

MEMORANDUM

TO: Mayor and Town Council

FROM: Roger L. Stancil, Town Manager

SUBJECT: Concept Plan: St. Paul A.M.E. Church at Rogers Road and Purefoy Drive

DATE: June 16, 2008

PURPOSE

Tonight, the Council considers a Concept Plan from St. Paul A.M.E. Church. The site is located between Rogers Road and Purefoy Drive adjacent to the Purefoy Drive Subdivision on the west. The 22-acre site is an assemblage of five contiguous lots currently occupied by an abandoned house and a Duke Energy primary transmission easement. The applicant is proposing a Master Plan that includes a church, gymnasium, activity fields, and several housing types. In accordance with the Land Use Management Ordinance, there has been no staff review of this Concept Plan.

The [attached memorandum](#) for the Concept Plan proposal includes background information on the Concept Plan process, the applicant's materials, and additional related information.

RECOMMENDATION

We recommend that the Council consider the Concept Plan, and adopt the [attached Resolution](#) transmitting comments to the applicant. Nothing stated by individual Council members this evening can be construed as an official position or commitment on the part of a Council member with respect to the position they may take when and if a formal application for development is subsequently submitted and comes before the Council for formal consideration.

CONCEPT PLAN PROPOSAL

TO: Roger L. Stancil, Town Manager

FROM: J.B. Culpepper, Planning Director
Gene Poveromo, Planning Manager

SUBJECT: Concept Plan: St. Paul A.M.E. Church at Rogers Road and Purefoy Drive (File No. 9870-54-3735)

DATE: June 16, 2008

INTRODUCTION

Attached is a proposal for a Concept Plan for a Master Plan for St. Paul A.M.E. Church. The Council has the opportunity tonight to hear this applicant's presentation, receive a set of comments from the Community Design Commission, hear public comment, and offer suggestions to the applicant for consideration as further plans are drawn. At the conclusion of the evening's discussion, we recommend that the Council adopt the attached resolution transmitting comments to the applicant.

This development proposal meets land use intensity thresholds requiring Council review.

BACKGROUND

A Concept Plan for this site was reviewed by the Community Design Commission on April 16, 2008. A copy of the minutes from the April 16, 2008 meeting is attached. The proposal reviewed by the Community Design Commission is identical to the proposal before the Council tonight.

The Land Use Plan, a component of the Comprehensive Plan, identifies the site as Low Residential, 1-4 units per acre. The area is presently being reviewed as part of the Rogers Road Small Area Plan process. We have provided the interim report of the Rogers Road Small Area Plan Task Force as Attachment 4.

PROJECT DESCRIPTION

The Master Plan for the St. Paul A.M.E. Church is proposed in eight phases to include: a church and fellowship hall, gymnasium and wellness center, a 5-story building for senior housing, townhouse development, single-family dwellings, day care center, a cemetery, activity fields, basketball and tennis courts, and a greenbelt with jogging trails and a bridge. Parking spaces for 273 cars are also proposed.

The site is located in the Residential-1 (R-1) zoning district and the Resource Conservation District. The site is within the Rogers Road Small Area Plan and outside the Town Limits within the Urban Services Boundary and the Joint Planning Transition Area. Although no formal staff review has been conducted, we believe that the application will require a rezoning request. If the

application requires a rezoning application, then the rezoning application is required to be reviewed and approved by the Town Council and the Orange County Commissioners. Two Concept Plans are proposed. One concept includes an access point off Purefoy Drive and an access off Rogers Road. The alternate concept plan includes a single point of access off Purefoy Drive.

ELEMENTS OF REVIEW

The Town Council and Community Design Commission, in examining Concept Plan proposals, are to consider the various aspects of design, with special emphasis on whether the proposed development is consistent with the Town's Design Guidelines and the Goals and Objectives of the Town's Comprehensive Plan.

The Concept Plan review process does not involve staff evaluation of the proposal. Review of the submitted Concept Plan is conducted by the Community Design Commission and, in some instances, the Town Council.

Pursuant to the provisions of Section 4.3 of the Town's Land Use Management Ordinance, tonight's Concept Plan review affords Council members the opportunity to provide individual reactions to the overall concept of the development which is being contemplated for future application.

RECOMMENDATION

We recommend that the Council review this Concept Plan, receive comments from citizens, and [adopt a resolution](#) transmitting comments to the applicant.

ATTACHMENTS

1. [Section 4.3 Concept Plan Review, Land Use Management Ordinance](#) (p. 4).
2. [April 16, 2008 Community Design Commission Concept Plan Summary](#) (p. 7).
3. [Concept Plan application materials](#) (2.7 MB pdf) (p. 10).
4. [Interim Report of the Rogers Road Small Area Plan Task Force](#) (p. 39).
5. [Area Map](#) (p. 57).

4.3 Concept Plan Review

Purpose Statement: *It is the intent of the Site Analysis Data and Conceptual Development Plan process to provide an opportunity for the Town Council, Town Manager, the Community Design Commission and citizens to review and evaluate the impact of a major development proposal on the character of the area in which it is proposed to be located. This process is intended to take into consideration the general form of the land before and after development as well as the spatial relationships of the proposed structures, open spaces, landscaped areas, and general access and circulation patterns as they relate to the proposed development and the surrounding area.*

4.3.1 Applicability

(a) Proposals Subject to Review by Community Design Commission

This Section applies to any:

- (1) Special Use Permit or a Special Use Permit Modification; or
- (2) Master Land Use Plan or a Master Land Use Plan Modification; or
- (3) Major Subdivisions.

(b) Proposals Subject to Additional Review by Town Council

- (1) An application that meets any of the minimum thresholds established in subsections (1) or (2), below, shall require Town Council review as provided in Section [4.3.2](#), below, in addition to Community Design Commission review:

Thresholds (minimum)	TC-1, TC-2 Zoning Districts	All Other Zoning Districts
Land Area	15,000 square feet	5 acres
Floor Area	20,000 square feet	100,000 square feet
Dwelling Units	35 dwelling units	50 dwelling units

- (2) If an application does not meet the thresholds established in subsection (1), above, the applicant may request review by the Town Council. The Town Council may determine to review the application, or it may decline to review the application. Such request shall be filed at least fifteen (15) days in advance of a regular meeting of the Town Council. The Town Council's determination shall be rendered at its next regular meeting after receiving a complete request for Town Council review.

4.3.2 Procedures

(a) Application Submittal Requirements

Applications for Site Analysis Data and Conceptual Development Plan review shall be filed with the Town Manager. The Town Manager shall prescribe the form(s) on which information shall be submitted. Forms shall include the name and address of the applicant, the name and address of the owner of each zoning lot involved, and the relationship of the applicant and property owner in connection with the plan. If the applicant or property owner is an entity other than an individual, the plans shall also include detailed information regarding the principals of the entity. Forms shall include the name of the project principals and indicate the project principals development experience. The Town Manager shall prescribe any other material that may reasonably be required to determine compliance with this Chapter and relationship to the Town's Comprehensive Plan with sufficient copies for necessary referrals and records.

No application shall be accepted by the Town Manager unless it complies with such submittal requirements. Applications that are not complete shall be returned forthwith to the applicant, with a notation of the deficiencies in the applications

(b) Time Frame for Action on Concept Plans

Upon receipt of a complete Concept Plan, the Town Manager shall forward all information submitted by the applicant for review by the Community Design Commission within thirty (30) days.

(c) Aspects of Review

The Town Council and Community Design Commission, in examining development applications, are to consider the various aspects of design, with special emphasis on whether the proposed development is consistent with the Town's Design Guidelines and the Goals and Objectives of the Town's Comprehensive Plan.

(d) Community Design Commission Review

- (1) The Community Design Commission shall review the application and shall submit its written recommendation to the applicant and Town Council, if applicable.
- (2) The Community Design Commission shall consider public comments and shall base its recommendation on its determination of whether or not the application conforms to applicable provisions of this Chapter.
- (3) The Community Design Commission shall provide its recommendations to the applicant within thirty-five (35) days of the meeting at which a complete application is considered, or within such further time consented to in writing

by the applicant or by Town Council resolution. If the Community Design Commission fails to prepare its recommendation to the applicant within this time limit, or extensions thereof, that agency shall be deemed to recommend the application without conditions.

(e) Town Council Review

- (1) After receiving the recommendations of the Community Design Commission, the Town Council shall review the application in the same manner as prescribed in subsection (d), above. The Town Council may appoint a subcommittee to review the application. The Mayor shall determine the membership of the subcommittee.
- (2) The Town Council may conduct its review concurrent with the Community Design Commission.
- (3) After considering public comments and the recommendations of the Community Design Commission, the Town Council shall adopt a resolution transmitting its preliminary recommendations to the applicant.

4.3.3 Criteria

The Concept Plan is a preliminary step toward the preparation of a formal development plan. All Concept Plans should demonstrate a high quality of overall site design. The design and construction of site elements should include appropriate descriptions and explanations of the relationship and balance among site elements, the relationship of the development to natural features, neighboring developments and undeveloped land, access and circulation systems, retention of natural vegetation, minimal alteration of natural topography, mitigation of erosion and sedimentation, mitigation of stormwater drainage and flooding, arrangement and orientation of buildings and amenities in relation to each other and to neighboring developments and streets, landscaping, preservation or enhancement of vistas, and mitigation of traffic impacts.



PLANNING
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Chapel Hill, NC 27514

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**CONCEPT PLAN REVIEW SUMMARY MINUTES
COMMUNITY DESIGN COMMISSION
WEDNESDAY, APRIL 16, 2008, 7:00 P.M.**

Chairperson Jonathan Whitney called the meeting to order at 7:00 p.m. Commission members present were Mark Broadwell, George Cianciolo, Chris Culbreth, Kathryn James, Gretchen MacNair, Glenn Parks, Amy Ryan, and Jonathan Whitney (Chair) Staff members present were Kay Pearlstein, Senior Planner and Kay Tapp Senior Planning Technician.

St. Paul A.M.E. Church Master Plan at Rogers Road and Purefoy Road
(File No. 9870-54-3735)

The Town has received a proposal from St. Paul A.M.E. Church Community for a Concept Plan Review for the St. Paul A.M.E Church Master Plan. The proposed development is located at the corner of Rogers Road and Purefoy Road. The proposal includes: a 600 seat sanctuary, administrative offices, fellowship hall, wellness center, senior and teen centers, senior housing, townhouses, single-family dwellings, affordable housing, daycare center, playing fields, and a cemetery. Access is proposed from Purefoy Road. Parking for 273 cars is also proposed. Construction is proposed in several phases with the first phase to include the 600-seat sanctuary building, townhomes, and the wellness center. The 22-acre site is located in the Residential-1 (R-1) zoning district. Portions of the site are located in the Resource Conservation District. The site is identified as Orange County Parcel Identifier Number 9870-54-3735.

CONCEPT PLAN PRESENTATION

A presentation was made by George Williams, project architect for the church, proposing a phased master plan for St. Paul A.M.E. Church. The applicant also proposed design options.

CITIZEN COMMENTS

No citizens spoke

COMMISSIONER COMMENTS

1. Commissioner George Cianciolo asked about the location of the stub-out from Purefoy Road and how that played into the design. He recommended that the applicant locate the stub-out on future plans.

Commissioner Cianciolo asked the applicant to explain the phasing of the project. The applicant replied that financing would dictate the timing of the phases and would be included but generally said that it would be constructed over a 10 year time frame and that a church would be in the first phase and the Wellness Center in the second phase. Both acknowledged that it was outside the Town's Urban Services boundary.

2. Commissioner Chris Culbreth liked the layout of the development and that housing was provided for all ages. He stated that the project would add to the community.
3. Commissioner Amy Ryan liked the housing mix and wondered if all the housing would be affordable. She noted that there were many hardwoods on the site and that a tree survey would be required. She pointed out that preservation of the tree canopy should be a goal. She suggested that the athletic fields be relocated to avoid removing so many trees.

Commissioner Ryan thought that circulation would be an issue and supported the 2-entrance option with access to Rogers Road and Purefoy Road. She also supported connection to the Purefoy Road development. She recommended the applicant increase circulation options.

4. Commissioner Kathryn James approved of way the design worked with the topography. She recommended that the applicant look for ways to reduce impervious surfaces on the site as well as the number of stormwater ponds. Commissioner James wanted the applicant to provide energy-saving dwellings making them not only affordable but "green" as well.

Commissioner James believed community gardens should be developed for food production and for fostering inner-generational activities.

She asked the applicant to continue working on connectivity of the development to the surrounding area.

5. Commissioner Glenn Parks liked the project and the cross-sections used to depict the site. He thought that it showed a dynamic program with wonderful benefits. Commissioner Parks encouraged the applicant to explore communal housing. He looked forward to further development of the housing designs.
6. Commissioner Jonathan Whitney recommended traffic be slowed down on Rogers Road to accommodate the activity generated by the development. Commissioner Whitney endorsed the structure of the village proposed by the applicant

SUMMARY

- Connect to Purefoy Drive Subdivision.
- Endorsed the mix of housing for all ages and housing types.
- Preserve trees and work with the topography on the site.
- Improve internal circulation with 2 entrances to the site.
- Reduce impervious surfaces and amount of stormwater facilities.
- Make housing affordable and "green".
- Utilize community gardens to knit different age groups together.
- Good visual representation.
- Overall support for a dynamic project and great addition to the community.

Prepared by:

Jonathan Whitney, Chair

Kay Pearlstein, Staff

CONCEPT PLAN PROPOSAL

Applicant Information

Name: George H. Williams
Address: 411 WEST CHAPEL HILL STREET SUITE 1102
City: Durham, NC State: NC Zip: 27701
Phone (Work): 919-7166 FAX: 688-4492 E-Mail: ghwc@mindspring.com

Property Owner Information (included as attachment if more than one owner)

Name: ST PAUL AME CHURCH Phone
Address: 101 N. MERRITT MILL ROAD
City: CHAPEL HILL State: NC Zip: 27516

Development Information

Name of Development: ST. PAUL AME CHURCH COMMUNITY
Tax Map: Block: Lot(s): Parcel ID #: 9870543735
Address/Location: INTERSECTION OF RODGER ROAD & PUREFOY DRIVE
Existing Zoning: E1 New Zoning District if Rezoning Proposed MU
Proposed Size of Development (Acres / Square Feet): 22 / 116,800
Permitted / Proposed Floor Area (Square Feet): /
Minimum # Parking Spaces Required: 192 #Proposed 273
Proposed Number of Dwelling Units: # Units per Acre
Existing / Proposed Impervious Surface Area (Square Feet): 9,756 SF / 273,505 SF
Is this Concept Plan subject to additional review by Town Council? YES

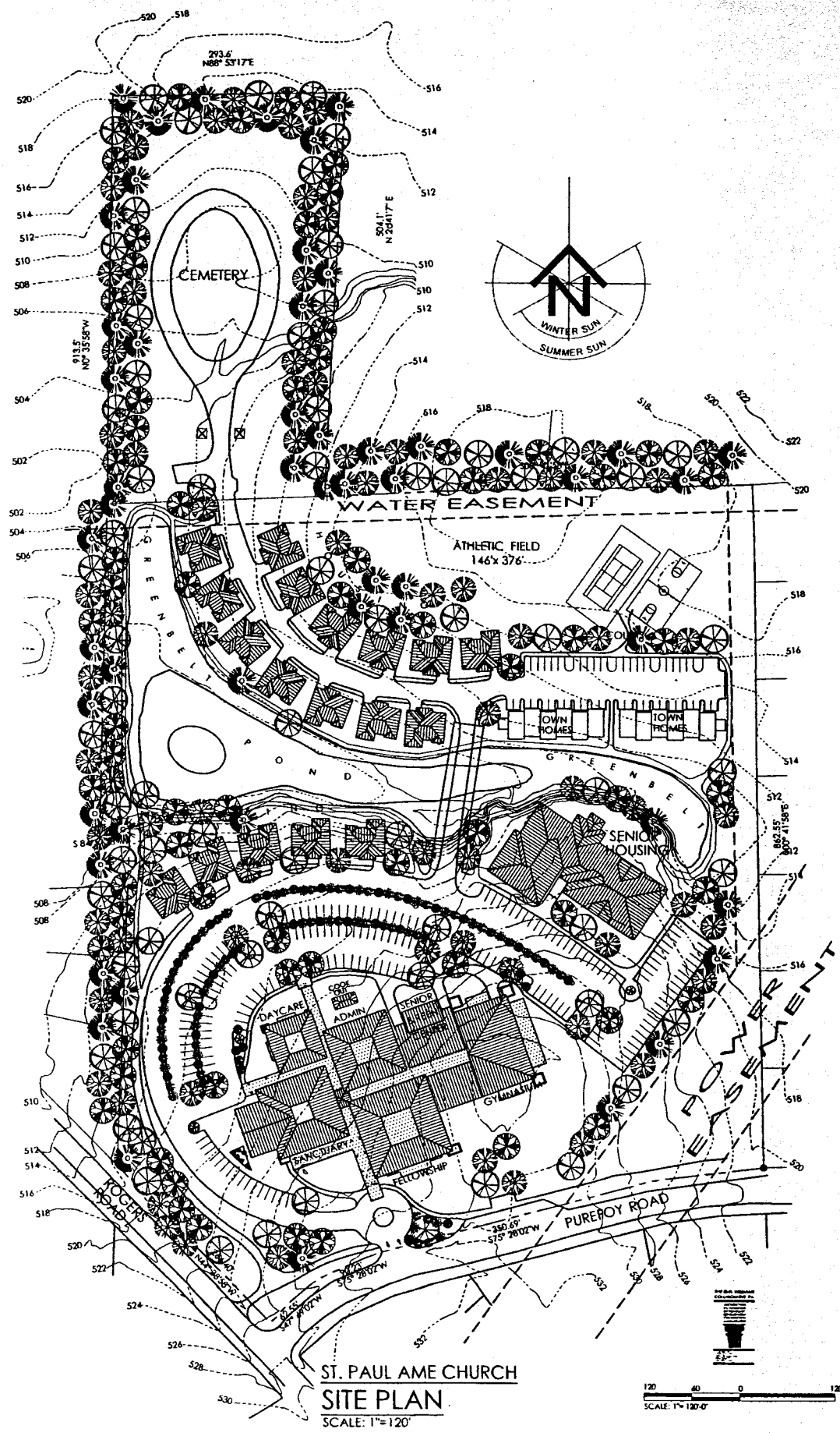
Fee \$311

The undersigned applicant hereby certifies that: a) the property owner authorizes the filing of this proposal b) authorizes on-site review by authorized staff; and c) to the best of his/her knowledge and belief, all information supplied with this proposal is true and accurate.

Signature: [Handwritten Signature] Date: 3/20/08

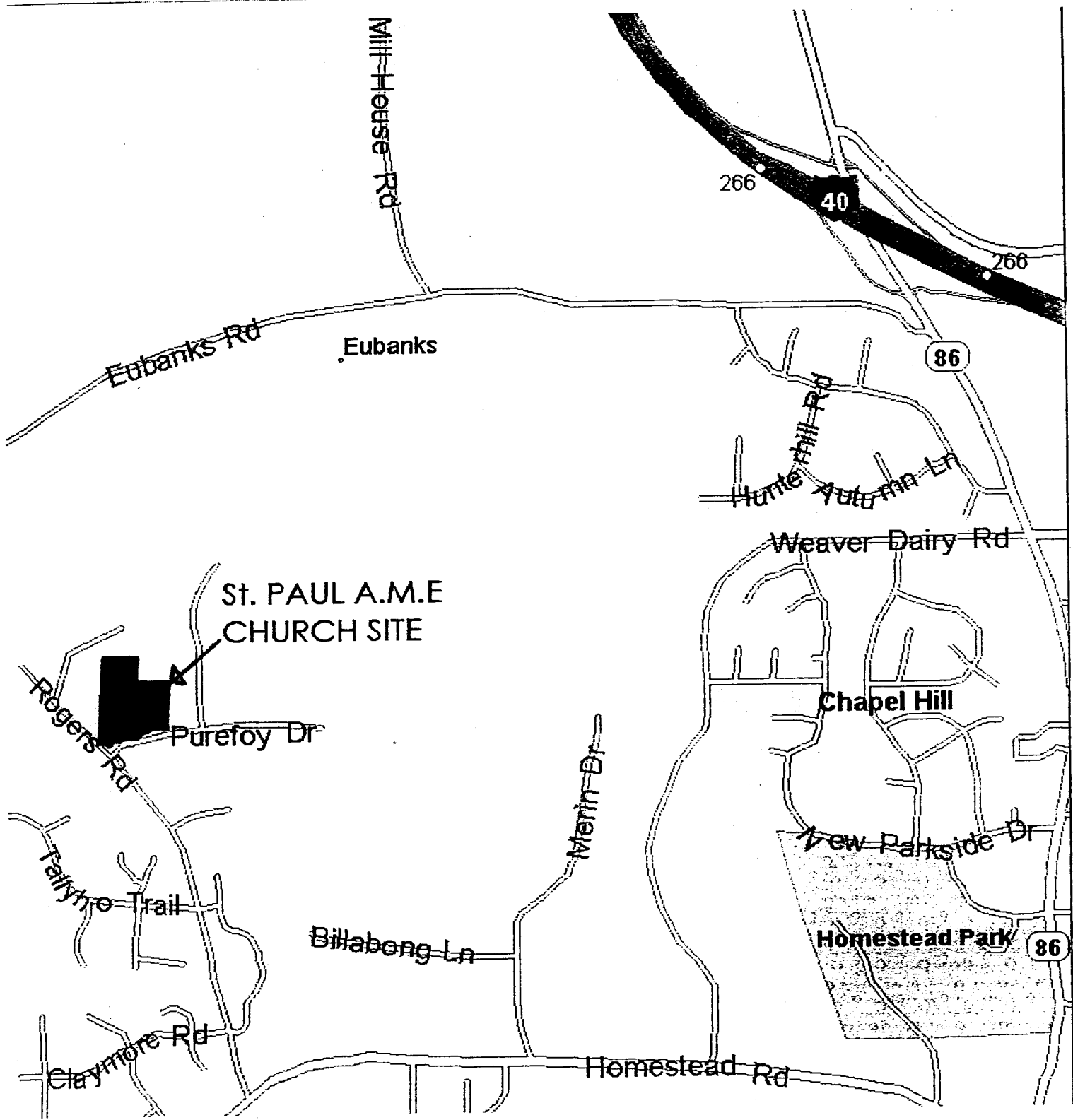
Presentations must be kept under 15 minutes as required by Town Council

ST. PAUL CHURCH COMMUNITY CONCEPTUAL PLAN DOCUMENTS



ST. PAUL AME CHURCH
SITE PLAN
SCALE: 1"=120'

(12)



(B)



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SOILS

Brunssen Engineering Services, P. A.

Facsimile Transmittal

TO: GEORGE WILLIAMS

FROM: Fritz H. Brunssen

JOB NAME: CHAPEL HILL CHURCH

FAX PHONE: 688-4492

DATE: 3-6-08 TIME: 3:20 NO. OF PAGES: 7
(including cover)

REMARKS: THE SOIL TYPE IS
HERNDON B - 2-6% SLOPES

SOIL GROUP B

ATTACHED ARE DESCRIPTIONS OF
THE SOIL TYPE

NOTE: If the following information is not clear or if you do not receive all of the indicated sheets, please notify our office immediately at (919) 544-1159. Thank you.

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Table 2-2c.—Runoff curve numbers for other agricultural lands¹

D	Cover description	Hydrologic condition	Curve numbers for hydrologic soil group—			
			A	B	C	D
94	Pasture, grassland, or range—continuous forage for grazing. ²	Poor	68	79	86	89
93		Fair	49	69	79	84
90		Good	39	61	74	80
91	Meadow—continuous grass, protected from grazing and generally mowed for hay.	—	30	58	71	76
89						
90	Brush—brush-wood-grass mixture with brush the major element. ³	Poor	48	67	77	83
86		Fair	36	56	70	77
88		Good	30	48	65	73
86	Woods—grass combination (orchard or tree farm). ⁴	Poor	57	73	82	86
87		Fair	43	65	76	82
85		Good	32	58	72	79
82	Woods. ⁵	Poor	45	66	77	83
81		Fair	36	60	73	79
80		Good	30	55	70	77
88	Farmsteads—buildings, lanes, driveways, and surrounding lots.	—	59	74	82	86
87						
86						



¹Average runoff condition, and $I_a = 0.2S$.

²Poor: < 50% ground cover or heavily grazed with no mulch.
 Fair: 50 to 75% ground cover and not heavily grazed.
 Good: > 75% ground cover and lightly or only occasionally grazed.

³Poor: < 50% ground cover.
 Fair: 50 to 75% ground cover.
 Good: > 75% ground cover.

⁴Actual curve number is less than 30; use CN = 30 for runoff computations.

⁵CN's shown were computed for areas with 50% woods and 50% grass (pasture) cover. Other combinations of conditions may be computed from the CN's for woods and pasture.

⁶Poor: Forest litter, small trees, and brush are destroyed by heavy grazing or regular burning.
 Fair: Woods are grazed but not burned, and some forest litter covers the soil.
 Good: Woods are protected from grazing, and litter and brush adequately cover the soil.

relative
the land use

ORANGE COUNTY, NORTH CAROLINA

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Infiltration is moderate, and surface runoff is slow. Tillage is easy to maintain, but tillage is delayed because of excess moisture. Subsurface drainage is difficult because of the slowly permeable subsoil. Ditches are the most effective means of removing excess water.

Most of this soil is in Virginia pine, sweetgum, blackgum, white oak, and red oak. Some areas are reverting to woodland, but most cleared areas are used for row crops. If adequate drainage is provided, most row crops produce moderate yields. Capability subclass IIw, woodland group 3w.

HrB—Herndon silt loam, 2 to 6 percent slopes. This well drained soil is on broad ridges on the uplands. Mapped areas are generally elliptical in shape and are 4 to 60 acres in size.

Typically, the surface layer is dark yellowish brown silt loam 4 inches thick. The subsurface layer is yellow silt loam 5 inches thick. The subsoil is 49 inches thick. The upper part is reddish yellow silty clay loam. The middle part is mottled yellowish red silty clay loam and mottled strong brown clay. The lower part is mottled reddish yellow silty clay loam. The underlying material, extending to a depth of 62 inches, is mottled yellowish red, light gray, and yellowish brown silt loam.

Included with this soil in mapping are small areas of soils that have a gravelly surface layer and a few small areas of eroded soils. Also included are a few small areas of Appling and Georgeville soils.

The organic matter content of the surface layer is low. The permeability is moderate, the available water capacity is medium, and the shrink-swell potential is low. Reaction of the subsoil is strongly acid or very strongly acid. Depth to bedrock is more than 60 inches. The seasonal high water table is below a depth of 72 inches.

Most of this soil is in crops. Some is used for pasture and as woodland. Slope, surface runoff, erosion, and moderate permeability are the main limitations to the use and management of this soil.

This soil has high potential for corn, soybeans, tobacco, and small grain. Minimum tillage and crop residue management help to control runoff and erosion. Conservation practices such as maintaining drainageways in sod, terraces and diversions, field borders, strip-cropping, and crop rotations that include close-growing crops also aid in conserving soil and water.

The potential for hay and pasture forage crops such as *sericea lespedeza*, red clover, white clover, fescue, and orchardgrass is high. Proper pasture management helps to insure adequate protective cover by reducing runoff and controlling erosion.

The potential for most urban uses such as dwellings and roads is high. The permeability affects the performance of septic tank absorption fields, but this limitation generally can be overcome by modifying the field or by increasing the size of the absorption area. This soil has high potential for all recreation uses.

This soil has moderately high potential for broad-leaved and needle-leaved trees. The dominant trees are white

oak, black oak, post oak, northern red oak, southern red oak, crimson oak, yellow-poplar, sweetgum, hickory, maple, ash, beech, loblolly pine, shortleaf pine, and Virginia pine. The understory is mainly dogwood, sourwood, holly, redbud, and sassafras. There are no significant limitations for woodland use and management. Capability subclass IIe, woodland group 3o.

HrC—Herndon silt loam, 6 to 10 percent slopes. This well drained soil is on narrow side slopes on the uplands. Mapped areas are long, narrow, roughly rectangular bands and are 5 to 50 acres in size.

Typically, the surface layer is dark yellowish brown silt loam 4 inches thick. The subsurface layer is yellow silt loam 5 inches thick. The subsoil is 49 inches thick. The upper part is reddish yellow silty clay loam. The middle part is mottled yellowish red silty clay loam and mottled strong brown clay. The lower part is mottled reddish yellow silty clay loam. The underlying material, extending to a depth of 62 inches, is mottled yellowish red, light gray, and yellowish brown silt loam.

Included with this soil in mapping are some small areas of soils that have a gravelly surface layer and a few areas of eroded soils. Also included are small areas of Georgeville, Goldston, and Wilkes soils.

The organic matter content of the surface layer is low. The permeability is moderate, the available water capacity is medium, and the shrink-swell potential is low. The subsoil is strongly acid or very strongly acid. Depth to bedrock is more than 60 inches. The seasonal high water table is below a depth of 72 inches.

Most of this soil is used as cropland. Some is used for pasture and some as woodland. Slope, moderate permeability, surface runoff, and erosion are the main limitations to the use and management of this soil.

This soil has medium potential for corn, soybeans, tobacco, and small grain. Minimum tillage and crop residue management help to control runoff and erosion. Conservation practices such as maintaining drainageways in sod, terraces and diversions, field borders, strip-cropping, and crop rotations that include close-growing crops also aid in conserving soil and water.

The potential for hay and pasture forage crops such as *sericea lespedeza*, red clover, white clover, fescue, and orchardgrass is high. Proper pasture management helps to insure adequate protective cover by reducing runoff and controlling erosion.

The potential for most urban uses is medium because of slope and permeability. The permeability affects the performance of septic tank absorption fields, but this limitation generally can be overcome by modifying the field or by increasing the size of the absorption area. The limitation of slope can be reduced or modified by special planning, design, or maintenance. Erosion is a hazard if ground cover is removed. The potential for recreation uses is medium because of slope.

This soil has moderately high potential for broad-leaved and needle-leaved trees. The dominant trees are white oak, black oak, post oak, northern red oak, southern red

(18)

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SOIL SURVEY

C-18 to 24 inches; mottled pale brown (10YR 6/3) and strong brown (7.5YR 5/6) saprolite that crushes to silt loam; rock controlled structure; 50 percent fragments of slate; strongly acid; gradual irregular boundary.

R-24 inches; olive gray and brown moderately hard bedrock.

The solum is less than 20 inches thick. Depth to bedrock is 20 to 40 inches. Reaction of the subsoil is strongly acid to medium acid.

The A1 horizon is pale brown or dark grayish brown.

The B horizon is light yellowish brown, yellowish brown, or brown.

The C horizon is yellowish brown, gray, pale brown, and strong brown saprolite that crushes to silt loam.

Helena Series

The Helena series consists of moderately well drained, slowly permeable soils that formed in a mixture of material weathered from such acidic or basic crystalline rocks as aplitic granite and granite gneiss that are cut by dikes of gabbro and diorite. These soils are on broad ridges. Slope is 2 to 8 percent.

Typical pedon of Helena sandy loam, 2 to 8 percent slopes, 6.3 miles east of Hillsborough, 0.4 mile south of the intersection of U.S. 70 and N.C. 751, and 100 feet east of road, in a pine forest:

O1--1/4 inch of pine needles.

O2--Thin layer of decomposed leaf litter.

A1--0 to 5 inches; grayish brown (10YR 5/2) sandy loam; weak medium granular structure; very friable; many fine and medium roots; few angular quartz pebbles; strongly acid; clear wavy boundary.

A2--5 to 14 inches; very pale brown (10YR 7/4) sandy loam; weak medium granular structure; very friable; many fine and medium roots; common pebbles 1 to 3 inches in size; strongly acid; clear wavy boundary.

B1--14 to 17 inches; pale yellow (2.5Y 7/4) sandy clay loam; weak medium subangular blocky structure; friable, slightly sticky, slightly plastic; few fine roots; few patchy clay films on faces of peds; common quartz pebbles 2 to 3 inches in size; strongly acid; gradual wavy boundary.

B2t--17 to 22 inches; brownish yellow (10YR 6/6) sandy clay; weak medium subangular blocky structure; friable, sticky, slightly plastic; few thin patchy clay films on faces of peds; few quartz pebbles 2 inches in size; strongly acid; gradual wavy boundary.

R2t--22 to 28 inches; brownish yellow (10YR 6/6) sandy clay; common medium distinct light gray (10YR 7/1) mottles; weak medium subangular blocky structure; firm, sticky, plastic; few fine and medium roots; few fine and medium pores; few prominent clay films on faces of peds; strongly acid; gradual wavy boundary.

R3--28 to 38 inches; brownish yellow (10YR 6/6) sandy clay loam; common medium distinct light gray (10YR 7/1) and very pale brown (10YR 7/4) mottles; weak medium subangular blocky structure; friable, slightly sticky, slightly plastic; few bodies of clay; few bodies of parent material; strongly acid; gradual irregular boundary.

C--38 to 60 inches; reddish yellow (7.5YR 6/6) saprolite that crushes to sandy loam; many medium distinct light gray (10YR 7/1) mottles; massive; friable; strongly acid.

The solum is 20 to 60 inches thick. Depth to bedrock is more than 48 inches. Reaction of the subsoil is very strongly acid or strongly acid.

The A1 horizon is grayish brown or dark grayish brown. The A2 horizon is very pale brown, pale brown, or light yellowish brown.

The B1 horizon is pale yellow or light yellowish brown sandy clay loam or clay loam. The B2t horizon is brownish yellow, yellowish brown, and light yellowish brown sandy clay or clay. The B3 horizon is light gray and brownish yellow or light yellowish brown clay loam or sandy clay loam.

The C horizon is reddish yellow, strong brown, and light gray saprolite that crushes to sandy loam or coarse sandy loam.

Herndon Series

The Herndon series consists of well drained, moderately permeable soils that formed in residuum weathered from fine textured rocks, generally phyllites and Carolina slates. Slope is 2 to 10 percent.

Typical pedon of Herndon silt loam, 2 to 6 percent slopes, 4.2 miles south from Hillsborough on State Road 1009, west 0.1 mile on State Road 1118, and north of road, in mixed hardwoods:

A1--0 to 4 inches; dark yellowish brown (10YR 4/4) silt loam; weak medium granular structure; very friable; many fine and medium roots; very strongly acid; abrupt smooth boundary.

A2--4 to 9 inches; yellow (10YR 7/6) silt loam; weak medium granular structure; friable; many fine roots; very strongly acid; abrupt smooth boundary.

B1--9 to 16 inches; reddish yellow (7.5YR 6/8) silty clay loam; moderate fine and medium subangular blocky structure; friable, slightly sticky, slightly plastic; common fine and medium roots; common medium pores; very strongly acid; clear wavy boundary.

B2t--16 to 27 inches; yellowish red (5YR 5/8) silty clay loam; common medium prominent red (2.5YR 4/8) and few fine prominent reddish yellow mottles; moderate medium subangular blocky structure; firm, sticky, plastic; few fine and medium roots; common medium pores; thin patchy clay films on faces of peds; few white minerals; strongly acid; clear wavy boundary.

B2t--27 to 40 inches; strong brown (7.5YR 5/8) clay; many medium prominent red (2.5YR 4/8) and common medium prominent yellowish red (5YR 4/6) mottles; moderate, medium subangular blocky structure; firm, sticky, plastic; common fine and medium roots; few fine and medium pores; thin patchy clay films on faces of peds; few white minerals; strongly acid; gradual wavy boundary.

B3--40 to 58 inches; reddish yellow (7.5YR 6/8) silty clay loam; common medium distinct yellowish red (5YR 5/8) and common medium faint reddish yellow (7.5YR 6/6) mottles; weak medium subangular blocky structure; friable, slightly sticky, slightly plastic; very strongly acid; gradual wavy boundary.

C--58 to 62 inches; mottled yellowish red (5YR 5/8), light gray (10YR 7/1), and yellowish brown (10YR 5/8) saprolite that crushes to silt loam; rock controlled structure; friable; very strongly acid.

The solum is 40 to 70 inches thick. Depth to bedrock is more than 60 inches. The subsoil is strongly acid or very strongly acid.

The A1 horizon is dark yellowish brown, grayish brown, or yellowish brown silt loam or loam. The A2 horizon, where present, is yellow or pale olive.

The B1 horizon is strong brown or reddish yellow. The B2t horizon is yellowish red, strong brown, or reddish yellow silty clay loam or clay. The B3 horizon is yellowish red or reddish yellow silty clay loam or clay loam.

Hiwassee Series

The Hiwassee series consists of well drained, moderately permeable soils that formed in unconsolidated, fine textured old alluvium and in residuum of basic or mixed acidic and basic crystalline rocks. These soils are on broad ridges and narrow side slopes. Slopes are 2 to 10 percent.

Typical pedon of Hiwassee clay loam, 2 to 6 percent slopes, 4.5 miles east of Hillsborough on U.S. 70 and 16 feet south of road, in a cultivated field:

Ap--0 to 5 inches; dark reddish brown (5YR 3/4) clay loam; weak medium subangular blocky structure; friable, sticky; many fine roots; slightly acid; abrupt smooth boundary.

B1--6 to 14 inches; dark red (2.5YR 2/6) clay loam; moderate fine and medium subangular blocky structure; friable, sticky, slightly plastic;

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ORANGE COUNTY, NORTH CAROLINA

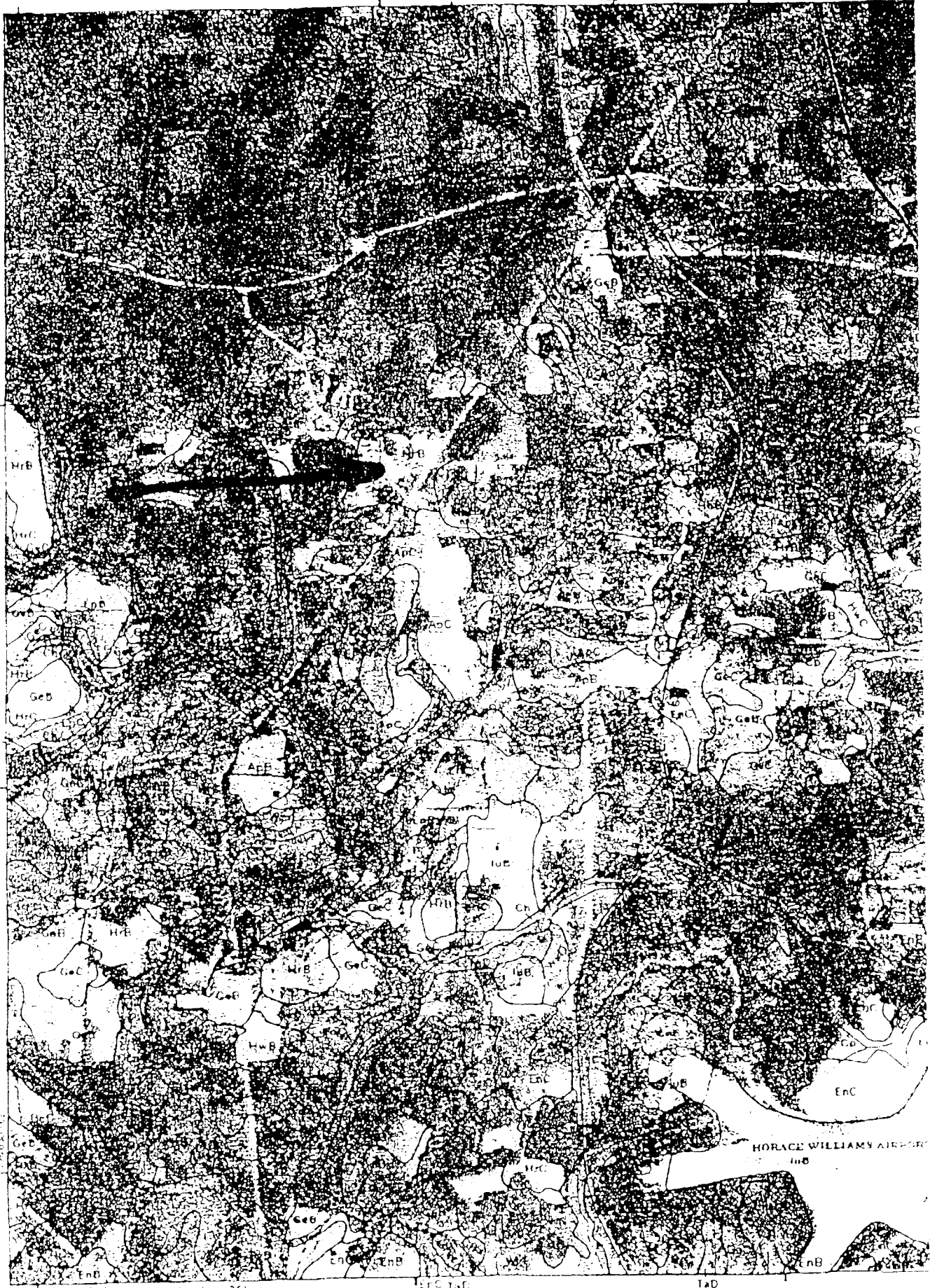
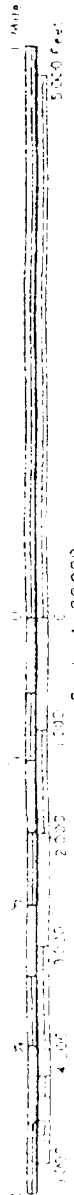
TABLE 6. -- BUILDING SITE DEVELOPMENT -- Continued

Soil name and map symbol	Shallow excavations	Dwellings without basements	Dwellings with basements	Small commercial buildings	Local roads and streets
Helena: HnA: Helena part-----	Severe: too clayey.	Severe: shrink-swell.	Severe: shrink-swell.	Severe: shrink-swell.	Severe: shrink-swell.
Sedgefield part-----	Severe: too clayey, wetness.	Severe: shrink-swell, wetness.	Severe: shrink-swell, wetness.	Severe: shrink-swell, wetness.	Severe: shrink-swell.
Herndon: HrB-----	Moderate: too clayey.	Slight-----	Slight-----	Moderate: slope.	Moderate: low strength.
HrC-----	Moderate: too clayey, slope.	Moderate: slope.	Moderate: slope.	Severe: slope.	Moderate: low strength, slope.
Milwasset: HwB-----	Moderate: too clayey.	Slight-----	Slight-----	Moderate: slope.	Moderate: low strength.
HwC-----	Moderate: too clayey, slope.	Moderate: slope.	Moderate: slope.	Severe: slope.	Moderate: low strength, slope.
Iredell: IrB-----	Severe: too clayey.	Severe: shrink-swell.	Severe: shrink-swell.	Severe: shrink-swell.	Severe: low strength, shrink-swell.
IuB: Iredell part-----	Severe: too clayey.	Severe: shrink-swell.	Severe: shrink-swell.	Severe: shrink-swell.	Severe: low strength, shrink-swell.
Urban land part.					
Lignum: Lg-----	Severe: too clayey, wetness.	Severe: wetness, low strength.	Severe: wetness, low strength.	Severe: wetness, low strength.	Severe: low strength.
Louisburg: LoC-----	Moderate: depth to rock.	Moderate: slope.	Moderate: depth to rock.	Severe: slope.	Moderate: slope.
LoF-----	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.
Orange: Or-----	Severe: too clayey, wetness.	Severe: wetness, shrink-swell.	Severe: wetness, shrink-swell.	Severe: wetness, shrink-swell.	Severe: low strength, shrink-swell.
Pitts: Pt.					
Tatum: TaD-----	Moderate: too clayey.	Moderate: low strength.	Moderate: low strength, depth to rock.	Severe: slope.	Severe: low strength.
TaE-----	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.	Severe: slope.
Urban land: Ur.					
Vance: VaB-----	Severe: too clayey.	Severe: low strength.	Severe: low strength.	Severe: low strength.	Severe: low strength.

See footnote at end of table.

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HORACE WILLIAMS AIRPORT

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SOIL SURVEY

TABLE 8.--CONSTRUCTION MATERIALS

["Shrink-swell" and some of the other terms that describe restrictive soil features are defined in the Glossary. See text for definitions of "good," "fair," and "poor." Absence of an entry means soil was not rated]

Soil name and map symbol	Roadfill	Sand	Gravel	Topsoil
Altavista: Ab-----	Poor: low strength.	Unsuited: excess fines.	Unsuited: excess fines.	Fair: thin layer.
Appling: ApB, ApC-----	Fair: low strength, area reclaim.	Unsuited: excess fines.	Unsuited: excess fines.	Fair: thin layer, area reclaim.
¹ AuC: Appling part-----	Fair: low strength, area reclaim.	Unsuited: excess fines.	Unsuited: excess fines.	Fair: thin layer, area reclaim.
Urban land part.				
Cecil: CfB, CfC-----	Fair: low strength.	Unsuited-----	Unsuited-----	Fair: too clayey.
Chevesla: Ch-----	Poor: wetness, low strength.	Unsuited-----	Unsuited-----	Good.
Congaree: Cp-----	Fair: low strength.	Unsuited-----	Unsuited-----	Good.
Creedmoor: CrB-----	Poor: shrink-swell, low strength.	Unsuited: excess fines.	Unsuited: excess fines.	Fair: thin layer.
Enon: EnB, EnC-----	Poor: shrink-swell, low strength.	Unsuited: excess fines.	Unsuited: excess fines.	Poor: thin layer.
Georgeville: GeB, GeC, GhC-----	Fair: low strength.	Unsuited: excess fines.	Unsuited: excess fines.	Poor: thin layer.
Goldston: Gld, Glf-----	Poor: thin layer, area reclaim.	Unsuited: excess fines.	Unsuited: excess fines.	Poor: small stones, area reclaim.
Helena: HeB-----	Poor: shrink-swell, low strength.	Unsuited: excess fines.	Unsuited: excess fines.	Fair: thin layer.
¹ HhA: Helena part-----	Poor: shrink-swell, low strength.	Unsuited: excess fines.	Unsuited: excess fines.	Fair: thin layer.
Sedgefield part-----	Poor: shrink-swell.	Unsuited-----	Unsuited-----	Fair: thin layer.
Harndon: HrB, HrC-----	Fair: low strength.	Unsuited-----	Unsuited-----	Fair: thin layer.

See footnote at end of table.



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SITE PHOTOGRAPHS



INTERSECTION OF RODRIGERS ROAD AND PUREFOY ROAD



SURROUNDING RESIDENT STREET TO THE NORTH

24

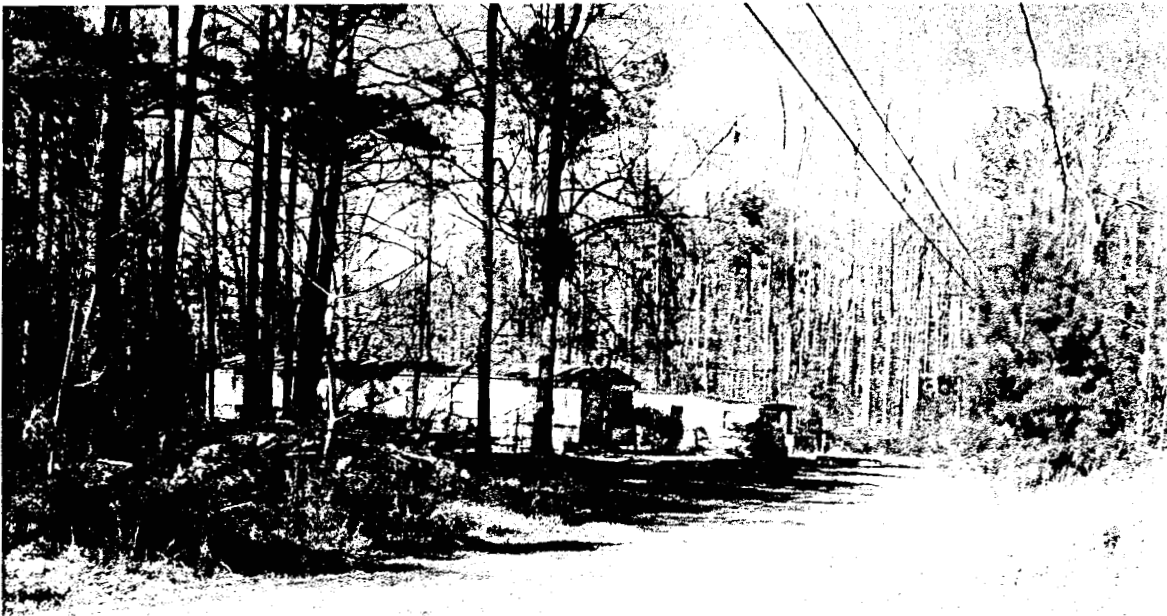


CHURCH AT RODGERS AND PUREFOY ROADS



NORTHWEST VIEW AT RODGERS AND PUREFOY ROADS

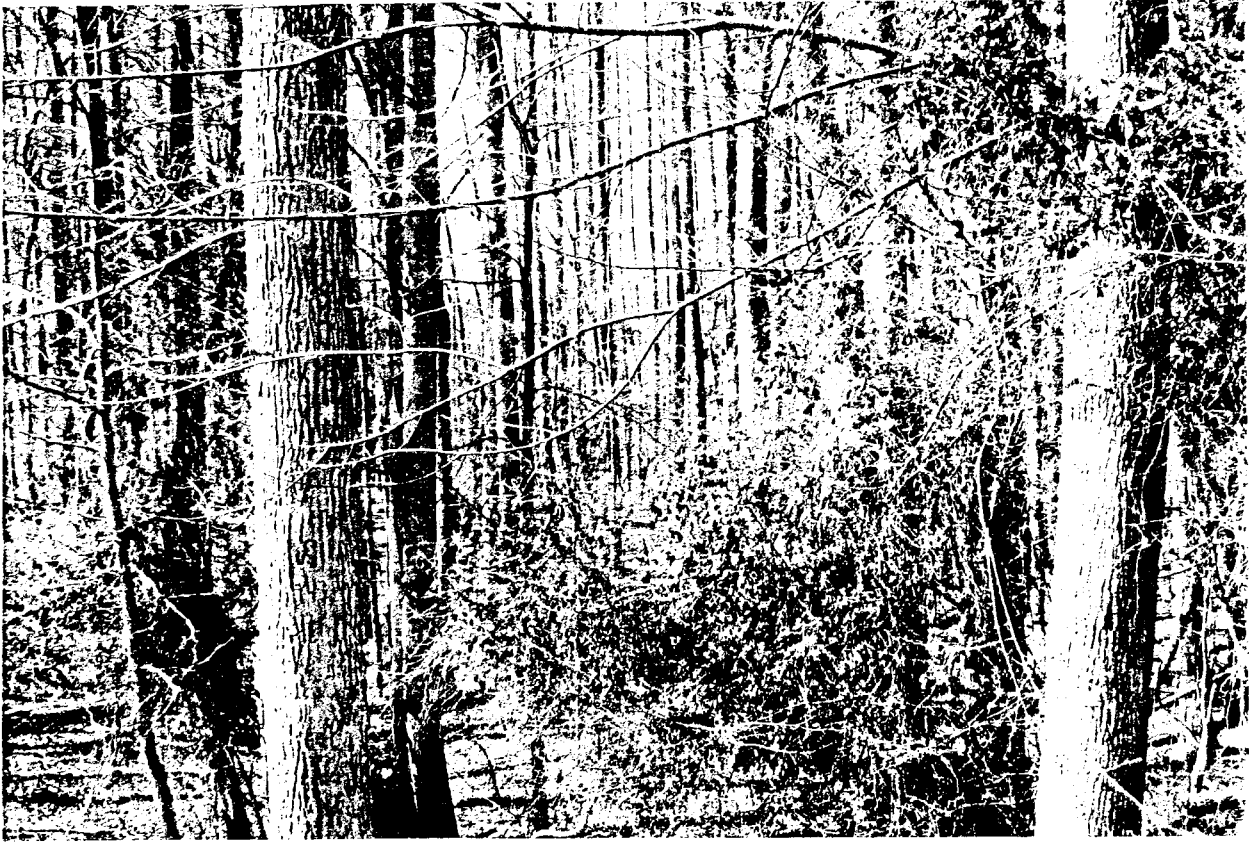
25



ENTRY ROAD ACCESS TO NORTH AND MOBILE HOMES



EXISTING HOUSE AT PUREFOY ROAD



VIEW AT MIDDLE OF THE SITE LOOKING NORTH



SITE OF FUTURE DETENTION POND

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DEVELOPER'S GOALS AND CRITERIA

THE G.H. WILLIAMS
COLLABORATIVE, PA.

ARCHITECTURE
PLANNING
ECONOMIC
DEVELOPMENT
CONSTRUCTION
MANAGEMENT



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Development Program Narrative

Concept Plan

St. Paul AME Church Community
Chapel Hill, North Carolina

Developer's Goals & Objectives:

- (1) Develop Church community, focused on specific Church requirements
- (2) Development based upon "Village Concept" with continuity of use of materials, roof forms, colors, signage, etc. into a unified design scheme.
- (3) Create "Park-like" setting with emphasis on tree preservation, minimal disturbance of Site, walking/jogging/bike trails, with very limited use of concrete curb-&-gutter, etc.
- (4) Creation of "Greenbelt" at central portion of site as focal point for entire Site as buffer zone, stormwater catchment retention area with water feature (i.e Pond), extensive landscaping and yard lighting, with orientation towards the pedestrian. All residential units directed inwardly, creating "Frontage" towards Greenbelt.
- (5) Establish Activity zones:
 - High: Church complex, Gymnasium, Wellness Center
 - Medium: Residential areas, Greenbelt, Activity Field
 - Low: Cemetery

Existing Conditions:

- (1) The Project site is comprised of five contiguous parcels totaling about 22 acres.
- (2) Site topography: Two high points in topography (knolls) to North and South separated by a central low-lying area with dry "lake-bed" area at central part along western boundary. A drainage feature flowing east-to-west into this dry-pond bed transects the central portion of the property with high-ground (i.e. "knolls") lying to north and south of this central area.
- (3) Sparse vegetation at southern "knoll" area. Dense vegetation (undeveloped woodlands) at Site's northern, eastern, and western boundaries with mixture of deciduous & coniferous vegetation.
- (4) Site bounded on North by undeveloped woodlands and existing 30' water easement, bounded on East by undeveloped woodlands (proposed Habitat subdivision), bounded on West by existing residential zone abutting Rogers Road, and bounded on South by Purefoy Drive.
- (5) An abandoned house sits atop the southern "knoll", just south of the central low-lying area.
- (6) A Duke Power primary transmission easement cuts through the southeastern corner of the site. A Duke Power secondary easement travels from the northeast corner of the site, "slicing" through the site, and exiting the site at the center of the southern boundary at Purefoy Drive. (A rerouting, or "dog-leg", of this secondary easement along the eastern Site boundary is currently being proposed).

Site Analysis:

- (1) Zoning: Due to the intended mixed-use of the property, a zoning map amendment from R-1 (Residential) to "MU-V" (Mixed-Use Village) is being proposed with respect to the requirements of Chapel Hill Land Use Management Ordinance.
- (2) The Main Church complex will be placed on and run along the crest of the southern knoll of the site with the Finish Floor Elevation (FFE) @ about 525.0.

- (3) A "Greenbelt" will be created at the central low-lying portion of the site, subdividing the Project site into two parts, North and South, thus creating a "focal point", or area of interest with residential units fronting on both sides. This area becomes a stormwater retention area. A new pond is proposed for the lowest portion of this area (EL. 501.0).
- (4) The Cemetery is proposed for the northernmost parcel of the property, remote and isolated from the rest of the development.
- (5) Land-disturbing activity will be kept to a minimum on-site, with the emphasis placed on the preservation of existing vegetation, and especially large hardwoods (i.e. "specimen trees") will be tagged. In lieu of a land disturbance in excess of 40,000 square feet and a developed footage ("footprint") exceeding 20,000 square feet, a mandatory Special Use Permit will be made with each phase of the Project.
- (6) Stormwater Management: Surface runoff will be by a combination of "sheet-flow" to the Greenbelt area from higher areas to the North and South with finish grades at paved areas not-to-exceed 5%, or 1:20 slope, together with a series of sloped grassed-swales, conveying stormwater runoff from various locations to various discharge points at the Greenbelt retention area. These sloped grassed swales will be designed to intentionally promote slowing, cleansing, and infiltration along the way and can also serve as pedestrian ways across the Site for jogging, walking, and biking trails. Surface runoff and groundwater from the Property are expected to continue to flow westerly towards an unnamed tributary of Bolin Creek.
- (7) The Senior Housing cluster will be placed at the existing "plateau" fronting on the eastern portion of the Greenbelt and will serve as an elevated outdoor recreation area (i.e. "plateau") for senior citizens.
- (8) Vegetation buffers will be preserved at the northern, eastern, and western boundaries of the site. At a minimum, these will be 20 feet wide "Type C" buffers, in compliance with Table 5.6.6-1, Schedule of Required Buffers, Chapel Hill Land Use Management Ordinance. Although no interior buffers are required for this Mixed-Use Development District (MU-V), numerous interior vegetation buffers will be incorporated into the Concept Plan

design to subdivide the Site into different “zones” and subdivide larger paved areas into smaller paved areas with vegetation buffer separation.

(9) Sun/Shade patterns are indicated by the North arrow graphic symbol, showing both “Winter Sun” and “Summer Sun” angles.

(10) Proposed Facilities include the following:

- Sanctuary Building
- Narthex
- Fellowship Hall
- Daycare Center
- Admin Wing
- Wellness Center
- Gymnasium
- Senior Housing
- Multi-family Housing (Townhouses)
- Single-family Housing
- Activity Field
- Basketball/Tennis Courts
- Cemetery
- Walking, Jogging, Bike trails

(11) Phasing Plan:

A Phasing Plan will be incorporated into the second stage submittal to the Town as part of the Special Use Permit application. In general, this Phasing Plan will include the following eight (8) basic phases:

- Main Church Building
- Gymnasium/Wellness Center addition
- Senior Housing (5 stories)
- Greenbelt/Crossing/Bridge development
- Townhouse development
- Single-family dwellings
- Activity Field/Basketball/Tennis courts
- Cemetery

(12) Parking & Traffic: The Project will meet, or exceed, the parking requirements for both vehicles and bicycles, and will also provide access to regional green trails, when available, and a bus stop providing regional access.

Parking requirements: (Ref. Section 5.9.7-Design & Development Standards, Chapel Hill Land Use Management Ordinance)

- Main Church complex: "Place of Worship", 1 per 5 seats, $600/5=120$ spaces minimum required, 156 spaces provided.
- Senior Housing: "Residential Hall", 1 per 2 residents, 50 apartments, $50/2=25$ minimum spaces required, 34 spaces provided.
- Multi-family Dwellings (Townhouses): 1.25 per DU, 12 DU's, $12 @ 1.25 = 15$ minimum spaces required, 21 spaces provided
- Single-family Dwellings: 1.75 per DU, 18 DU's @ $1.75=32$ minimum spaces required, 36 spaces provided.

(13) Public Transportation: Bus stop with access/loading zone lane, per Town and NCDOT requirements, to be provided at Purefoy Drive adjacent to main vehicular entrance to Site. The Main Church complex and all Walking/Jogging/Bike trails will connect to this location.

(14) Statement of Compliance with Town's Design Guidelines:

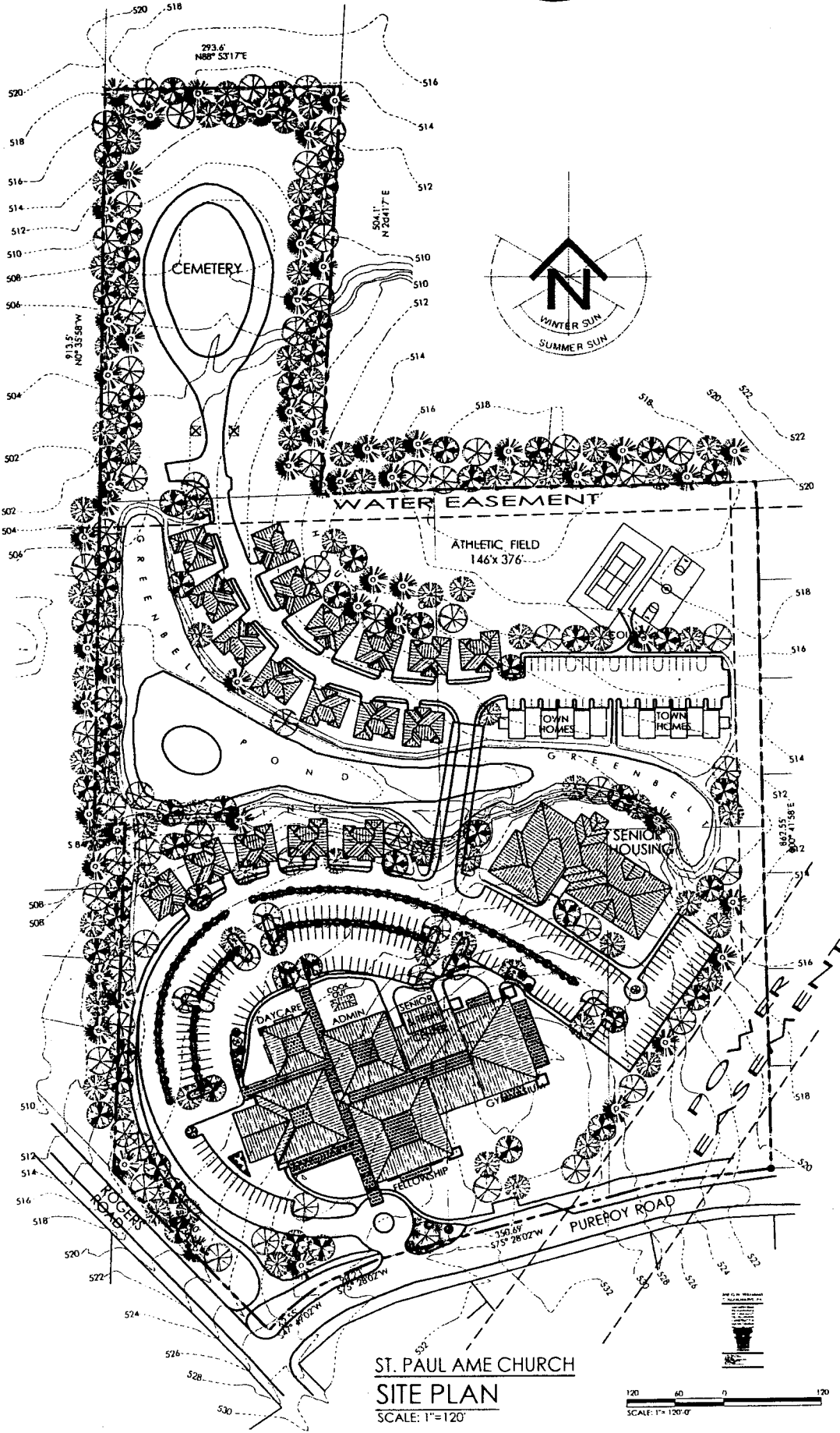
- a) Livability: The Church will provide an idyllic setting for worship, living, playing, and contemplation. A "Park-like setting" is paramount to the achievement of a "Village" type of community in order to provide a high degree of harmony, serenity, and "livability" within the Project and surrounding neighborhoods.
- b) Visual Impact: Although the Site is somewhat removed from the "high-visibility thoroughfares" of Chapel Hill, the Project will be visually "engaging" and will be "friendly" with development in the surrounding area. The use of high-quality architecture and planning in a unified design scheme will place this community as a "Signature Project" for the region...
- c) Vegetation: A high degree of protection of the natural vegetation, with minimal land-disturbing activity, is proposed. Besides the natural woodland buffers at the perimeter of the

site, numerous interior vegetation buffers will be used to separate the Project into different “zones”. The protection of large deciduous trees, as well as the “canopy” of trees, are vital to the success of the Project.

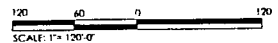
- d) Mobility: As a point of destination, there is no vehicular thru-traffic proposed for this development. Although vehicular circulation will be kept to a minimum, the “emphasis will be placed on the Pedestrian” with a network of pedestrian ways, jogging, and bike trails interconnecting different parts of the Community with surrounding areas.
- e) Activity Centers: While the non-residential component of this development, the Main Church complex, is the main focal point of the Project and a “High-activity” zone. The Senior Housing and Townhouse areas are considered to be a “Medium-activity zone”. The Single-family development and Greenbelt zone are “Low-activity” zones. The Greenbelt zone, with the introduction of the Pond, pedestrian trails, play areas, playground equipment, landscaping, yard lighting, etc. becomes a “Park” within the Community itself.
- f) Views: The Project site will become an “introverted site”, with primary views directed inwardly towards the Greenbelt and secondary views towards green areas (i.e. buffer zones). All residential units “front” on this Greenbelt zone. No exterior views are available from the site.

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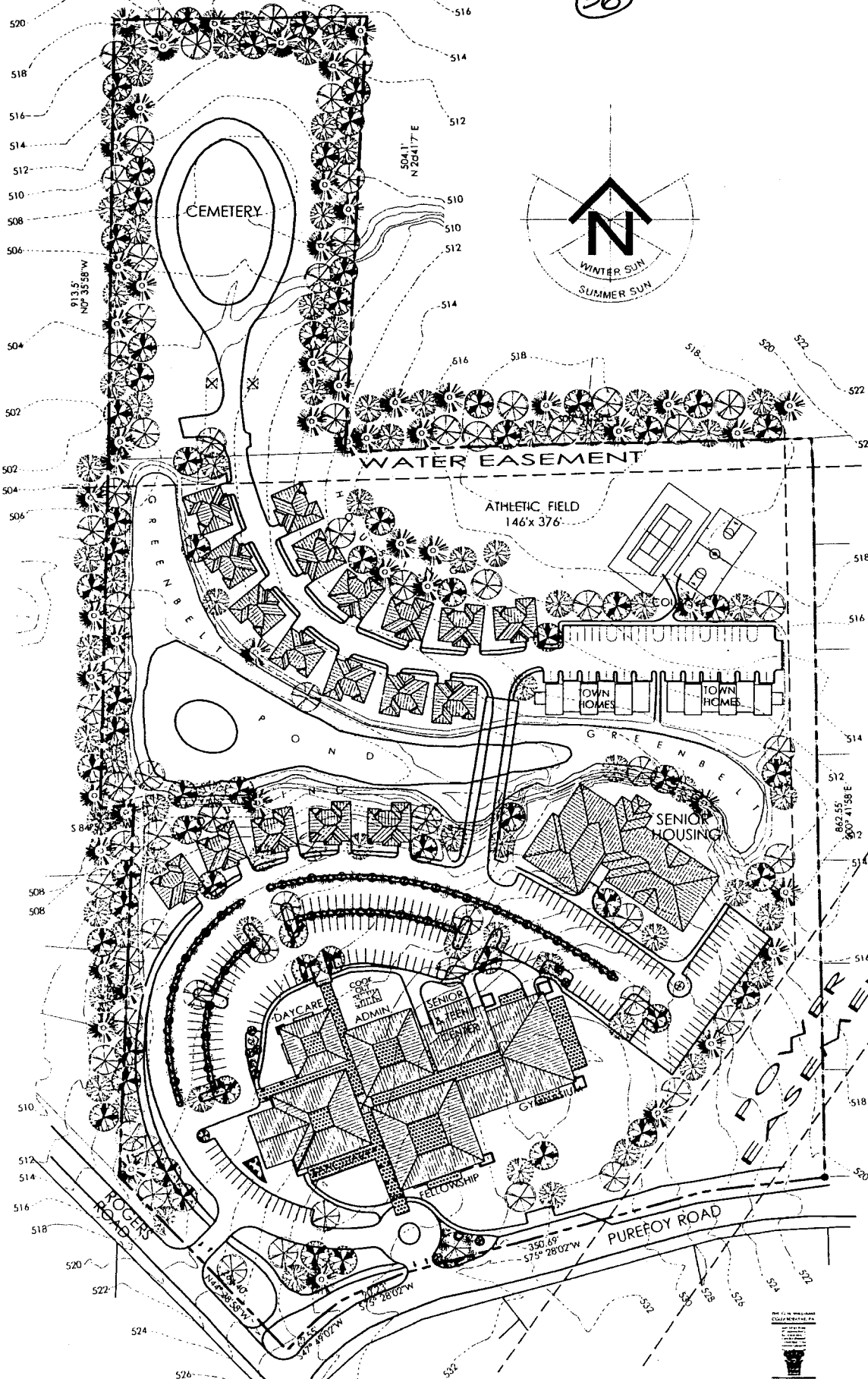
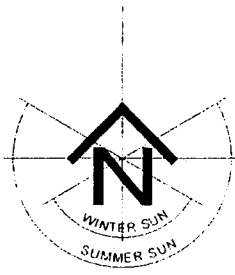
SITE PLAN



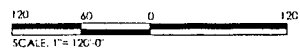
ST. PAUL AME CHURCH
 SITE PLAN
 SCALE: 1"=120'



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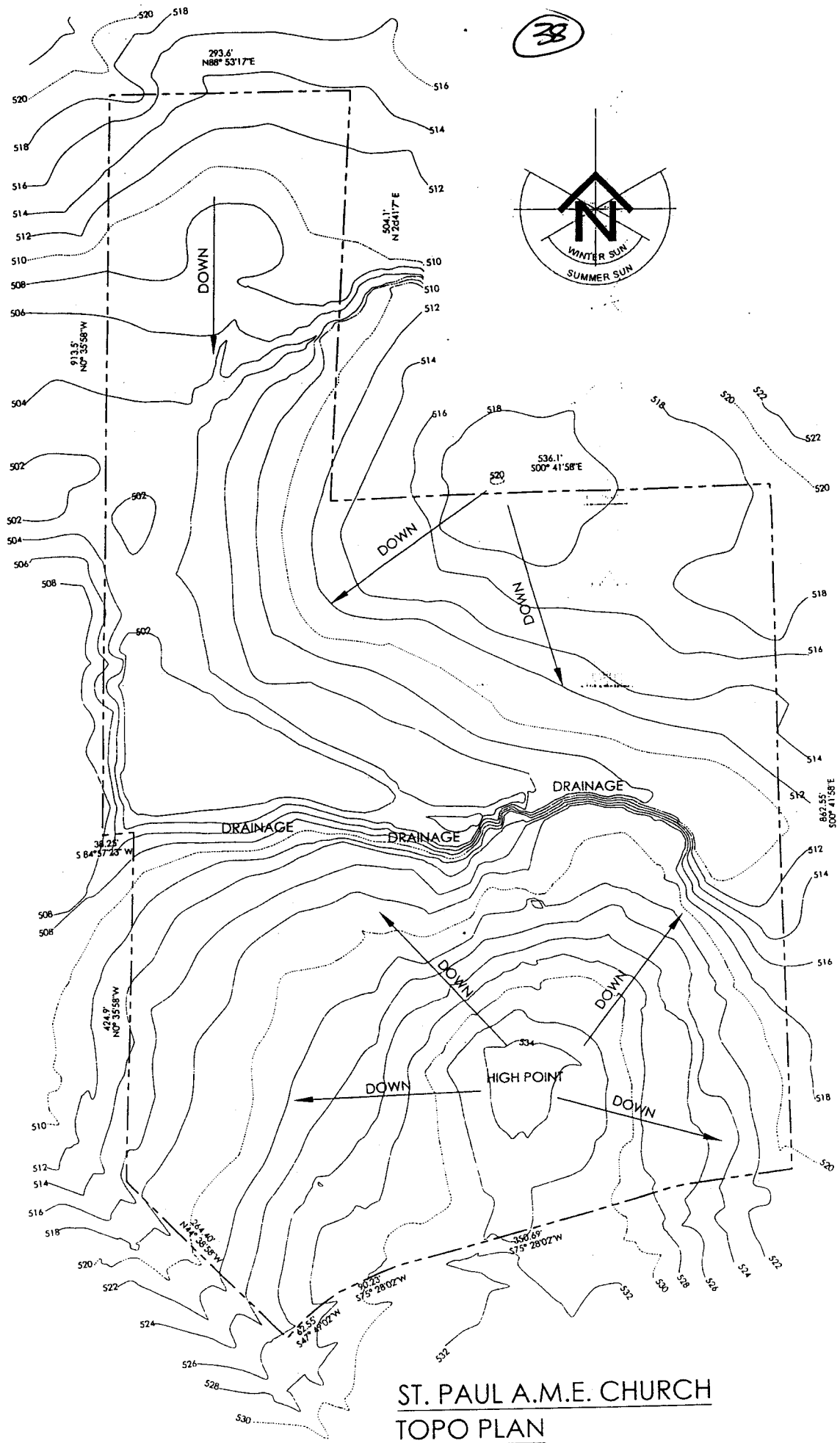
ST. PAUL A.M.E. CHURCH
SITE PLAN ALTERNATIVE 1
SCALE: 1"=120'



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TOPOGRAPHY AND SUN ANGLES

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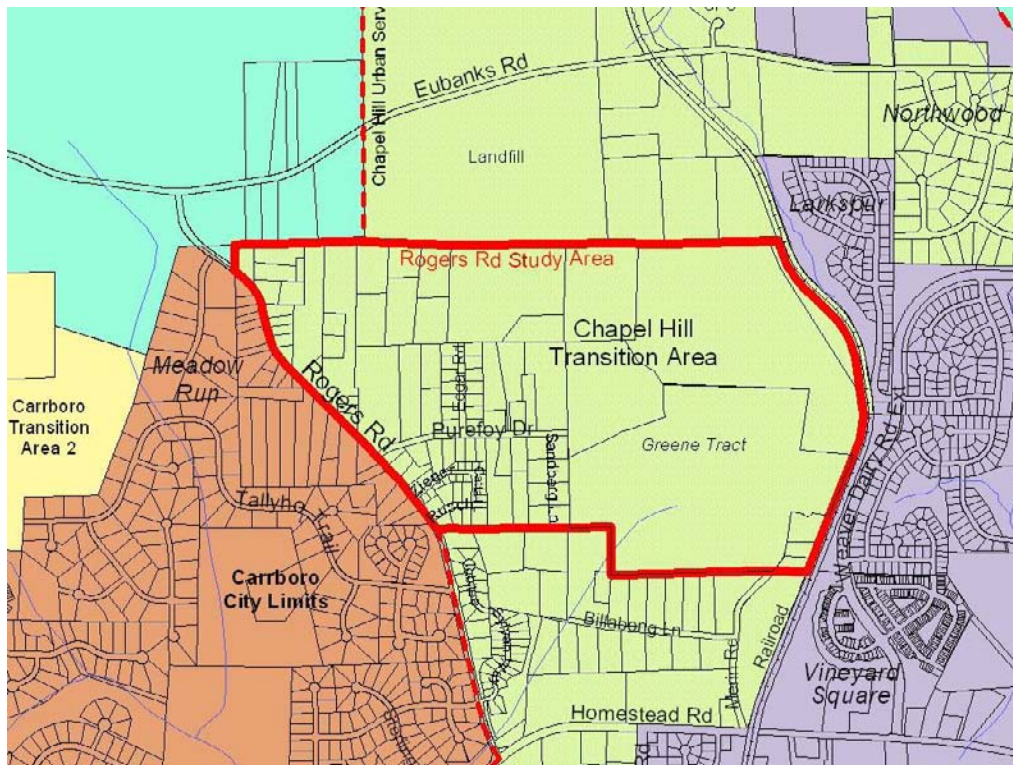


ST. PAUL A.M.E. CHURCH
TOPO PLAN

Rogers Road Small Area Plan Task Force

Interim Report

June 21, 2007



Rogers Road Small Area Plan Task Force:

Mayor Pro Tem Bill Strom

Council Member Mark Kleinschmidt

Bonnie Norwood

Robert Dowling

Susan Levy

James Stroud

Tom Tucker

Ruby Sinreich

Laura Wenzel

Delores Bailey

Neloa Barbee Jones

Barbara Hopkins

Robert Campbell

Timothy Peppers

Background

The Rogers Road study area is located in Orange County to the north west of the existing town limits of the Town of Chapel Hill; it also adjoins the Town limits of Carrboro to the west. The study area is located in the Chapel Hill Transition Area, an area which is planned to become part of the Town of Chapel Hill. The future growth of the Town of Chapel Hill and the Town of Carrboro was established with Orange County, through a Joint Planning Agreement in 1987.

The Town of Chapel Hill Comprehensive Plan, a long range plan for future development of the Town, reflects the Joint Planning Agreement and identifies an Urban Services Boundary which defines the future town limits in which it is intended that the Town will grow and provide typical urban services. The Rogers Road study area is located within the Urban Services Boundary.

The study area is approximately 330 acres. It is bounded by the Norfolk and Southern Railroad to the east, the existing residential neighborhood of Billabong Road and Homestead Place to the south, Rogers Road to the west and the Orange County Land fill to the north.

Draw an imaginary vertical line through the middle of the study area. East of the line almost half of the study area (164 acres) consists of the Greene Tract. Approximately 60 acres of the Greene Tract is owned by Orange County and 104 acres is jointly owned by Orange County, the Town of Chapel Hill and the Town of Carrboro. The Greene Tract was originally purchased in 1984 as a potential future landfill. It is located south east of the existing Orange County landfill. A concept plan prepared by a Greene Tract Workgroup was approved by the joint owners in late 2002. The concept plan identifies that 18.1 acres of the jointly owned portion will be developed for housing and the remaining acres of the jointly owned portion will be preserved and managed as open space.

West of the imaginary line the study area consists of approximately 80 lots and tracts of the Rogers Road Neighborhood. The properties are mostly accessed via Purefoy Drive off Rogers Road.

Rogers Road Small Area Plan Task Force

Following a community open house in December 2006, the Rogers Road Small Area Plan Task Force was formed and began meeting in February 2007. The Task Force has met six times holding a meeting on the second Thursday in the month.

The charge of the Task Force is to take a more detailed look at the impacts of providing public services in the study area, especially the extension of sanitary sewer, and the impacts of developing an affordable housing site on the Greene Tract.

The Task Force has been reviewing background information about existing conditions and infrastructure of the study area in order to establish a vision for the future. To date the Task Force has focused on how to improve facilities for existing residents in association with planning for future development of the study area.

Interim Findings

This interim report includes a potential sanitary sewer plan to serve existing property in the study area. The plan was developed with the assistance of OWASA staff. The report also includes potential options for a road network to open up and connect the neighborhood.

Keeping the neighborhood affordable is the key issue from the work so far. How to get sanitary sewer and additional road access to the neighborhood without causing financial hardship to existing residents? Who should pay for these facilities and how should they be paid for?

The Task Force believes that the development of housing on the Greene Tract ought not proceed without providing current residents of the neighborhood the opportunity to be served by sanitary sewer.

The Task Force recommends:

- The development of an action plan to address sanitary sewer provision.
- The development of an action plan to address additional road access to the neighborhood.
- That the Town Council of the Town of Chapel Hill receive and refer this interim report to the Board of County Commissioners, the Carrboro Board of Aldermen and the OWASA Board of Directors concerning the provision of sanitary sewer and that the Council refer the report to the Board of County Commissioners concerning additional road access.
- That the Chapel Hill Town Manager be authorized to work with the staff of Orange County, the Town of Carrboro and OWASA to draw up action plans and proposals for the provision of these facilities.

Guiding Principles

The Task Force has developed the following principles to guide the development of the small area plan:

- Provide alternative road access into and out of the neighborhood
- Improve transportation access through all modes (vehicles, bicycle and pedestrian, transit)
- Manage existing and through traffic
- Maintain affordable living to current residents
- Preserve the environment and cultural heritage of the study area
- Foster a sense of community amongst the residents
- Encourage rehabilitation of declining residential properties
- Encourage a full range of services for existing and future residents
- Don't leave the existing residents behind
- Provide utilities to meet community needs
- Encourage well built, affordable, smaller homes
- Improve the standard of facilities for the community

Sanitary Sewer Plan

Most of the Rogers Road study area is served with water from OWASA. Water lines extend eastward from Rogers Road. OWASA sanitary sewer has been extended into the southwestern part of the study area. OWASA policy is that to work best sewers need to run downhill so that wastewater will flow using gravity rather than being pumped mechanically. Pumps are not desirable because they may fail during storms and they involve operating costs for electricity and maintenance.

In March OWASA staff presented a conceptual layout of a sanitary sewer network that could provide service to existing lots within the Rogers Road study area. The conceptual layout identifies new lines that would need to be constructed and an existing line extended to provide a gravity sanitary sewer service to existing lots. Topography in the study area indicates that portions of the study area would best be served with gravity sewer falling in different directions from the study area. This includes extending the existing line from the south west, a new line to Eubanks Road in the north east and a new line to the west which could be provided in cooperation with the Town of Carrboro.

Appendix 1 is maps showing a conceptual sewer network plan to serve most of the existing lots in the study area. There is one concept for the study area with two versions; Concept A serves the Neville Tract and the adjoining 24 acre Harris property via a new line to the north. Concept A has greater potential to facilitate subdivision of the Harris property. Construction is estimated to cost \$ 2.9 million. Concept B serves the same properties via a new line to the west. Construction is estimated to cost \$ 2.5 million. Neither Concept A or B serve properties off Sandberg Lane or 3 lots off Merin Road. Concept C shows how gravity sewer could be provided to those lots not served by A or B via a new line along Billabong Lane. Billabong Lane is beyond the study area. Construction of the lines in Concept C would add \$1.3 million to the construction cost of Concepts A or B.

Appendix 2 provides more detail from the OWASA on the conceptual sewer network plan and a breakdown of the cost to construct the lines. It also sets out indicative non-construction costs to hook up existing homes to the lines.

The Task Force reviewed the OWASA water and sewer extension policies. In accordance with the OWASA policies, benefiting properties would bear the cost of extending water and sewer lines. The Task Force also reviewed the assessment process for neighborhoods pursuing water and sewer service.

Members expressed great concern over the ability of existing homeowners to bear the cost of installing main lines, hooking up to services and paying utility bills, thereby decreasing the affordability of low-cost housing that currently exists in the study area.

The Task Force believes that the development of housing on the Greene Tract ought not proceed without providing current residents of the neighborhood the opportunity to be served by sanitary sewer.

Appendix 3 outlines the cost per lot to provide sewer with an assessment project. It also shows how that cost could be reduced by additional development in the neighborhood, increasing the number of lots. In other words how the assessment cost could be reduced by splitting it between 200 lots as opposed to 100 lots.

The Task Force recommends that an action plan is made to address sanitary sewer provision. The Task Force requests that the Town Council of the Town of Chapel Hill, the Board of County Commissioners and the Carrboro Board of Aldermen work with OWASA to develop an action plan for the provision of sanitary sewer.

Additional Road Access

Properties in the study area are mostly accessed via Purefoy Drive off Rogers Road. Rogers Road is currently classified as a collector street by the North Carolina Department of Transportation (NCDOT). Rogers Road carries approximately 5,000 vehicles per day, a rise from 3,000 vehicles per day in 1990. In general traffic on Rogers Road increases by 4 to 6 percent per year. We would anticipate continued growth in vehicle traffic along Rogers Road linked to continued development along both Homestead Road and Eubanks Road in Chapel Hill and Carrboro. Purefoy Drive as it exists currently is sufficient to accommodate 500 trips per day and will accommodate the projected trips from the future Habitat for Humanity development proposed at Purefoy Drive.

The Task Force understands that new development in the study area may require expansion or upgrade of existing streets. The Task Force identified the need for additional access to the neighborhood and internal road connections. In particular it identified the need to have a north-south roadway connection through the study area to connect to Eubanks Road.

As Orange County owns approximately 70 percent of the property with frontage on Eubanks Road including the landfill site, the future operations center and the future animal shelter, the Task Force identified that Orange County needs to be an active partner in the small area planning process and in its implementation. The Task Force recommends that the Town of Chapel Hill and Orange County act cooperatively to secure a roadway corridor through the Orange County property to Eubanks Road.

Appendix 4 is a conceptual road network providing potential access to and internal connections in the study area. The Task Force

The Task Force considered options to provide an east to west road connection to the neighborhood through the Greene Tract. It identified that this would be constrained by the permanent preservation of the Greene Tract and the difficulty in securing a vehicular crossing of the railroad. The Task Force considers that a greenway connection should be explored through the Greene Tract.

Greene Tract

The Task Force received information from Dave Stencil Director of the Environment and Resource Conservation Department at Orange County concerning the environmental

sensitivity and importance of the Greene Tract. The Greene Tract lies at the headwaters of three watersheds. Excepting the 18.1 acres of the Greene Tract which is identified by for housing development by the 2002 Greene Tract Concept Plan, the Task Force supports the placement of Conservation Easements on the Greene Tract.

The Task Force believes that the development of housing on the Greene Tract ought not proceed without providing current residents of the neighborhood the opportunity to be served by sanitary sewer.

Land Uses

In March the Task Force took part in a land use visioning exercise, members expressed a preliminary preference for low-density residential, recreational, and small commercial land uses in the Rogers Road study area. Further exercises will be scheduled to identify preferred locations for uses within the study area.

Landfill and Establishment of Waste Transfer Center

The Task Force has not actively discussed the operation of the County Landfill. This is because this matter is being addressed separately by the Orange County Historic Rogers Road Community Task Force. Members of the Rogers Road Small Area Plan Task Force have raised concerns about potential contamination of water from the landfill site and how contamination might affect future development. Members have also raised concerns about the proposed relocation of the Convenience Center.

Conclusion

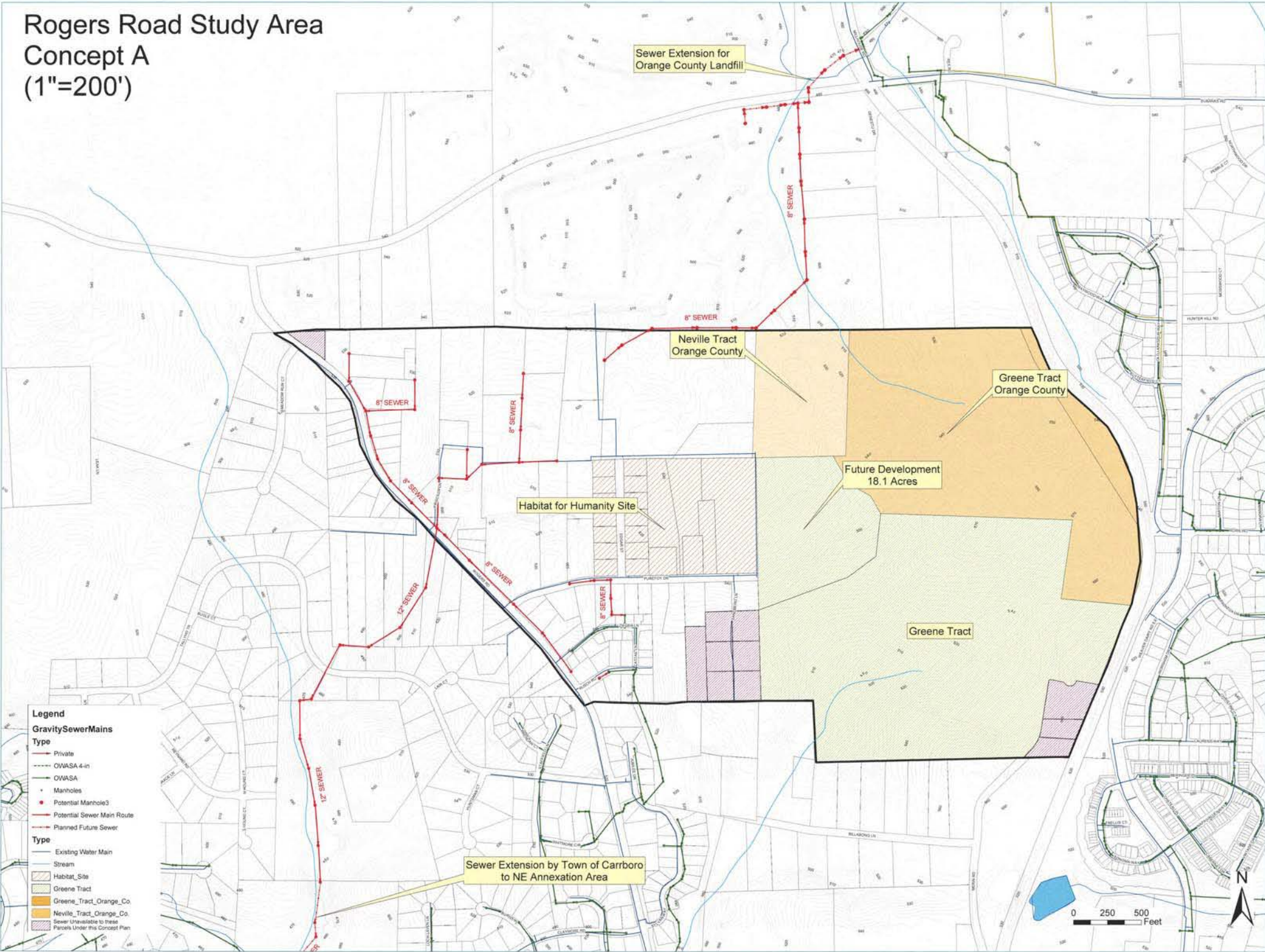
A small area plan for the Rogers Road Area is essential to coordinate the provision of infrastructure and services to the neighborhood. Additional transportation access and the provision sanitary sewer are needed to improve the infrastructure of existing residents and for the orderly development of housing on the Greene Tract.

The Task Force is greatly concerned about the cost of providing sanitary sewer to existing residents of the study area and recommends that the Town Council of the Town of Chapel Hill, the Board of County Commissioners, the Carrboro Board of Aldermen and the OWASA Board of Directors work together to provide sanitary sewer to the study area.

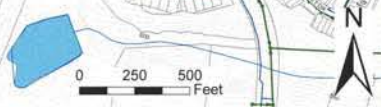
The Task Force believes that the development of housing on the Greene Tract ought not proceed without providing current residents of the neighborhood the opportunity to be served by sanitary sewer.

The Task Force also recommends that the Town Council of the Town of Chapel Hill and the Board of County Commissioners, work together to secure a roadway corridor through the Orange County property to Eubanks Road.

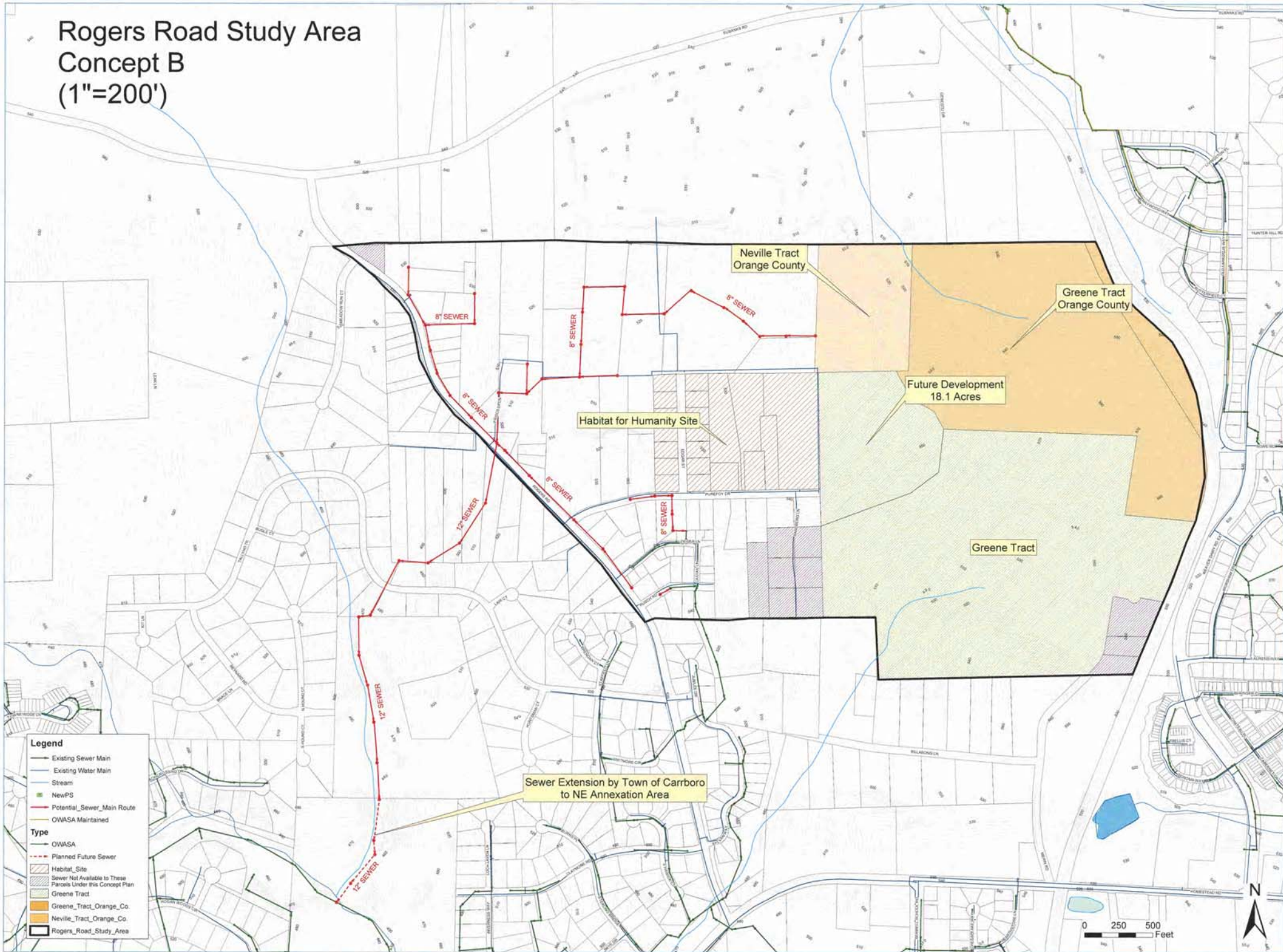
Rogers Road Study Area Concept A (1"=200')



- Legend**
- GravitySewerMains**
- Type**
- Private
 - OWASA 4-in
 - OWASA
 - Manholes
 - Potential Manhole3
 - Potential Sewer Main Route
 - Planned Future Sewer
- Type**
- Existing Water Main
 - Stream
 - Habitat_Site
 - Greene Tract
 - Greene_Tract_Orange_Co
 - Neville_Tract_Orange_Co
 - Sewer Unavailable to these Parcels Under this Concept Plan



Rogers Road Study Area Concept B (1"=200')



Legend

- Existing Sewer Main
- Existing Water Main
- Stream
- NewPS
- Potential Sewer Main Route
- OWASA Maintained

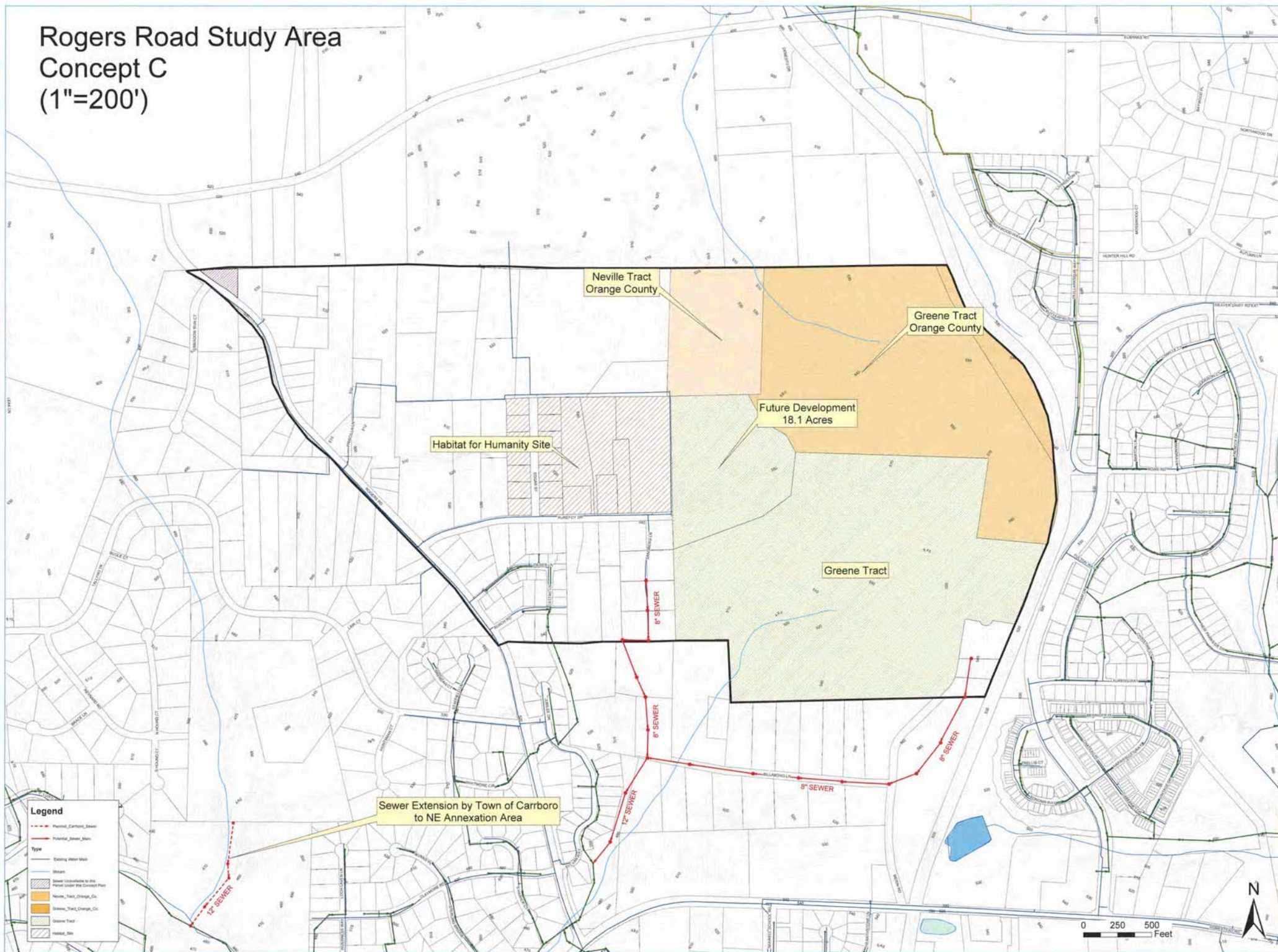
Type

- OWASA
- - - Planned Future Sewer
- ▨ Habitat_Site
- ▨ Sewer Not Available to These Parcels Under this Concept Plan
- Greene Tract
- Greene_Tract_Orange_Co.
- Neville_Tract_Orange_Co.
- ▭ Rogers_Road_Study_Area

0 250 500 Feet



Rogers Road Study Area Concept C (1"=200')





ORANGE WATER AND SEWER AUTHORITY

Quality Service Since 1977

MEMORANDUM

TO: Gordon Sutherland
FROM: Ed Holland
DATE: June 22, 2007
SUBJECT: Preliminary Concept Plans and Cost Estimates for Providing Sewer Service to the Rogers Road Study Area

Background and Overview

Per our recent meetings, OWASA staff has provided three concept plans and associated cost estimates (preliminary) for a sewer collection system that could serve the Town of Chapel Hill's study area east of Rogers Road. Virtually all existing parcels in the study area have access to OWASA water lines; therefore, this exercise focused on sewer service only. If the Town or others decide to pursue these or other sewer concepts, additional engineering and professional services will be needed to provide site-level detail and an overall determination of project feasibility.

The concept plans represent three potential gravity flow configurations. None incorporate sewage pumping stations, which OWASA only approves in unusual circumstances where property cannot be served by gravity options. We have found that pumping stations are expensive to maintain and less reliable over time, due to the greater risk of mechanical failure and resulting sewage spills, than are gravity systems. As shown in **Concepts A** and **B**, wastewater from most of the study area would flow toward the upstream portion of a sewer line that the Town of Carrboro is extending approximately 900 feet to an area that was annexed in 2006. According to North Carolina annexation laws, that facility must be completed by the end of January 2008.

Our concept drawings do not include portions of the sewer system that will be installed for properties within the study area that are being developed by Habitat for Humanity, nor do these concept plans anticipate service to most of the Greene Tract, which are intended to remain as permanent open space.

Under **Concepts A** and **B**, sewer service would not be available to 11 existing parcels in the study area, as indicated by purple cross-hatching on the drawings. Additional sewer lines near the southeastern portion of the study area would be needed to serve 10 of those 11 lots, as shown in **Concept C**. None of the three concepts plans could provide sewer service to the single small lot in the extreme northwest corner of the study area.

Concepts A and B are identical, except for the manner in which gravity service is provided to the several parcels immediately west of the Neville Tract. **Concept A**, which directs gravity flow northward to the new sewer line that will serve the Orange Regional Landfill, would be approximately 10 percent more expensive than **Concept B**, but would likely offer gravity service to a greater number of future lots. **Concept B** represents a slightly less expensive configuration, but may not offer sufficient flexibility if the two properties immediately west of the Neville Tract are subdivided for further development. These preliminary conclusions still need to be confirmed by engineering analyses and field surveys.

Concept C offers sewer service to the 10 existing lots within the study area that could not be served by either **Concept A** or **B**. **Concept C** would also provide service to approximately 20 additional lots in the Billabong Lane vicinity, which is outside of the delineated Rogers Road study area.

A combination of either **Concept A or B**, *plus* **Concept C**, would therefore be needed to serve all existing properties within the study area, except for the single lot in the northwest corner of the study area, which cannot be served by gravity sewer under any of the three configurations.

Preliminary Cost Estimates

Project Costs – The table on the next page summarizes the preliminary estimated cost components of each concept plan. These were derived through the same methods used to estimate OWASA's own capital project costs. Further details are available on request. The following important caveats should be observed as these estimates inform the Roger Road Small Area planning process:

- If the Town or others decide to pursue these sewer system concepts, additional engineering and professional services will be needed to provide site-level detail and overall determinations of engineering feasibility.
- Construction cost estimates reported below are only preliminary and are not based on any assessment of field conditions. Cost estimates typically become more precise as detailed engineering design proceeds.
- Estimates are based on the best information available as of June 2007. OWASA assumes that project costs will escalate at a rate of 8 percent per year. We recommend that this inflation factor be used in any future interpretation of these estimates.
- The overall extent of these concept plans and the number of unserved parcels will change in the future if (or as) individual development projects extend new lines to currently unsewered properties.

- The table includes project costs only. Additional per lots costs for connecting individual properties to the sewer system are discussed in the section below.

Estimated Project Costs of Three Sewer System Concept Plans for Chapel Hill's Rogers Road Study Area					
	Concept A	Concept B	Concept C	Concepts A + C	Concepts B + C
Engineering Design	\$220,000	\$190,000	\$100,000	\$320,000	\$290,000
Construction	\$2,180,000	\$1,900,000	\$970,000	\$3,150,000	\$2,870,000
Construction Administration	\$110,000	\$100,000	\$50,000	\$160,000	\$140,000
Construction Inspection	\$110,000	\$100,000	\$50,000	\$160,000	\$140,000
Contingency	\$260,000	\$230,000	\$120,000	\$380,000	\$340,000
Totals	\$2,880,000	\$2,520,000	\$1,290,000	\$4,170,000	\$3,780,000

Individual Connection Costs – As noted, the preceding table only includes estimates of constructing the sewer collection system itself. Additional per lot costs for connecting to the new system would include the following:

OWASA Service Availability Fee – This one-time connection fee represents the proportional cost of “buying in” to OWASA’s existing facility infrastructure (main sewer lines, treatment plant, etc.) and is assessed according to the square footage of residential properties. The sliding scale of availability fees that will be effective as of October 1, 2007 ranges from **\$2,441** for homes of less than 1,300 square feet to **\$4,514** for homes of greater than 3,800 square feet. Fees for multi-family residences will be **\$2,645** per unit. A different scale of availability fees applies to non-residential sewer connections.

Private Plumbing Costs – The pipe that extends from a building to the OWASA sewer line is called a lateral. Unlike pipes in OWASA’s system, the lateral is part of the private property served by the public sewer. Installation and maintenance of the lateral is the responsibility of the property owner, who typically contracts with a private plumber for installation. Costs depend on several factors, especially the distance from the building to the OWASA sewer line. A recent telephone survey of several local plumbers indicated prices in the range of **\$25 per foot**. That is, installation of a 50-foot lateral would cost approximately **\$1,250**, a 100-foot lateral would cost approximately **\$2,500**, and so forth.

Sewer Tap Charge – This fee is for physically connecting the private sewer lateral to the OWASA sewer line. The base tap charge, effective as of October 1, 2007, will be **\$318**.

Preliminary Rogers Road Sewer Concepts

June 22, 2007

Page 4

Monthly User Fees – In addition to the one-time service availability fee, tap charge, and private plumbing costs, all OWASA customers pay monthly water and sewer bills that include a fixed service charge plus a water and sewer commodity charge based on the number of gallons used each month. The typical water plus sewer bill of a residential customer using an average of 6,000 gallons per month will generally range from \$60 and \$70 per month. Bills will vary according to the actual amount of water used.

OWASA staff has appreciated the opportunity of providing this information to support Chapel Hill's Rogers Road Small Area Planning process and will be glad to answer questions or provide further details as needed.

A handwritten signature in black ink, appearing to read "Ed Holland". The signature is written in a cursive style with a horizontal line underneath it.

Edward A. Holland, AICP
Planning Director

attachments

cc: Mason Crum, P.E.

June 21, 2007

SAMPLE FINANCIAL ANALYSIS: Sewer Aseessment project with Town Assistance* **OWASA SEWER EXTENSION INTO ROGERS ROAD STUDY AREA**

*To receive Town assistance calculation assumes property is in town limits

CONCEPT A: ROGERS ROAD WITHIN TOWN LIMITS (ANNEXATION)
COST DISTRIBUTION ON PER-LOT BASIS(excluding proposed Habitat project)

EST. COST OF PROJECT FOR CONCEPT A	\$2,900,000			
# OF LOTS	50			
TOWN ASSISTANCE PER LOT (UPPER LIMIT)	\$4,500			
TOTAL TOWN REIMBURSEMENT (if funds were available)	\$225,000.00			
TOTAL ASSESSMENT COST AFTER ASSISTANCE	\$2,675,000.00			
TOTAL ASSESSMENT FEE PER LOT (AFTER ASSISTANCE)	\$53,500.00			
UPFRONT SEWER TAP FEE	\$318			
UPFRONT AVAILABILITY FEE (dependent on sq ft of house)	1000	1500	2000	2500
AVAILABILITY FEE (Oct1,2007)	\$2,441.00	\$2,949.00	\$3,001.00	\$3,677.00
UPFRONT PLUMBING EXTENSION COST PER LINEAR FT	\$25.00	\$25.00	\$25.00	\$25.00
ESTIMATED COST FOR 100 LINEAR FT	\$2,500.00	\$2,500.00	\$2,500.00	\$2,500.00
TOTAL COST TO CONSTRUCT & RECEIVE SERVICE PER LOT	\$58,759.00	\$59,267.00	\$59,319.00	\$59,995.00
Average Household Gallons Consumed/Month	6,000g			
Monthly Bill	\$59.00			

June 21, 2007

**CONCEPT A: ROGERS ROAD WITHIN TOWN LIMITS (ANNEXATION)
COST DISTRIBUTION ON PER-LOT BASIS(excluding proposed Habitat project)**

Assuming 50 additional lots created by new development

EST. COST OF PROJECT FOR CONCEPT A	\$2,900,000			
# OF LOTS	100			
TOWN ASSISTANCE PER EXISTING LOT (UPPER LIMIT)	\$4,500			
TOTAL TOWN REIMBURSEMENT (if funds were available)	\$225,000.00			
TOTAL ASSESSMENT COST AFTER ASSISTANCE	\$2,675,000.00			
TOTAL ASSESSMENT FEE PER LOT (AFTER ASSISTANCE)	\$26,750.00			
UPFRONT SEWER TAP FEE	\$318			
UPFRONT AVAILABILITY FEE (dependent on sq ft of house)	1000	1500	2000	2500
AVAILABILITY FEE (Oct1,2007)	\$2,441.00	\$2,949.00	\$3,001.00	\$3,677.00
UPFRONT PLUMBING EXTENSION COST PER LINEAR FT	\$25.00	\$25.00	\$25.00	\$25.00
ESTIMATED COST FOR 100 LINEAR FT	\$2,500.00	\$2,500.00	\$2,500.00	\$2,500.00
TOTAL COST TO CONSTRUCT & RECEIVE SERVICE PER LOT	\$32,009.00	\$32,517.00	\$32,569.00	\$33,245.00
Average Household Gallons Consumed/Month	6,000g			
Monthly Bill	\$59.00			

June 21, 2007

**CONCEPT A: ROGERS ROAD WITHIN TOWN LIMITS (ANNEXATION)
COST DISTRIBUTION ON PER-LOT BASIS(excluding proposed Habitat project)**

Assuming 100 additional lots created by new development

EST. COST OF PROJECT FOR CONCEPT A	\$2,900,000			
# OF LOTS	150			
TOWN ASSISTANCE PER EXISTING LOT (UPPER LIMIT)	\$4,500			
TOTAL TOWN REIMBURSEMENT (if funds were available)	\$225,000.00			
TOTAL ASSESSMENT COST AFTER ASSISTANCE	\$2,675,000.00			
TOTAL ASSESSMENT FEE PER LOT (AFTER ASSISTANCE)	\$17,833.33			
UPFRONT SEWER TAP FEE	\$318			
UPFRONT AVAILABILITY FEE (dependent on sq ft of house)	1000	1500	2000	2500
AVAILABILITY FEE (Oct1,2007)	\$2,441.00	\$2,949.00	\$3,001.00	\$3,677.00
UPFRONT PLUMBING EXTENSION COST PER LINEAR FT	\$25.00	\$25.00	\$25.00	\$25.00
ESTIMATED COST FOR 100 LINEAR FT	\$2,500.00	\$2,500.00	\$2,500.00	\$2,500.00
TOTAL COST TO CONSTRUCT & RECEIVE SERVICE PER LOT	\$23,092.33	\$23,600.33	\$23,652.33	\$24,328.33
Average Household Gallons Consumed/Month	6,000g			
Monthly Bill	\$59.00			

June 21, 2007

CONCLUSIONS:

Concept A (50 existing lots) PER LOT COST WITH TOWN ASSISTANCE TO EXISTING LOTS:
\$59,000 to \$60,000 + MONTHLY BILL

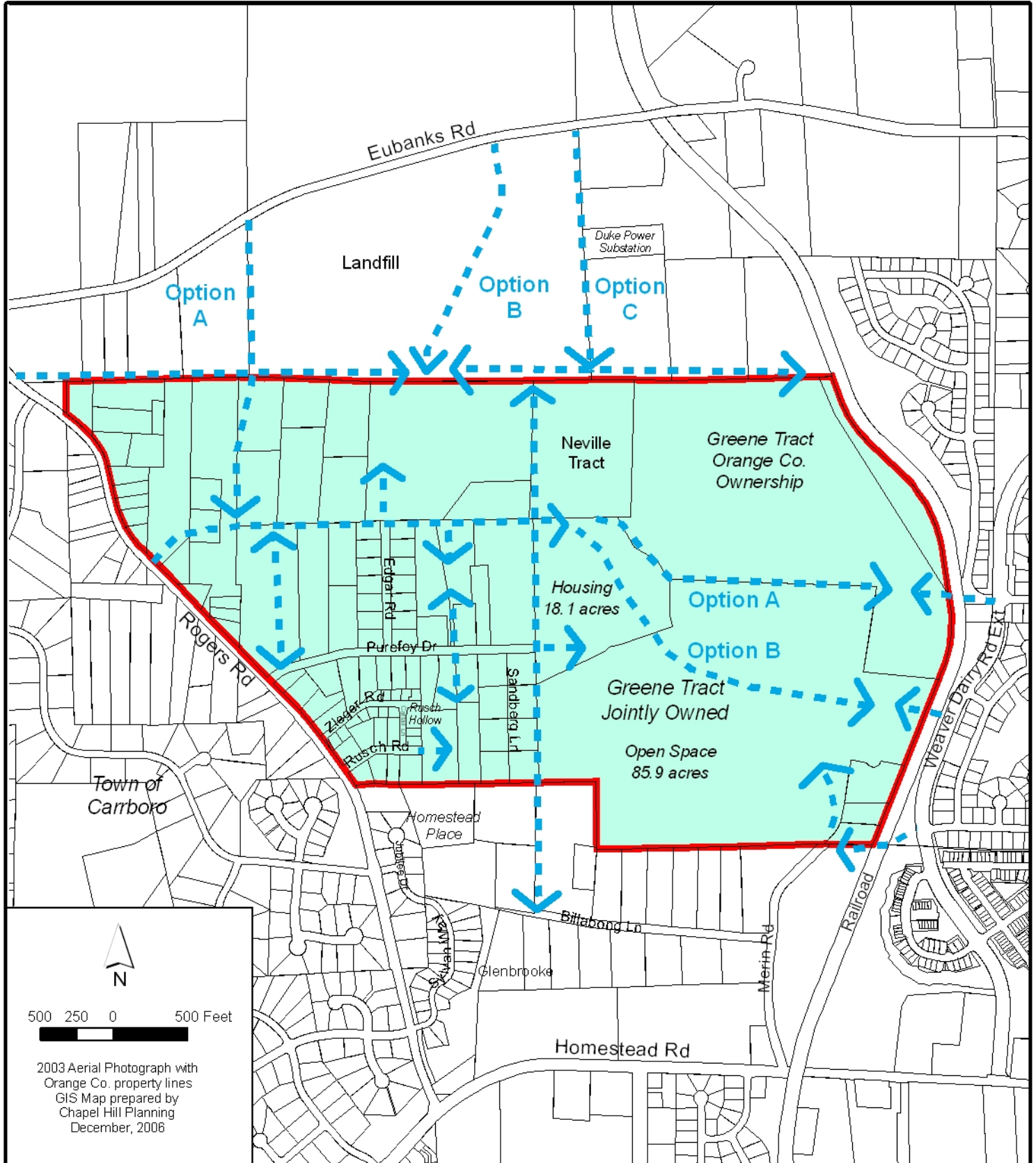
Concept A (50 existing lots + 50 new lots) PER LOT COST WITH TOWN ASSISTANCE TO EXISTING LOTS:
\$32,000 to \$33,300 + MONTHLY BILL

Concept A (50 existing lots + 100 new lots) PER LOT COST WITH TOWN ASSISTANCE TO EXISTING LOTS
\$23,000 to \$24,400 + MONTHLY BILL

***THESE FIGURES COULD INCREASE OVER TIME WITH RISING CONSTRUCTION COSTS;
OWASA ESTIMATES CONSTRUCTION COSTS COULD INCREASE 8% PER YEAR


Map 1B

Rogers Road Study Area with Possible Road Network Options



Legend

 Rogers Rd Study Area

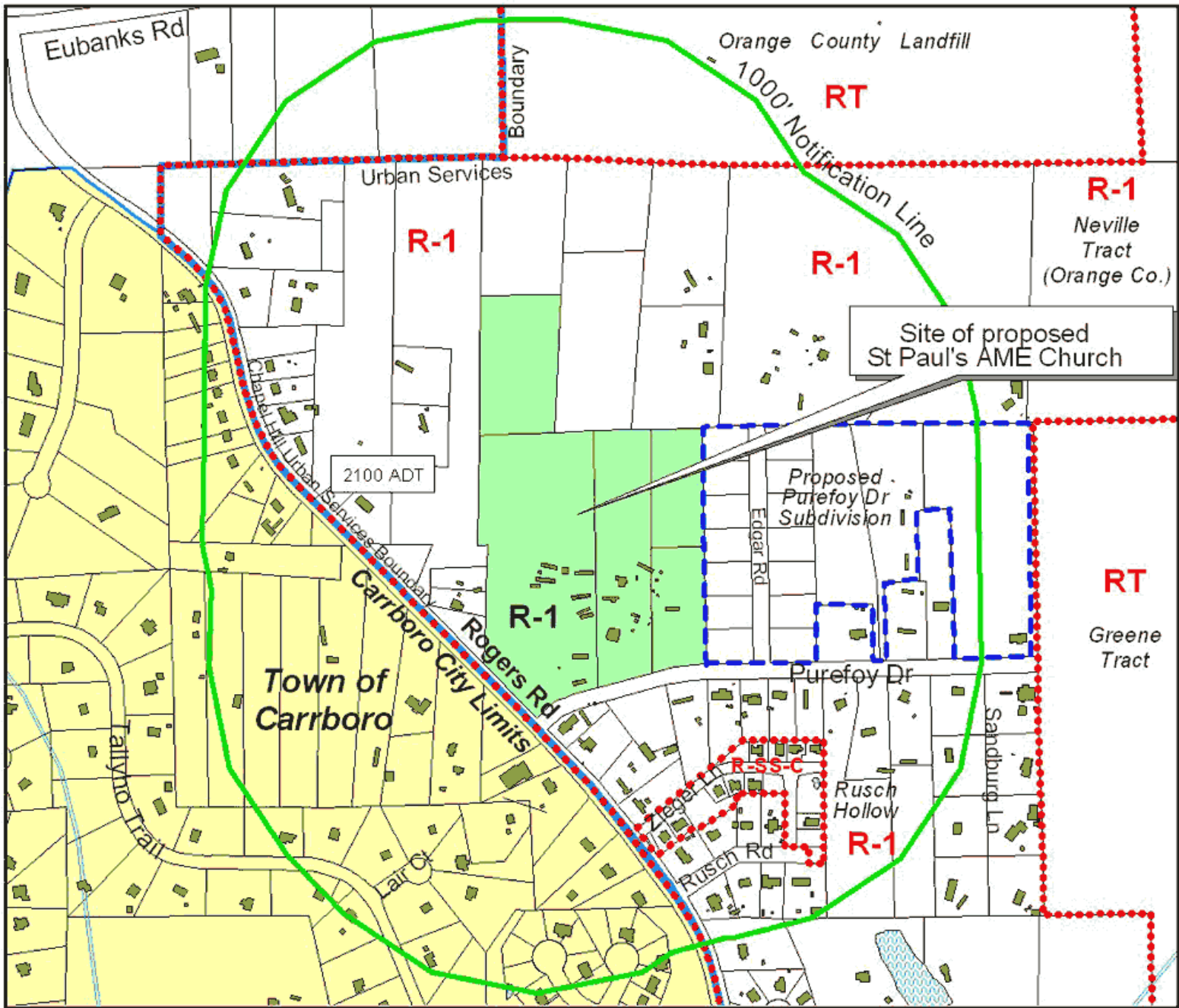
 Possible Road Network Options






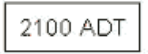




2003 Aerial Photograph with
Orange Co. property lines
GIS Map prepared by
Chapel Hill Planning
December, 2006



Area Map St. Paul's AME Church



	St. Paul's AME Church site
	Buildings
	Chapel Hill Zoning
	Future Purefoy Dr Subdivision
	Carrboro City Limits
	Average Daily Traffic (ADT) 2005 DOT Data


N

500 0 500 Feet

GIS Map prepared by
Chapel Hill Planning
April, 2008