55 acres
Zoning: Public Institutional (PI)

Petition MDP-2022-02 is a request by the applicant Brad Moore, on behalf of the property owner, Elon University, for major development plan review for a residence hall consisting of 52-units, flex space, student living room lounges and an office located at the intersection of East Haggard Avenue and North Oak Avenue (Tax Parcel 115430) and zoned Public Institutional (PI).

Existing Site Conditions (Aerial imagery exhibit attached)

The parcel currently contains three (3) residence halls, tennis courts and a parking lot (on the south side of East College Avenue). There is an existing parking lot where the new residence hall is proposed, which will be removed.

- To the West - Existing Elon University property with several buildings zoned PI (Public Institutional).
- To the South - Existing Elon University property with several buildings zoned PI (Public Institutional) and single-family dwellings and a vacant parcel zoned SR (Suburban Residential).
- To the East - Single-family dwellings zoned SR (Suburban Residential) and NR (Neighborhood Residential).
- To the North - Vacant parcel owned by Elon University zoned PI (Public Institutional) and an apartment building zoned UR (Urban Residential).

Land Use and Site Plan (Site plan attached)

- The site is currently zoned PI (Public Institutional), and the PI District is described in the LDO as being intended to accommodate primarily large-scale public, educational and institutional uses. The proposed use constitutes a use by right and will be confirmed to comply with all relevant LDO requirements prior to construction plan approval and the issuance of a Zoning Compliance Permit.

- The proposed residence hall will contain the following uses: 52 residential units, flex space/entertaining space, study rooms, living room lounges, storage space and a housing office.
- The proposed building is 3-stories tall with a basement that will be visible on certain elevations of the building due to the topography of the site. Section 5.4.4.2 of the LDO states that building height is measured as the vertical distance from the highest finished grade relative to the street frontage to the eaves or the highest level of a flat roof.
- A new, proposed parking lot is located off N. Oak Street and contains 4 parking spaces (for more information on parking requirements, please see the Parking Requirements subsection). The parking lot also contains a utility yard which will be screened by a wall and a loading/unloading space. The entrance to the parking lot meets the turning radius requirements for a fire truck.
- An eight-foot (8') wide brick sidewalk runs along the western portion of the project area, and it also includes a pervious pavement area, which consist of grass (honeycombed shaped) pavers to provide emergency vehicular access to the site. A large, paved patio also encompasses the site on both sides of the front of the building along East Haggard Ave. The patio on the western side of the building will serve dual roles: it will provide an area for emergency vehicles to have close access to the building, and it will also encourage pedestrian activity in accordance with Section 5.4.6.1-A of the LDO, which states: "front and side setbacks may vary depending upon site conditions and will encourage pedestrian activity. Front and side setbacks exclude pedestrian uses such as plazas, stoops, walks, etc."
- There are existing sidewalks along both East Haggard Avenue and N. Oak Street. There are also sidewalks planned on all sides of the building. There is a proposed mid-block crosswalk in front of the patio/brick fire lane.
- There is a fifteen-foot (15') wide proposed landscape buffer along the rear of the property adjacent to Parcel 115434 and Parcel 115562 in accordance with Section 5.8.3.2 of the LDO. The plans meet the landscaping requirements listed in the LDO and final landscaping plans with specific tree and shrub species will be provided by the property owner prior to construction plan approval. There is also an existing wooden fence along the rear property line.
- Solid waste for the site will be handled by bins located inside the building that will then be picked up by the University and take to an off-site dumpster for disposal.
- There is a proposed wall sign in front of the building along East Haggard Avenue and there is a note on the site plan that all signage shall be permitted separately.
- The parcel is not located within a special flood hazard area as defined by the Federal Emergency Management Agency (FEMA).

Parking Requirements

Elon's LDO calculates parking requirements in Section 5.6.2.2. For University uses, the minimum requirement is 1 space for every 2 students and 1 space for every employee/university staff, applied to the campus as a whole. This project will result in a reduction in the overall parking count due to the loss of existing on-site parking spaces. However, the campus currently provides parking spaces in excess of the requirement by more than 1,000. Staff will continue to monitor parking counts as development continues

on campus to ensure there is no risk of the University falling below the minimum requirement. The current calculation is as follows:

- ❖ Number of Faculty/Staff = 1,600 (1 space per person required)
- ❖ Number of Students = 6,700 (1 space per 2 students required – $6,700/2 = 3,350$)
- ❖ Number of spaces required = $1,600 + 3,350 = 4,950$ spaces
- ❖ Current parking spaces provided (including this project) = 6,020 (1,075 ‘extra’ spaces)

Zoning, Comprehensive Plan and Haggard Ave. Corridor Plan (Exhibits attached)

The property is zoned Public Institutional Planning District and is intended to accommodate primarily large-scale public, educational and institutional uses. District design guidelines encourage construction of buildings that relate to Elon’s small-town character. Development at district boundaries must provide a compatible transition to uses outside the district. Frontage along major arterial roads requires formal street tree plantings. Buildings are required to relate to the street with a more pedestrian scale.

The Envision Elon 204 Comprehensive Land Use Plan identifies the site as Institutional in its Future Land Use Classification. Institutional is defined as:

“These areas include Elon University, other campus-style development, and large-scale civic and government uses. As significant components of the development pattern, these areas are typically key destinations in town and can include community landmarks. Sites are designed and buildings are oriented to establish a positive relationship with and connections to adjacent development. Buildings, which typically have large footprints, vary in height up to five stories. Parking is located in large and small surface lots as well as along private and public streets to adequately serve multiple buildings. Facilities to support pedestrian and bicycle access are integrated. Small and moderately sized schools and churches may be included within these areas; however, such uses are also appropriate in other land use categories.”

The Haggard Avenue Corridor Plan (Phase 1) was adopted by the Town Council on May 11, 2021. The proposed residence hall and associated site improvements meet some of the recommendations of the Haggard Avenue Corridor Plan, including:

- Mid-block pedestrian crossings, plantings, pavement markings, materials changes, and signage.
- Street trees that vary in size, spacing and location.

Additional Considerations

The Technical Review Committee (TRC) reviewed the proposed residence hall plans at their August 10th and August 24th meetings. The primary discussions during the meetings were items that needed to be

amended or added to the site plan. The Fire Marshal's office, the Fire Department Chief and Assistant Chief and the Town's consulting engineer had several questions regarding access to FDC's (Fire Department Connections) and emergency fire lane access widths. Staff also requested additional elevations of the buildings to determine the impact on neighboring properties.

All of the items mentioned during the TRC meetings were addressed by the applicant and his engineering/architectural team.

Recommendations and Suggested Motions

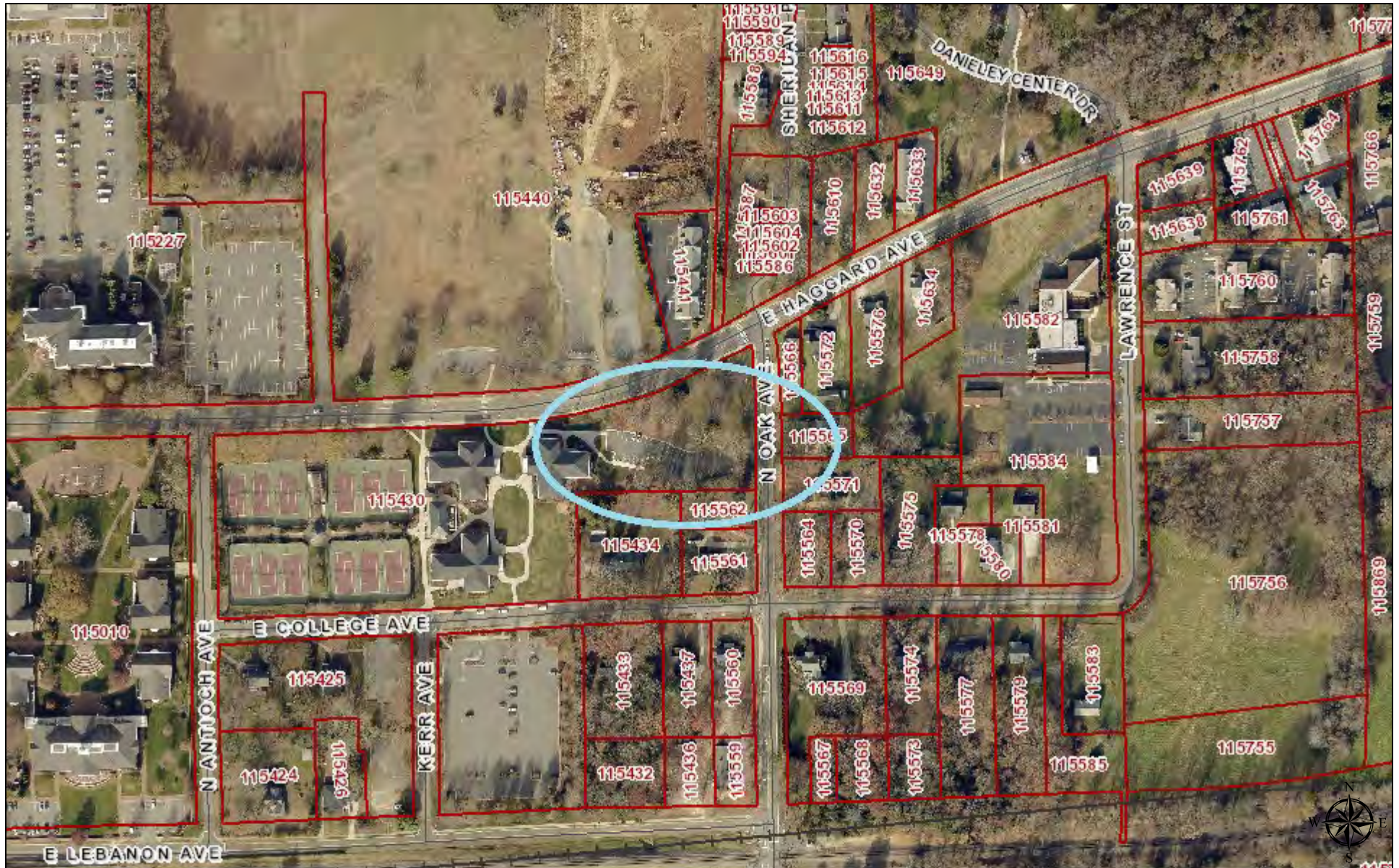
Staff recommends approval of the proposed major development plan, MDP-2022-02, for the East Neighborhood Commons residence hall as the proposed plan meets the requirements outlined in the LDO. The plan also meets the future land use classification description outlined in the Envision Elon 2040 Comprehensive Plan and two of the recommendations outlined in the Haggard Avenue Corridor Plan, Phase 1.

Staff recommends that the Planning Board consider this Major Development Plan proposal, accept public comment during the scheduled meeting, and consider a recommendation to the Town Council on the proposal at their earliest convenience.

Submitted by: Lori Oakley, Planning Director

Enclosures: Major Development Plan Review Application
East Neighborhood Commons Major Development Plan
Aerial Map
Zoning Map
Future Land Use Map

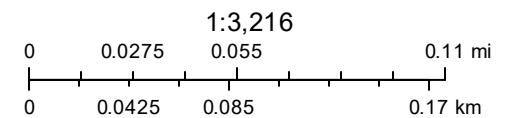
Alamance County



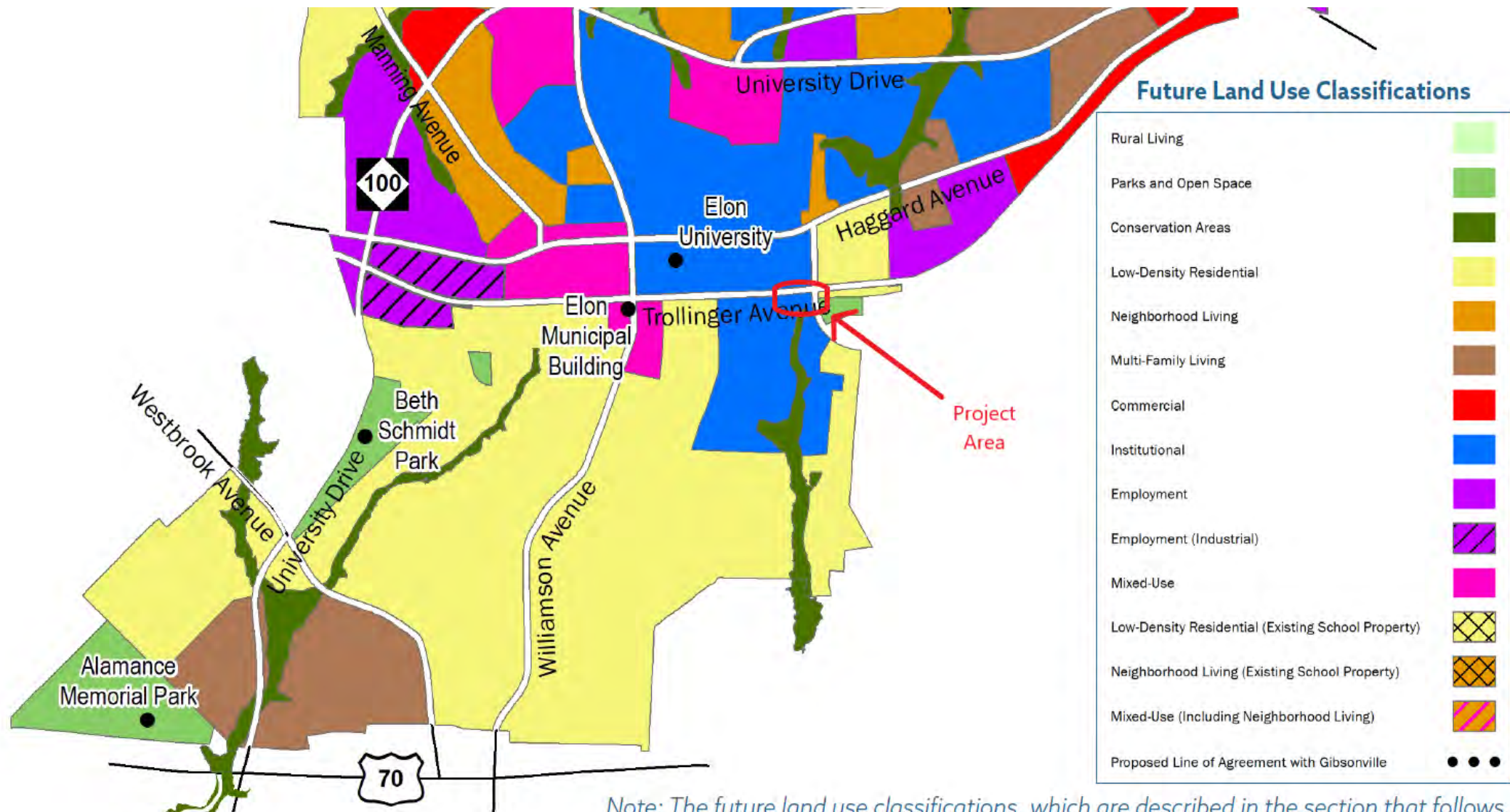
August 12, 2022

Streets

— Private Roads	— 392 - TRAIL	— 395 - TRAIL
— Roads	— 390 - TRAIL	— Railroads
— Preliminary Roads	— 391 - TRAIL	— 394 - TRAIL
		— County Line



Alamance County GIS
Alamance County Tax Department



Town of Elon Land Use Information



ReGIS Partnership

Legend

Land Use

- RR
- SR
- NR
- UR
- NC
- VC
- TC
- TC-1
- C
- I
- O&I
- PI

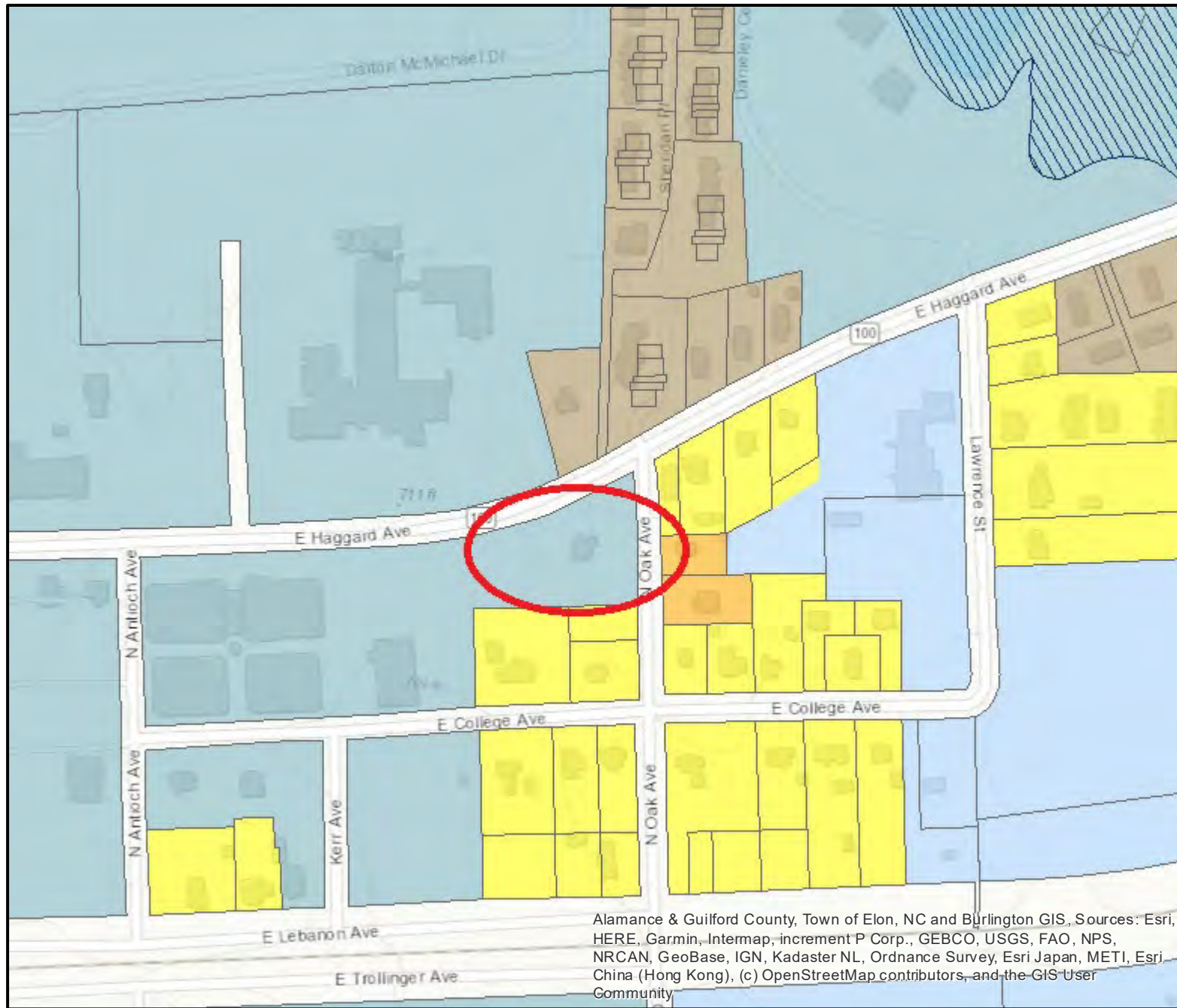
Land Use Overlay

- SP
- TND
- MHN



1 inch = 376 feet

Print Date: 8/12/2022



Alamance & Guilford County, Town of Elon, NC and Burlington GIS. Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), (c) OpenStreetMap contributors, and the GIS User Community

Disclaimer:

This map was compiled from the GIS resources of the Burlington Regional GIS Partnership for public planning and agency support purposes. These resources include public information sources of different scale, time, origin, definition and accuracy, which aspects produce inconsistencies among features represented together on this map. Neither the Town of Elon nor the Partnership shall be held liable for any errors in this map or supporting data. Primary public information sources from which this map was compiled, in conjunction with field surveys where required, must be consulted for the verification of the information contained within this map.



EAST NEIGHBORHOOD COMMONS

EAST HAGGARD AVENUE

PROJECT TEAM

ARCHITECT & LANDSCAPE ARCHITECT
AYERS SAINT GROSS
1040 HULL ST, SUITE 100
BALTIMORE, MD 21230
410-347-8500

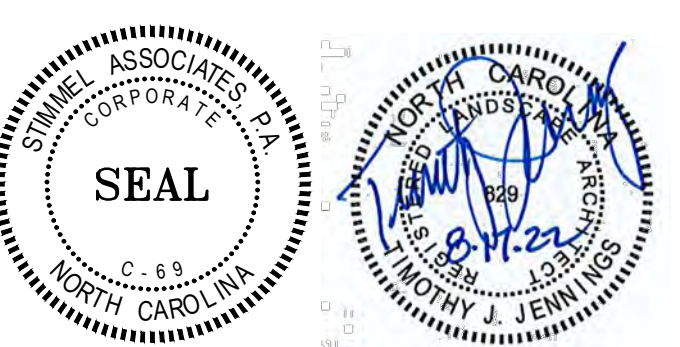
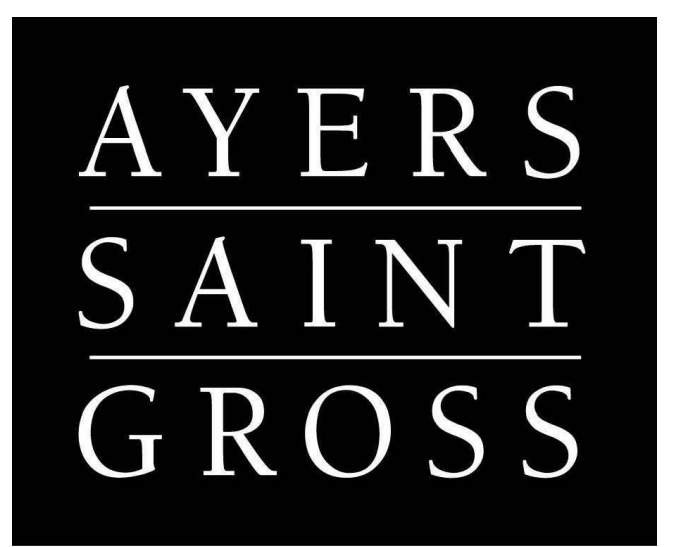
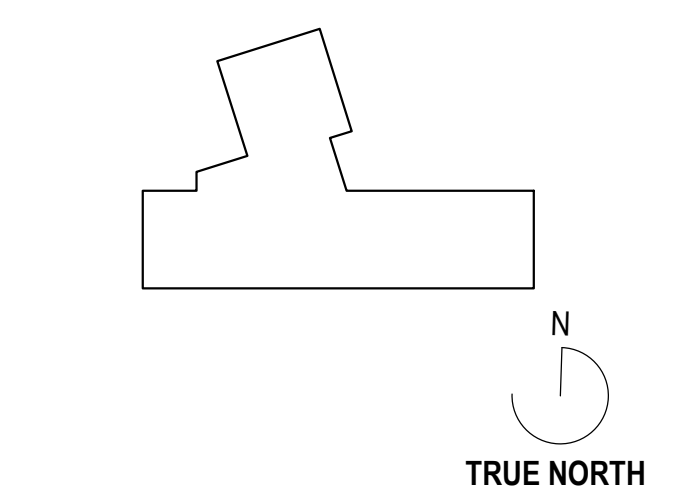
CIVIL
STIMMEL ASSOCIATES
601 N TRADE ST, SUITE 200
WINSTON-SALEM, NC 27101
336-723-1067

STRUCTURAL
LHC STRUCTURAL ENGINEERS
(BENNETT & PLESS)
5340 WADE PARK BLVD, SUITE 400
RALEIGH, NC 27607
919-832-5587

M/E/P
EDMONDSON ENGINEERS
1920 HIGHWAY 54, SUITE 700
DURHAM, NC 27713
919-544-1936

REVISIONS		
REV. #	DESCRIPTION	DATE
1	TRC COMMENTS RND 1	08/17/2022

KEY PLAN



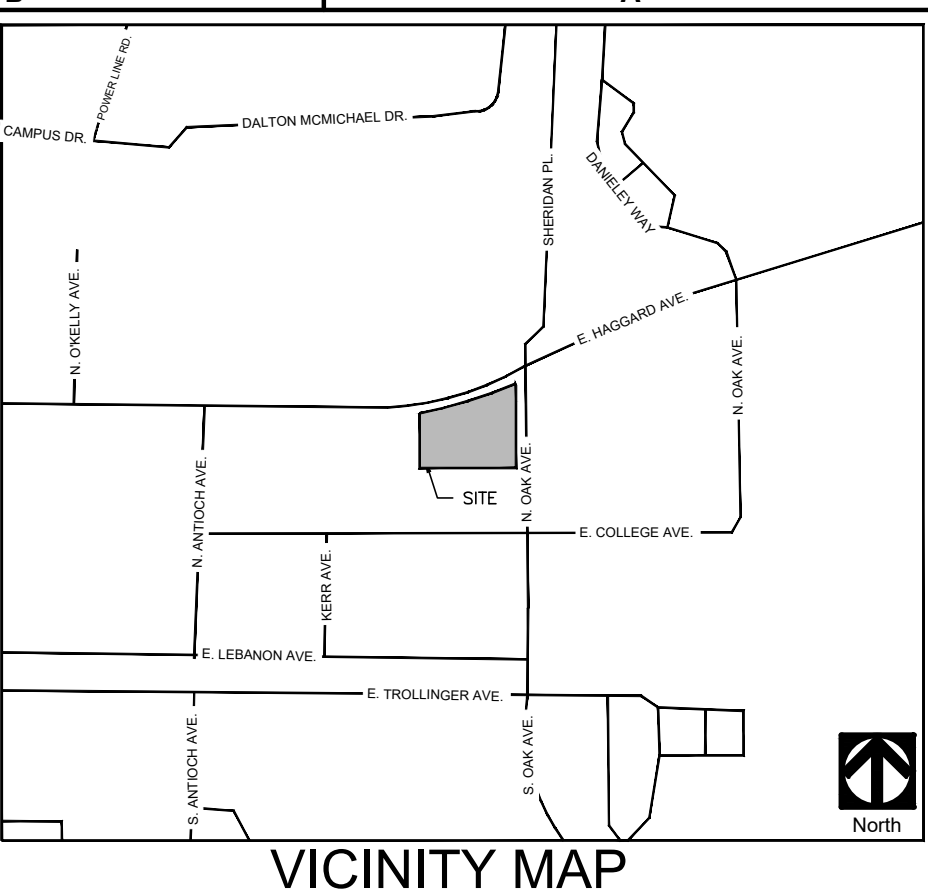
DRAWING INFORMATION	
ISSUE DATE:	08/03/22
SCALE:	1" = 20'
JOB NO.:	2210053.00
DRAWN BY:	Author

PROJECT DESIGN PHASE
MAJOR DEVELOPMENT PLAN
NOT FOR CONSTRUCTION
DRAWING NAME

EXISTING CONDITIONS /
DEMOLITION PLAN

C-1.00

© COPYRIGHT AYERS/SAINT/GROSS, 2022

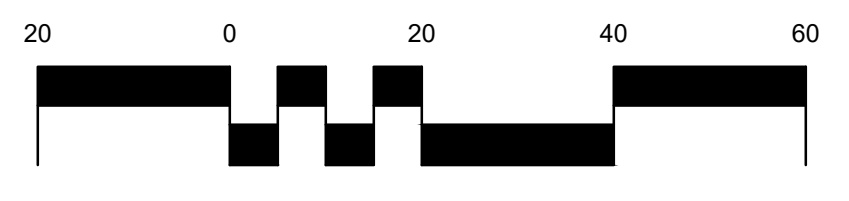


GENERAL NOTES:

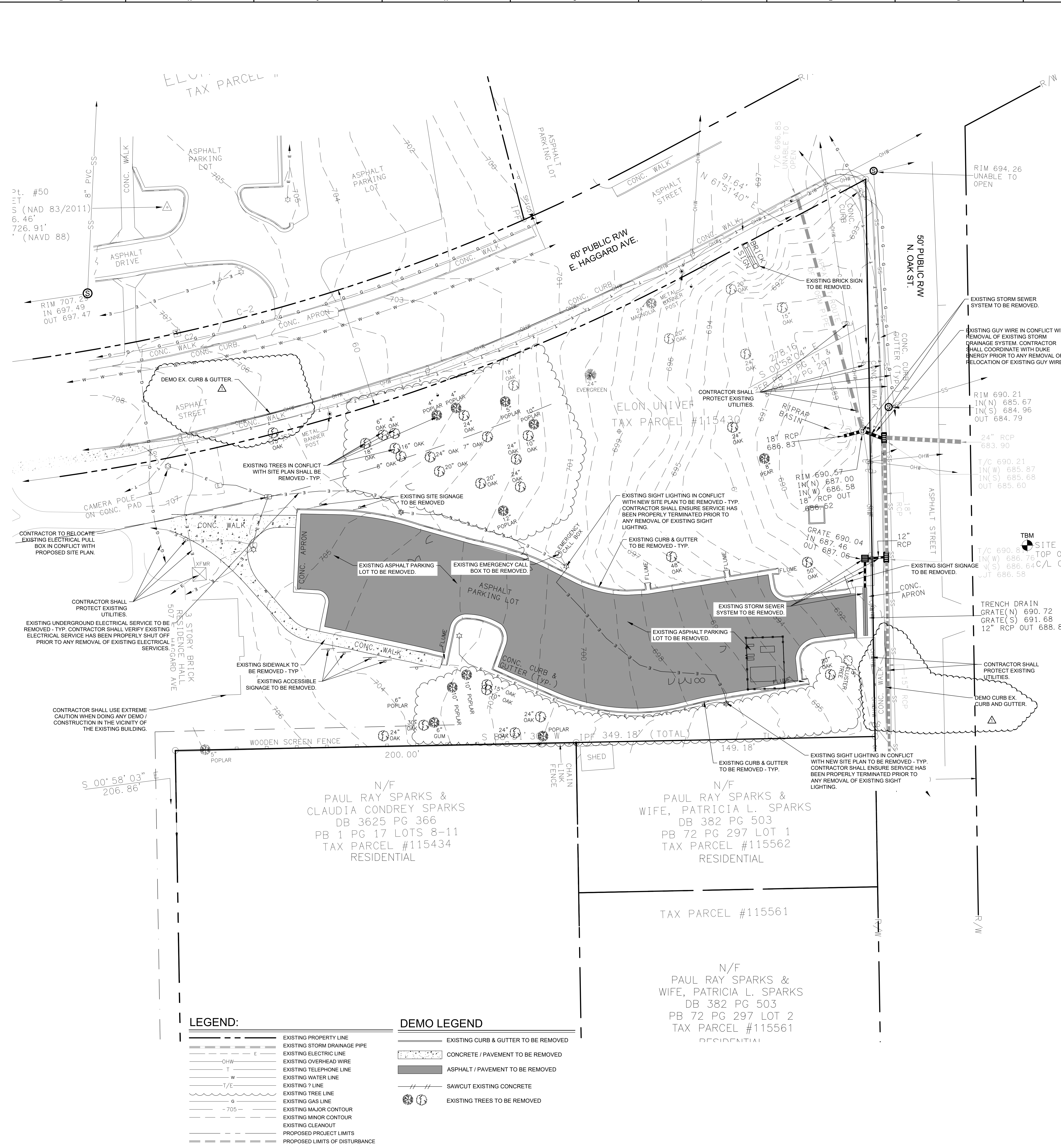
- THE CONTRACTOR SHALL VISIT THE SITE TO INFORM AND SATISFY HIMSELF OF ALL OF THE EXISTING CONDITIONS PRIOR TO SUBMITTING HIS BID. ANY DISCREPANCY BETWEEN THE SITE AND THE EXISTING CONDITIONS REPRESENTED ON THE DRAWINGS SHALL BE BROUGHT TO THE ATTENTION OF THE OWNER AND THE ENGINEER IMMEDIATELY.
- ALL DIMENSIONS, RADII, AND NORTHING & EASTING COORDINATES ARE TO FACE OF CURB, CENTER OF STRUCTURES SUCH AS INLETS, MANHOLES, ETC., OR END OF PIPE RUNS AS APPLICABLE UNLESS NOTED OTHERWISE ON THE PLANS.
- ALL EXISTING UTILITIES OR STRUCTURES INDICATED ON THE DRAWINGS ARE BASED ON AVAILABLE INFORMATION OF RECORD. THE CONTRACTOR IS REQUIRED TO TAKE PRECAUTIONARY MEASURES TO PROTECT THE UTILITY LINES SHOWN HEREON AND ANY OTHER EXISTING LINES NOT OF RECORD OR NOT SHOWN ON THESE PLANS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAKING ARRANGEMENTS FOR THE PROTECTION, RELOCATION OR REMOVAL OF CONFLICTING EXISTING UTILITIES AND AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES RESULTING FROM HIS FAILURE TO LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES BEFORE STARTING WORK. THE CONTRACTOR SHALL CONTACT NC811 AT 1 (800) 632-4949 TO HAVE ALL EXISTING UTILITIES LOCATED.
- THE BUILDING FOOTPRINT SHOWN IS BASED ON INFORMATION PROVIDED BY THE ARCHITECT. FINAL BUILDING DIMENSIONS ARE TO BE TAKEN FROM THE ARCHITECTURAL DRAWINGS. DO NOT USE THESE DRAWINGS FOR DETERMINATION OF FINAL BUILDING DIMENSIONS.
- LOCATION AND ELEVATIONS OF IMPROVEMENTS, TO BE MET, CONNECTED TO OR CROSSED BY WORK, SHALL BE CONFIRMED BY FIELD MEASUREMENT, SUFFICIENTLY AHEAD OF CONSTRUCTION TO PERMIT REVISIONS TO THE PLANS, IF REVISIONS ARE NECESSARY DUE TO ACTUAL LOCATION OF EXISTING UTILITIES.
- THE CONTRACTOR SHALL ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR JOB SITE CONDITIONS DURING THE COURSE OF CONSTRUCTION OF THIS PROJECT, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY. THIS REQUIREMENT SHALL APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS. THE CONTRACTOR SHALL DEFEND, INDEMNIFY, AND HOLD THE OWNER AND THE ENGINEER HARMLESS FROM ANY AND ALL LIABILITY, REAL OR ALLEGED IN CONNECTION WITH PERFORMANCE OF WORK ON THIS PROJECT, EXCEPTING FOR LIABILITY ARISING FROM THE SOLE NEGLIGENCE OF THE OWNER OR THE ENGINEER.
- THE CONTRACTOR IS RESPONSIBLE FOR ANY SHORING REQUIRED TO FACILITATE THE EXECUTION OF THE PROPOSED WORK. THIS WOULD INCLUDE BUT NOT LIMITED TO DESIGN, PERMITTING, INSTALLATION AND REMOVAL.
- THE CONTRACTOR SHALL VERIFY THAT ALL REQUIRED PERMITS AND APPROVALS HAVE BEEN OBTAINED FROM THE APPROPRIATE AUTHORITIES BEFORE BEGINNING WORK ON THE PROJECT.
- TEMPORARY GROUNDWATER CONTROL: ALL WORK SHALL BE CARRIED OUT IN AREAS FREE FROM WATER. THE CONTRACTOR SHALL CONSTRUCT AND MAINTAIN ALL TEMPORARY DIKES, LEVEES, COFFER DAMS, DRAINAGE CHANNELS, AND STREAM DIVERSIONS NECESSARY TO PROTECT THE AREAS TO BE OCCUPIED BY THE PERMANENT WORKS. THE CONTRACTOR SHALL ALSO FURNISH, INSTALL, OPERATE AND MAINTAIN ALL NECESSARY PUMPING AND OTHER EQUIPMENT REQUIRED FOR REMOVAL OF WATER FROM THE VARIOUS PARTS OF THE WORK AND FOR MAINTAINING THE EXCAVATIONS, FOUNDATION, AND OTHER PARTS OF THE WORK FREE FROM WATER AS REQUIRED OR DIRECTED BY THE ENGINEER FOR CONSTRUCTING EACH PART OF THE WORK. AFTER HAVING SERVED THEIR PURPOSE, ALL TEMPORARY PROTECTIVE WORKS SHALL BE REMOVED OR LEVELED AND GRADED TO THE EXTENT REQUIRED TO PREVENT OBSTRUCTION IN ANY DEGREE WHATSOEVER OF THE FLOW OF WATER. STREAM DIVERSIONS SHALL BE MAINTAINED UNTIL THE FULL FLOW CAN BE PASSED THROUGH THE PERMANENT WORKS.
- ALL CONSTRUCTION, MATERIALS, AND WORKMANSHIP SHALL CONFORM TO THE FOLLOWING:
EROSION CONTROL - NORTH CAROLINA DEPARTMENT OF ENVIRONMENTAL QUALITY SPECIFICATIONS AND DETAILS.
STORM DRAINAGE - 2018 NCDOT STANDARD SPECIFICATIONS FOR ROADS AND STRUCTURES AND ROADWAY STANDARD DRAWINGS UNLESS OTHERWISE MODIFIED WITHIN THESE PLANS.
WATER AND SANITARY SEWER - TOWN OF ELON TECHNICAL SPECIFICATIONS AND DETAIL DRAWINGS.
ASPHALT PAVEMENTS, STONE BASE, SIDEWALKS, AND CURB & GUTTERS - 2018 NCDOT STANDARD SPECIFICATIONS FOR ROADS AND STRUCTURES AND ROADWAY STANDARD DRAWINGS UNLESS OTHERWISE MODIFIED WITHIN THESE PLANS.
IN THE EVENT OF A CONFLICT BETWEEN THE CONSTRUCTION DRAWINGS, WRITTEN SPECIFICATIONS ISSUED BY STIMMEL (IF ISSUED), AND/OR THE STANDARDS AND SPECIFICATIONS LISTED ABOVE, THE MORE STRINGENT SHALL APPLY AS DETERMINED BY THE ENGINEER. CONTRACTOR SHALL NOTIFY THE ENGINEER IN WRITING OF ANY CONFLICTING REQUIREMENTS FOR A DECISION BEFORE PROCEEDING WITH THE WORK.
- THE SITEWORK CONTRACTOR IS RESPONSIBLE FOR COORDINATING HIS WORK WITH THE WORK OF OTHER CONTRACTORS ON THE PROJECT TO AVOID CONFLICT.
- THE CONTRACTOR SHALL MAINTAIN A SET OF AS-BUILT DRAWINGS OF THE COMPLETED CONSTRUCTION AND OBSERVATIONS THROUGHOUT THE PROJECT AND SHALL PROVIDE A DIGITAL COPY TO THE OWNER AND ENGINEER FOR USE IN PRODUCING THE AS-BUILT RECORD DRAWINGS.
- A PRE-INSTALLATION MEETING SHALL BE HELD WITH THE CONTRACTOR, THE ENGINEER AND THE AUTHORITY HAVING JURISDICTION FOR THE FOLLOWING:
a. STORM DRAINAGE
b. STORMWATER MANAGEMENT SYSTEM
- AS-BUILT SURVEYING MAY BE REQUIRED FOR OWNER REQUIRED RECORD DRAWINGS OR RECORD DRAWINGS FOR THE LOCAL JURISDICTION AND IS THE RESPONSIBILITY OF THE CONTRACTOR TO PROVIDE.

DEMOLITION NOTES:

- A DEMOLITION PERMIT FROM THE AUTHORITY HAVING JURISDICTION MAY BE REQUIRED AND IS THE RESPONSIBILITY OF THE CONTRACTOR TO OBTAIN.
- ALL ITEMS WITHIN THE DEMOLITION LIMITS SHALL BE COMPLETELY REMOVED. DISPOSE IN AN APPROPRIATE PERMITTED LANDFILL. ADDITIONAL DEMOLITION MAY BE SHOWN ON OTHER DRAWINGS.
- ALL ASBESTOS MATERIALS SHALL BE REMOVED AND DISPOSED IN ACCORDANCE WITH ALL APPLICABLE LAWS AND REGULATIONS. ALL OTHER NON-HAZARDOUS MATERIALS RESULTING FROM DEMOLITION ACTIVITIES SHALL BE DISPOSED OF OFF-SITE IN A PERMITTED LANDFILL FACILITY.
- ALL UNDERGROUND PIPING SPECIFIED TO BE DEMO'D/REMOVED SHALL BE COMPLETELY REMOVED OR FILLED WITH FLOWABLE CONCRETE FILL INCLUDING BUT IS NOT LIMITED TO STORM DRAINAGE, SANITARY SEWER, WATER, CHILLED WATER, STEAM, FUEL, ETC.
- REMOVAL AND/OR RELOCATION OF UNDERGROUND AND OVERHEAD UTILITIES MAY BE REQUIRED. COORDINATE THE RELOCATION AND/OR TERMINATION OF ALL UTILITIES WITH THE RESPECTIVE UTILITY COMPANIES.
- REMOVAL/ABANDONMENT OF EXISTING WATER AND/OR SEWER TAPS AND SERVICES SHALL BE IN ACCORDANCE WITH THE TOWN OF ELON STANDARDS AND REQUIREMENTS. NOTE: THIS MAY REQUIRE DISCONNECTION OF THAT UTILITY SERVICE AT THE MAIN. REPAIR DISTURBED ITEMS IN ACCORDANCE WITH THE AUTHORITY HAVING JURISDICTION SPECIFICATIONS.
- INSTALLATION OF EROSION CONTROL MEASURES IS REQUIRED PRIOR TO DEMOLITION ACTIVITIES.
- DEMOLITION SHALL BE SCHEDULED AND PERFORMED SO AS TO NOT INTERRUPT SUBSEQUENT CONSTRUCTION ACTIVITIES.
- ENSURE NO INTERRUPTION OF UTILITY SERVICE TO ADJACENT BUILDING(S).
- PROTECT ADJACENT STRUCTURES, CURB, SIDEWALKS, PAVEMENTS, ETC. FROM DAMAGE. PATCH/REPAIR ALL ITEMS DAMAGED DURING THE CONSTRUCTION AT NO COST TO OWNER.
- SPRINKLE DEBRIS WITH WATER AS NECESSARY TO LIMIT DUST TO THE LOWEST PRACTICAL LEVEL. DO NOT SPRINKLE TO THE EXTENT TO CAUSE FLOODING, CONTAMINATED RUNOFF OR ICING.
- SAW CUT EDGE OF ALL PAVED AREAS INCLUDING CURBS AND GUTTERS SPECIFIED TO BE REMOVED.
- CLOSURE OF EXISTING WELLS WILL REQUIRE A PERMIT FROM THE LOCAL HEALTH DEPARTMENT, AND THE WORK SHALL BE DONE BY A LICENSED WELL CONTRACTOR. THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING THE WELL CLOSURE PERMIT. ALL WELL CLOSURE WORK SHALL BE DONE IN ACCORDANCE WITH NCAC 15A, 2C, 0100 WELL CONSTRUCTION STANDARDS, AND ANY ADDITIONAL REQUIREMENTS IN THE WELL CLOSURE PERMIT. THE CONTRACTOR SHALL FURNISH THE OWNER WITH A COPY OF THE WELL CLOSURE PERMIT AND REPORTS, IF ANY.
- IT IS UNKNOWN IF THERE ARE SEPTIC SYSTEMS (TANK AND LEACH LINES) LOCATED ON THE SITE. IF A SEPTIC SYSTEM IS FOUND REMOVE THE TANK CONTENTS AND DISPOSE IN A PERMITTED SEWAGE TREATMENT AND DISPOSAL FACILITY AND COMPLETELY REMOVE THE SEPTIC SYSTEM (TANKS, DRAIN LINES, PUMPS AND CONTROLS IF PRESENT) AND DISPOSE OF IN ACCORDANCE WITH APPLICABLE REGULATIONS. CONTACT THE LOCAL HEALTH DEPARTMENT TO OBTAIN A REMOVAL PERMIT, IF REQUIRED. PROVIDE THE OWNER WITH A COPY OF THE CLOSURE PERMIT AND REPORTS, IF ANY.



SCALE: 1" = 20'



LEGEND:	
	EXISTING PROPERTY LINE
	EXISTING STORM DRAINAGE PIPE
	EXISTING ELECTRIC LINE
	EXISTING OVERHEAD WIRE
	EXISTING TELEPHONE LINE
	EXISTING WATER LINE
	EXISTING F-LINE
	EXISTING GAS LINE
	EXISTING MAJOR CONTOUR
	EXISTING MINOR CONTOUR
	EXISTING CLEANOUT
	PROPOSED PROJECT LIMITS
	PROPOSED LIMITS OF DISTURBANCE

DEMO LEGEND	
	EXISTING CURB & GUTTER TO BE REMOVED
	CONCRETE / PAVEMENT TO BE REMOVED
	ASPHALT / PAVEMENT TO BE REMOVED
	SAWCUT EXISTING CONCRETE
	EXISTING TREES TO BE REMOVED

C:\CAD_Temp\AyersSaintGross_11564\21-198_CD_Base.dwg, C-1.00 08/17/22 5:59pm



EAST NEIGHBORHOOD COMMONS

EAST HAGGARD AVENUE

PROJECT TEAM

ARCHITECT & LANDSCAPE ARCHITECT
AYERS SAINT GROSS
1040 HULL ST. SUITE 100
BALTIMORE, MD 21230
410-347-8500

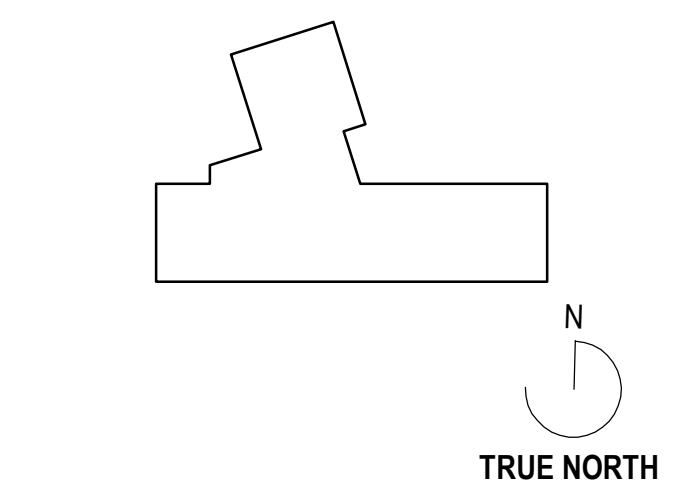
CIVIL
STIMMEL ASSOCIATES
601 N TRADE ST, SUITE 200
WINSTON-SALEM, NC 27101
336-723-1067

STRUCTURAL
LHC STRUCTURAL ENGINEERS
(BENNETT & PLESS)
5340 WADE PARK BLVD, SUITE 400
RALEIGH, NC 27607
919-832-5587

M/E/P
EDMONDSON ENGINEERS
1920 HIGHWAY 54, SUITE 700
DURHAM, NC 27713
919-544-1936

REVISIONS		
REV. #	DESCRIPTION	DATE
1	TRC COMMENTS RND 2	08/31/2022

KEY PLAN

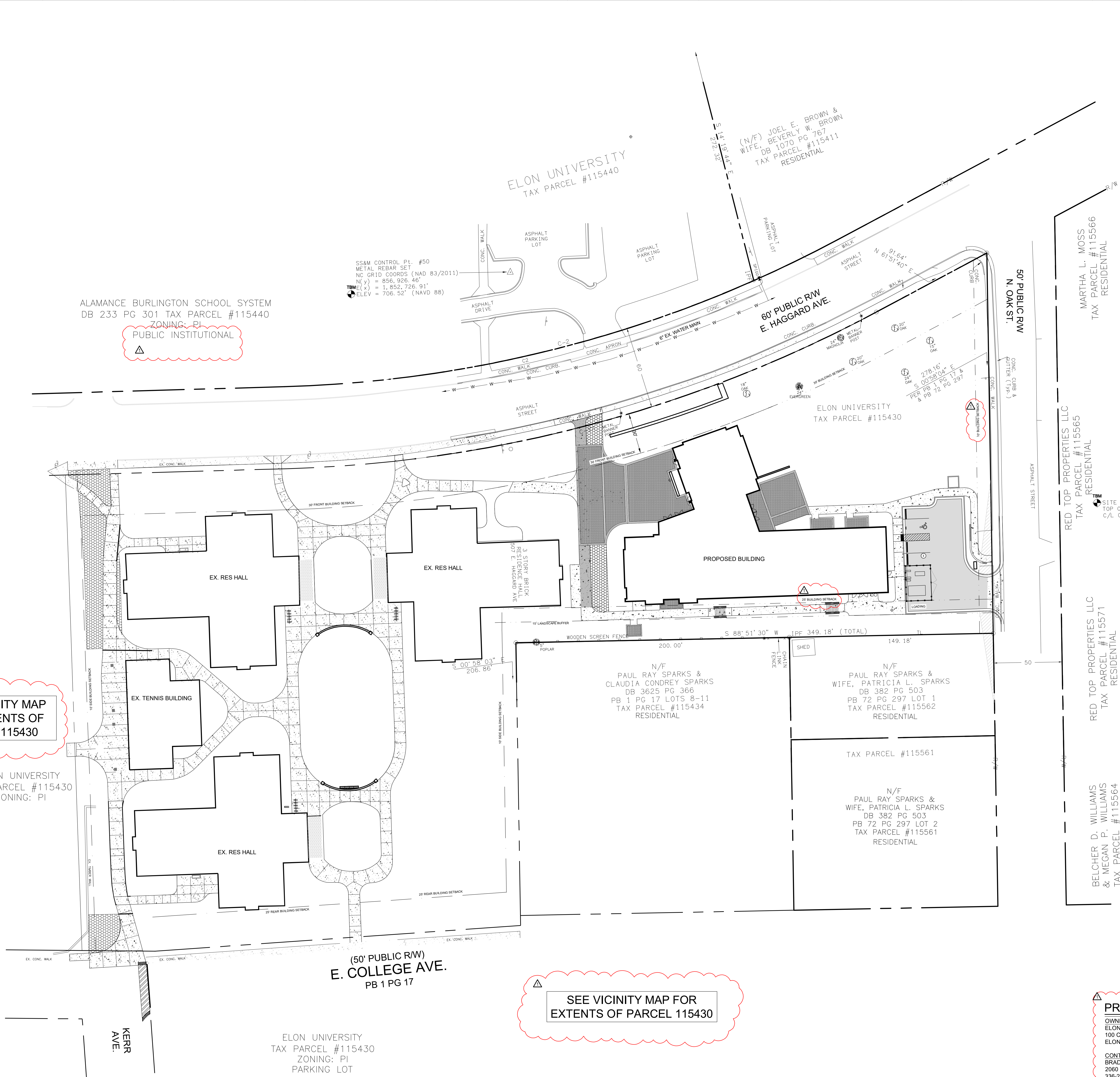
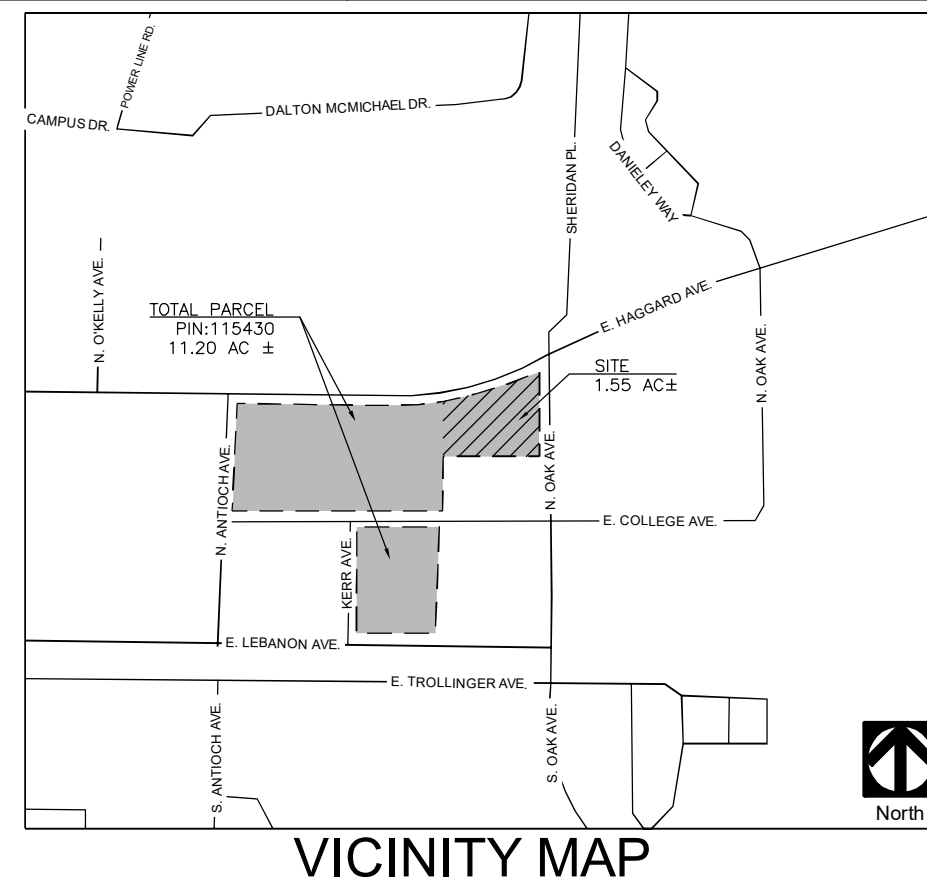
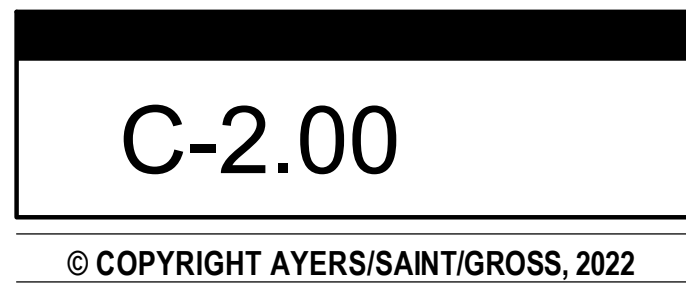


DRAWING INFORMATION	
ISSUE DATE:	08/19/22
SCALE:	2210053.00
JOB NO.:	Author
DRAWN BY:	Author

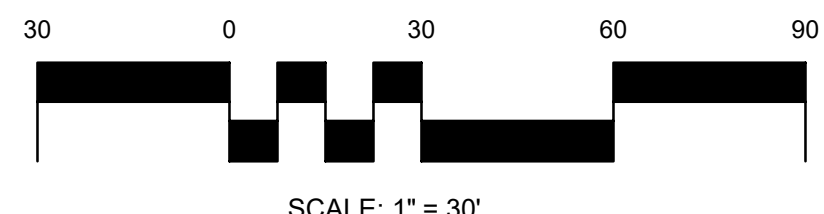
PROJECT DESIGN PHASE
DESIGN DEVELOPMENT

DRAWING NAME

OVERALL SITE PLAN



PROPERTY OWNER INFORMATION:
OWNER
ELON UNIVERSITY
100 CAMPUS DRIVE, 2285 CAMPUS BOX
ELON, NC 27244
CONTACT:
BRAD MOORE
2060 CAMPUS BOX, ELON, NC 27244
336-278-5492
EMAIL: BMOORE6@ELON.EDU



SCALE: 1" = 30'

SEE VICINITY MAP FOR EXTENTS OF PARCEL 115430

SEE VICINITY MAP FOR EXTENTS OF PARCEL 115430



EAST NEIGHBORHOOD COMMONS

EAST HAGGARD AVENUE

PROJECT TEAM

ARCHITECT & LANDSCAPE ARCHITECT
AYERS SAINT GROSS
1040 HULL ST, SUITE 100
BALTIMORE, MD 21230
410-347-8500

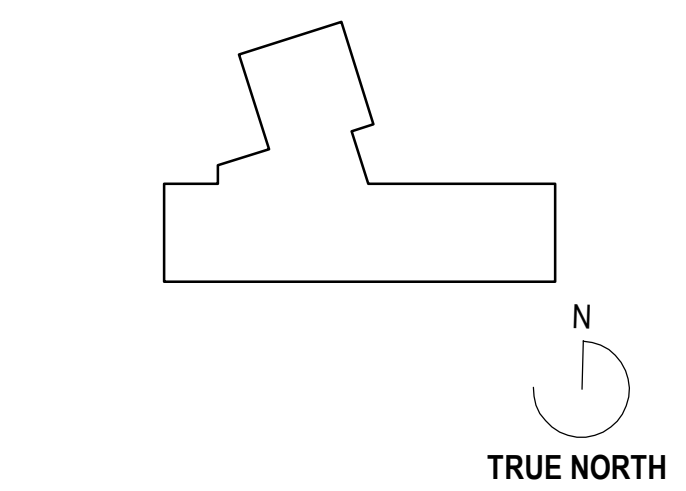
CIVIL
STIMMEL ASSOCIATES
601 N TRADE ST, SUITE 200
WINSTON-SALEM, NC 27101
336-723-1067

STRUCTURAL
LHC STRUCTURAL ENGINEERS
(BENNETT & PLESS)
5340 WADE PARK BLVD, SUITE 400
RALEIGH, NC 27607
919-832-5587

M/E/P
EDMONDSON ENGINEERS
1920 HIGHWAY 54, SUITE 700
DURHAM, NC 27713
919-544-1936

REVISIONS		
REV. #	DESCRIPTION	DATE
1	TRC COMMENTS RND 1	08/17/2022
2	TRC COMMENTS RND 2	08/31/2022

KEY PLAN



DRAWING INFORMATION	
ISSUE DATE:	08/19/22
SCALE:	2210053.00
JOB NO.:	Author
DRAWN BY:	

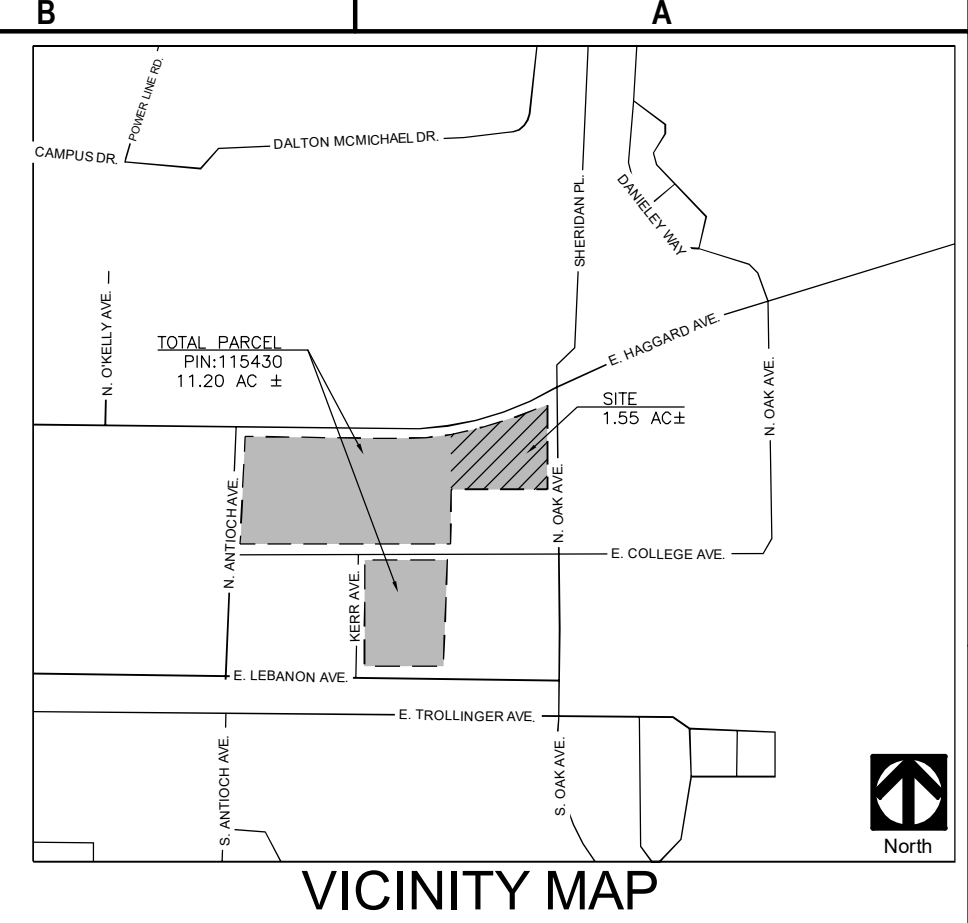
PROJECT DESIGN PHASE
DESIGN DEVELOPMENT

DRAWING NAME

SITE PLAN

C-2.01

© COPYRIGHT AYERS/SAINT/GROSS, 2022



SITE NOTES:

- CONSTRUCTION STAKING SHALL BE THE CONTRACTOR'S RESPONSIBILITY. STAKING SHALL BE PERFORMED BY A PROFESSIONAL LAND SURVEYOR. CONTRACTORS WITH GPS EQUIPMENT AND THE CAPABILITY TO SELF-PERFORM CONSTRUCTION STAKING MAY DO SO. HOWEVER HE SHALL ENGAGE THE SERVICES OF A PROFESSIONAL LAND SURVEYOR TO ESTABLISH HORIZONTAL AND VERTICAL CONTROL FOR THE PROJECT. THESE CONTROL POINTS SHALL BE USED TO CONFIRM THE ACCURACY OF THE GPS EQUIPMENT. CHECKS SHALL BE PERFORMED ON THE EQUIPMENT PERIODICALLY THROUGHOUT THE CONSTRUCTION PROCESS.
- STAKEOUT INFORMATION SHALL NOT BE DETERMINED BY SCALING THE DRAWINGS.
- CONTRACTOR'S SURVEYOR SHALL CONFIRM THE HORIZONTAL AND VERTICAL DATUM USED FOR THE SURVEY PRIOR TO STAKING.
- THE BUILDING IS LOCATED WITH COORDINATES FOR ONE BUILDING CORNER AND A BEARING ON ONE SIDE. THE BUILDING FOOTPRINT SHOWN IS BASED ON INFORMATION PROVIDED BY THE ARCHITECT. FINAL BUILDING DIMENSIONS ARE TO BE TAKEN FROM THE ARCHITECTURAL DRAWINGS. DO NOT USE THESE DRAWINGS FOR DETERMINATION OF FINAL BUILDING DIMENSIONS.
- KEEP ALL PLANTING AND GRASS AREAS FREE OF DEBRIS, STONES, CONSTRUCTION MATERIALS, ETC.
- PATCH/REPAIR CURB & GUTTER, STREETS, STRUCTURES, ETC. ACCORDING TO THE CITY OF GREENSBORO STANDARDS AND SPECIFICATIONS AFTER CONNECTION OF PROPOSED UTILITIES AND DRIVEWAYS.
- OVERHEAD POWER LINES EXIST WITHIN THE PROPERTY.
- THE SITE RETAINING WALLS ARE DESIGNED BY OTHERS. SEE RETAINING WALL DRAWINGS BY THE WALL ENGINEER.
- ALL SITE SIGNAGE SHALL BE PERMITTED SEPARATELY.
- SOLID WASTE FOR THIS SITE WILL BE HANDED BY BINS LOCATED INSIDE THE BUILDING. SOLID WASTE WILL THEN BE PICKED UP BY ELON COLLEGE AND TAKEN TO AN OFFSITE DUMPSTER WHERE THE DUMPSTERS AND TRASH TRUCK WILL PICK IT UP.
- FINAL PLANTING PLAN WITH SPECIES IDENTIFIED WILL BE PROVIDED BY THE UNIVERSITY. THE PLANTING PLAN WILL MEET THE MINIMUM CODE STANDARDS AND WILL ADD ADDITIONAL PLANTINGS.

SITE DATA:

FOR ADJACENT PARCEL INFORMATION SEE SHEET C-2.00

PROPERTY INFORMATION:
PARCEL ID: 115430
GPIN#: 8855264449

ZONING:
PI = PUBLIC INSTITUTIONAL

JURISDICTION:
TOWN OF ELON, NC

CURRENT USE:
PUBLIC INSTITUTIONAL - PARKING LOT

PROPOSED USE:
PUBLIC INSTITUTIONAL - DORMITORY AND PARKING LOT

BUILDING(S) INFORMATION:
BUILDING HEIGHT: 45 FEET (3 STORIES)
GROSS FLOOR AREA: 15,137 GSF
TOTAL NUMBER OF RESIDENTIAL UNITS: 52 UNITS

ASSEMBLY:
ENTERTAINING SPACE (CONCENTRATED CHAIRS); LOWER LEVEL
STUDY ROOMS (UNCONCENTRATED TABLE AND CHAIRS); LOWER LEVEL
FORUM (CONCENTRATED CHAIRS); LEVEL 1
LIVING ROOM LOUNGES (UNCONCENTRATED TABLE AND CHAIRS);
LOWER LEVEL - LEVEL 3

BUSINESS:
HOUSING OFFICE: LEVEL 1

STORAGE/ UTILITY (STORAGE, EQUIPMENT ROOMS):
LOWER LEVEL - LEVEL 3

WATERSHED:
JORDAN LAKE WATERSHED

FLOOD PLAIN:
SUBJECT PROPERTY IS NOT LOCATED WITHIN A SPECIAL FLOOD HAZARD ZONE AREA AS DEFINED BY THE FEDERAL EMERGENCY MANAGEMENT AGENCY COMMUNITY PANEL NUMBER 3710885500J, DATED SEPTEMBER 6, 2006.

INFRASTRUCTURE:
STREETS = PUBLIC
SIDEWALKS = PUBLIC

PARKING REQUIRED:
1 SPACE PER RESIDENTIAL BEDROOM: 52 SPACES
HANDICAP SPACES: 3 SPACES

PARKING PROVIDED:
4 SPACES (INCLUDING 1 HC SPACE)

AVAILABLE PARKING SPACES (NOT INCLUDE THOSE DEDICATED TO THE INN) = 6,065.
SPACES LOST AT EAST COMMONS = 45
AVAILABLE PARKING SPACES AFTER EAST COMMONS = 6,020

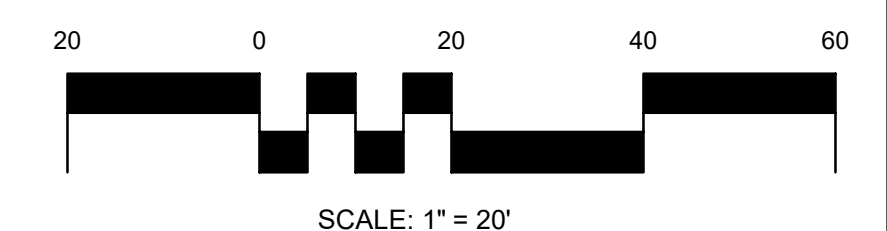
NUMBER OF FACULTY/STAFF (1 PARKING SPACE PER) = 1,600
NUMBER OF STUDENTS (1 PARKING SPACE PER 2 STUDENTS) = 6700/2 = 3,350
TOTAL = 1,600 + 3,350 = 4,950 SPACES REQUIRED.

AVAILABLE SPACES (AFTER EAST COMMONS) = 6,020
REQUIRED SPACES = 4,950
VARIANCE = 1,075 SPACES

PROPERTY OWNER INFORMATION:

OWNER:
ELON UNIVERSITY
100 CAMPUS DRIVE, 2285 CAMPUS BOX
ELON, NC 27244

CONTACT:
BRAD MOORE
2060 CAMPUS BOX, ELON, NC 27244
336-278-5492
EMAIL: BMOORE@ELON.EDU



SURVEY INFORMATION:

BOUNDARY AND TOPOGRAPHICAL INFORMATION SHOWN HEREON ARE PER SURVEY PROVIDED BY SACKS SURVEYING AND MAPPING, P.C., DATED MAY 13, 2021. FOR MORE INFORMATION CONTACT SACKS SURVEYING AND MAPPING, P.C. 3308-B EDGEFIELD ROAD, GREENSBORO, NC 27409 PHONE: 336-931-0566

SITE REFERENCE NOTES:

- | | | |
|---|---|---|
| 1 PROPOSED BUILDINGS. SEE ARCHITECTURAL PLANS. | 11A GRASS PAVE FIRE LANE - TYPICAL. USE CAMPUS STANDARD TUFFTRACK PAVEMENT PANEL, OR APPROVED EQUAL. | 20 PROPOSED CONCRETE WHEEL STOP - TYP. SEE DETAIL THIS SHEET. |
| 2 LIGHT DUTY ASPHALT PAVEMENT. SEE DETAIL 3, SHEET C-2.02. | 11B FIRE LANE BRICK PAVEMENT OVER HEAVY DUTY CONCRETE. | 21 PROPOSED CONCRETE STAIRS AND HANDRAILS. SEE ARCHITECTURAL PLANS FROM ASG FOR DETAILS AND SPECIFICATIONS. |
| 3 EXTENTS OF NEW CONCRETE CURB AND GUTTER. SEE DETAIL 1, SHEET C-2.02. PATCH & REPAIR ASPHALT AS NECESSARY TO TOWN OF ELON STANDARDS. | 12 LIGHT DUTY CONCRETE REINFORCED BRICK PAVEMENT SIDEWALK, LANDING OR GATHERING AREA PER UNIVERSITY STANDARDS. SEE DETAIL ON SHEET C-2.02. | 22 PROPOSED CONCRETE APRON TO THE TOWN OF ELON STANDARDS. |
| 4 4" WIDE PAINTED STRIPES 1.5' O.C. @ 45°, IN ALL ACCESSIBLE PARKING AREAS. TYPICAL. | 13 NEW 18" SEAT WALLS BY OTHERS - TYPICAL. SEE ARCHITECTURAL PLANS FROM ASG FOR SPECIFICATIONS. | 23 12" DROP CURB. SEE DETAIL ON SHEET C-2.02. |
| 5 PROPOSED REFUGE AREA. | 14 BICYCLE RACK INSTALLED BY THE UNIVERSITY. | 24 10' x 70' SIGHT DISTANCE TRIANGLES. |
| 6 VAN ACCESSIBLE PARKING SPACE - TYPICAL. SEE DETAIL 5, SHEET C-2.02. | 15 SITE LIGHTING - TYPICAL. NOTE, LOCATIONS ON CIVIL PLAN ARE FOR REFERENCE ONLY. SEE PLANS BY PM&E FOR LOCATIONS AND SPECIFICATIONS. | 25 APPROXIMATE LOCATION ABOVE GRADE HISTORICAL WALL. |
| 7 ACCESSIBLE RAMP TYPE 1. SEE DETAIL SHEET C-2.02. | 16 UTILITY YARD. SHEET C200 FOR DETAIL. | 26 APPROXIMATE LOCATION SITE SIGNAGE. |
| 8 ACCESSIBLE RAMP TYPE 2. SEE DETAIL SHEET C-2.02. | 17 FUTURE 6' WIDE PAINTED PEDESTRIAN CROSSWALK. SIGNAGE PER MUTCD STANDARDS. SEE DETAIL 8 SHEET C-2.02. CROSS WALK SHALL MATCH EXISTING CROSSWALKS ALONG E. HAGGARD AND SHALL BE APPROVED BY NCDOT. | 27 12' LONG TAPER. SEE DETAIL ON SHEET C-2.02. |
| 9 HEAVY DUTY CONCRETE SIDEWALK - TYPICAL. SEE PLANS FOR WIDTHS. SEE DETAIL 4, SHEET C-2.02. | 18 TRANSFORMER PAD - TYP. NOTE, LOCATIONS ON CIVIL PLAN ARE FOR REFERENCE ONLY. SEE PLANS BY PM&E FOR LOCATIONS AND SPECIFICATIONS. | 28 3' LONG TAPER. SEE DETAIL ON SHEET C-2.02. |
| 10 LIGHT DUTY CONCRETE SIDEWALK - TYPICAL. SEE PLANS FOR WIDTHS. SEE DETAIL 4, SHEET C-2.02. | 19 VAN ACCESSIBLE PARKING SIGNAGE. SEE DETAIL ON SHEET C-2.02. | 29 UTILITY YARD TO BE SCREENED WITH A WALL. |
| | | 30 BUFFER ???? LANDSCAPE SHEET. |
| | | 31 PERIMETER PARKING LOT LANDSCAPING SEE LANDSCAPE SHEET. |

P:\21-198\Drawings\CD\21-198 CD B&E.dwg : C-2.01 08/31/22 4:35pm

1. THE CONTRACTOR SHALL NOTIFY THE ENGINEER OF RECORD AND THE GEOTECHNICAL ENGINEER TO SCHEDULE A PRE-INSTALL MEETING ON SITE PRIOR TO BEGINNING STORM DRAINAGE INSTALLATION. THE CONTRACTOR SHALL ALSO NOTIFY THE TOWN OF ELON PRIOR TO BEGINNING INSTALLATION TO DETERMINE IF INSPECTIONS WILL BE REQUIRED

2. ALL STORM DRAINAGE MATERIALS WITHIN THE SITE SHALL CONFORM TO NCDOT STANDARD SPECIFICATIONS FOR ROADWAY STRUCTURES AS MODIFIED BELOW. NOTE: STORM DRAINAGE INSTALLED WITHIN A PUBLIC RIGHT-OF-WAY MAY FOLLOW A DIFFERENT STANDARD AND SPECIFICATION AS NOTED ON THESE CONSTRUCTION DRAWINGS.

3. ALL REINFORCED CONCRETE PIPE (RCP) SHALL BE INSTALLED, BEDDED AND BACKFILLED IN ACCORDANCE WITH ASTM C-1479, THE STORM DRAINAGE NOTES, AND THE DETAILS INCLUDED WITH THIS PLAN SET.

4. ALL REINFORCED CONCRETE STORM DRAINAGE PIPE SHALL BE A MINIMUM CLASS II, WALL-B FOR PIPE DIAMETERS 12-INCH THROUGH 18-INCH AND WALL-C FOR PIPE DIAMETERS GREATER THAN 18-INCHES CONFORMING WITH ASTM C76/ASHTO M170 UNLESS OTHERWISE NOTED ON THE PLANS. PIPE SHALL BE JOINED USING A BELL AND SPIGOT SINGLE OFFSET JOINT. THE JOINT SHALL BE SEALED WITH AN ELASTOMERIC RUBBER GASKET AND SHALL BE PROTECTED BY AN ACCEPTABLE METHOD. THE GASKETS AND SPIGOT GASKETS SHALL BE SUPPLIED BY THE MANUFACTURER AND INSTALLED IN THE FIELD IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS. A JOINT LUBRICANT SUPPLY SHALL BE USED ON THE GASKET AND BELL DURING ASSEMBLY.

5. STORM DRAINAGE PIPE SHALL BE UNLOADED, HANDLED AND LIFTED IN ACCORDANCE WITH NCDOT STANDARD SECTION 300-3. PIPE SHALL BE LIFTED WITH A DEVICE THAT UNIFORMLY DISTRIBUTES THE WEIGHT OF THE PIPE ALONG ITS AXIS OR CIRCUMFERENCE. ANY LIFTING DEVICE THAT POINT-LOADS THE PIPE IS PROHIBITED.

6. REFER TO THE MANUFACTURER'S RECOMMENDATIONS CONCERNING PROPER STORAGE AND STACKING OF STORM DRAINAGE PIPE ON THE SITE.

7. STOCKPILING OF SOILS OR MATERIALS OR TEMPORARILY RAISING GRADE FROM PLAN GRADE OVER PIPELINES IS PROHIBITED WITHOUT WRITTEN APPROVAL FROM THE ENGINEER.

8. REINFORCED CONCRETE PIPE INSTALLATION:

a. ALL REINFORCED CONCRETE PIPE (RCP) SHALL BE INSTALLED, BEDDED AND BACKFILLED IN ACCORDANCE WITH NCDOT ROADWAY STANDARD DRAWING 300.01 AND DIVISION 3, SECTION 300 WITHIN THE NCDOT STANDARD SPECIFICATIONS FOR ROADS AND STRUCTURES.

b. PIPE FOUNDATION CONDITIONS (BOTTOM OF TRENCH) SHALL BE FIRM IN-SITU SOIL, STABILIZED SOIL, OR COMPACTED FILL MATERIAL. UNSUITABLE OR UNSTABLE MATERIALS SHALL BE STABILIZED AS RECOMMENDED BY THE GEOTECHNICAL ENGINEER. WHEN ROCK OR UNSUITABLE SOILS ARE ENCOUNTERED, IT SHALL BE REMOVED TO A DEPTH THAT WILL ALLOW PLACEMENT OF THE BEDDING LAYER(S).

c. REINFORCED CONCRETE PIPE SHALL BE INSTALLED ON A UNIFORM BEDDING LAYER OF LOOSE STONE SCREENINGS. AFTER PIPE IS PLACED IN THE TRENCH, SCREENINGS ON EACH SIDE OF THE PIPE SHALL BE COMPACTED TO A MINIMUM OF 95% OF THE STANDARD PROCTOR MAXIMUM DRY DENSITY. BELL HOLES SHALL BE EXCAVATED IN THE BEDDING MATERIAL WHEN INSTALLING PIPE WITH EXPANDED BELLS SO THAT PIPE IS SUPPORTED BY THE BARREL AND NOT THE BELLS. STONE SCREENINGS SHALL COMPLY WITH NCDOT CLASS II, TYPE 1 SELECT MATERIALS.

d. AFTER THE BEDDING LAYER HAS BEEN COMPACTED, NCDOT CLASS IIb OR CLASS II TYPE 1 SELECT MATERIAL SHALL BE PLACED IN THE HAUNCH ZONE TO THE SPRINGLINE OF THE PIPE WHERE SPECIFIED ON THE PLANS AND COMPACTED TO 95% OF THE STANDARD PROCTOR MAXIMUM DRY DENSITY. COMPACT TO THE SPECIFIED DENSITY UNIFORMLY ON EACH SIDE OF THE PIPE TO PREVENT LATERAL DISPLACEMENT OF THE PIPE.

e. TRENCH BACKFILL FROM THE SPRINGLINE TO SUBGRADE SHALL BE PLACED IN 6-INCH MAXIMUM LIFTS AND COMPACTED TO 95% OF THE STANDARD PROCTOR MAXIMUM DRY DENSITY.

9. GEOTECHNICAL TESTING - THE GEOTECHNICAL ENGINEER SHALL CONFIRM THE DENSITY AND MATERIAL CLASSIFICATION OF THE FOUNDATION AND BEDDING MATERIAL AND THE DENSITY OF BACKFILL WITH SUFFICIENT TESTS TO CONFIRM THAT THE STORM DRAINAGE PIPING WAS INSTALLED IN SUBSTANTIAL CONFORMANCE WITH THE DETAILS INCLUDED WITH THE PLAN SET. NON-COMPLIANT ITEMS ARE TO BE REPORTED IMMEDIATELY TO THE ENGINEER OF RECORD AND SUBSEQUENT RETESTING SHALL CROSS REFERENCE THE PREVIOUS NON-COMPLIANT REPORT(S). COMPACTION TESTING SHALL BE PERFORMED AT A FREQUENCY OF ONE TEST PER 100 LINEAR FEET OF TRENCH PER VERTICAL FOOT (COMPACTED) OF BACKFILL UNLESS OTHERWISE AUTHORIZED IN WRITING BY THE ENGINEER/GEOTECHNICAL ENGINEER.

10. CURB INLET STRUCTURES (DENOTED AS CI # ON PLANS) SHALL BE NCDOT STANDARDS 840.01, 840.02 OR 840.06. WAFFLE WALLS OR KNOCK OUT BOXES WILL NOT BE ACCEPTED. ALL PIPE PENETRATIONS SHALL BE CAST OR CURED IN PLACE TO CONFIRM STORM DRAINAGE CONFORM WITH 840.14. TYPE "F" AND "G" GRATES SHALL BE PROVIDED AS APPLICABLE. USE U.S. FOUNDRY #5131 FRAME AND GRATE FOR 30-INCH CURB AND GUTTER AND NENAH R-3067 FRAMES OR U.S.F. 5130-6168 AND GRATES FOR 24 INCH CURB & GUTTER OR APPROVED EQUIVALENTS. STRUCTURES 10 FEET OR MORE IN DEPTH SHALL BE 4' x 4' MINIMUM INSIDE DIMENSIONS REGARDLESS OF THE PIPE SIZE.

11. STORM DRAINAGE MANHOLES SHALL BE PRECAST CONCRETE CONFORMING TO NCDOT ROADWAY STANDARD DRAWING 840.52. MANHOLES SHALL ALSO BE CONSTRUCTED IN ACCORDANCE WITH ASTM C-478, ASTM A-615, AND ASTM A-618. ALL STORM DRAINAGE MANHOLES SHALL CONFORM WITH 840.14. TYPE "F" AND "G" GRATES SHALL BE PROVIDED AS APPLICABLE. USE U.S. FOUNDRY #69-K1 WITH PERFORATED COVER WITH "STORM DRAINAGE" LETTERING OR APPROVED EQUIV.

12. ALL DRAINAGE STRUCTURES SUBJECT TO VEHICULAR LOADING SHALL BE DESIGNED IN ACCORDANCE WITH NCDOT ROADWAY STANDARD DRAWINGS 840.06 OR 840.52. ALL FRAMES, GRATES, RING & COVERS, ETC. SHALL BE HIGHWAY TRAFFIC RATED (H20) AND "HEAVY DUTY".

13. YARD INLET STRUCTURES (DENOTED AS YI # ON PLANS) SHALL BE NCDOT ROADWAY STANDARD DRAWING 840.04 OR 840.05 WITH CONCRETE TOP AND WEIR OPENINGS ON ALL 4 SIDES. PROVIDE A RING AND COVER OVER THE CONCRETE TOP. PROVIDE RING AND COVER OVER THE INTERNAL STEP. PROVIDE RING AND COVER SHALL BE U.S. FOUNDRY #1111 WITH "STORM DRAINAGE" LETTERING OR APPROVED EQUIV. STRUCTURES 10 FEET OR MORE IN DEPTH SHALL BE 4' x 4' MINIMUM INSIDE DIMENSIONS REGARDLESS OF THE PIPE SIZE.

14. GRATE INLET STRUCTURES (DENOTED AS GI # ON PLANS) SHALL BE NCDOT ROADWAY STANDARD DRAWING 840.14 OR 840.15. USE U.S. FOUNDRY #4616-6221 LIGHT DUTY GRATE IN NON-VEHICULAR AREAS AND U.S. FOUNDRY #4137-6237 IN VEHICULAR AREAS OR APPROVED EQUIV. STRUCTURES 10 FEET OR MORE IN DEPTH SHALL BE 4' x 4' MINIMUM INSIDE DIMENSIONS REGARDLESS OF THE PIPE SIZE.

15. ALL DRAINAGE STRUCTURE INVERTS AND SUMPS SHALL BE FILLED WITH NCDOT CLASS B CONCRET TO ALLOW THE STRUCTURES TO COMPLETELY DRAIN AND NOT HOLD WATER.

16. INSTALL EROSION CONTROL INLET PROTECTION FOR EACH STORM DRAINAGE STRUCTURE IMMEDIATELY AFTER INSTALLATION. MAINTAIN IN COMPLIANCE WITH THE APPROVED EROSION CONTROL PLAN.

17. ACCEPTABLE MATERIALS FOR ROOF DRAINAGE LEADERS AND HEADERS ARE SCHEDULE 40 PVC AND DUAL WALL HOPE WITH A SMOOTH INTERIOR. PIPE USED IN THIS APPLICATION SHALL HAVE WATER-TIGHT RUBBER GASKETS AND DEBRIS DRAIN TRAP. LEADER CONNECTIONS SHALL BE DONE USING V-COMBINATION FITTINGS COMPATIBLE WITH THE PIPE BEING USED.

18. DUAL WALL HIGH DENSITY POLYETHYLENE PIPE (HDPE):

a. HOPE (S) SOIL TIGHT JOINT

i. PIPE SPECIFICATION - SOIL TIGHT INTEGRAL BELL PIPE SHALL HAVE A SMOOTH INTERIOR AND ANNULAR EROSION CORROSION PROTECTION. THROUGH-DRILL SHALL MEET ASHOTO M252, TYPE S. 12- THROUGH 60-INCH SHALL MEET ASHOTO M294, TYPE S OR SP OR ASTM F2306.

ii. JOINT PERFORMANCE - PIPE SHALL BE JOINED USING A BELL & SPIGOT JOINT MEETING ASHOTO M252, ASHOTO M294 OR ASTM F2306. THE JOINT SHALL BE SOIL-TIGHT AND GASKETS, WHEN APPLICABLE, SHALL MEET THE REQUIREMENTS OF ASTM F477. GASKETS SHALL BE INSTALLED BY THE PIPE MANUFACTURER AND COVERED WITH A REMOVABLE WRAP TO ENSURE THE GASKET IS FREE FROM DEBRIS. A JOINT LUBRICANT SUPPLIED BY THE MANUFACTURER SHALL BE USED ON THE GASKET AND BELL DURING ASSEMBLY.

iii. FITTINGS - FITTINGS SHALL CONFORM TO ASHOTO M252, ASHOTO M294, OR ASTM F2306. BELL AND SPIGOT CONNECTIONS SHALL UTILIZE A SPUN-ON OR WELDED BELL AND VALLEY OR SADDLE GASKET MEETING THE SOIL-TIGHT JOINT PERFORMANCE REQUIREMENTS OF ASHOTO M252, ASHOTO M294 OR ASTM F2306.

b. HOPE (WT) WATER TIGHT JOINT

i. PIPE SPECIFICATION - WATER TIGHT INTEGRAL BELL PIPE SHALL HAVE A SMOOTH INTERIOR AND ANNULAR EROSION CORROSION PROTECTION. THROUGH-DRILL SHALL MEET ASHOTO M252, TYPE S. 12- THROUGH 60-INCH SHALL MEET ASHOTO M294, TYPE S OR ASTM F2306.

ii. JOINT PERFORMANCE - PIPE SHALL BE JOINED WITH THE IN-32 WT IB JOINT MEETING THE REQUIREMENTS OF ASHOTO M252, ASHOTO M294, OR ASTM F2306. A THROUGH-60-INCH BELL SHALL BE WATER TIGHT ACCORDING TO THE REQUIREMENTS OF ASTM D2122. GASKETS SHALL MEET THE REQUIREMENTS OF ASTM F477. GASKETS SHALL BE INSTALLED BY THE PIPE MANUFACTURER AND COVERED WITH A REMOVABLE, PROTECTIVE WRAP TO ENSURE THE GASKET IS FREE FROM DEBRIS. A JOINT LUBRICANT AVAILABLE FROM THE MANUFACTURER SHALL BE USED ON THE GASKET AND BELL DURING ASSEMBLY. 12- THROUGH 60-INCH DIAMETERS SHALL HAVE A REINFORCED BELL WITH A POLYMER COMPOSITE BAND. THE BELL TOLERANCE DEVICE SHALL BE INSTALLED BY THE MANUFACTURER.

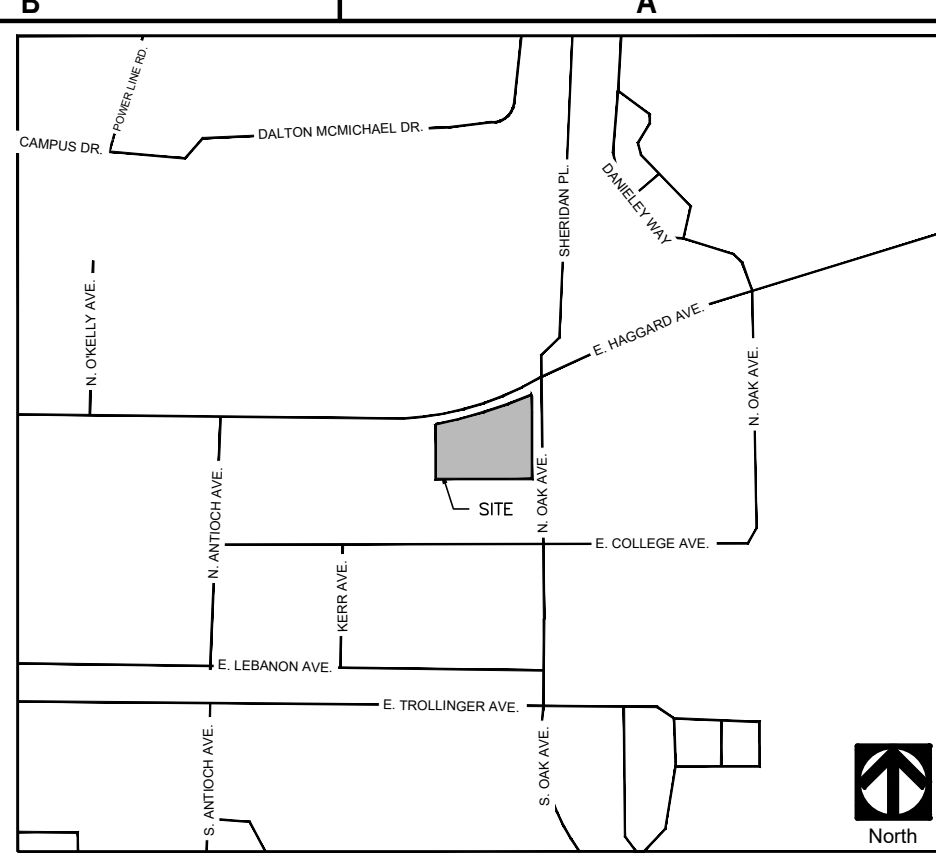
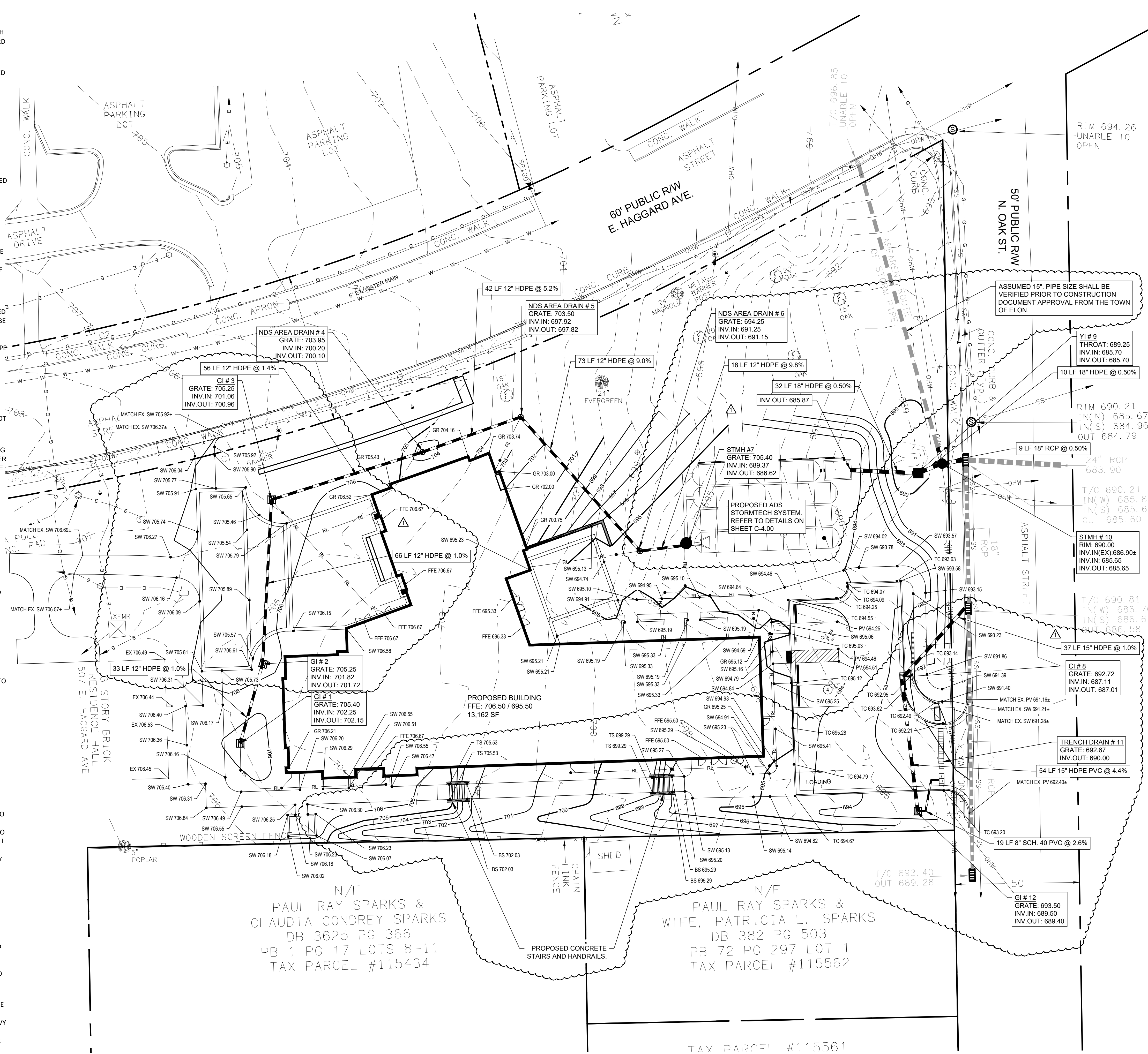
iii. FITTINGS - FITTINGS SHALL CONFORM TO ASHOTO M252, ASHOTO M294, OR ASTM F2306. BELL AND SPIGOT CONNECTIONS SHALL UTILIZE A SPUN-ON OR WELDED BELL AND VALLEY OR SADDLE GASKET MEETING THE WATER TIGHT JOINT PERFORMANCE REQUIREMENTS OF ASHOTO M252, ASHOTO M294 OR ASTM F2306.

c. HOPE INSTALLATION

i. INSTALLATION SHALL BE IN ACCORDANCE WITH ASTM D2321 AND THE MANUFACTURER'S RECOMMENDED INSTALLATION GUIDELINES.

ii. SCH 40 PVC PIPE AND FITTINGS SHALL CONFORM WITH ASTM D1784, ASTM D1785, ASTM 2466 AND NSF 61 AND NSF 14. INSTALLATION SHALL COMPLY WITH THE MANUFACTURER'S RECOMMENDATIONS AND ASTM F1668. SOLVENT CEMENT JOINTS SHALL BE MADE IN A TWO-STEP PROCESS WITH PRIMER CONFORMING TO ASTM F 656 AND POLYMER CEMENT SYSTEMS. THE CEMENT SHALL BE 1/2" WIDE POWERED SMOOK BY ACO POLYMER PRODUCTS, INC. OR APPROVED EQUIV. TRENCH DRAINS SHALL BE INSTALLED PER MANUFACTURER'S RECOMMENDATIONS.

TC: 834.10 ← PROPOSED TOP OF CURB ELEVATION
 PV: 834.10 ← PROPOSED PAVEMENT SURFACE ELEVATION
 FFE: 834.10 ← PROPOSED BUILDING FINISHED FLOOR ELEVATION
 SW: 834.10 ← PROPOSED SIDEWALK ELEVATION
 GR: 834.10 ← PROPOSED GROUND ELEVATION
 EX PV 834.10± ← EXISTING PAVEMENT ELEVATION
 ———— 748 ———— ← EXISTING CONTOURS - 2' INTERVALS
 ———— 750 ———— ← EXISTING CONTOURS - 10' INTERVALS
 ———— 850 ———— ← PROPOSED CONTOUR LINE - 10' INTERVALS
 ———— 854 ———— ← PROPOSED CONTOUR LINE - 2' INTERVALS



1. THE CONTRACTOR SHALL REVIEW AND BECOME FAMILIAR WITH THE GEOTECHNICAL ENGINEERING REPORT.
2. ALL GRADING ACTIVITIES SHALL BE CONTAINED WITHIN THE LIMITS OF THE ESTABLISHED RIGHT-OF-WAY.
3. ELEVATIONS SHOWN ON THE (LANDSCAPED PLANS) ARE THE FINAL ELEVATIONS. FINAL SOIL ELEVATIONS WITHIN THE LANDSCAPED AREAS WILL BE LOWER TO ALLOW FOR ADDITIONAL SOIL AMENDMENTS AND PLANT MATERIAL. THE GRADING CONTRACTOR SHALL BE RESPONSIBLE FOR SOILS NOTED IN THE (SUBGRADE) WITH THE GENERAL CONTRACTOR AND LANDSCAPE CONTRACTOR PRIOR TO COMPLETING THE GRADING OPERATIONS. TEMPORARY MEASURES MAY BE REQUIRED IN ORDER FOR THE SUBGRADE TO NOT POND WATER.
4. INSTALL TREE PROTECTION FENCING AS SHOWN ON THE PLANS.
5. ALL AREAS TO BE GRADED SHALL BE STRIPPED TO REMOVE ALL STUMP, STUMPS, ROOTS, ORGANIC MATERIAL, OTHER UNSUITABLE MATERIAL. AFTER STRIPPING, EXPOSED SUBGRADE AREAS TO BE FILLED SHALL BE PROOF ROLLED IN THE PRESENCE OF THE GEOTECHNICAL ENGINEER. IF UNSUITABLE AREAS ARE DISCOVERED, THE CONTRACTOR SHALL NOTIFY THE GEOTECHNICAL ENGINEER. A MINIMUM OF TWO (2) DAYS NOTICE SHALL BE GIVEN TO THE GEOTECHNICAL ENGINEER, AND BACKFILLED WITH CONTROLLED FILL MEETING THE PROJECT SPECIFICATIONS. REASONABLE DRYING EFFORT SHALL BE MADE TO DRY THESE SOILS BY RIPPING, HARROWING, OR OTHER MEANS. UNSUITABLE SOILS SHALL BE REMOVED UNDER PROPER SUPERVISION OF THE GEOTECHNICAL ENGINEER, AND BACKFILLED WITH CONTROLLED FILL MEETING THE PROJECT SPECIFICATIONS. REASONABLE DRYING EFFORT AND UNSUITABLE SOILS ARE DEFINED IN THE WRITTEN SPECIFICATIONS.
6. SUBGRADE TOPSOIL, OR FILL FOR REUSE IN THE LANDSCAPED AREAS AS REQUIRED IN THE LANDSCAPE SPECIFICATIONS, SHALL BE FREE OF LARGE ROOTS AND HEAVY VEGETATION MASS.
7. CONTROLLED FILL FOR PAVED AND BUILDING AREAS SHALL BE COMPACTED TO 95% OF THE STANDARD PROCTOR MAXIMUM DRY DENSITY. THE CONTRACTOR SHALL HAVE A MINIMUM OF TWO (2) DAYS NOTICE OF THE GRADING WORK NOTED ON THE PLANS. IN THE SPECIFICATIONS, OR GEOTECHNICAL REPORT. FILL IN BUILDING AREA AND PAVED AREAS SHALL BE COMPACTED TO 98% STANDARD PROCTOR IN THE TOP 12" OF SUBGRADE. THE CONTRACTOR SHALL TEST SUBGRADE TO THE COMPACTION MINIMUM 15 FEET BEYOND LIMITS OF PAVED AND BUILDING AREAS. FREQUENCY OF COMPACTION TESTING SHALL BE DONE IN ACCORDANCE WITH THE WRITTEN SPECIFICATIONS.
8. CONTROLLED FILL SHALL BE BENCHED INTO THE SIDES OF THE BENCHES DEEPER THAN 4 INCHES. A MINIMUM OF TWO (2) DAYS NOTICE SHALL BE GIVEN TO THE GEOTECHNICAL ENGINEER BETWEEN THE FILL AND THE UNDISTURBED SOIL. EACH BENCH CUT INTO A SLOPE SHOULD BE AT LEAST 12 INCHES BUT NOT MORE THAN 60 INCHES HIGH. THE BENCHES SHALL BE WIDE ENOUGH TO ALLOW FOR EROSION PROPER COMPACTION. ONCE THE EQUIPMENT WITHIN THE BENCHED AREA SO THAT FILL CAN BE PLACED ON THE BENCH AND OVER THE REST OF THE FILL IN CONTIGUOUS LAYERS.
9. FILL SLOPE SHALL BE CONSTRUCTED BY PLACING CONTROLLED FILL IN HORIZONTAL LIFTS WHICH EXTEND SLIGHTLY BEYOND THE SLOPE FACE. EACH LIFT OF FILL SHALL BE COMPACTED TO THE SPECIFIED MINIMUM DENSITY BEFORE PLACING THE NEXT LIFT. THE COMPACTION EQUIPMENT SHOULD TRAVEL PARALLEL TO THE SLOPE FACE. THE CONTRACTOR SHALL TRACK THE COMPACTION EQUIPMENT TO ENSURE PROPER COMPACTION. ONCE THE SLOPE IS COMPLETED IT SHALL BE TRACKED WITH A DOZER TO MINIMIZE THE POTENTIAL FOR EROSION.
10. FILL SLOPES SHALL NOT BE CONSTRUCTED BY PLACING FILL AGAINST UNCOMPACTED BERMS.
11. ALL PERMANENT CUT AND FILL SLOPES SHALL HAVE A MINIMUM OF TWO (2) DAYS NOTICE TO THE GEOTECHNICAL ENGINEER. TOPSOIL SHALL BE RAKED DOWN SMOOTH AND FREE OF CLOS, ROOTS, AND VEGETATION, READY FOR SEEDING.
12. ALL PLANTING AREAS, CURBED ISLANDS, ETC. SHALL BE BACKFILLED WITH TOPSOIL AS SPECIFIED IN THE LANDSCAPE SPECIFICATIONS. TOPSOIL SHALL BE RAKED DOWN SMOOTH AND FREE OF CLOS, ROOTS, AND VEGETATION, READY FOR SEEDING AND/OR PLANTING.
13. PERMANENT CUT AND FILL SLOPES SHOWN TO RECEIVE EROSION CONTROL MATTING SHALL BE TRACKED WITH A DOZER TO ENSURE ESTABLISHMENT OF MATTING IN ACCORDANCE WITH THE MANUFACTURERS SPECIFICATIONS.

14. STOCKPILING OF SOILS OVER PIPELINES IS PROHIBITED WITHOUT WRITTEN APPROVAL FROM THE ENGINEER. TOPSOIL, SUBSOIL AND FILL SOILS MUST BE SEPARATELY STOCKPILED IN THE AREAS SHOWN ON THE PLANS OR AS DETERMINED BY THE ENGINEER. TOPSOIL FREE OF LARGE ROOTS, DEBRIS AND EXCESS SUITABLE SOILS SHALL BE KEPT SEPARATE FROM THE OTHER STOCKPILED SOILS FOR REUSE IN LANDSCAPE AREAS, ISLANDS, ETC.
15. SOIL STOCKPILES SHALL BE PROTECTED FROM SURFACE RUNOFF OR RAINFALL IN ORDER TO PREVENT THE STOCKPILED SOILS FROM GETTING SATURATED. TOPSOIL STOCKPILES THAT HAVE BEEN SATURATED DUE TO STOCKPILE RUNOFF OR RAINFALL, RECOMMEND THE CONTRACTOR HAVE THE MOISTURE CONTENT TESTED AT THE PRICE OF THE CONTRACTOR.
16. STOCKPILED AREAS SHALL NOT BE USED FOR DISPOSAL OF MATERIALS RESULTING FROM DEMOLITION.
17. SOIL STOCKPILES SHALL BE SEEDED AND MULCHED WHEN STOCKPILING OPERATIONS ARE COMPLETE OR WILL BE SUSPENDED FOR MORE THAN 30 DAYS.
18. STRIPPINGS, TOPSOIL, UNDERCUT & UNSUITABLE MATERIAL AND EXCESS MATERIAL SHALL BE REMOVED FROM THE SITE AND DISPOSED OF ON A SITE COVERED UNDER AN ACTIVE STOCKPILING PLAN AND AN ACTIVE STOCKPILING PLAN, THE LOCATION AND PERMIT NUMBER OF THE RECEIVING SITE SHALL BE PROVIDED TO THE OWNER AND THE ENGINEER.
19. REFERENCED STANDARDS: IF COMPLIANCE WITH TWO OR MORE STANDARDS IS SPECIFIED AND THE STANDARDS ESTABLISH DIFFERENT OR CONFLICTING REQUIREMENTS, COMPLY WITH THE HIGHER QUANTITIES OR QUALITY LEVELS. COMPLY WITH THE MOST STRINGENT REQUIREMENT. REFER CONFLICTING REQUIREMENTS TO THE ENGINEER FOR A DECISION BEFORE PROCEEDING.

EAST HAGGARD AVENUE

**ARCHITECT &
LANDSCAPE ARCHITECT**
AYERS SAINT GROSS
1040 HULL ST, SUITE 100
BALTIMORE, MD 21230
410-347-8500

CIVIL
STIMMEL ASSOCIATES
601 N TRADE ST, SUITE 200
WINSTON-SALEM, NC 27101
336-723-1067

STRUCTURAL
LHC STRUCTURAL ENGINEERS
(BENNETT & PLESS)
140 WADE PARK BLVD. SUITE 400

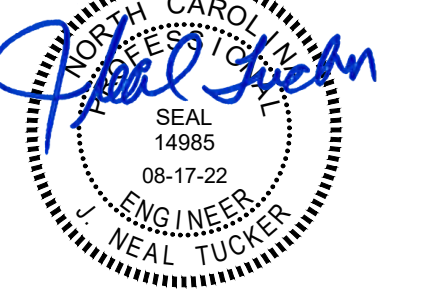
M/E/P
EDMONDSON ENGINEERS
1920 HIGHWAY 54, SUITE 700
DURHAM, NC 27713
919-544-1936

[illegible]

N
TRUE NORTH

AYER
SAINT
GROSS

NCBEES CERT. NO.: C-1347



DRAWING INFORMATION	
ISSUE DATE:	08/03/22
SCALE:	
JOB NO.:	2210053.00
DRAWN BY:	Author

PROJECT DESIGN PHASE
MAJOR DEVELOPMENT PLAN
NOT FOR CONSTRUCTION
 DRAWING NAME

GRADING & STORM DRAINAGE PLAN

C-3.00

© COPYRIGHT AYERS/SAINT/GROSS, 2022



EAST HAGGARD AVENUE

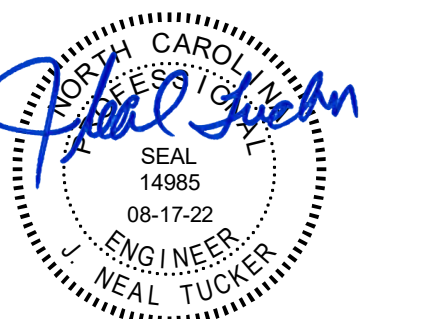
PROJECT TEAM

M/E/P
EDMONDSON ENGINEERS
1920 HIGHWAY 54, SUITE 700
DURHAM, NC 27713
919-544-1936

KEY PLAN



AYERS
SAINT
GROSS



PROJECT DESIGN PHASE
MAJOR DEVELOPMENT PLAN
NOT FOR CONSTRUCTION
DRAWING NAME

C-3.01

© COPYRIGHT AYERS/SAINT/GROSS, 2022



1. SEE SHEET C-3.00 FOR GRADING, STORM DRAINAGE AND OTHER NOTES. SEE SHEETS C-3.02-C-3.05 FOR EROSION CONTROL DETAILS.
2. ALL CONSTRUCTION TRAFFIC SHALL USE THE TEMPORARY CONSTRUCTION ENTRANCE AS INDICATED ON THIS PLAN.
3. THE APPROVED EROSION CONTROL AND SEDIMENTATION CONTROL PLAN IS CONSIDERED A CONDITION OF PERMIT. THE GENERAL PERMIT NUMBER SHALL BE FOLLOWED AND IMPLEMENTED.
4. THE FOLLOWING ITEMS ARE REQUIRED TO BE AVAILABLE ON SITE:
 - a. LETTER OF EROSION PLAN APPROVAL FROM NCECD
 - b. ~~LETTER OF EROSION PLAN APPROVAL FROM NCECD~~
 - c. EROSION PLAN
 - d. SELF-INSPECTION REPORTS
 - e. RAIN GAUGE
5. NO GRADING/CLEARING UNTIL LTP IS OBTAINED. NO MASS GRADING UNTIL PERMITTER EROSION MEASURES ARE INSTALLED AND PROVIDED WITH GROUND COVER AND APPROVAL IS GRANTED FROM GRADING CONTRACTOR, INSPECTOR.
6. THE PERMITTEE SHALL COMPLY WITH REQUIREMENTS FOR EROSION AND MONITORING, AND PREVENT MAINTENANCE OF CONSTRUCTION SITE FOR STORMWATER DISCHARGE. ONCE DISTURBANCE HAS BEGUN ON THE SITE AND UNTIL COMPLETION OF CONSTRUCTION OR DEVELOPMENT AND THE ESTABLISHMENT OF A PERMANENT GROUND COVER.
7. CONSTRUCTION SITE POLLUTANTS MUST BE MAINTAINED ON SITE AND NOT ALLOWED TO REACH THE NEARBY WATERS. ANY EXCESSIVE SEDIMENT, SLOTTED SOLIDS, AND EXCESSIVE OILS AND GREASES DISPOSED OF PROPERLY. ANY HERBICIDE, PESTICIDE AND FERTILIZER MUST BE USED IN CONFORMANCE TO THE LABEL RESTRICTIONS. ALL WASTES COMPOSING OF BUILDING MATERIALS AND CONSTRUCTION DEBRIS ARE TO BE STORED IN THE NORTHWEST CORNER OF THE LOT. PER 15A ARTICLE 8 - SOLID WASTE MANAGEMENT AND RULES GOVERNING THE DISPOSAL OF SOLID WASTE MATERIALS ARE TO BE OBTAINED FROM THE NORTH CAROLINA DEPARTMENT OF ENVIRONMENT AND NATURE. ALL WASTES ARE TO BE STORED IN A SECURE MANNER. ALL EXCESSIVE CONCRETE, BRICK, AND BUILDING MATERIAL WASTE IN STORM DRAINS, CONCRETE MATERIALS ON SITE, INCLUDING EXCESS WASTE, MUST BE CONTROLLED AND MANAGED TO AVOID CONTACT WITH SURFACE WATERS.
8. ALL EXCESS BUFFERS NO CONCEAL CULVERT SHALL BE DISCHARGED FROM THE SITE.
9. BORROW FILL MATERIAL FROM OFF-SITE SOURCE SHALL COME FROM A SITE THAT IS COVERED UNDER AN ACTIVE LAND-DISTURBING PERMIT. SOIL MATERIAL TO BE WASTED OFF-SITE SHALL BE WASTED ON A SITE THAT IS COVERED UNDER AN ACTIVE LAND-DISTURBING PERMIT. CONTRACTOR SHALL BE RESPONSIBLE FOR RECORDING AND TRACKING UNTIL THE STREET IS CONDITIONS REPAIR. ALL WASTE SITES USED FOR THIS PROJECT TO THE OWNER AND EROSION CONTROL CONTRACTOR FOR RECORD FILE.
10. THE FINANCIALLY RESPONSIBLE PARTY SHALL ENSURE THAT THE GENERAL CONTRACTOR/GRADING CONTRACTOR/EROSION PREVENTION CONTRACTOR FROM LEAVING THE SITE BY THE CONSTRUCTION TRAFFIC. IN ADDITION, THE GENERAL CONTRACTOR/GRADING CONTRACTOR/BUILDER SHALL HAVE ON SITE A PERSON WHO IS RESPONSIBLE FOR TRACKING THE STREET REPAIR CONDITIONS REQUIRED. EQUIPMENT MUST BE ON SITE TO WASH TRAILS OF VEHICLES PRIOR TO ENTERING STREET.

C-3.01

BAYFILTER MDC REQUIREMENTS

- MDC 1 (FLOW BASED SIZING) (NOT USED)**
- MDC 2 (VOLUME BASED SIZING)**
- WHEN UTILIZING UPSTREAM RETENTION/DETENTION, SIZE THE STORAGE SYSTEM AND FILTER TO CAPTURE AND TREAT 75% OF THE FIRST 1-INCH RAINFALL OR THE FIRST 1.5 INCH RAINFALL IN COSTAL COUNTIES.
- THE BAYFILTER SYSTEM IS DESIGNED PER THE VOLUME-BASED SIZING REQUIREMENTS. THE BAYFILTER WILL RECEIVE RUNOFF FROM THE FIRST INCH OF RUNOFF FROM THE CONTRIBUTING DRAINAGE AREA VIA THE STORM DRAINAGE CONVEYANCE SYSTEM WITHIN THE ROADWAY. THE STORMTECH CHAMBERS ARE BEING USED FOR DETENTION STORAGE ONLY. SEE APPENDICES FOR THE VOLUME BASED WATER QUALITY CALCULATIONS.
- MDC 3 (MEDIA FLOW RATE)**
- THE BAYFILTER MEDIA FLOW RATE SHALL BE A MAXIMUM OF 0.5 GPM/FT² OF MEDIA SURFACE AREA.
- ALL BAYFILTER MEDIA SHALL BE PROVIDED BY BAYSAVER TECHNOLOGIES LLC, AND SHALL CONFORM TO THE MAXIMUM FLOW RATE OF 0.5 GPM/FT² AS STATED BY MDC 3 IN THE NCDEQ STORMWATER MANUAL.
- MDC 4 (SEDIMENTATION)**
- THE SYSTEM PRETREATMENT CREDIT SHALL BE 30% IF SYSTEM INCLUDES A MINIMUM SEDIMENT SUMP WITH MINIMUM DIMENSIONS OF 4' DIAMETER BY 2' DEEP.
- CATCH BASIN IMMEDIATELY UPSTREAM OF BAYFILTER SYSTEM HAS ACCOMMODATED THE 2' SUMP REQUIREMENT.
- MDC 5 (MEDIA TYPE)**
- BAYSAVER USES THE SAME MEDIA FOR BOTH SEDIMENT (TSS) AND NUTRIENT (TP) REMOVAL. FOR METALS REMOVAL, A GRANULAR ACTIVATED CARBON (GAC) COMPONENT IS USED TO FACILITATE "ENHANCED METALS" (E.G. ZINC AND COPPER) REMOVAL. IN NUTRIENT SENSITIVE WATERSHEDS (NSW) AND FOR NUTRIENT REMOVAL CREDIT, IT IS UP TO NCDEQ AND THE LOCAL PERMITTING AUTHORITY TO ALLOW THE USE OF THE BAYFILTER DEVICE.
- FILTER MEDIA SHALL BE BY BAYSAVER TECHNOLOGIES LLC, AND SHALL CONSIST OF THE FOLLOWING MIX: A BLEND OF ZEOLITE, PERLITE, AND ACTIVATED ALUMINA WHICH IS SPECIFIC TO THE TSS REMOVAL REQUIREMENTS SET FORTH BY THE CITY OF WINSTON-SALEM STORMWATER ORDINANCE.
- MDC 6 (MAINTENANCE)**
- MAINTENANCE SHALL BE PERFORMED PER BAYSAVER OPERATION AND MAINTENANCE INSTRUCTIONS AND PERFORMED BY CERTIFIED MAINTENANCE PROVIDERS.
- AN OPERATIONS AND MAINTENANCE AGREEMENT HAS BEEN PROVIDED AND THE SYSTEM SHALL BE MAINTAINED IN A WAY TO MEET ALL ELEMENTS AS SPELLED OUT IN THE APPROVED DOCUMENT.

PRECAST OUTLET STRUCTURE SPECIFICATIONS

1. PRECAST STRUCTURE TO BE DESIGNED BY A PROFESSIONAL ENGINEER REGISTERED IN NORTH CAROLINA. SEALED STRUCTURAL SHOP DRAWINGS ARE REQUIRED. THE SHOP DRAWING SHALL STATE CONFORMANCE WITH THE FOLLOWING REQUIREMENTS AND OTHER APPLICABLE STANDARDS. SUBMIT THREE COPIES FOR REVIEW AND APPROVAL.
2. STRUCTURE TO BE DESIGNED FOR HS-20 TRAFFIC LOADING. THE BAFFLE WALL SHALL BE DESIGNED FOR HYDROSTATIC LOADING RESULTING FROM WATER LEVELS TO THE TOP OF THE STRUCTURE.
3. STRUCTURE DESIGN SPECIFICATIONS SHALL CONFORM TO LATEST ASTM C913 SPECIFICATIONS FOR "PRECAST CONCRETE WATER AND WASTEWATER STRUCTURES" AND NCDOT STANDARDS.
4. CONCRETE COMPRESSIVE STRENGTH 4,000 PSI MINIMUM.
5. STEEL REINFORCING DESIGN TO CONFORM TO THE REQUIREMENTS OF ASTM C890 SPECIFICATIONS FOR "STRUCTURAL DESIGN LOADING FOR WATER AND WASTEWATER STRUCTURES" AND SHALL UTILIZE GRADE 60 REBARS CONFORMING TO THE REQUIREMENTS OF ASTM A615 OR WWF CONFORMING TO THE REQUIREMENTS OF ASTM A185 OR BOTH.
6. PROVIDE ADDITIONAL REINFORCING AT OPENINGS.
7. STEPS REQUIRED AS SHOWN. STEPS SHALL BE STEEL REINFORCED COPOLYMER POLYPROPYLENE PLASTIC AND MEET THE REQUIREMENTS OF ASTM C478.
8. JOINT DESIGN TO CONFORM TO ASTM C-478. JOINTS TO BE SEALED WITH BUTYL RUBBER JOINT SEALANT CONFORMING TO FEDERAL SPECIFICATIONS SS-S-21A, AASHTO M-198, TYPE B - BUTYL RUBBER. PARGE THE JOINTS INSIDE AND OUT USING A NON-SHINK GROUT.

CONSTRUCTION SEQUENCE

1. SUBMIT THE PRODUCT SUBMITTALS TO THE ENGINEER FOR APPROVAL PRIOR TO ORDERING THE MATERIALS.
2. SCHEDULE A PRE-CONSTRUCTION MEETING WITH THE TOWN OF ELON, ENGINEER, SITEWORK CONTRACTOR, AND OWNER.
3. CONSTRUCT THE BUILDING, STORM, AND SEWER AS SHOWN ON THE PLANS.
4. TEMPORARILY DIVERT RUNOFF FROM UPLAND DISTURBED AREAS TO THE SKIMMER BASIN.
5. EXCAVATE FOR THE STONE BED AND STORAGE CHAMBERS.
6. GEOTECHNICAL ENGINEER SHALL CONFIRM THE SCM SUBGRADE TO BE AT LEAST 2,000 PSF BEARING. CONFIRM FOUNDATION STONE DEPTH WITH THE ENGINEER.
7. SET THE PRECAST OUTLET CONTROL STRUCTURE.
8. INSTALL GEOTEXTILE FABRIC AND FOUNDATION STONE.
9. INSTALL CHAMBERS AND PERFORATED UNDERDRAIN.
10. INSTALL MANIFOLD AND TEMPORARILY PLUG MANIFOLD TO PREVENT RUNOFF FROM ENTERING THE CHAMBERS DURING CONSTRUCTION.
11. COMPLETE THE BACKFILL AND COMPACT PER PROJECT SPECIFICATIONS.
12. SEND AS-BUILT SURVEY TO ENGINEER FOR REVIEW.
13. AFTER THE SITE CONSTRUCTION IS COMPLETE AND THE SITE IS FULLY STABILIZED, CONTACT THE ENGINEER FOR APPROVAL TO INSTALL THE BAYFILTER CARTRIDGE AND REMOVE THE TEMPORARY PLUG. CLEAN AND REMOVE ALL SEDIMENT FROM THE SYSTEM PRIOR TO INSTALLING THE BAYFILTER.

NOTE:
AS-BUILT SURVEY, ENGINEER CERTIFICATION & CITY APPROVAL OF THE AS-BUILT RECORDS IS REQUIRED PRIOR TO ISSUANCE OF CO.

ASBUILT SURVEY:

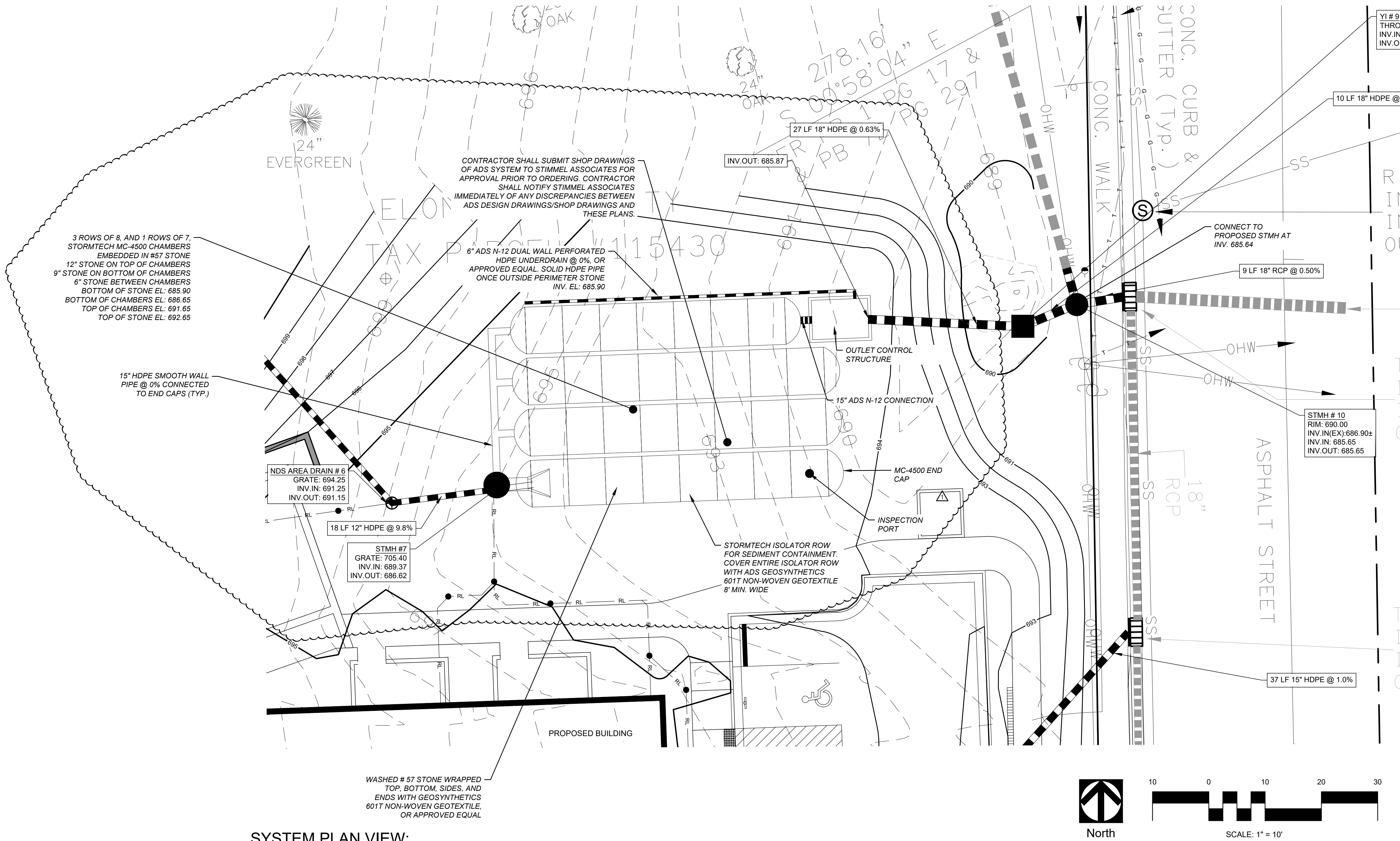
- THE CONTRACTOR SHALL PROVIDE AN ASBUILT SURVEY BY A PROFESSIONAL LAND SURVEYOR TO THE ENGINEER FOR REVIEW. ITEMS CONSTRUCTED THAT DO NOT COMPLY WITH THE PLANS AND SPECIFICATIONS WILL BE CORRECTED BY THE CONTRACTOR AT NO COST TO THE OWNER. A RESURVEY WILL NEED TO BE PERFORMED IN SUCH CASES. SURVEYOR WILL NEED TO TAKE MULTIPLE TRIPS DURING CONSTRUCTION TO EXECUTE SHOTS NEEDED. THE ASBUILT SURVEY SHALL INCLUDE THE FOLLOWING:
1. SPOT GRADES OF FOOTPRINT OF ADS CHAMBER PIT PRIOR TO BOTTOM STONE INSTALL.
 2. OUTLET CONTROL STRUCTURES INVERTS IN AND OUT, ORIFICE INVERT, UNDERDRAIN INVERT, WEIR INVERTS WITH INVERT SIZES, AND RIM ELEVATIONS.
 3. LENGTH OF ADS SYSTEM ROWS.
 4. TOP ELEVATIONS OF CHAMBERS ALL CORNERS OF FOOTPRINT.
 5. OUTLET CONTROL STRUCTURE WITH ELEVATIONS AND SIZES OF WEIR WALLS AND ORIFICES.
 6. AUTOCAD FILE WITH POINTS
 7. HARDCOPY OF SIGNED AND SEALED ASBUILT SURVEY

REQUIRED SUBMITTALS PRIOR TO CONSTRUCTION:

1. COMPLETE SUBMITTAL FOR THE MANIFOLD PIPES, END CAPS, TYPICAL INSTALLATION DETAILS, MATERIAL SPECIFICATIONS, OPERATION & MAINTENANCE PROCEDURES, ETC.
2. PRECAST OUTLET CONTROL STRUCTURE
3. PERFORATED UNDERDRAIN
4. GEOTEXTILE FABRIC
5. OUTLET CONTROL STRUCTURE AND MANHOLE RING & COVERS

STORMWATER MANAGEMENT NOTES:

1. THE CONTRACTOR SHALL TAKE ALL NECESSARY PRECAUTIONS TO PREVENT SILTS OR FINES FROM CONTAMINATING THE ADS STORMTECH SYSTEMS. IF THE ADS STORMTECH SYSTEM BECOMES CONTAMINATED THE CONTRACTOR WILL REMOVE THOSE PORTIONS OF STONE AND RESET ADS STORMTECH SYSTEM AT NO COST TO THE OWNER.
2. PRIOR TO CONSTRUCTION, THE CONTRACTOR SHALL SUBMIT TO THE ENGINEER FOR REVIEW AND APPROVAL ALL MATERIALS PROPOSED IN THE ADS AND BAYFILTER SYSTEMS, INCLUDING THE ADS CHAMBERS, OUTLET CONTROL STRUCTURES WITH WEIR WALLS, PIPES AND UNDERDRAINS, AND BAYFILTER BOX.
3. GC TO SCHEDULE **PRE-CONSTRUCTION MEETING** WITH GC, UTILITY SUBCONTRACTOR, ADS REPRESENTATIVE, AND STIMMEL ASSOCIATES ONE MONTH PRIOR TO CONSTRUCTION OF ADS STORMTECH SYSTEM.
4. THE CONTRACTOR SHALL NOTIFY THE ENGINEER 48 HOURS IN ADVANCE TO SCHEDULE AN INSPECTION BY STIMMEL ASSOCIATES OR ADS REPRESENTATIVE. IF THE ADS STORMTECH SYSTEMS IS CONSTRUCTED WITHOUT BEING WITNESSED BY STIMMEL ASSOCIATES OR ADS REPRESENTATIVE, THE CONTRACTOR WILL BE REQUIRED TO REMOVE AND REINSTALL THE WORK NOT WITNESSED.
5. NO EXCESSIVE OFFSITE DRAINAGE SHALL CONTRIBUTE TO THE ADS SYSTEM DRAINAGE AREA.
6. CONTRACTOR RESPONSIBLE FOR CLEANING OUT ALL SEDIMENT FROM UNDERGROUND STORAGE PIPES AFTER COMPLETION OF STORMWATER MANAGEMENT SYSTEM.



SYSTEM PLAN VIEW:



EAST NEIGHBORHOOD COMMONS

EAST HAGGARD AVENUE

PROJECT TEAM

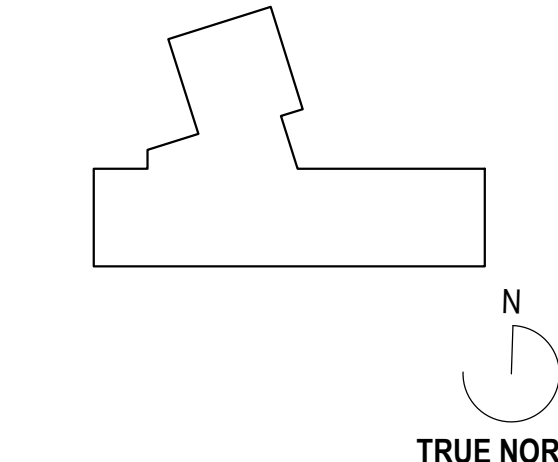
ARCHITECT & LANDSCAPE ARCHITECT
AYERS SAINT GROSS
1040 HULL ST, SUITE 100
BALTIMORE, MD 21230
410-347-8500

CIVIL
STIMMEL ASSOCIATES
601 N TRADE ST, SUITE 200
WINSTON-SALEM, NC 27101
336-723-1067

STRUCTURAL
LHC STRUCTURAL ENGINEERS
(BENNETT & PLESS)
5340 WADE PARK BLVD, SUITE 400
RALEIGH, NC 27607
919-832-5587

M/E/P
EDMONDSON ENGINEERS
1920 HIGHWAY 54, SUITE 700
DURHAM, NC 27713
919-544-1936

REVISIONS		
REV. #	DESCRIPTION	DATE
1	TRC COMMENTS RND 1	08/17/2022
KEY PLAN		



DRAWING INFORMATION	
ISSUE DATE:	08/03/22
SCALE:	
JOB NO.:	2210053.00
DRAWN BY:	Author

PROJECT DESIGN PHASE
MAJOR DEVELOPMENT PLAN
NOT FOR CONSTRUCTION
DRAWING NAME

STORMWATER
MANAGEMENT PLAN

C-4.00

1. PRIOR TO ORDERING THE SITE UTILITY MATERIALS, CONFIRM THE BUILDING UTILITY RUN-IN LOCATIONS, PIPE DIMENSIONS, ELEVATIONS AND PRODUCT MATERIALS ARE APPROVED FOR THE FOLLOWING: DOMESTIC WATER, SANITARY SEWER, FIRE PROTECTION SYSTEM, FIRE DEPARTMENT CONNECTION, REEER CONSULTING UTILITIES TO THE ENGINEER FOR A DESIGN BEFORE PROCEEDING.
2. ALL SANITARY AND WATER SERVICE MATERIALS AND INSTALLATION SHALL CONFORM WITH THE NC PLUMBING CODE. A PLUMBING PERMIT IS REQUIRED FOR SERVICE LINES FROM THE MAIN TO THE BUILDING AND IS THE RESPONSIBILITY OF THE CONTRACTOR TO OBTAIN PERMIT TO PERFORMING THE WORK.
3. ALL FIRE MAIN CONSTRUCTION SHALL COMPLY WITH THE LATEST EDITION OF NFPA 24 "STANDARD FOR THE INSTALLATION OF PRIVATE FIRE SERVICE MAINS AND THEIR APPURTENANCES" (NFPA 24-2002).
4. ALL WATER PIPING OVER 2" IN DIAMETER SHALL BE INSTALLED AT A MINIMUM BURIED DEPTH OF 3 FEET UNLESS NOTED OTHERWISE ON THE PLANS AND SHALL HAVE CONCRETE TRUNK BLOCKING INSTALLED AT ALL BENDS, TEES, PLUGS AND FIRE HYDRANTS. AFTER TRUNK BLOCKING SHALL BE INSPECTED BY THE ENGINEER AND/or THE LOCAL JURISDICTION PRIOR TO BACKFILLING.
5. TREES ARE NOT ALLOWED WITHIN 10- FEET OF ANY WATER OR SANITARY SEWER MAINS.
6. IRRIGATION SERVICES REQUIRE A DEDICATED METER AND REDUCED PRESSURE BACKFLOW FROM THE PUBLIC MAIN. TAPPING THE DOMESTIC OR FIRE SERVICE LINES IS PROHIBITED (NCEC 143-355.4).
7. IRRIGATION SERVICE TAP, METER, AND BACKFLOW SHALL BE INSTALLED BY THE UTILITY CONTRACTOR. COORDINATE WITH THE IRRIGATION CONTRACTOR FOR THE PLACEMENT OF IRRIGATION SLEEVES UNDER THE PAVED AREAS AND TO THE IRRIGATED AREAS.
8. SEWER CLEANOUPS IN ROAD BEARING (VEHICULAR AREAS) SHALL BE TRAFFIC RATED WITH A CONCRETE COLLAR IN ACCORDANCE WITH THE DETAILS.
9. SANITARY SEWER SERVICE SCH 40 PVC PIPE AND FITTINGS SHALL HAVE FULLY PRIMED MEDIAN VISCOSITY GLEED Joints AND CLEANOUPS ON 100' INTERVALS AND AT EACH BEND. PROVIDE A MINIMUM OF 14AWG TRACER WIRE OVER THE FULL LENGTH OF ALL PLASTIC SEWER BEING INSTALLED. THE TRACER WIRE SHOULD BE INSTALLED BY THE TRACER WIRE SHALL TERMINATE AT THE CLEANOUP BETWEEN THE BUILDING DRAIN AND BUILDING SEWER.
10. PROVIDE ELECTRICAL CONDUIT TO ALL SIGNS, FLAGPOLES, BACKFLOW ENCLOSES, GENERATORS, AND OTHER SITE ELEMENTS THAT REQUIRE POWER.
11. ALL ABOVE GROUND BACKFLOW PREVENTER ENCLOSURES SHALL CONFORM WITH ASS: 160.0, HEATED PER MANUFACTURERS RECOMMENDATIONS, HAVE 1/2000 PSI CONCRETE PAD, AND A WEATHERPROOF RECEPTACLE FOR THE INTERNAL HEATER.
12. FIRE MAIN BACKFLOW PREVENTER SHALL HAVE TAMPER SWITCHES, TEMPERATURE SENSORS AND CONDUIT THAT CONNECTS TO THE FIRE PROTECTION SYSTEM/ALARM PANEL. REFER TO THE FIRE ALARM DESIGN PLANS BY OTHERS.
13. CONFIRM THE FIRE DEPARTMENT CONNECTION TYPE (STORZ OR SIAMESE), SIZE, SIGNAGE AND DISTANCE TO NEAREST FIRE HYDRANT WITH THE FIRE MARSHALL PRIOR TO INSTALLATION.
14. ALL PRIVATE HYDRANTS SHALL BE PAINTED RED AND INCLUDE SIGNAGE DESIGNATING THE FACILITY SERVED UNLESS OTHERWISE REQUIRED BY THE FIRE MARSHALL.
15. IF A FIRE DEPARTMENT CONNECTION OR THE FIRE PUMP WILL BE TAKEN OUT OF SERVICE DURING CONSTRUCTION THE CONTRACTOR SHALL DETERMINE WHAT AREAS WITHIN THE BUILDING WILL BE AFFECTED AND SHALL GAIN PERMISSION FROM THE OWNER AND FIRE MARSHALL PRIOR TO TAKING THAT FIRE PROTECTION SYSTEM OUT OF SERVICE.
16. THE CONTRACTOR IN ADVANCE OF CONSTRUCTION SHALL SUBMIT TO THE OWNER FOR APPROVAL, A SCHEDULE AND PLAN FOR ANY KNOWN WATER SERVICE INTERRUPTIONS DURING CONSTRUCTION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY UNPLANNED WATER SERVICE INTERRUPTIONS.
17. THE FIRE PUMP TEST HEADER DISCHARGE SHALL BE DE-CHLORINATED PRIOR TO RELEASE INTO THE SITE STORM DRAINAGE SYSTEM OR AS APPROVED BY THE LOCAL JURISDICTION HAVING AUTHORITY.

10. ALL WATER TESTING DESCRIBED IN THESE SPECIFICATIONS SHALL BE PERFORMED IN THE PRESENCE OF THE ENGINEER.

19. PRIOR TO TESTING AND FLUSHING THE WATER LINES, THE CONTRACTOR SHALL NOTIFY THE OWNER OF THE TESTING AND FLUSHING SCHEDULE. THE OWNER SHALL NOTIFY HIS INSURANCE UNDERWRITER OF THE SCHEDULE IN THE EVENT THE UNDERWRITER REQUIRES AN INSUROR TO BE RELEASED TO THE CONTRACTOR'S DOMESTIC WATERLINE SERVICE - CONTRACTOR SHALL FLUSH, PRESSURE TEST AND CHLORINATE AS REQUIRED BY THE NC PLUMBING CODE.

20. FIRE MAINS - CONTRACTOR SHALL PERFORM A FLOW AND PRESSURE TEST AS REQUIRED BY NFPA 24.

21. CONTRACTOR SHALL PROVIDE PICTURES OF THE INSTALLED WATER MAIN THRUST BECLOCKING TO THE ENGINEER. PROVIDE A MAP IDENTIFYING THE LOCATION ON THE SITE.

22. ALL FIRE PROTECTION WATER MAINS SHALL BE FLUSHED AND TESTED IN ACCORDANCE WITH NFPA 24 STANDARDS AS FOLLOWS:

a. FLUSHING - FLUSH ALL UNDERGROUND MAINS AND RUN-INS TO SYSTEM RISERS THROUGH HYDRANTS AT DEAD ENDS OF THE SYSTEM, OR THROUGH ACCESSIBLE ABOVE GROUND FLUSHING OUTLETS. THE MINIMUM FLOW RATE SHALL BE AS REQUIRED TO PROVIDE A VELOCITY OF 2.0 FEET PER SECOND. FLUSHING SHALL NOT PRODUCE THE SPECIFIED FLOW RATE, FLUSH AT THE DEMAND RATE OF THE SYSTEM. THE FLUSHING OPERATION SHALL CONTINUE UNTIL THE FLOW STREAM RUNS CLEAR. FLUSHING SHALL BE PLANNED AND CARRIED OUT TO ENSURE ALL PIPELINE SEGMENTS IN THE SYSTEM ARE THOROUGHLY FLUSHED. IF WATER IS SUPPLIED FROM MORE THAN ONE SOURCE FROM A HOLED SYSTEM, SECTIONAL VALVES SHALL BE CLOSED TO PRODUCE A HIGH VELOCITY THROUGH EACH SINGLE LINE. PROVIDE FOR SAFE DISPOSAL OF WATER DURING FLUSHING TO AVOID PROPERTY DAMAGE.

b. PRESSURE TESTING - ALL PIPING AND APPURTENANCES SHALL BE HYDROSTATICALLY TESTED AT 200 PSI OR 60 PSI ABOVE THE MAXIMUM DESIGN PRESSURE WHEN THE MAXIMUM STATIC PRESSURE IS ABOVE 150 PSI, WHICHEVER IS GREATER. IF THE SYSTEM CONTAINS A BOOSTER PUMP, THE SYSTEM SHALL BE TESTED AT 20 PSI ABOVE THE PUMP SHUT-OFF (CHURN) PRESSURE. THE TEST PRESSURE SHALL BE MAINTAINED FOR 2 HOURS. THE MAXIMUM ALLOWABLE LEAKAGE SHALL BE AS FOLLOWS:

L = (SD)²(TP)³/144,000

WHERE:

L = TESTING ALLOWANCE (GALLONS PER HOUR)

S = LENGTH OF PIPE TESTED (FEET)

D = NOMINAL DIAMETER (INCHES)

P = AVERAGE TEST PRESSURE DURING THE TEST (GAUGE PRESSURE)

26. ALL SANITARY SEWER TESTING DESCRIBED IN THESE SPECIFICATIONS SHALL BE PERFORMED IN THE PRESENCE OF THE ENGINEER.

27. LEAKAGE TEST (SEWER PIPING): AFTER COMPLETION OF THE PIPE LAYING AND SERVICE LATERAL INSTALLATION, AN AIR TEST SHALL BE CONDUCTED TO DETERMINE THE INTEGRITY OF THE PIPELINE. THE LENGTH OF THE LINE TO BE TESTED SHALL BE FROM MANHOLE TO MANHOLE. THE AIR TEST SHALL BE CONDUCTED IN ACCORDANCE WITH "UNI-BELL, UNI-B-6-68 RECOMMENDED PRACTICE FOR LOW-PRESSURE AIR TESTING OF INSTALLED SEWER PIPE". MAXIMUM ALLOWABLE PRESSURE DROP SHALL BE 0.5 PSIG FROM 3.5 PSIG TO 3.0 PSIG.

18. DEFLECTION TESTING (SEWER PIPE): REQUIRED FOR PVC SEWER PIPE ONLY. ALL PVC SEWER LINES IN THE PROJECT SHALL BE DEFLECTED. TESTED. DEFLECTION TESTING SHALL BE CONDUCTED AFTER FINAL BACKFILL IN THE SEWER PIPE. TRENCH HAS BEEN IN PLACE FOR AT LEAST 30 DAYS TO PERMIT STABILIZATION OF THE SOIL-PIPE SYSTEM. THE CONTRACTOR SHALL FLUSH OR OTHERWISE CLEAN THE INSIDE OF THE PIPE PRIOR TO DEFLECTION TESTING TO REMOVE DEBRIS AND FOREIGN MATERIAL.

A RIGID BAR OR MANDREL USED FOR THE DEFLECTION TEST SHALL HAVE A DIAMETER OF NOT LESS THAN 95 PERCENT OF THE BASE INSIDE DIAMETER OF THE PIPE. THE PIPE DIAMETER SHALL BE MEASURED IN COMPLIANCE WITH ASTM D-2122. STANDARD TEST METHOD OF DETERMINING DIMENSIONS OF THERMOPLASTIC PIPE AND FITTINGS. THE MANDREL SHALL BE PULLED THROUGH THE PIPE IN THE DIRECTION OF FLOW. THE TEST SHALL BE PERFORMED BY ONE MAN PULLING THE MANDREL THROUGH THE PIPE WITHOUT THE AID OF MECHANICAL PULLING DEVICES.

NO PIPE SHALL EXCEED A DEFLECTION OF 5 PERCENT.

20. VACUUM TESTING (MANHOLES): ALL MANHOLES SHALL BE VACUUM TESTED AFTER COMPLETING PIPE CONNECTION AND SEALING BUT BEFORE THE VACUUM TESTING OF THE PIPE. A VACUUM OF TEN INCHES (10") OF MERCURY SHALL BE DRAWN ON THE MANHOLE AND THE TIME RECORDED FOR THE VACUUM TO DROP TO NINE INCHES (9") IF THE TIME RECORDED IS MORE THAN THAT SHOWN IN THE TABLE BELOW, THE MANHOLE SHALL PASS THE TEST.

MIN.	ELAPSED TIME FOR VACUUM TO CHANGE FROM 10" MERCURY TO 9" MERCURY			
DEPTH OF MANHOLE	4-FOOT DAA-FOOT DIA.	6-FOOT DIA.		
10 FEET OR LESS	60 SECONDS	75 SECONDS	95 SECONDS	
10 FEET TO 15 FEET	75 SECONDS	90 SECONDS	105 SECONDS	
15 FEET TO 20 FEET	90 SECONDS	105 SECONDS	120 SECONDS	

SHOULD ANY TEST FAIL ON ANY SECTION, THE CONTRACTOR SHALL, AT HIS OWN EXPENSE, LOCATE AND REPAIR DEFECTIVE JOINTS OR PIPE SECTIONS. AFTER REPAIRS ARE COMPLETED, THE LINE SHALL BE RETESTED UNTIL SUCCESSFUL TEST RESULTS ARE ACHIEVED.

30. CONTRACTOR SHALL PROVIDE WATER, SEWER & STORM DRAINAGE AS-BUILT TO THE ENGINEER IN AUTOCAD FORMAT ALONG WITH SIGNED AND SEALED DRAWINGS BY A PROFESSIONAL LAND SURVEYOR IN SUFFICIENT TIME TO MAKE NECESSARY AS-BUILT REVISIONS AND SUBMITTAL OF THE SAME TO THE CITY OF CHICAGO PRIOR TO THE CERTIFICATE OF OCCUPANCY. SETTING OF WATER METERS, OR RECORDING OF PLATS, IT IS RECOMMENDED THAT THE AS-BUILT INFORMATION BE CHECKED PRIOR TO PAVING. THE INFORMATION REQUIRED ON THE AS-BUILT IS: LOCATION, DEPTH, SIZE, MATERIAL, INVERTS, SIZES OF PIPES AND SLOPES.

31. CONTRACTOR SHALL PROVIDE AS-BUILT SURVEY ELEVATIONS (FIELD MEASURED DURING INSTALLATION) OF WATER MAINS AT CROSSINGS WITH SANITARY SEWER MAINS AND STORM DRAINAGE PIPES TO THE ENGINEER DOCUMENTING THAT ALLOWABLE SEPARATION IS PROVIDED.

MINIMUM PLANTING SEPARATION REQUIREMENTS BETWEEN WATER AND SEWER MAINS:

(DOES NOT APPLY TO WATER AND SEWER SERVICES)

SANITARY - STORM: 18"

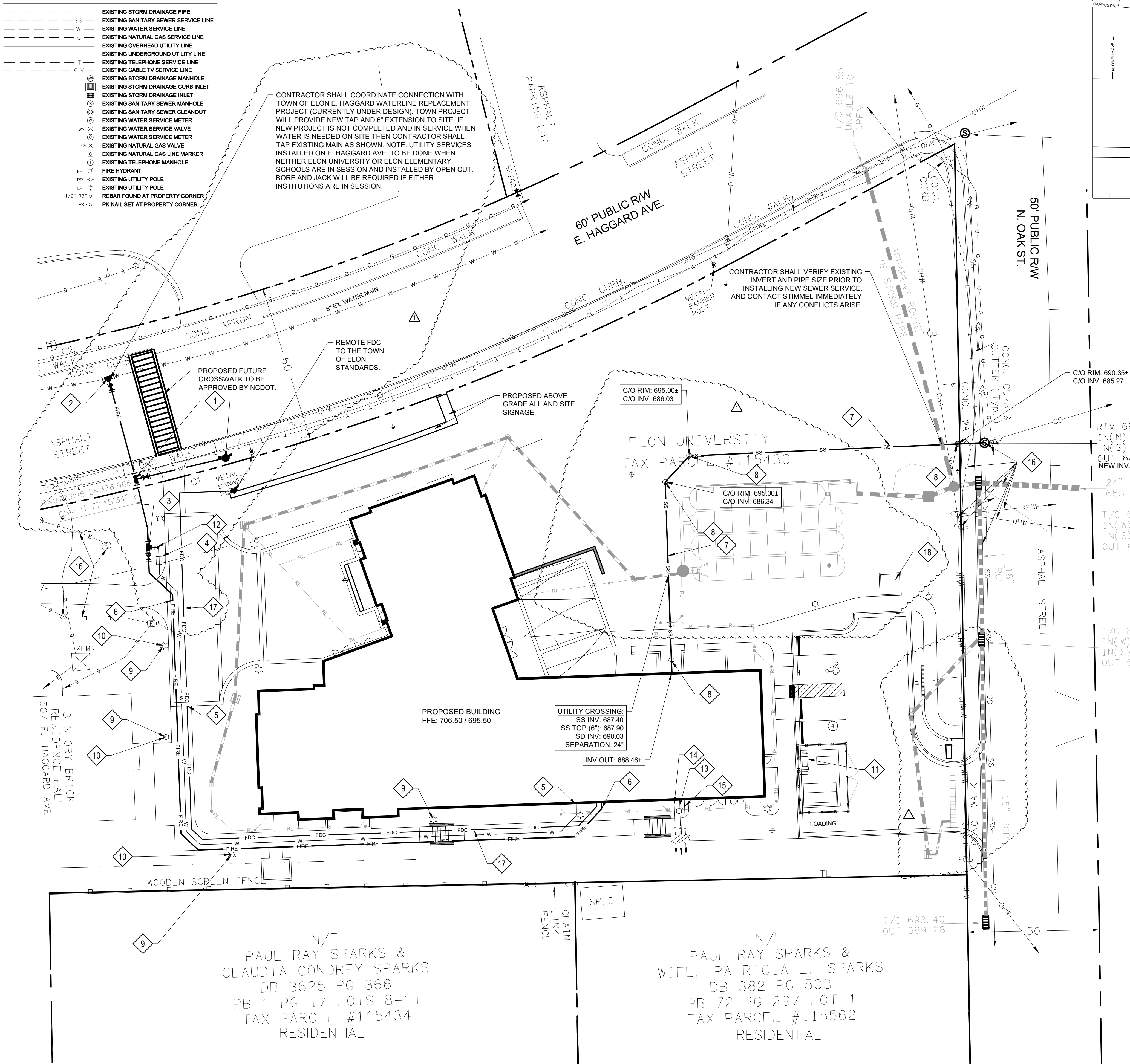
SANITARY - WATER: 16"

SANITARY - OTHER UTILITIES: 18"

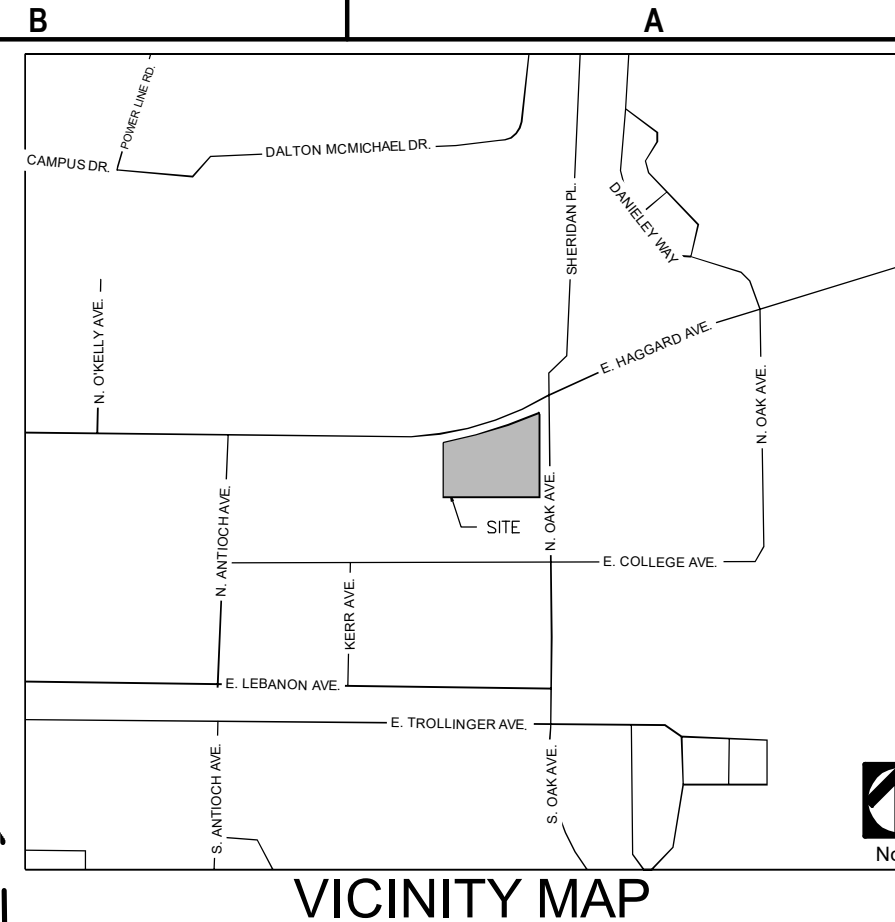
WATER - STORM: 16"

1. ALL CONDENSATE SHALL BE ROUTED TO STORMWATER. NO CONDENSATE DRAINS SHALL BE ROUTED TO SEWER.
2. ALL CONSTRUCTION IS TO BE IN ACCORDANCE WITH TOWN OF ELON AND NCDOT STANDARD DETAILS AND SPECIFICATIONS LATEST ADDITION(S).

	EXISTING STORM DRAINAGE PIPE
SS	EXISTING SANITARY SEWER SERVICE LINE
W	EXISTING WATER SERVICE LINE
G	EXISTING NATURAL GAS SERVICE LINE
	EXISTING OVERHEAD UTILITY LINE
	EXISTING UNDERGROUND UTILITY LINE
T	EXISTING TELEPHONE SERVICE LINE
CTV	EXISTING CABLE TV SERVICE LINE
	EXISTING STORM DRAINAGE MANHOLE
	EXISTING STORM DRAINAGE CURB INLET
	EXISTING STORM DRAINAGE INLET
	EXISTING SANITARY SEWER MANHOLE
	EXISTING SANITARY SEWER MANHOLE
	EXISTING WATER SERVICE METER
WV	EXISTING WATER SERVICE VALVE
	EXISTING WATER SERVICE VALVE
GV	EXISTING NATURAL GAS VALVE
	EXISTING NATURAL GAS LINE MARKER
	EXISTING TELEPHONE MANHOLE
	FIRE HYDRANT
PH	EXISTING UTILITY POLE
LP	EXISTING UTILITY POLE
1/2" R/S	REBAR FOUND AT PROPERTY CORNER



1	6" 6" TAPPING SLEEVE AND VALVE (TSV), 6" DI PIPE AND FIRE HYDRANT ASSEMBLY TO TOWN OF ELON STANDARDS. CONTRACTOR SHALL CONTACT THE TOWN OF ELON PRIOR TO MAKING THE TAP.	8	AREAS TO BE ENCLOSED IN CAST IRON CLEANOUT FRAME AND COVER AND CONCRETE SURROUND PER TOWN OF ELON STANDARD DETAIL SS-15. CLEANOUTS TO BE SPACED AT A MAXIMUM DISTANCE OF 80' BETWEEN. VERIFY ALL VERTICAL AND HORIZONTAL CONFLICTS BEFORE START OF INSTALLATION.	18	APPROXIMATE LOCATION OF GENERATOR
2	6" 6" TAPPING SLEEVE AND VALVE (TSV) FOR FIRE TAP TO THE TOWN OF ELON UTILITY STANDARDS. CONTRACTOR SHALL CONTACT THE TOWN OF ELON PRIOR TO MAKING THE TAP.	9	GC TO PROVIDE ELECTRIC SERVICE LINES TO LIGHT POLES IN UNDERGROUND CONDUIT. GC TO COORDINATE INSTALLATION OF ELECTRIC SERVICE SO THAT IT IS PLACED BEFORE PAVEMENT.		
3	6" X 2" BRONZE SERVICE SADDLE FOR DOMESTIC WATER SERVICE.	10	SITE LIGHTING WITH REINFORCED CONCRETE LIGHT POLE BASE, BY PM&E FOR SPECIFICATIONS.		
4	2" DOMESTIC WATER METER TO TOWN OF ELON STANDARDS. SEE PLUMBING PLANS FOR BACKFLOW DEVICES LOCATED INSIDE THE BUILDING. NOTE THAT RPZ BACKFLOW DEVICES SHALL BE SUBMITTED AND APPROVED BY THE TOWN OF ELON PRIOR TO INSTALLATION.	11	TRANSFORMER LOCATION. SEE PLANS BY PM&E FOR SPECIFICATIONS.		
5	2" SCH. 40 PVC DOMESTIC WATER SERVICE LINE TO TOWN OF ELON STANDARDS. SERVICE LINE SHALL HAVE 3' MIN COVER.	12	2" CORPORATION STOP.		
6	6" DI CLASS 50 FIRE PROTECTION SERVICE LINE TO TOWN OF ELON STANDARDS. SERVICE LINE SHALL HAVE 3' MIN. COVER. SEE PLANS BY PLUMBING ENGINEER FOR BACKFLOW DEVICE IN BUILDING. RPZ WITH DETECTOR REQUIRED. NOTE THAT RPZ BACKFLOW DEVICES SHALL BE SUBMITTED AND APPROVED BY THE TOWN OF ELON PRIOR TO INSTALLATION.	13	NATURAL GAS SERVICE LINE. CONTRACTOR TO COORDINATE WITH LOCAL UTILITY SERVICE PROVIDER AND UNIVERSITY PROJECT MANAGER FOR APPROPRIATE TAP LOCATION AND LOCATION OF UTILITY LINE.		
7	6" SDR 35 PVC SEWER LINE AT 1/8" PER FOOT MINIMUM SLOPE. VERIFY THAT NO CONFLICTS WILL OCCUR WHERE SEWER SERVICE CROSSES EXISTING AND PROPOSED UTILITIES. SEWER AND WATER CLEARANCE SHALL BE 18" MIN. SEWER AND STORM CLEARANCES SHALL BE 24" MIN. DESIGN ENGINEER SHALL BE CONSULTED ON UTILITY CROSSINGS TO VERIFY PROPER CLEARANCES PRIOR TO CONSTRUCTION. LINE SHALL MEET TOWN OF ELON UTILITIES STANDARDS.	14	ELECTRIC SERVICE LINES. CONTRACTOR SHALL COORDINATE WITH LOCAL UTILITY SERVICE PROVIDER AND UNIVERSITY PROJECT MANAGER FOR TIE-IN LOCATIONS AT BUILDING AND UTILITY SERVICE TAP LOCATION.		
		15	TELEPHONE SERVICE LINE. APPROXIMATE LOCATION. CONTRACTOR SHALL COORDINATE WITH LOCAL UTILITY SERVICE PROVIDER AND UNIVERSITY PROJECT MANAGER FOR TIE-IN LOCATIONS AT BUILDING AND UTILITY SERVICE TAP LOCATIONS.		
		16	CONTRACTOR TO PROTECT EXISTING UTILITIES - TYP.		
		17	4" DI WATER LINE FOR REMOTE FDC.		



EAST HAGGARD AVENUE

**ARCHITECT &
LANDSCAPE ARCHITECT**
AYERS SAINT GROSS
1040 HULL ST, SUITE 100
BALTIMORE, MD 21230
410-347-8500

CIVIL
STIMMEL ASSOCIATES
601 N TRADE ST, SUITE 200
WINSTON-SALEM, NC 27101
336-723-1067

LHC STRUCTURAL ENGINEERS
(BENNETT & PLESS)
5340 WADE PARK BLVD, SUITE 100
RALEIGH, NC 27607
919-832-5587

M/E/P
EDMONDSON ENGINEERS
1920 HIGHWAY 54, SUITE 700
DURHAM, NC 27713
919-544-1936

[illegible]

AYER
SAINT
GROSS



DRAWING INFORMATION	
ISSUE DATE:	08/03/22
SCALE:	
JOB NO.:	2210053.00
DRAWN BY:	Author

PROJECT DESIGN PHASE
MAJOR DEVELOPMENT PLAN
NOT FOR CONSTRUCTION
 DRAWING NAME

UTILITY PLAN

C-5.00

© COPYRIGHT AYERS/SAINT/GROSS, 2022



EAST HAGGARD AVENUE

PROJECT TEAM

**ARCHITECT &
LANDSCAPE ARCHITECT**
AYERS SAINT GROSS
1040 HULL ST, SUITE 100
BALTIMORE, MD 21230
410-347-8500

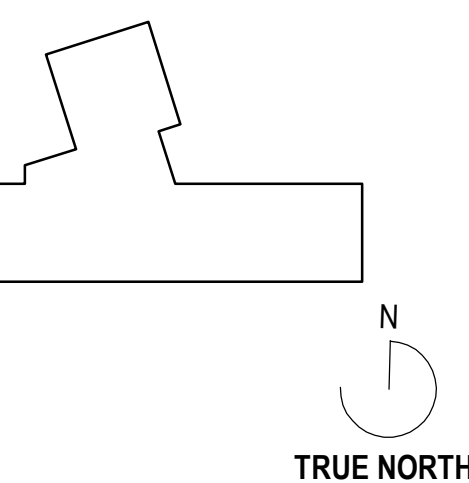
CIVIL
STIMMEL ASSOCIATES
01 N TRADE ST, SUITE 200
WINSTON-SALEM, NC 27101
336-723-1067

STRUCTURAL
C STRUCTURAL ENGINEERS
(BENNETT & PLESS)
WADE PARK BLVD, SUITE 400
RALEIGH, NC 27607
919-832-5587

M/E/P
EDMONDSON ENGINEERS
20 HIGHWAY 54, SUITE 700
DURHAM, NC 27713
919-544-1936

[illegible]

KEY PLAN



AYER
SAINT
GROSS

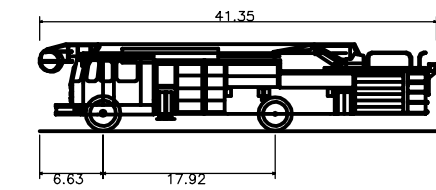
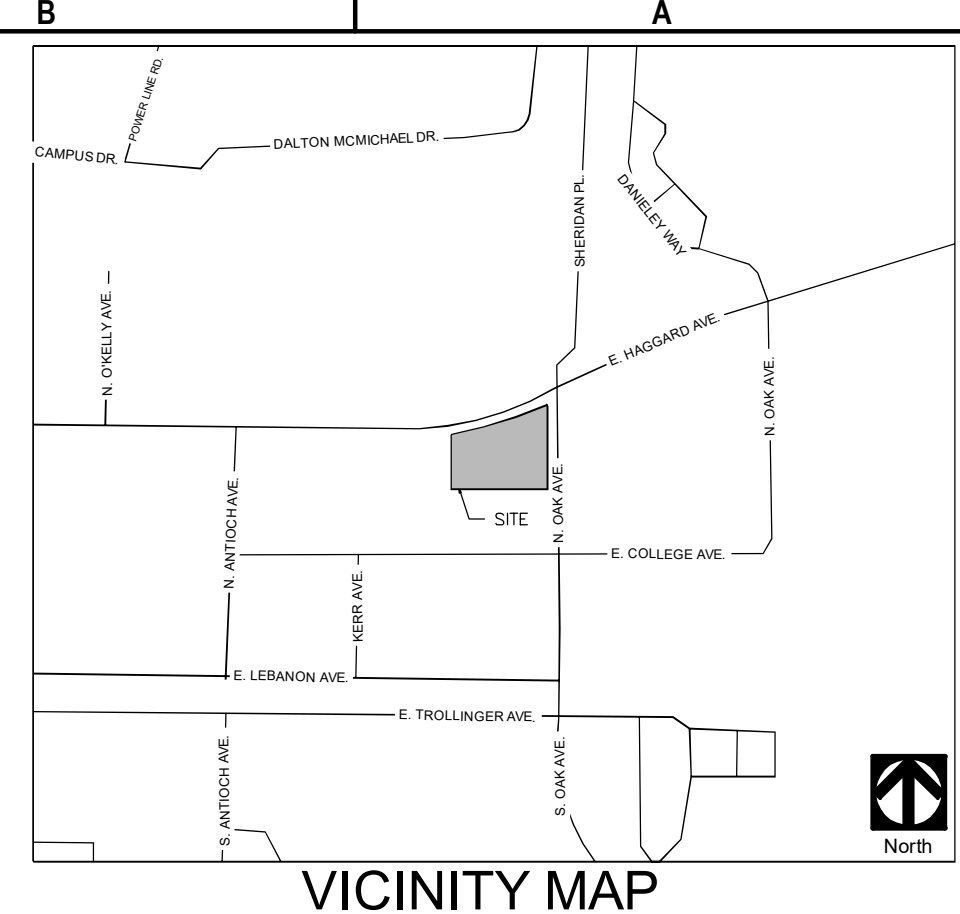
DRAWING INFORMATION	
ISSUE DATE:	08/03/22
SCALE:	
JOB NO.:	2210053.00
DRAWN BY:	Author

PROJECT DESIGN PHASE
MAJOR DEVELOPMENT PLAN
NOT FOR CONSTRUCTION
DRAWING NAME

FIRE TRUCK EXHIBIT

EX-1.0

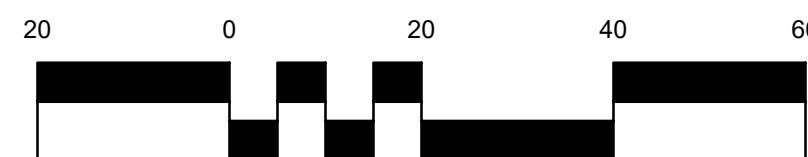
© COPYRIGHT AYERS/SAINT/GROSS, 2022



WS-SP70	
Overall Length	41.350ft
Overall Width	8.170ft
Overall Body Height	9.059ft
Min Body Ground Clearance	1.281ft
Track Width	8.170ft
Lock-to-lock time	6.00s
Max Steering Angle (Virtual)	34.40°

CONTRACTOR IS RESPONSIBLE FOR
MAINTAINING OR REPLACING EXISTING
SIDEWALK AND OTHER INFRASTRUCTURE

TBM
SITE BENCHMARK:
TOP OF CURB @
C/L CATCH INLET



SCALE: 1" = 20'



EAST NEIGHBORHOOD COMMONS

EAST HAGGARD AVENUE

PROJECT TEAM

**ARCHITECT &
LANDSCAPE ARCHITECT**
AYERS SAINT GROSS
1040 HULL ST, SUITE 100
BALTIMORE, MD 21230
410-347-8500

CIVIL
STIMMEL ASSOCIATES
601 N TRADE ST, SUITE 200
WINSTON-SALEM, NC 27101
336-723-1067

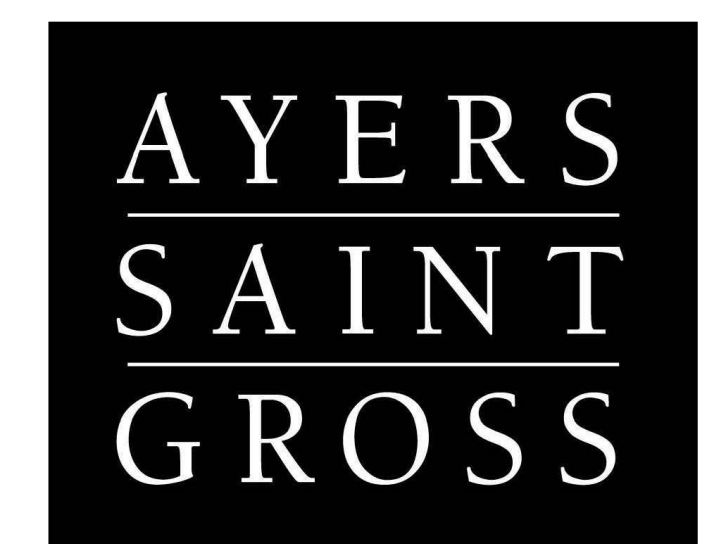
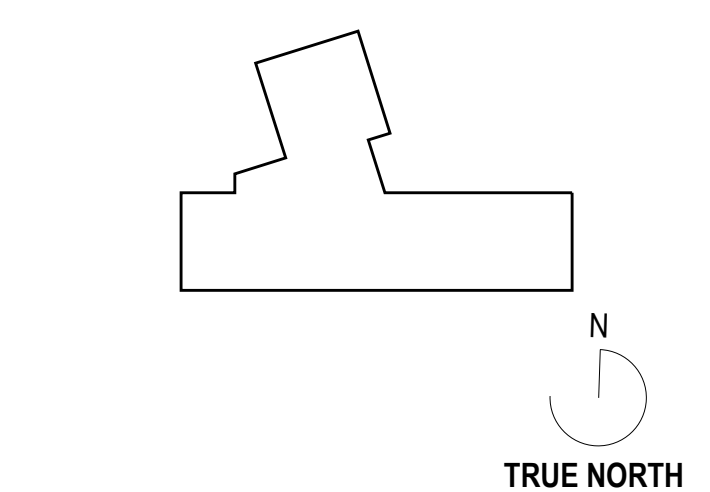
STRUCTURAL
LHC STRUCTURAL ENGINEERS
(BENNETT & PLESS)
5340 WADE PARK BLVD, SUITE 400
RALEIGH, NC 27607
919-832-5587

M/E/P
EDMONDSON ENGINEERS
1920 HIGHWAY 54, SUITE 700
DURHAM, NC 27713
919-544-1936

REVISIONS

REV. #	DESCRIPTION	DATE
1	TRC COMMENTS RND 1	08/18/22
2	TRC COMMENTS RND 2	08/31/22

KEY PLAN



NOT FOR CONSTRUCTION

DRAWING INFORMATION

ISSUE DATE:	08/31/22
SCALE:	1" = 20'
JOB NO.:	2210053.00
DRAWN BY:	JS, SJ

PROJECT DESIGN PHASE

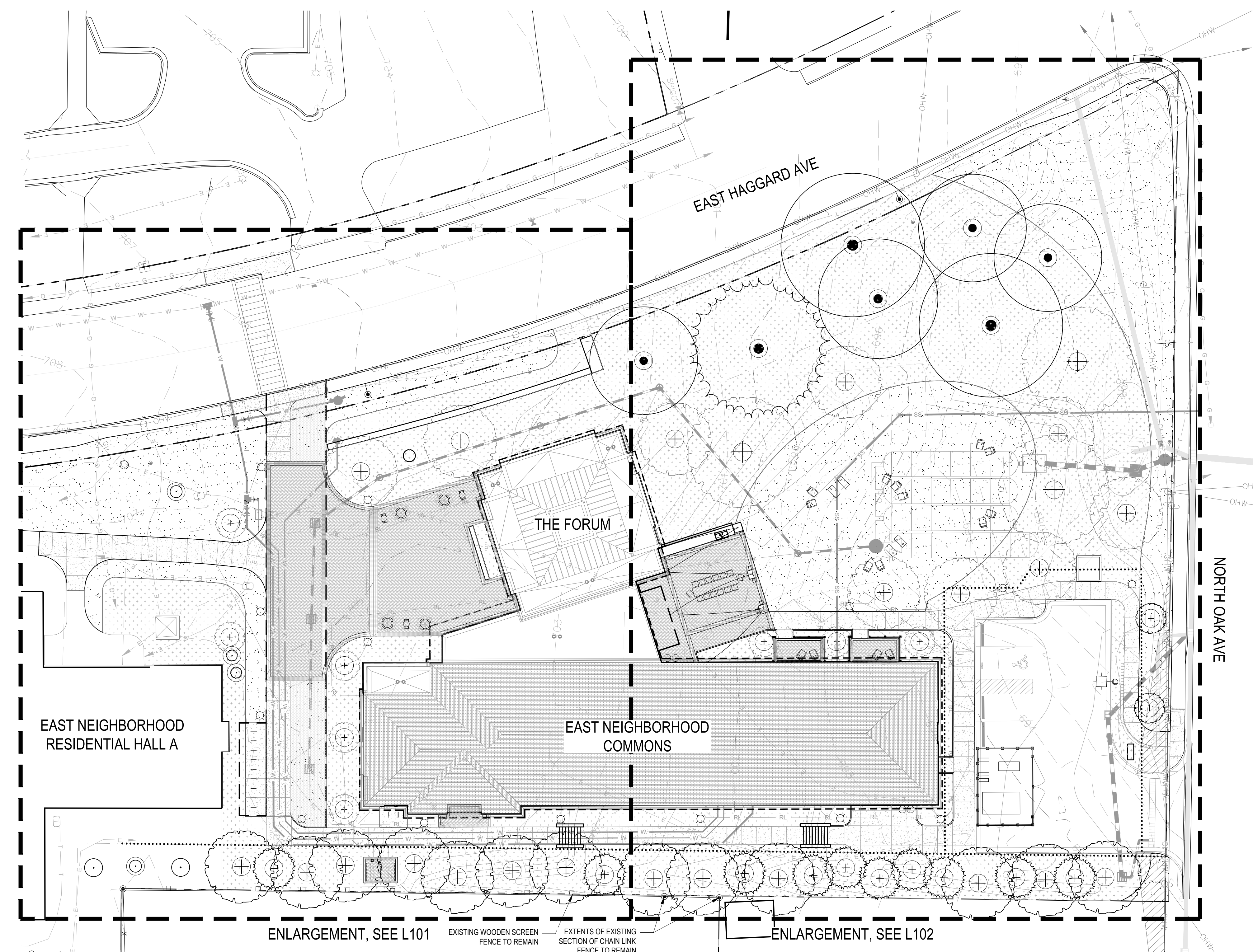
MAJOR DEVELOPMENT PLAN

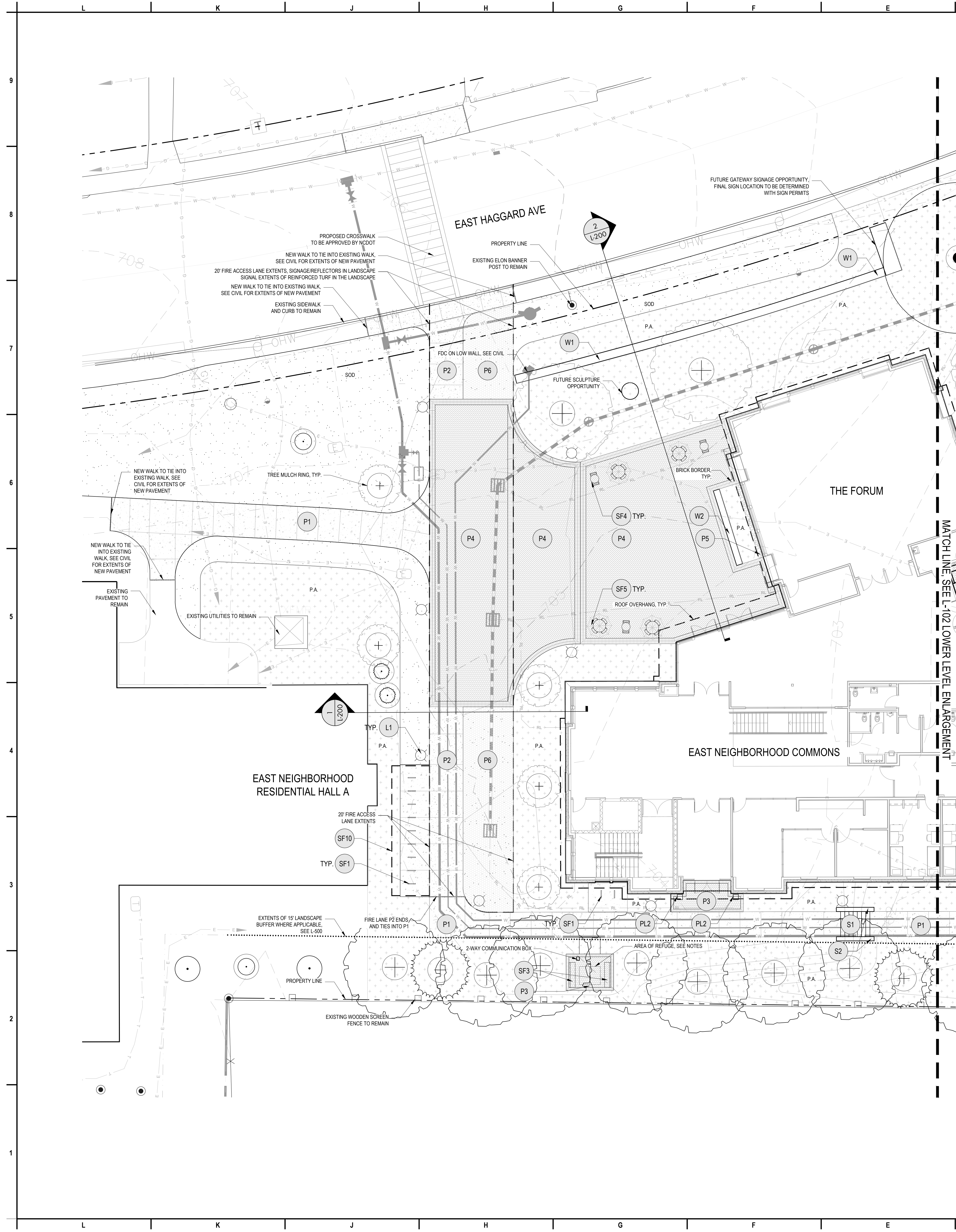
DRAWING NAME

OVERALL SITE PLAN

DRAWING NUMBER

L-100





MATERIALS LEGEND

CALLOUT	DETAIL	DESCRIPTION
P1	2 / L300	CONCRETE - PEDESTRIAN
P2	SEE CIVIL	CONCRETE - VEHICULAR
P3	5 / L300	BRICK PAVING - PEDESTRIAN
P4	SEE CIVIL	BRICK PAVING - VEHICULAR
P5	1 / L300	DECORATIVE STONE
P6	8 / L300	REINFORCED TURF
W1	1 / L301	LOW BRICK WALL
W2	2 / L301	SEAT WALL
W3	2 / L302	RETAINING WALL WITH GRILL
F1	3 / L301	LOW ORNAMENTAL PORCH FENCE
F2	4 / L301	UTILITY YARD SCREEN AND GATE
S1	1 / L303	STAIRS AND HANDRAIL
S2	3 / L303	CHEEKWALL

SITE FURNISHING LEGEND

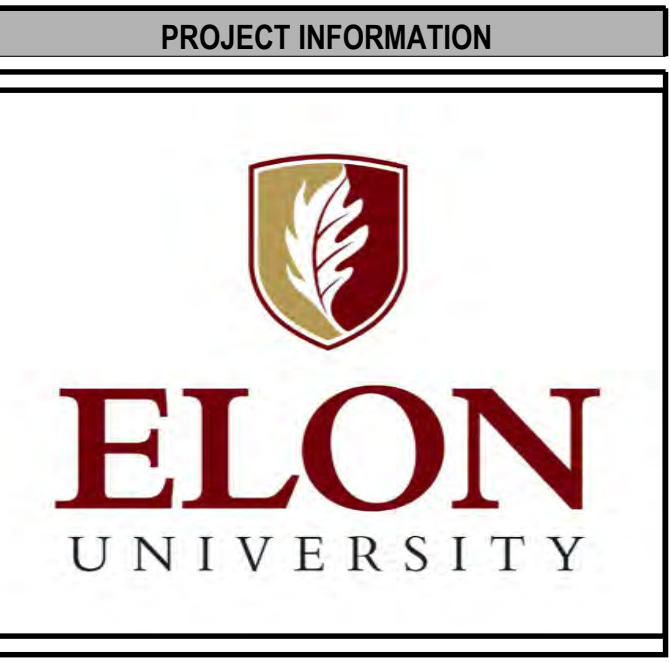
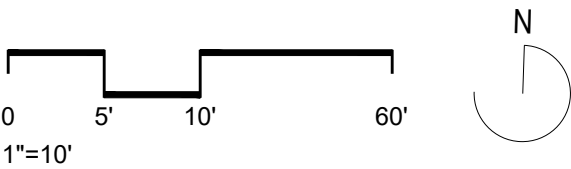
CALLOUT	DETAIL	DESCRIPTION
SF1	1 / L304	BIKE RACK
SF2	2 / L304	TRASH AND RECYCLING RECEPTACLES
SF3	3 / L304	BENCH
SF4	4 / L304	2-TOP TABLE AND CHAIRS
SF5	5 / L304	4-TOP TABLE AND CHAIRS AND UMBRELLA
SF6	6 / L304	ROCKING CHAIR
SF7	7 / L304	ADIRONDACK CHAIR
SF8	8 / L304	DINING STOOL
SF9	9 / L304	COMMUNITY TABLE AND CHAIRS
SF10	SEE SPECS	BIKE SHELTER
PL1	10 / L304	LARGE PLANTER WITH MARKET LIGHT SUPPORTS
PL2	11 / L304	MEDIUM PLANTER
L1	SEE ELECTRICAL	PEDESTRAIN POLE LIGHT
L2	SEE ELECTRICAL	PARKING LOT POLE LIGHT
L3	12 / L304	MARKET LIGHTING

PLANTING LEGEND

+	+	+	+	+	+
P.A. +					
+	+	+	+	+	+
SOD					

- AREA OF REFUGE NOTES:
- AREA OF REFUGE PROVIDED TO BE USED IF FIRE TRUCK BLOCKS ADA ACCESS TO EAST HAGGARD AVE
 - AREA OF REFUGE INCLUDES 2-WAY COMMUNICATION AND SPACE FOR 2 WHEELCHAIRS 20' AWAY FROM THE FACE OF THE BUILDING.

- GENERAL NOTES:
- THE FORUM IS A FLEX ASSEMBLY SPACE FOR THE CAMPUS AND SURROUNDING COMMUNITY. IT IS LOCATED ON LEVEL 1 AND IS A DOUBLE-HEIGHT SPACE.
 - APPROXIMATE SIGNAGE LOCATIONS SHOWN FOR ILLUSTRATIVE PURPOSES. ALL SIGNAGE WILL BE PERMITTED SEPARATELY.
 - TREES SHOWN FOR ILLUSTRATIVE PURPOSES. ELON UNIVERSITY TO PROVIDE PLANTING PLAN AND SPECIES AT A LATER DATE.
 - PLANTING BEDS SHOWN FOR ILLUSTRATIVE PURPOSES. ELON UNIVERSITY TO PROVIDE PLANTING PLAN AND SPECIES AT A LATER DATE.
 - PLANTING TO MEET BUFFER REQUIREMENTS. CALCULATIONS PROVIDED ON L-600.

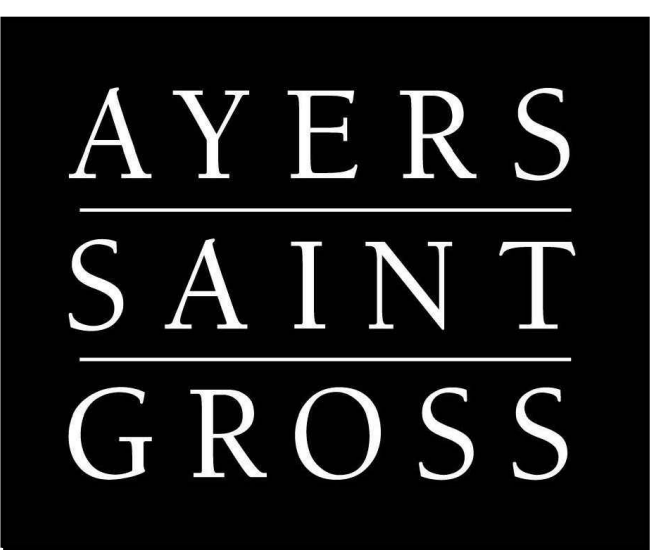
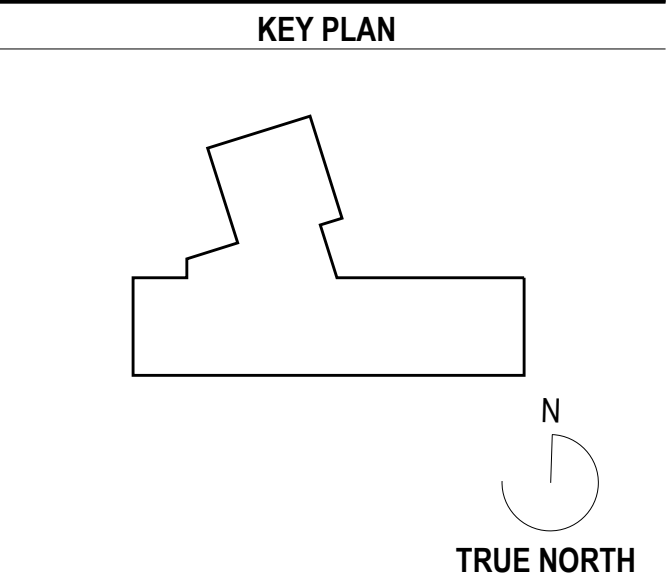


EAST NEIGHBORHOOD COMMONS

PROJECT TEAM

- ARCHITECT & LANDSCAPE ARCHITECT**
AYERS SAINT GROSS
1040 HULL ST. SUITE 100
BALTIMORE, MD 21230
410-347-8500
- CIVIL**
STIMMEL ASSOCIATES
601 N TRADE ST. SUITE 200
WINSTON-SALEM, NC 27101
336-723-1067
- STRUCTURAL**
LHC STRUCTURAL ENGINEERS
(BENNETT & PLESS)
5340 WADE PARK BLVD. SUITE 400
RALEIGH, NC 27607
919-632-5587
- M/E/P**
EDMONDSON ENGINEERS
1920 HIGHWAY 54, SUITE 700
DURHAM, NC 27713
919-544-1936

REVISIONS		
REV. #	DESCRIPTION	DATE
1	TRC COMMENTS RND 1	08/18/22
2	TRC COMMENTS RND 2	08/31/22



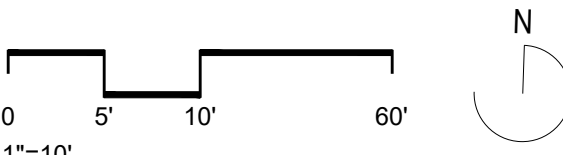
NOT FOR CONSTRUCTION

DRAWING INFORMATION	
ISSUE DATE:	08/31/22
SCALE:	1" = 10'
JOB NO.:	2210053.00
DRAWN BY:	JS, SJ

PROJECT DESIGN PHASE
MAJOR DEVELOPMENT PLAN
DRAWING NAME

HARDSCAPE PLAN - LEVEL 1

DRAWING NUMBER
L-101



SITE FURNISHING LEGEND		
CALLOUT	DETAIL	DESCRIPTION
SF1	1 / L304	BIKE RACK
SF2	2 / L304	TRASH AND RECYCLING RECEPTACLES
SF3	3 / L304	BENCH
SF4	4 / L304	2-TOP TABLE AND CHAIRS
SF5	5 / L304	4-TOP TABLE AND CHAIRS AND UMBRELLA
SF6	6 / L304	ROCKING CHAIR
SF7	7 / L304	ADIRONDACK CHAIR
SF8	8 / L304	DINING STOOL
SF9	9 / L304	COMMUNITY TABLE AND CHAIRS
SF10	SEE SPECS	BIKE SHELTER
PL1	10 / L304	LARGE PLANTER WITH MARKET LIGHT SUPPORTS
PL2	11 / L304	MEDIUM PLANTER
L1	SEE ELECTRICAL	PEDESTRAIN POLE LIGHT
L2	SEE ELECTRICAL	PARKING LOT POLE LIGHT
L3	12 / L304	MARKET LIGHTING

GENERAL NOTES:

1. THE FORUM IS A FLEX ASSEMBLY SPACE FOR THE CAMPUS AND SURROUNDING COMMUNITY. IT IS LOCATED ON LEVEL 1 AND IS A DOUBLE HEIGHT SPACE.
2. APPROXIMATE SIGNAGE LOCATIONS SHOWN FOR ILLUSTRATIVE PURPOSES. ALL SIGNAGE WILL BE PERMITTED SEPARATELY.
3. TREES SHOWN FOR ILLUSTRATIVE PURPOSES. ELON UNIVERSITY TO PROVIDE PLANTING PLAN AND SPECIES AT A LATER DATE.
4. PLANTING BEDS SHOWN FOR ILLUSTRATIVE PURPOSES. ELON UNIVERSITY TO PROVIDE PLANTING PLAN AND SPECIES AT A LATER DATE.
5. PLANTING TO MEET BUFFER REQUIREMENTS. CALCULATIONS PROVIDED ON L-500.

EAST NEIGHBORHOOD COMMONS

EAST HAGGARD AVENUE

PROJECT TEAM

**ARCHITECT &
LANDSCAPE ARCHITECT**
AYERS SAINT GROSS
1040 HULL ST, SUITE 100
BALTIMORE, MD 21230
410-347-8500

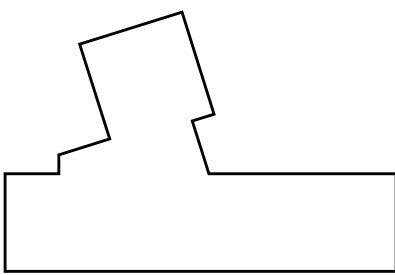
CIVIL
STIMMEL ASSOCIATES
601 N TRADE ST, SUITE 200
WINSTON-SALEM, NC 27101
336-723-1067

STRUCTURAL
LHC STRUCTURAL ENGINEERS
(BENNETT & PLESS)
5340 WADE PARK BLVD, SUITE 400
RALEIGH, NC 27607
919-832-5587

M/E/P
EDMONDSON ENGINEERS
1920 HIGHWAY 54, SUITE 700
DURHAM, NC 27713
919-544-1936

[illegible]

KEY PLAN



TRUE NORTH

AYER'S
SAINT
GROSS

NOT FOR CONSTRUCTION

DRAWING INFORMATION	
ISSUE DATE:	08/31/22
SCALE:	1" = 10'
JOB NO.:	2210053.00
DRAWN BY:	JS, SJ

PROJECT DESIGN PHASE

MAJOR DEVELOPMENT PLAN

DRAWING NAME

HARDSCAPE PLAN - LOWER LEVEL

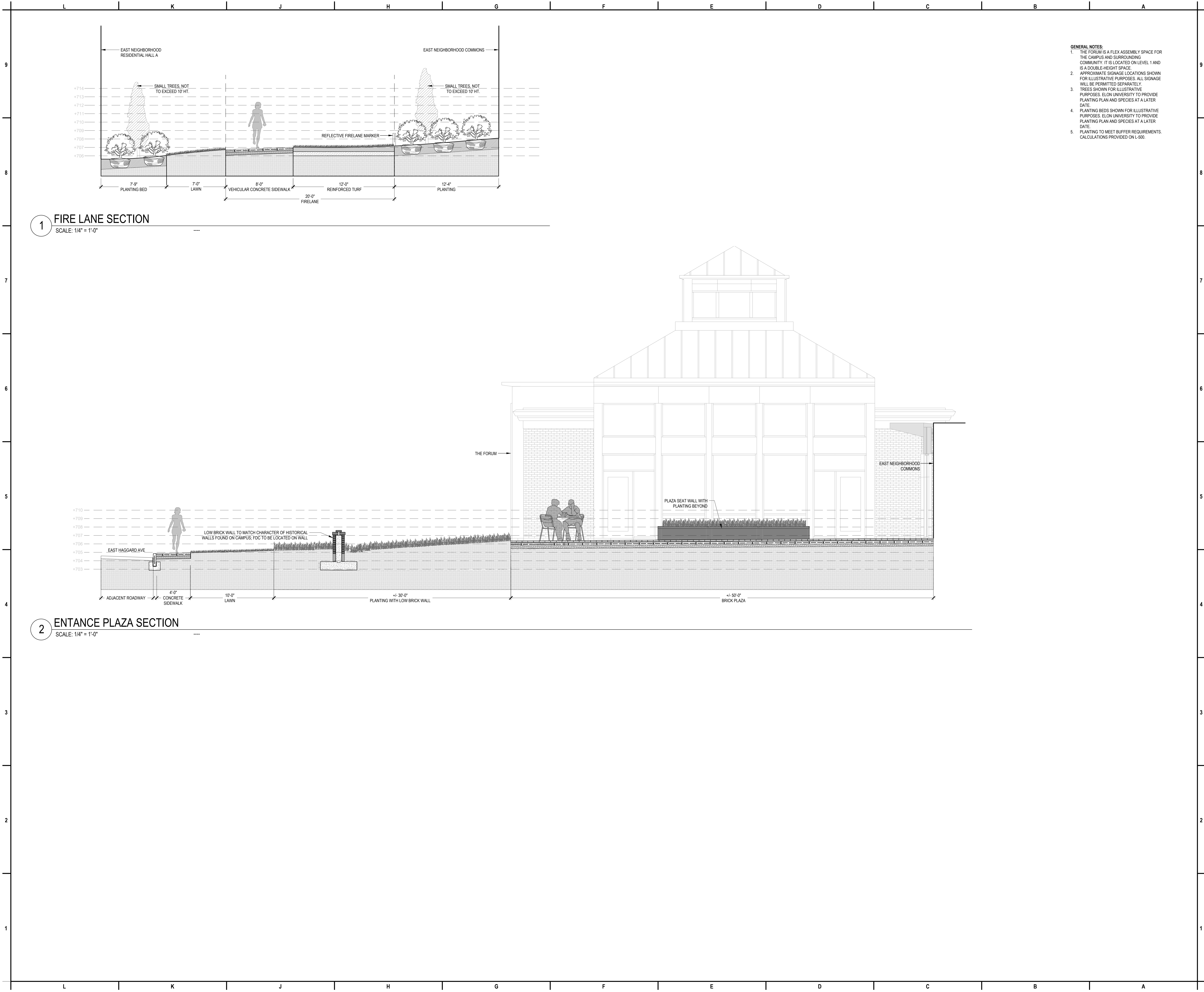
DRAWING NUMBER

L-102

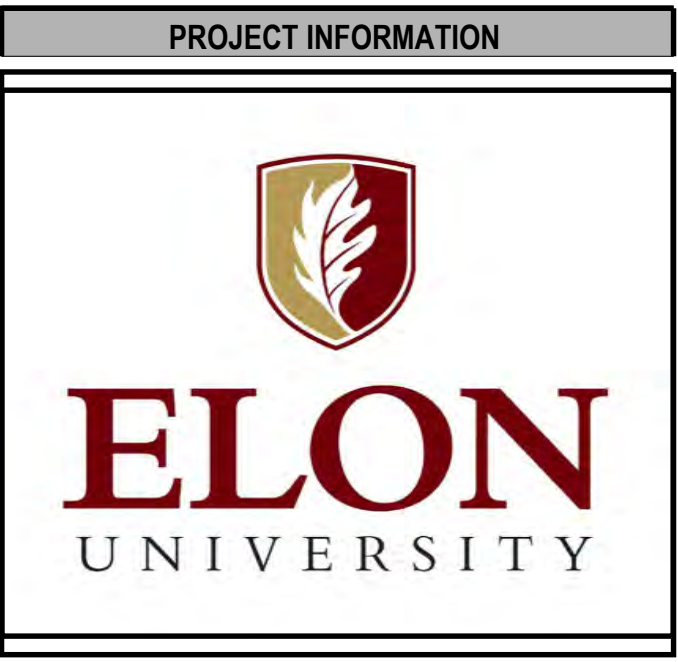
© COPYRIGHT AYERS/SAINT/GROSS, 2022

BM 360/Elon- East Housing/Elon East Housing_A_R21.1.5.rvt

7/27/2022 6:13:59 PM



- GENERAL NOTES:
1. THE FORUM IS A FLEX ASSEMBLY SPACE FOR THE CAMPUS AND SURROUNDING COMMUNITY. IT IS LOCATED ON LEVEL 1 AND IS A DOUBLE-HEIGHT SPACE.
 2. APPROXIMATE SIGNAGE LOCATIONS SHOWN FOR ILLUSTRATIVE PURPOSES. ALL SIGNAGE WILL BE PERMITTED SEPARATELY.
 3. TREES SHOWN FOR ILLUSTRATIVE PURPOSES. ELON UNIVERSITY TO PROVIDE PLANTING PLAN AND SPECIES AT A LATER DATE.
 4. PLANTING BEDS SHOWN FOR ILLUSTRATIVE PURPOSES. ELON UNIVERSITY TO PROVIDE PLANTING PLAN AND SPECIES AT A LATER DATE.
 5. PLANTING TO MEET BUFFER REQUIREMENTS. CALCULATIONS PROVIDED ON L-500.



EAST NEIGHBORHOOD COMMONS

EAST HAGGARD AVENUE

PROJECT TEAM

ARCHITECT & LANDSCAPE ARCHITECT
AYERS SAINT GROSS
1040 HULL ST. SUITE 100
BALTIMORE, MD 21230
410-347-8500

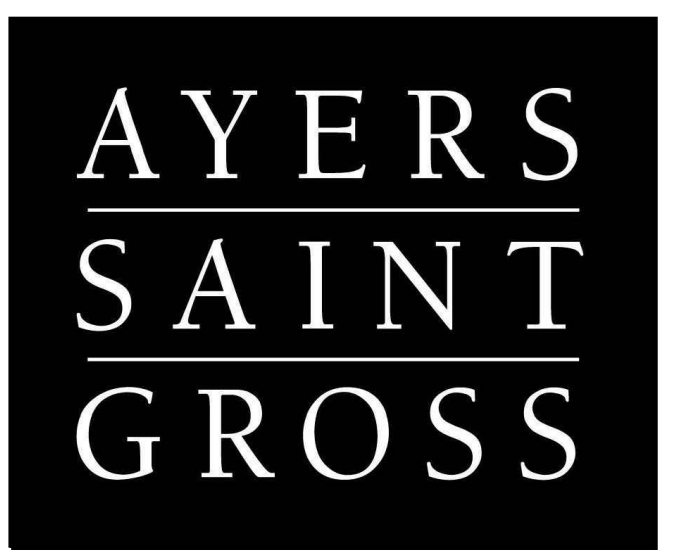
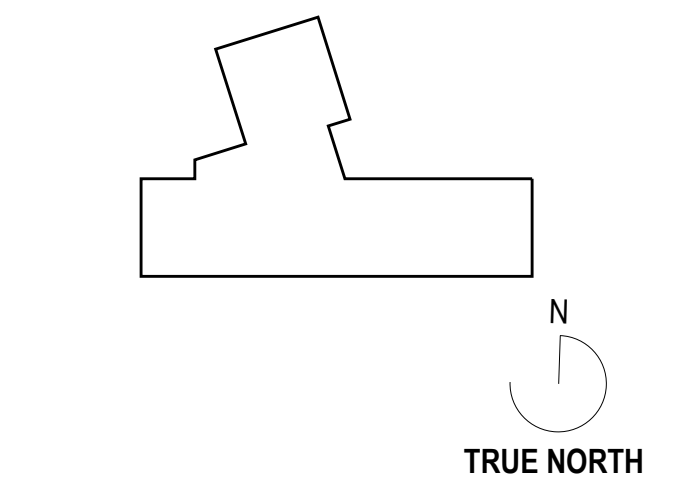
CIVIL
STIMMEL ASSOCIATES
601 N TRADE ST. SUITE 200
WINSTON-SALEM, NC 27101
336-723-1067

STRUCTURAL
LHC STRUCTURAL ENGINEERS
(BENNETT & PLESS)
5340 WADE PARK BLVD. SUITE 400
RALEIGH, NC 27607
919-832-5587

M/E/P
EDMONDSON ENGINEERS
1920 HIGHWAY 54, SUITE 700
DURHAM, NC 27713
919-544-1936

REVISIONS		
REV. #	DESCRIPTION	DATE
1	TRC COMMENTS RND 1	08/18/22
2	TRC COMMENTS RND 2	08/31/22

KEY PLAN



NOT FOR CONSTRUCTION

DRAWING INFORMATION	
ISSUE DATE:	08/31/22
SCALE:	
JOB NO.:	2210053.00
DRAWN BY:	JS, SJ

PROJECT DESIGN PHASE

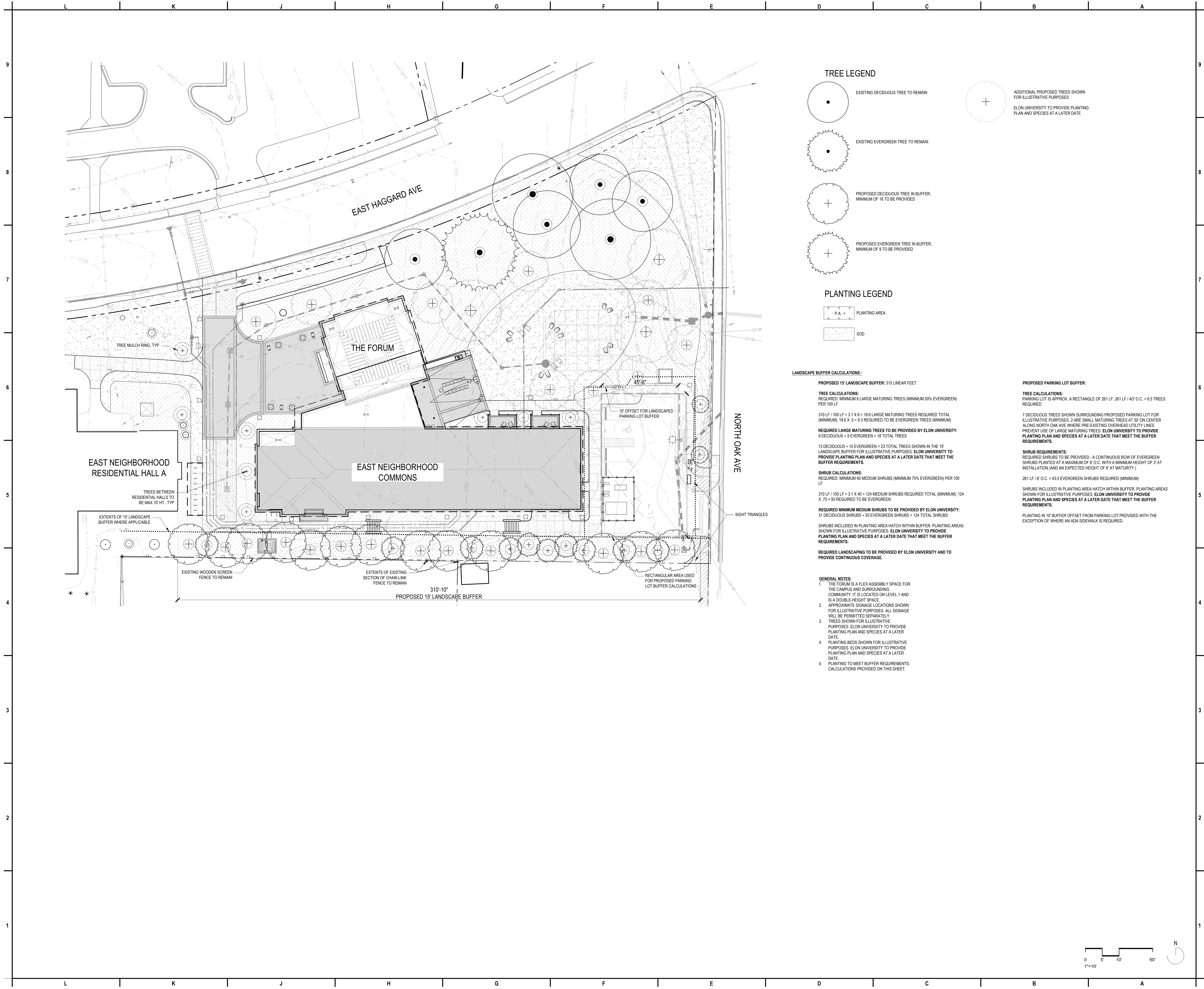
MAJOR DEVELOPMENT PLAN

DRAWING NAME

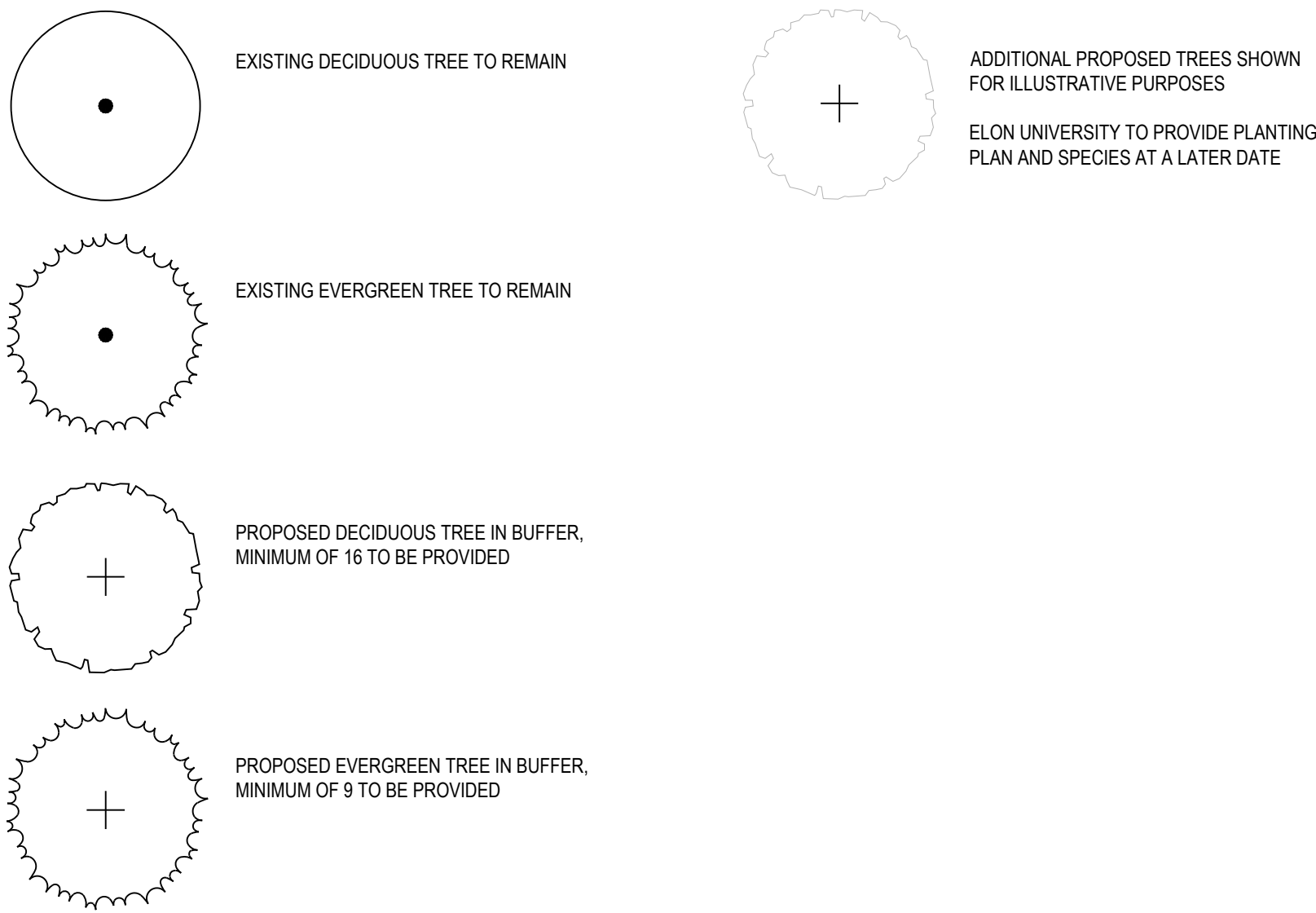
ELEVATIONS

DRAWING NUMBER
L-200

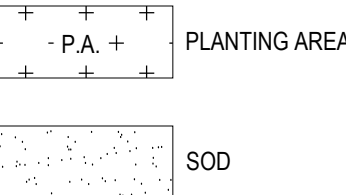
© COPYRIGHT AYERS/SAINT/GROSS, 2022



TREE LEGEND



PLANTING LEGEND



LANDSCAPE BUFFER CALCULATIONS :

PROPOSED 15' LANDSCAPE BUFFER: 310 LINEAR FEET

TREE CALCULATIONS:
REQUIRED: MINIMUM 6 LARGE MATURING TREES (MINIMUM 50% EVERGREEN) PER 100 LF

310 LF / 100 LF = 3.1 X 6 = 18.6 LARGE MATURING TREES REQUIRED TOTAL (MINIMUM); 18.6 X .5 = 9.3 REQUIRED TO BE EVERGREEN TREES (MINIMUM)

REQUIRED LARGE MATURING TREES TO BE PROVIDED BY ELON UNIVERSITY:
9 DECIDUOUS + 9 EVERGREEN = 18 TOTAL TREES

13 DECIDUOUS + 10 EVERGREEN = 23 TOTAL TREES SHOWN IN THE 15' LANDSCAPE BUFFER FOR ILLUSTRATIVE PURPOSES. ELON UNIVERSITY TO PROVIDE PLANTING PLAN AND SPECIES AT A LATER DATE THAT MEET THE BUFFER REQUIREMENTS.

SHRUB CALCULATIONS:
REQUIRED: MINIMUM 40 MEDIUM SHRUBS (MINIMUM 75% EVERGREEN) PER 100 LF

310 LF / 100 LF = 3.1 X 40 = 124 MEDIUM SHRUBS REQUIRED TOTAL (MINIMUM); 124 X .75 = 93 REQUIRED TO BE EVERGREEN

REQUIRED MINIMUM MEDIUM SHRUBS TO BE PROVIDED BY ELON UNIVERSITY:
31 DECIDUOUS SHRUBS + 53 EVERGREEN SHRUBS = 124 TOTAL SHRUBS

SHRUBS INCLUDED IN PLANTING AREA HATCH WITHIN BUFFER. PLANTING AREAS SHOWN FOR ILLUSTRATIVE PURPOSES. ELON UNIVERSITY TO PROVIDE PLANTING PLAN AND SPECIES AT A LATER DATE THAT MEET THE BUFFER REQUIREMENTS.

REQUIRED LANDSCAPING TO BE PROVIDED BY ELON UNIVERSITY AND TO PROVIDE CONTINUOUS COVERAGE.

GENERAL NOTES:

1. THE FORUM IS A FLEX ASSEMBLY SPACE FOR THE CAMPUS AND SURROUNDING COMMUNITY. IT IS LOCATED ON LEVEL 1 AND IS A DOUBLE-HEIGHT SPACE.
2. APPROXIMATE SIGNAGE LOCATIONS SHOWN FOR ILLUSTRATIVE PURPOSES. ALL SIGNAGE WILL BE PERMITTED SEPARATELY.
3. TREES SHOWN FOR ILLUSTRATIVE PURPOSES. ELON UNIVERSITY TO PROVIDE PLANTING PLAN AND SPECIES AT A LATER DATE.
4. PLANTING BEDS SHOWN FOR ILLUSTRATIVE PURPOSES. ELON UNIVERSITY TO PROVIDE PLANTING PLAN AND SPECIES AT A LATER DATE.
5. PLANTING TO MEET BUFFER REQUIREMENTS. CALCULATIONS PROVIDED ON THIS SHEET.

PROPOSED PARKING LOT BUFFER:

TREE CALCULATIONS:
PARKING LOT IS APPROX. A RECTANGLE OF 261 LF. 261 LF / 40' O.C. = 6.5 TREES REQUIRED

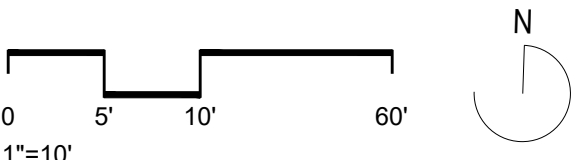
7 DECIDUOUS TREES SHOWN SURROUNDING PROPOSED PARKING LOT FOR ILLUSTRATIVE PURPOSES. 2 ARE SMALL MATURING TREES AT 30' ON CENTER ALONG NORTH OAK AVE WHERE PRE-EXISTING OVERHEAD UTILITY LINES PREVENT USE OF LARGE MATURING TREES. ELON UNIVERSITY TO PROVIDE PLANTING PLAN AND SPECIES AT A LATER DATE THAT MEET THE BUFFER REQUIREMENTS.

SHRUB REQUIREMENTS:
REQUIRED SHRUBS TO BE PROVIDED : A CONTINUOUS ROW OF EVERGREEN SHRUBS PLANTED AT A MAXIMUM OF 6' O.C. WITH A MINIMUM HEIGHT OF 3' AT INSTALLATION (AND AN EXPECTED HEIGHT OF 6' AT MATURITY.)


261 LF / 6' O.C. = 43.5 EVERGREEN SHRUBS REQUIRED (MINIMUM)

SHRUBS INCLUDED IN PLANTING AREA HATCH WITHIN BUFFER. PLANTING AREAS SHOWN FOR ILLUSTRATIVE PURPOSES. ELON UNIVERSITY TO PROVIDE PLANTING PLAN AND SPECIES AT A LATER DATE THAT MEET THE BUFFER REQUIREMENTS.

PLANTING IN 10' BUFFER OFFSET FROM PARKING LOT PROVIDED WITH THE EXCEPTION OF WHERE AN ADA SIDEWALK IS REQUIRED.



PROJECT INFORMATION



ELON
UNIVERSITY

EAST NEIGHBORHOOD COMMONS

EAST HAGGARD AVENUE

PROJECT TEAM

ARCHITECT & LANDSCAPE ARCHITECT
AYERS SAINT GROSS
1040 HULL ST. SUITE 100
BALTIMORE, MD 21230
410-347-8500

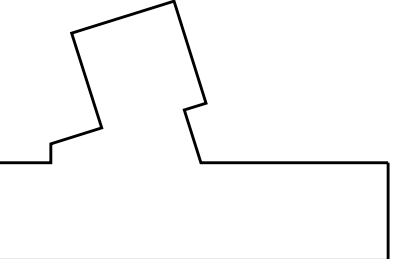
CIVIL
STIMMEL ASSOCIATES
601 N TRADE ST. SUITE 200
WINSTON-SALEM, NC 27101
336-723-1067

STRUCTURAL
LHC STRUCTURAL ENGINEERS
(BENNETT & PLESS)
5340 WADE PARK BLVD. SUITE 400
RALEIGH, NC 27607
919-632-5587

M/E/P
EDMONDSON ENGINEERS
1920 HIGHWAY 54, SUITE 700
DURHAM, NC 27713
919-544-1936

REVISIONS		
REV. #	DESCRIPTION	DATE
1	TRC COMMENTS RND 1	08/18/22
2	TRC COMMENTS RND 2	08/31/22

KEY PLAN



TRUE NORTH

AYERS
SAINT
GROSS

NOT FOR CONSTRUCTION

DRAWING INFORMATION	
ISSUE DATE:	08/31/22
SCALE:	1" = 20'
JOB NO.:	2210053.00
DRAWN BY:	JS, SJ

PROJECT DESIGN PHASE

MAJOR DEVELOPMENT PLAN

DRAWING NAME

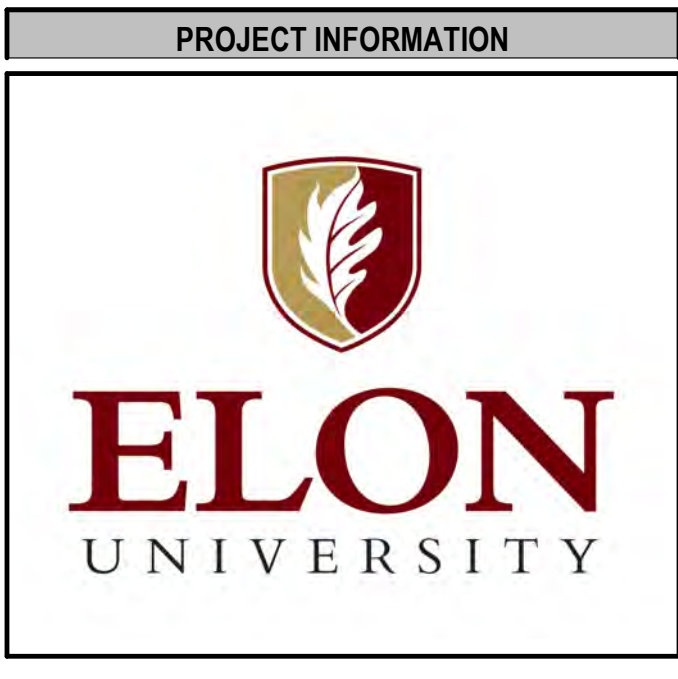
TREE PLANTING CONCEPT

DRAWING NUMBER

L-500

BM 360/Eon - East Housing/Elon East Housing_A_R211.7.rvt

8/17/2022 7:44:37 PM



EAST NEIGHBORHOOD COMMONS

EAST HAGGARD AVENUE

PROJECT TEAM

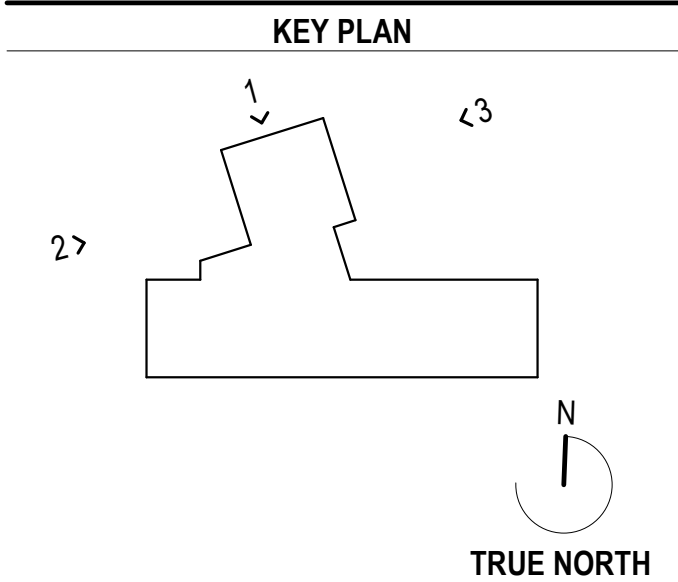
ARCHITECT & LANDSCAPE ARCHITECT
AYERS SAINT GROSS
1040 HULL ST, SUITE 100
BALTIMORE, MD 21230
410-347-8500

CIVIL
STIMMEL ASSOCIATES
601 N TRADE ST, SUITE 200
WINSTON-SALEM, NC 27101
336-723-1067

STRUCTURAL
LHC STRUCTURAL ENGINEERS
(BENNETT & PLESS)
5340 WADE PARK BLVD, SUITE 400
RALEIGH, NC 27607
919-832-5587

M/E/P
EDMONDSON ENGINEERS
1920 HIGHWAY 54, SUITE 700
DURHAM, NC 27713
919-544-1936

REVISIONS		
REV. #	DESCRIPTION	DATE
1	TRC REVISION	08/18/22



NOT FOR CONSTRUCTION

DRAWING INFORMATION	
ISSUE DATE:	08/03/22
SCALE:	1/8" = 1'-0"
JOB NO.:	2210053.00
DRAWN BY:	ASG

PROJECT DESIGN PHASE
MAJOR DEVELOPMENT PLAN
DRAWING NAME

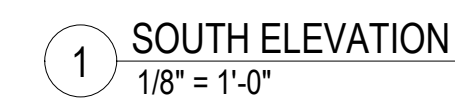
EXTERIOR ELEVATIONS

DRAWING NUMBER
A-410

© COPYRIGHT AYERS/SAINT/GROSS, 2022

USE GROUP (OCCUPANCIES) PER 2018 NCSBC:

- 310.4 **R-2. Residential (Dormitories):** Lower Level - Level 3
- 303.4 **A-3 Assembly:**
Entertaining Space (Concentrated chairs): Lower Level
Study Rooms (Unconcentrated table and chairs): Lower Level
Forum (Concentrated chairs): Level 1
Living Room Lounges (Unconcentrated table and chairs):
Lower Level - Level 3
- 304.1 **B. Business:**
Housing Office: Level 1
- 311.2 **S-1. Storage/Utility (Storage, Equipment Rooms):** Lower Level - Level 3



PROJECT INFORMATION



EAST HAGGARD AVENUE

PROJECT TEAM

**ARCHITECT &
LANDSCAPE ARCHITECT**
AYERS SAINT GROSS
1040 HULL ST, SUITE 100
BALTIMORE, MD 21230
410-347-8500

CIVIL
STIMMEL ASSOCIATES
601 N TRADE ST, SUITE 200
WINSTON-SALEM, NC 27101
336-723-1067

STRUCTURAL
LHC STRUCTURAL ENGINEERS
(BENNETT & PLESS)
5340 WADE PARK BLVD, SUITE 400
RALEIGH, NC 27607
919-832-5587

M/E/P
EDMONDSON ENGINEERS
1920 HIGHWAY 54, SUITE 700
DURHAM, NC 27713
919-544-1936

KEY PLAN



NOT FOR CONSTRUCTION

DRAWING INFORMATION	
ISSUE DATE:	08/03/22
SCALE:	1/8" = 1'-0"
JOB NO.:	2210053.00
DRAWN BY:	ASG

PROJECT DESIGN PHASE

MAJOR DEVELOPMENT PLAN

DRAWING NAME

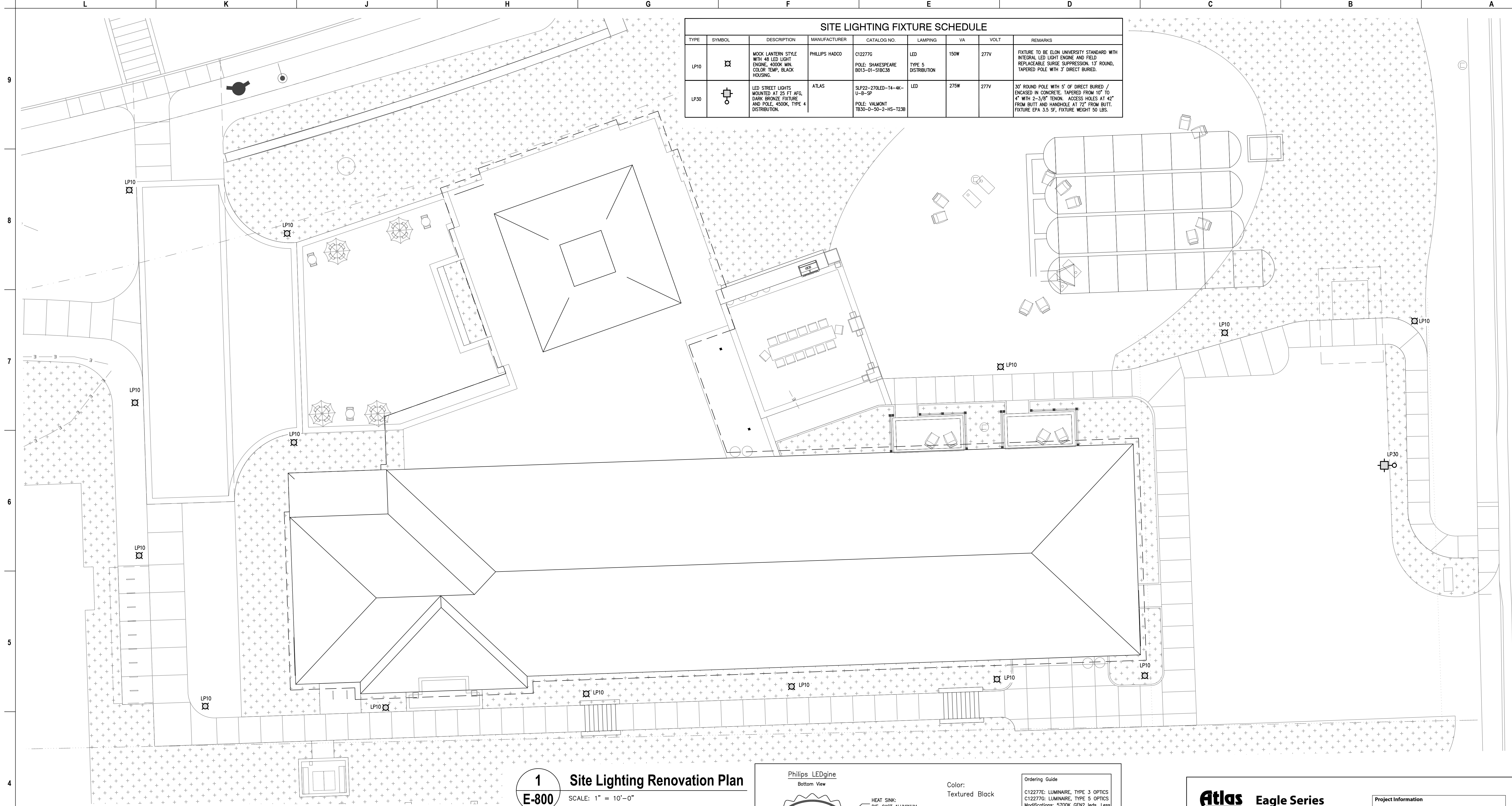
EXTERIOR ELEVATIONS

DRAWING NUMBER

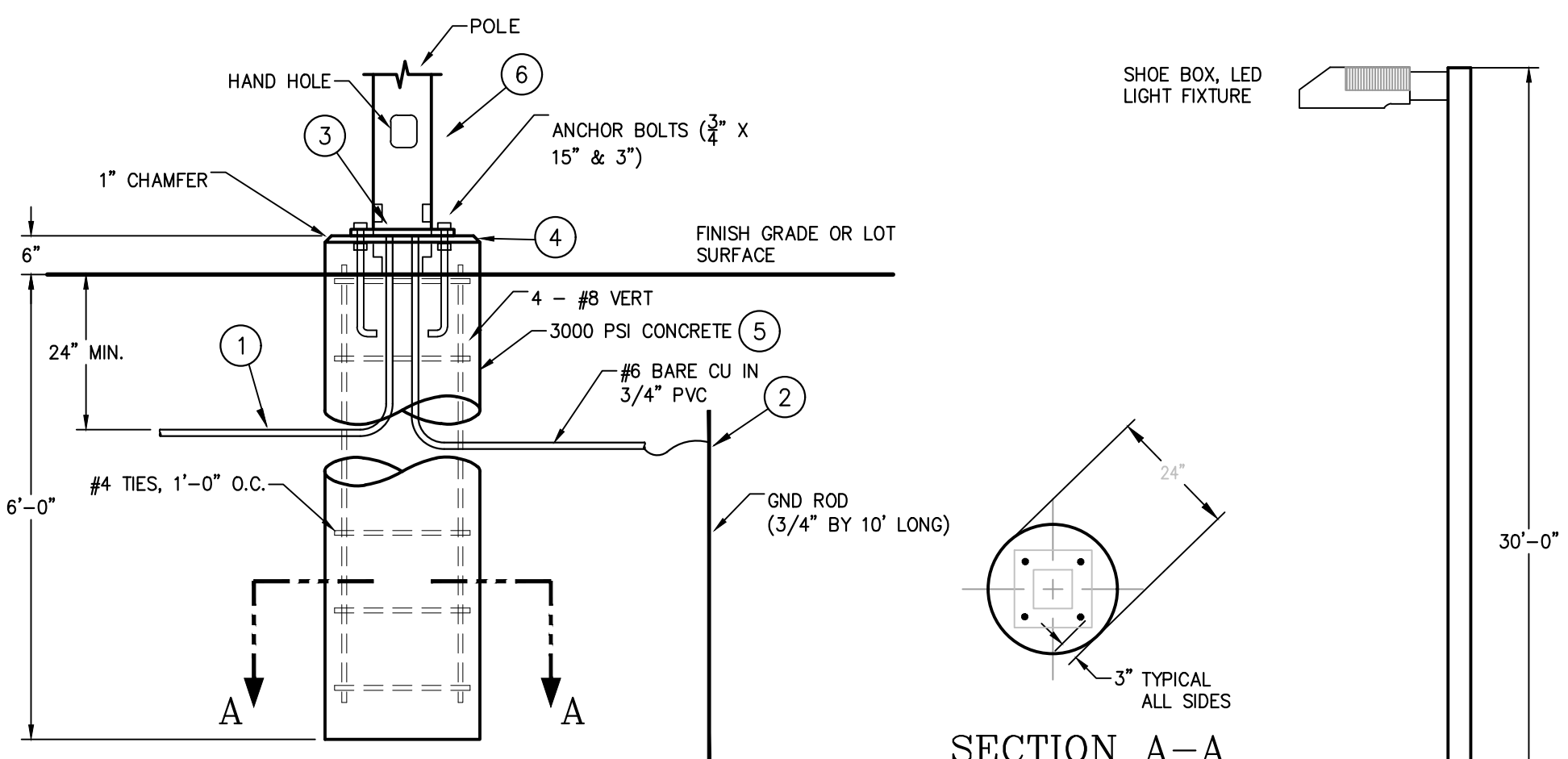
A-411

© COPYRIGHT AYERS/SAINT/GROSS, 202

SITE LIGHTING FIXTURE SCHEDULE							
TYPE	SYMBOL	DESCRIPTION	MANUFACTURER	CATALOG NO.	LAMPING	VA	VOLT
LP10		WACK LANTERN STYLE WITH 48 LED LIGHT ENGINE, 4000K MH, COLOR TEMP, BLACK HOUSING.	PHILLIPS HADCO	C12277G	LED	150W	277V
LP30		LED STREET LIGHTS MOUNTED AT 25 FT AFG, DARK BRONZE FINISH AND POLE, 4500K, TYPE 4 DISTRIBUTION.	ATLAS	SLP22-270LED-T4-4K-U-B-SF POLE: VALMONT 1500-B-50-2-HS-1238	LED	275W	277V
							REMARKS
							FIXTURE TO BE ELON UNIVERSITY STANDARD WITH INTEGRAL LED LIGHT ENGINE AND FIELD REPLACABLE SURGE SUPPRESSION, 1" ROUND, TAPERED POLE WITH 3" DIRECT BURIED.
							30' ROUND POLE WITH 5" OF DIRECT BURIED / DICKED IN CONCRETE, TAPERED FROM 10" TO 4" WITH 2-3/8" TENON. ACCESS HOLES AT 42" FROM BUTT AND HANDHOLE AT 72" FROM BUTT. FIXTURE EPA 3.5 SF, FIXTURE WEIGHT 50 LBS.

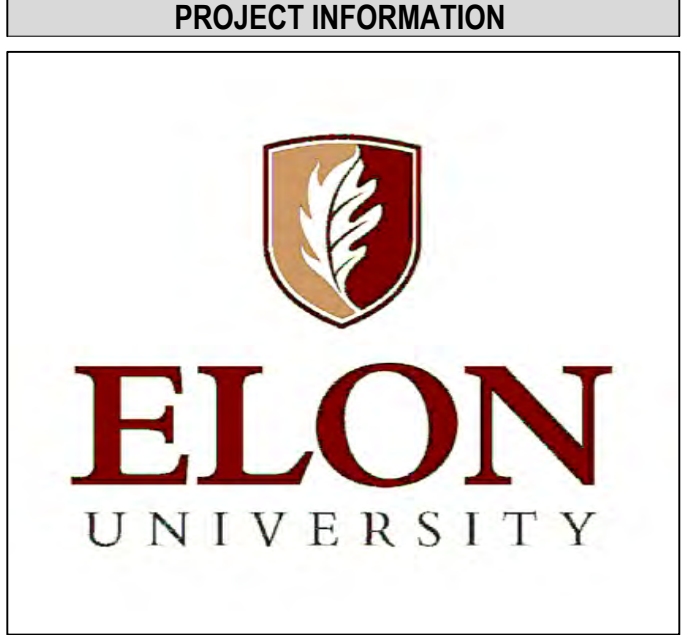
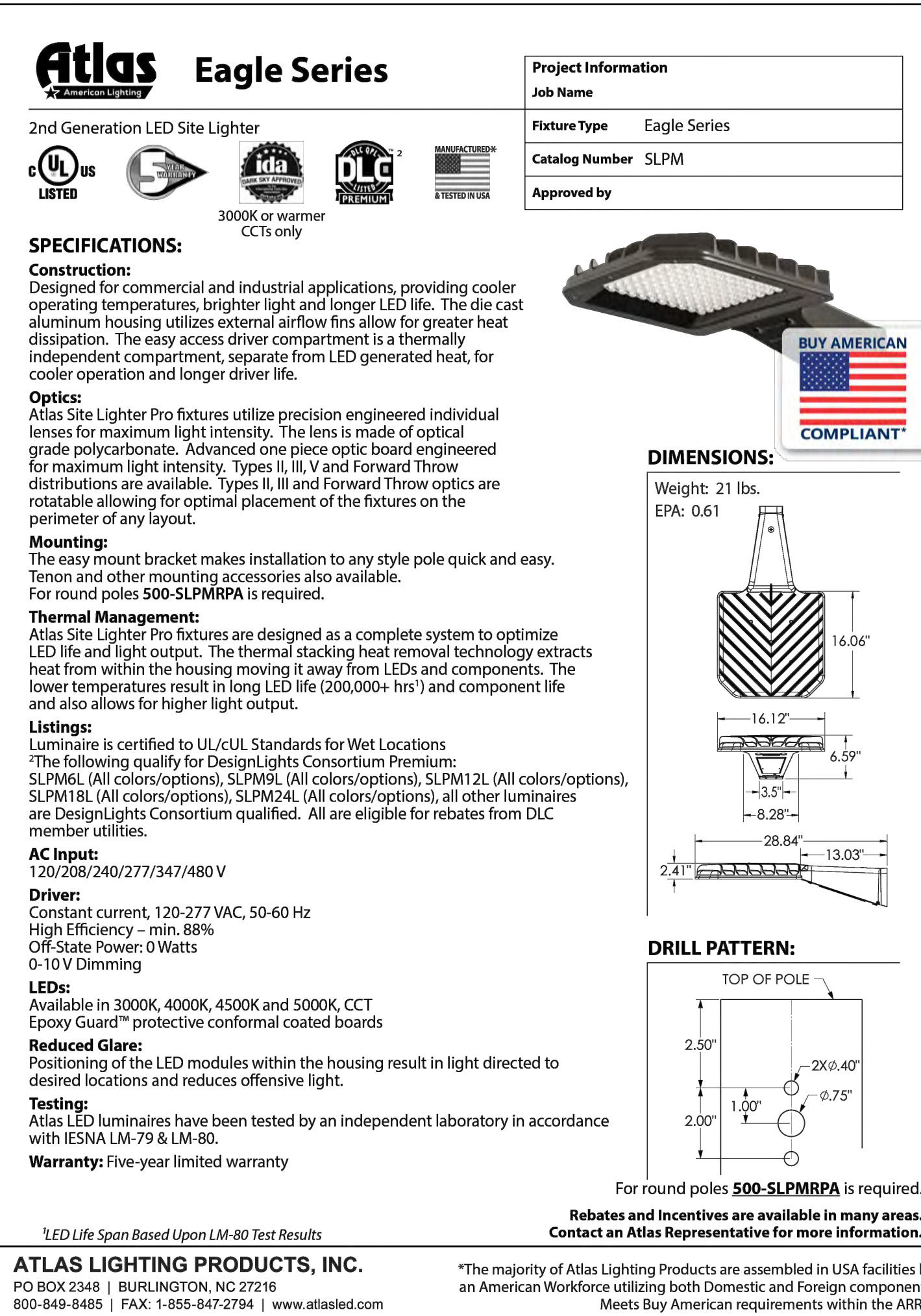
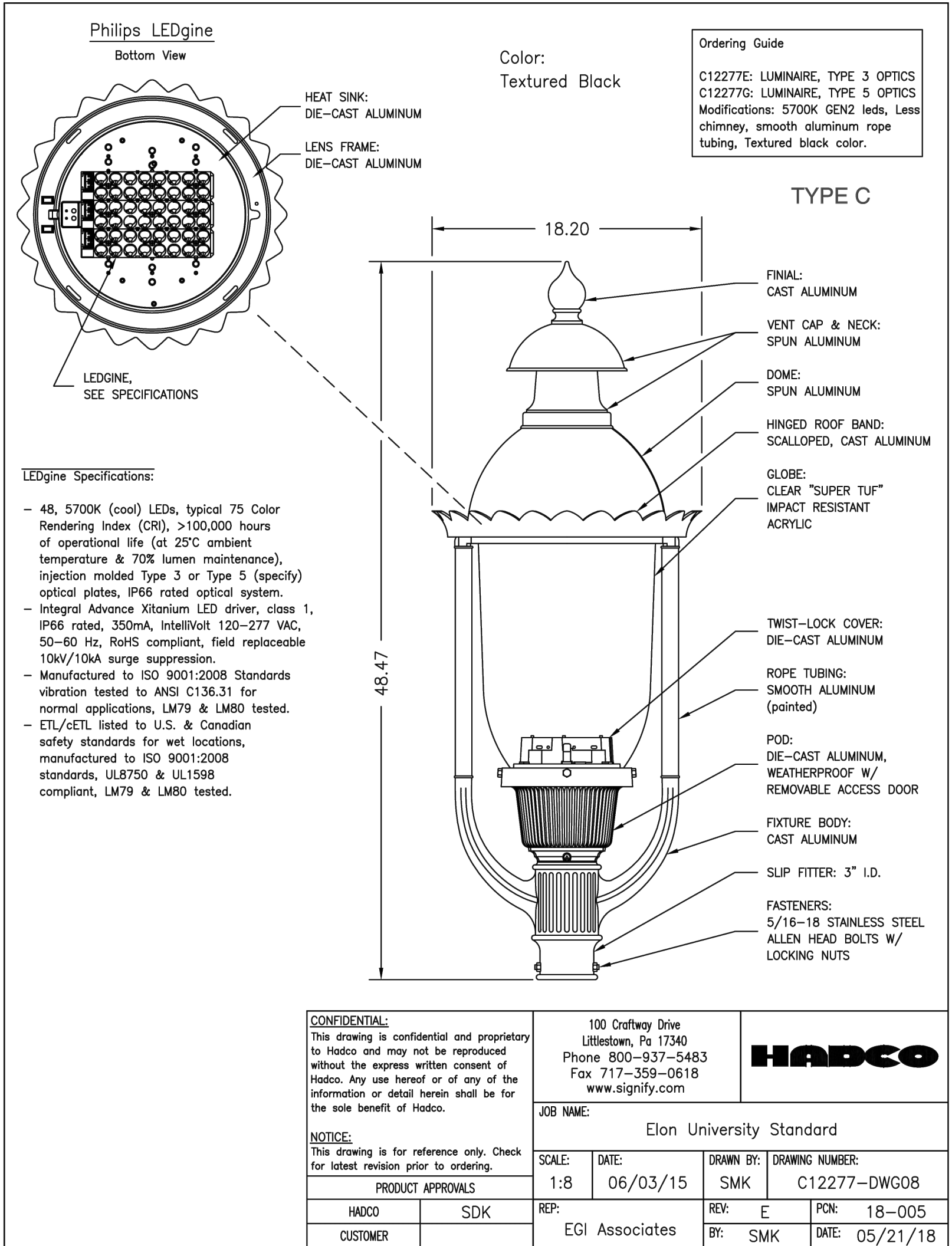


1 Site Lighting Renovation Plan
E-800 SCALE: 1" = 10'-0"



- NOTES: #
- CONDUIT RUN(S) AS SHOWN ON SITE LIGHTING PLAN.
 - BOND GROUNDING ELECTRODE CONDUCTOR TO ROD USING CLAMP LISTED FOR DIRECT BURIAL.
 - BOND GROUNDING ELECTRODE CONDUCTOR & CIRCUIT GROUNDING CONDUCTOR TO POLE BASE.
 - GROUT AROUND POLE BASE. PROVIDE BOLT/NUT COVERS TO MATCH POLE COLOR & CONSTRUCTION.
 - PROVIDE TEMPORARY FORM TO MATCH INDICATED DIAMETER, AFTER FORM REMOVAL FINISH TO LEAVE SURFACE WITHOUT VOIDS OR BLEMISH.
 - CENTER POLE ON CONCRETE BASE. BOLT PATTERN IS TO MATCH POLE BASE. ORIENT POLE BASE SUCH THAT FLAT SIDE OF POLE BASE IS PARALLEL TO CURB LINE. CONTRACTOR TO CONFIRM BOLT PATTERN AND ORIENTATION WITH EXISTING POLES BEING RELOCATED.
 - CONTRACTOR TO VERIFY POLE BASE DIMENSIONS AND MOUNTING REQUIREMENTS BEFORE CONSTRUCTING CONCRETE BASE.
 - WHERE POLES ARE DESIGNATED AS A CAMERA LOCATION PROVIDE A 1" CONDUIT FOR POWER AND A 1" CONDUIT FOR COMMUNICATIONS FROM THE RESPECTIVE HANDHOLES FOR 120V POWER AND OWNER PROVIDED FIBER CABLE. CONDUIT TO BE STUBBED THROUGH POLE FOUNDATION OUTSIDE OF POLE. COORDINATE WITH POLE MOUNTING PLATE AND OWNER. PROVIDE A WET LOCATION JUNCTION BOX FOR CONDUIT TERMINATION AND SECURE TO BASE OF POLE. EXTEND CONDUITS AND POWER CIRCUIT TO OWNER PROVIDED CONTROL PANEL TO BE MOUNTED ON POLE.

2 30' Light
E-800 SCALE: NONE



EAST NEIGHBORHOOD COMMONS

EAST HAGGARD AVENUE

PROJECT TEAM

ARCHITECT &
LANDSCAPE ARCHITECT
AYERS SAINT GROSS
1040 HULL ST. SUITE 100
BALTIMORE, MD 21230
410-347-8500

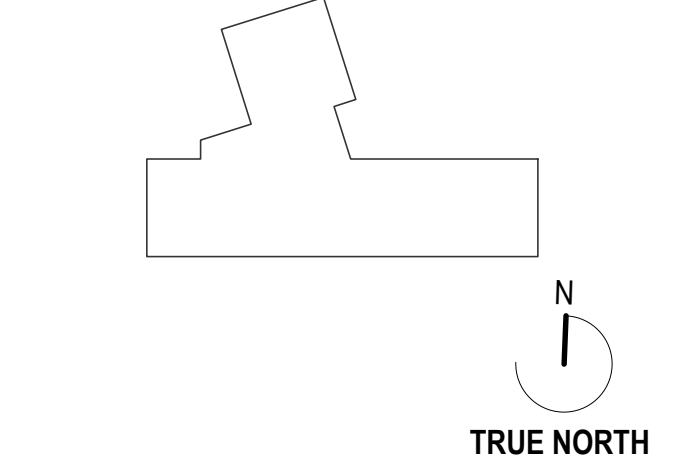
CIVIL
STIMMEL ASSOCIATES
601 N TRADE ST. SUITE 200
WINSTON-SALEM, NC 27101
336-723-1067

STRUCTURAL
LHC STRUCTURAL ENGINEERS
(BENNETT & PLESS)
5340 WADE PARK BLVD, SUITE 400
RALEIGH, NC 27607
919-832-5587

ME/P
EDMONDSON ENGINEERS
1920 HIGHWAY 54, SUITE 700
DURHAM, NC 27713
919-544-1936

REVISIONS		
REV. #	DESCRIPTION	DATE
1	TRC REVISION	06/18/22

KEY PLAN



DRAWING INFORMATION	
ISSUE DATE:	08/03/22
SCALE:	AS SHOWN
JOB NO.:	21-081
DRAWN BY:	MS3

PROJECT DESIGN PHASE

MAJOR DEVELOPMENT PLAN

DRAWING NAME

ELECTRICAL SITE PLAN

DRAWING NUMBER

E-800