ORANGE COUNTY PLANNING DEPARTMENT
131 W. MARGARET LANE, SUITE 201
HILLSBOROUGH, NORTH CAROLINA 27278

AGENDA
ORANGE COUNTY PLANNING BOARD

ORANGE COUNTY WEST CAMPUS OFFICE BUILDING
131 WEST MARGARET LANE – LOWER LEVEL CONFERENCE ROOM (ROOM #004)
HILLSBOROUGH, NORTH CAROLINA 27278
Wednesday, September 2, 2015
Regular Meeting – 7:00 pm

No.	Page(s)	Agenda Item
1.		**CALL TO ORDER**
2.		**INFORMATIONAL ITEMS**
	3 - 4	**a.** Planning Calendar for September and October • September 8 – Quarterly Public Hearing
3.		**APPROVAL OF MINUTES**
	5 - 9	August 5, 2015 ORC Notes
	10 - 11	August 5, 2015 Regular Meeting
4.		**CONSIDERATION OF ADDITIONS TO AGENDA**
5.		**PUBLIC CHARGE**

Introduction to the Public Charge

The Board of County Commissioners, under the authority of North Carolina General Statute, appoints the Orange County Planning Board (OCPB) to uphold the written land development laws of the County. The general purpose of OCPB is to guide and accomplish coordinated and harmonious development. OCPB shall do so in a manner which considers the present and future needs of its residents and businesses through efficient and responsive process that contributes to and promotes the health, safety, and welfare of the overall County. The OCPB will make every effort to uphold a vision of responsive governance and quality public services during our deliberations, decisions, and recommendations.

Public Charge

The Planning Board pledges to the residents of Orange County its respect. The Board asks its residents to conduct themselves in a respectful, courteous manner, both with the Board and with fellow residents. At any time, should any member of the Board or any resident fail to observe this public charge, the Chair will ask the offending member to leave the meeting until that individual regains personal control. Should decorum fail to be restored, the Chair will recess the meeting until such time that a genuine commitment to this public charge is observed.

6. **CHAIR COMMENTS**

No.	Page(s)	Agenda Item
7.	**12 - 63**	**ZONING ATLAS AMENDMENT (CONDITIONAL ZONING DISTRICT) –** To make a recommendation on a request to rezone 112 acres of property from Rural Residential (R-1), Upper Eno Protected Watershed Protection Overlay District to Master Planned Development Conditional Zoning (MPD-CZ), Upper Eno Protected Watershed Protection Overlay District in order to allow for the development of Hart's Mill Village within the Cheeks Township. This item was heard at the May 26, 2015 quarterly public hearing and was reviewed at the July 1, 2015 Planning Board meeting. **Presenter:** Michael Harvey, Current Planning Supervisor
8.		**COMMITTEE/ADVISORY BOARD REPORTS** **a.** Board of Adjustment **b.** Orange Unified Transportation
9.		**ADJOURNMENT**

IF AN EMERGENCY OCCURS, OR IF YOU ARE RUNNING LATE FOR THE MEETING, PLEASE LEAVE A VOICE MAIL FOR MICHAEL HARVEY (919-245-2597).

September 2015

<August

October>

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
		1	2	3	4	5
		Regular BOCC Meeting 7:00 pm Whitted Building	ORC – 6:15 Planning Board 7:00 pm WCOB 004*			
6	7	8	9	10	11	12
	Holiday	Quarterly Public Hearing 7:00 pm Whitted Building*		BOCC Work Session 7:00 pm Southern Human Services Center		
13	14	15	16	17	18	19
	Board of Adjustment 7:30 pm WCOB 004	Regular BOCC Meeting 7:00 pm Southern Human Services Center	OUTBoard 7:00 pm WCOB 004	BOCC/City of Mebane Joint Meeting 5:30 pm Whitted Building		
20	21	22	23	24	25	26
27	28	29	30			
		BOCC/Schools Joint Meeting 7:00 pm Whitted Building		Notes: * Planning Board Member Attendance Required WCOB = West Campus Office Building (131 W. Margaret Lane, Hillsborough)		

October 2015

<September

November>

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
				1	2	3
Notes: * Planning Board Member Attendance Required WCOB = West Campus Office Building (131 W. Margaret Lane, Hillsborough)				BOCC Work Session 7:00 pm Whitted Building		
4	5	6	7	8	9	10
		Regular BOCC Meeting 7:00 pm Whitted Building	Planning Board 7:00 pm WCOB 004*			
11	12	13	14	15	16	17
	Board of Adjustment 7:30 pm WCOB 004	BOCC Work Session 7:00 pm Whitted Building		JPA Joint Public Hearing & BOCC/Town of Carrboro Joint Meeting 7:00 pm Southern Human Services Center		
18	19	20	21	22	23	24
		Regular BOCC Meeting 7:00 pm Southern Human Services Center	OUTBoard 7:00 pm WCOB 004			
25	26	27	28	29	30	31

SUMMARY NOTES
ORANGE COUNTY PLANNING BOARD
AUGUST 5, 2015
ORDINANCE REVIEW COMMITTEE

NOTE: A quorum is not required for Ordinance Review Committee meetings.

MEMBERS PRESENT: Peter Hallenbeck (Chair), Cheeks Township Representative; Lydia Wegman-At-Large Chapel Hill Township (Vice Chair); Tony Blake, Bingham Township Representative; Paul Guthrie, At-Large Chapel Hill Township; Buddy Hartley, Little River Township Representative; Laura Nicholson, Eno Township Representative; Herman Staats, At-Large, Cedar Grove Township; James Lea, Cedar Grove Township Representative;

STAFF PRESENT: Michael Harvey, Current Planning Supervisor; Perdita Holtz, Planning Systems Coordinator; Ashley Moncado, Special Projects Planner;

AGENDA ITEM 1: CALL TO ORDER
UNIFIED DEVELOPMENT ORDINANCE (UDO) TEXT AMENDMENTS
PUBLIC HEARING PROCESS REVISIONS
To continue review and comment upon proposed amendments to the UDO to revise the public hearing process.

Presenter: Perdita Holtz, Planning Systems Coordinator

Perdita Holtz: Reviewed abstract and presentation.

James Lea: When you say generally are you speaking of Section 2.3.7, is that the word you are talking about?

Perdita Holtz: Yes, we are suggesting that A, B, and C be deleted, and this is what I would like your input on, but if they are not to be deleted then it would need to be amended as shown. We are suggesting any amendment to the comprehensive plan can be heard at any of the four quarterly public hearings. How does the ORC feel about that?

Lydia Wegman: Where does it say four times a year?

Perdita Holtz: The language would say proposed amendments shall be considered at the quarterly public hearings.

Lydia Wegman: I think that makes sense

Pete Hallenbeck: It sounds good to me.

Tony Blake: I am not opposed to the intent; I'm just trying to think of things that could go wrong.

Pete Hallenbeck: We have also had concerns in the past that the county moves too slowly. Making this four times a year is a good deal.

Perdita Holtz: Ok, it sounds like you are good with changing that.

Perdita Holtz continued presentation.

Perdita Holtz: Would it be acceptable to combine the Planning Board meeting notice and the quarterly public hearing notice into one? Or should we stick to having two separate ones?

Pete Hallenbeck: You schedule the two at the same time?

Perdita Holtz: Yes, we schedule both at the same time.

Lydia Wegman: This it just for comprehensive plan amendments?

Perdita Holtz: For comprehensive plan map amendments.

Lydia Wegman: How does this relate to Section 2.3.5?

Perdita Holtz: Section 2.3.5 says that before the BOCC can adopt any comprehensive plan amendment there shall be a public hearing. Right now the public hearing is a joint public hearing with the BOCC and Planning Board. Part of this proposal is to not require a quorum of Planning Board members in order to hold the public hearing, so technically it would no longer be a joint public hearing.

Tony Blake: It doesn't mean we aren't invited?

Perdita Holtz: You are encouraged to attend.

Lydia Wegman: The Planning Board would still be making recommendations?

Perdita Holtz: Yes.

Lydia Wegman: Is this a legal issue not to have a quorum?

Perdita Holtz: We are still reviewing this with the county attorney, but they believe it would not be an issue.

Perdita Holtz: So it sounds like you all are ok with combining two notices into one?

Lydia Wegman: Yes

Tony Blake: A concern I see is that the tighter we make it the less opportunity there is for parties to discuss outside of the process and settle somethings.

Perdita Holtz: The applicants and neighbors can discuss outside of the hearing, it's just the decision makers need to hear the evidence in a hearing setting.

Lydia Wegman: If there is the public hearing and the applicant and neighbors come up with a new plan then would there have to be another public hearing?

Perdita Holtz: Following the quasi-judicial hearing, the hearing would either be closed or would be continued at another hearing date. I believe in that scenario it's going to be continued to another hearing date and at that new hearing the compromises would be presented.

Tony Blake: If there are material changes to the plan, they would have to go through the application process again?

Perdita Holtz: Once your application is in, you can amend it.

Michael Harvey: Those changes would need to be presented at a public hearing.

Meeting postponed for Planning Board meeting at 7:07

Perdita Holtz continued presentation following Planning Board meeting.

Lydia Wegman: Planning Board would not necessarily be involved in Class A Special Use Permits?

Perdita Holtz: Correct, it would be at the discretion of the BOCC.

Tony Blake: In the materials provided, it seemed to indicate that the quasi-judicial or ex parte communication began when the application was complete, but I don't see an application complete milestone on the chart.

Pete Hallenbeck: You want a box that says ex parte starts here?

Tony Blake: Yea

Pete Hallenbeck: If I understand the DAC does not include Planning Board, just staff and is just a process of the application?

Perdita Holtz: Staff reviews all the applications and does not accept applications that are not complete, so when its application submittal time, it's considered complete.

Tony Blake: So at that point there needs to be some indication that ex parte begins.

Perdita Holtz: That may not be something we put in the chart, but is something that we have to discuss in training to understand when the process starts.

Michael Harvey: Once an application is determined to be complete, we send out notifications for the neighborhood information meeting noting that we have received the application. I have noted before that once an application is deemed complete by staff, that's when Board members cannot have ex parte communication. You will all find out about the application when the notifications are sent for the neighborhood information meeting.

Tony Blake: Don't you think that's late notice?

Michael Harvey: No, because that goes out 60 days before the public hearing and is sent the day after an application is determined complete.

Tony Blake: This negates the Planning Board function because when someone gets the notice, they call Planning Board members and start asking questions and if we are bound by ex parte by not discussing it.

Perdita Holtz: That is true, but that is the nature of quasi-judicial hearings and why many jurisdictions do not have their Planning Board look at these items.

Michael Harvey: Why not recommend to the public to call staff? Since staff is processing the application we can divulge information since we are not bound by ex parte communication and we are not making a recommendation to a governing body.

Pete Hallenbeck: I think that's the answer if someone calls you.

Tony Blake: Why can staff talk about the details, but not us?

Michael Harvey: Because that's why we are here. You make recommendations to the BOCC.

Pete Hallenbeck: This is how this process is set up and defined. Those are the rules if you will.

Tony Blake: It doesn't make sense.

Pete Hallenbeck: I think you can go on record and say I don't like the rules, but…

Lydia Wegman: To me, I wouldn't have the kind of information staff would have, I think that if you want to help someone that is upset you…

Tony Blake: We are billed as township representatives. Are we township representatives or not? And since we aren't making the decision I do not understand why we can't discuss it.

Pete Hallenbeck: We have the ability to provide our input to the BOCC.

Lydia Wegman: I think we have the ability to provide our input and recommendation to the BOCC and that would be the point when representation of your township would be very relevant.

Tony Blake: But how can we get a feel for what the township we represent is feeling if we can't discuss it?

Lydia Wegman: Wouldn't we hear it at the quarterly public hearing?

Michael Harvey: Or the neighborhood meeting.

Perdita Holtz: We are still discussing with the attorney how much Planning Board members can participate at the neighborhood meeting.

Pete Hallenbeck: That's something we need guidance with.

Tony Blake: I am just trying to understand when and what I can say. And I would like to know a little bit more why.

Pete Hallenbeck: As a result of this conversation we need clarification from the attorney regarding ex parte communication.

Tony Blake: I would agree.

Pete Hallenbeck: What happens when a Planning Board member has specific skills that would make them the equivalent of an expert witness and has questions or comments about the evidence provided?

Perdita Holtz: I will bring that up to the county attorney. My feeling with that is that would need to be brought up at the quasi-judicial meeting.

Lydia Wegman: Or at least to ask questions?

Perdita Holtz: You are definitely able to ask questions.

Paul Guthrie: On a number of occasions and presentations to this body, provided evidence of a proposal was weak and incomplete, and with raising questions with the context the applicant basically blows off an answer and you feel as a member here do you really want to go down the road and cross examine them on where their information is from. Yet we are here to provide citizen representation and assistance based our experience. You may need to be careful how you frame that issue.

Perdita Holtz continued presentation.

Perdita Holtz: New language will be added to the Planning Board policies and procedures that would require the chair or vice chair to attend the quarterly public hearing and BOCC meetings where a decision is scheduled on items Planning Board made a recommendation on.

Paul Guthrie: Shouldn't it be noted that the chair or vice chair be prepared to discuss with this Board what went on at that session?

Perdita Holtz: Hopefully you all will attend the public hearing.

Pete Hallenbeck: The meetings are available for viewing and notes are provided following the meeting. If I went to this meeting I provide subjective viewpoints to the Board.

Perdita Holtz continued presentation.

Pete Hallenbeck: The commissioners will choose if they want door A or door B? And when that happens then some of this timing will get better nailed down?

Perdita Holtz: Yes, both options are going to be presented for comment at the public hearing and depending on how that goes, we will decide how to move forward. This is planned to be on the October Planning Board meeting for a recommendation.

Pete Hallenbeck: Any other comments?

Lydia Wegman: Thank you for your patience in going through this.

AGENDA ITEM 2: ADJOURNMENT

MINUTES
ORANGE COUNTY PLANNING BOARD
AUGUST 5, 2015
REGULAR MEETING

MEMBERS PRESENT: Peter Hallenbeck (Chair), Cheeks Township Representative; Lydia Wegman-At-Large Chapel Hill Township (Vice Chair); Tony Blake, Bingham Township Representative; Paul Guthrie, At-Large Chapel Hill Township; Buddy Hartley, Little River Township Representative; Laura Nicholson, Eno Township Representative; Herman Staats, At-Large, Cedar Grove Township; James Lea, Cedar Grove Township Representative;

MEMBERS ABSENT: Bryant Warren, Hillsborough Township Representative; Lisa Stuckey, Chapel Hill Township Representative; Maxecine Mitchell, At-Large Bingham Township; Andrea Rohrbacher, At-Large Chapel Hill Township;

STAFF PRESENT: Michael Harvey, Current Planning Supervisor; Perdita Holtz, Planning Systems Coordinator; Ashley Moncado, Special Projects Planner;

AGENDA ITEM 1: CALL TO ORDER AND ROLL CALL

Pete Hallenbeck: Called meeting to order

AGENDA ITEM 2: INFORMATIONAL ITEMS

a) Planning Calendar for July and August

AGENDA ITEM 3: APPROVAL OF MINUTES

a) JULY 1, 2015 ORC NOTES
b) JULY 1, 2015 REGULAR MEETING

MOTION by Lydia Wegman to approve the Notes and Minutes. Seconded by Tony Blake.

VOTE: UNANIMOUS

AGENDA ITEM 4: CONSIDERATION OF ADDITIONS TO AGENDA

No changes to the agenda.

AGENDA ITEM 5: PUBLIC CHARGE

Introduction to the Public Charge

The Board of County Commissioners, under the authority of North Carolina General Statute, appoints the Orange County Planning Board (OCPB) to uphold the written land development laws of the County. The general purpose of OCPB is to guide and accomplish coordinated and harmonious development. OCPB shall do so in a manner which considers the present and future needs of its residents and business through efficient and responsive process that contributes to and promotes the health, safety, and welfare of the overall County. The OCPB will make every effort to uphold a vision of responsive governance and quality public services during our deliberations, decision, and recommendations.

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resident fail to observe this public charge, the Chair will ask the offending member to leave the meeting until that individual regains personal control. Should decorum rail to be restored, the Chair will recess the meeting until such time that a genuine commitment to this public charge is observed.

AGENDA ITEM 6: CHAIR COMMENTS

Pete Hallenbeck: I want to reemphasize that we need to be careful with emails. We shouldn't be expressing opinions or views through email. That should be done at a public meeting.

AGENDA ITEM 7: COMMITTEE/ADVISORY BOARD REPORTS

A. Board of Adjustment

None

B. Orange County Transportation

None

AGENDA ITEM 8: ADJOURNMENT

ORANGE COUNTY
PLANNING BOARD
ACTION AGENDA ITEM ABSTRACT
Meeting Date: September 2, 2015

Action Agenda Item No. _____

SUBJECT: Zoning Atlas Amendment: Conditional Zoning –Master Plan Development Conditional Zoning District (MPD-CZ) Hart's Mill

DEPARTMENT: Planning and Inspections **PUBLIC HEARING: (Y/N)** Yes

ATTACHMENTS:

1. Property and Vicinity Map
2. Responses to Questions from May 26, 1025 Quarterly Public Hearing
3. Responses to Questions from July 1, 2015 Planning Board Meeting
4. Draft Statement of Consistency
5. Draft Ordinance Approving Rezoning with Development Conditions

INFORMATION CONTACT:

Michael D. Harvey, Planner III (919) 245-2597
Craig Benedict, Director (919) 245-2575

PURPOSE: To continue review and make a recommendation to the BOCC on a request to rezone a 112 acre parcel of property to Master Plan Development – Conditional Zoning (MPD-CZ) district in accordance with the provisions of Section 2.9.2 of the Unified Development Ordinance (hereafter 'UDO').

Conditional Zoning District (CZD) Process: The process involves the approval of a rezoning petition and site plan allowing for the development of specific land use(s) on a parcel of property. Applications are processed in a legislative manner (i.e. does not require sworn testimony or evidence) and decisions are based on the BOCC's determination that the project is consistent with the purpose and intent of the Comprehensive Plan. The typical cadence for the review of a CZD application is:

- **First Action** – Planning staff schedules a Neighborhood Information Meeting (NIM).

  Staff Comment – DONE. This meeting was held on April 8, 2015.

- **Second Action** – The BOCC and Planning Board review the application at 1 of 4 joint Quarterly Public Hearings.

  Staff Comment – DONE. The public hearing was held on May 26, 2015.

- **Third Action** – The Planning Board makes a recommendation on the proposal.

  Staff Comment – The Planning Board began their review of this item at its July 1, 2015 regular meeting and will continue review at its September 2, 2015 regular meeting.

- **Fourth Action** – The BOCC receives the Planning Board recommendation and makes a decision.

Staff Comment – The BOCC is now scheduled to receive the Planning Board recommendation at its November 5, 2015 regular meeting.

BACKGROUND: This item was presented at the May 26, 2015 Quarterly Public Hearing. Agenda materials from this meeting can be viewed at: http://www.orangecountync.gov/150526QPHKC.pdf.

As articulated at the public hearing, the proposed project is a village style development with approximately 34 dwelling units and involves the preservation of the majority of the property as vegetative open space and farm area (i.e. pasture and crop production). The residential portion of the project would occupy approximately 22 acres of the parcel with another 5 to 8 acres being used to support the proposed septic system. The remaining acreage would be preserved as farmland and dedicated open space.

During the public hearing the following comments were made:

1. There was general support for the project.
2. A BOCC member requested additional information on the ownership mechanism proposed by the applicant, expressing concern(s) over how residents will own their individual housing units and surrounding property.

   STAFF COMMENT: Please refer to Attachment 2 of the abstract for the applicant's response.

3. A BOCC member asked for clarification on the imposition of conditions.

   STAFF COMMENT: As detailed in the public hearing abstract, mutually agreed upon conditions can be imposed as part this process only if they address:

   i. The compatibility of the proposed development with surrounding property,

   ii. Proposed support facilities (i.e. roadways and access points, parking, pedestrian and vehicular circulation systems, screening and buffer areas, etc.) and/or

   iii. All other matters the County may find appropriate or the petitioner may propose.

4. A BOCC member asked staff to clarify proposed and allowable density.

   STAFF COMMENT: The property is located within the Rural Residential (R-1) general use zoning district and the Upper Eno Protected Watershed Protection Overlay District allowing for a density of 1 dwelling unit for every 40,000 sq. ft. (0.92 acres) of property.

   The property is also located within the 20 Year Transition Area as denoted on the Future Land Use Map and is designated as being Urban on the Growth Management System Map indicating urban densities are permitted.

   This could result in a total of 112 dwelling units being developed on the property based purely on the size of the parcel and not taking other factors into consideration (i.e. adequate soils for septic, road access, permitting process, presence of stream and other environmental features, etc.).

   If approved the project would only allow for 1 dwelling unit for approximately every 3.2 acres of property and 34 dwelling units.

5. A Planning Board member asked if additional dwelling units could be added in the future.

   STAFF COMMENT: The plan could be modified through the submittal and processing of a new Conditional Zoning District petition. This would mean the holding of a new neighborhood information meeting and a public hearing to review the proposal.

6. A BOCC member asked if the applicant was being asked to extend road access to adjacent parcels.

   STAFF COMMENT: It is not practical to extend the proposed roadway to the east due to the presence of streams and floodplain. There is no perceived benefit in requiring connection with adjoining subdivisions as this could create traffic concerns for adjacent neighborhoods.

7. A BOCC member asked the applicant to provide additional detail on the proposed 6 inch water line serving the project and if the line would be adequate to support water for both consumption and firefighting capabilities.

   STAFF COMMENT: Please refer to Attachment 2 of the abstract for the applicant's response.

   In consultation with the Fire Marshal and Orange County Emergency Services staff is recommending a condition requiring the final size of required waterlines to be determined at time of permitting with the review and approval of the Orange County Fire Marshal.

8. Several BOCC members asked for clarification on the proposed septic system for the project.

   STAFF COMMENT: Please refer to Attachment 2 of the abstract for the applicant's response.

9. Planning staff indicated the applicant was asked to provide additional detail on proposed landscaping in and around individual residential structures.

   STAFF COMMENT: Please refer to Attachment 2 of the abstract for the applicant's response.

At the July 1, 2015 Planning Board meeting the following additional information was requested:

a. A Planning Board member asked if there were any marketing materials available for the project and, if so, if copies could be provided.

   STAFF COMMENT: Please refer to Attachment 3 of the abstract for the applicant's response.

b. Several Planning Board members asked if the applicant was going to allow for the creation of recreational amenities/land uses on the property. There was a concern expressed over requiring the applicant to come back through the process to amend the approved Conditional Zoning district to add a recreational amenity.

   STAFF COMMENT: The site plan has been modified to include identified recreation areas.

   The proposed development conditions contained in Attachment 5 have also been modified to spell out permitted recreational amenities for residents.

c. A Planning Board member asked for a more detailed breakdown of anticipated farm activities that would be allowed on the property.

STAFF COMMENT: Please refer to Attachment 3 of the abstract for the applicant's response.

d. The Planning Director asked the applicant to provide additional information on the promotion of 'crime prevention through environmental design'.

STAFF COMMENT: Please refer to Attachment 3 of the abstract for the applicant's response.

Planning Director's Analysis: The Planning Director recommends **approval** of proposed Zoning Atlas Amendment application and further recommends approval of the:

i. Statement of Consistency, as contained in Attachment 4, indicating the proposed zoning atlas amendment is consistent with the adopted Comprehensive Plan and the project is reasonable and in the public interest, and

ii. Ordinance amending the Orange County Zoning Atlas as contained in Attachment 5.

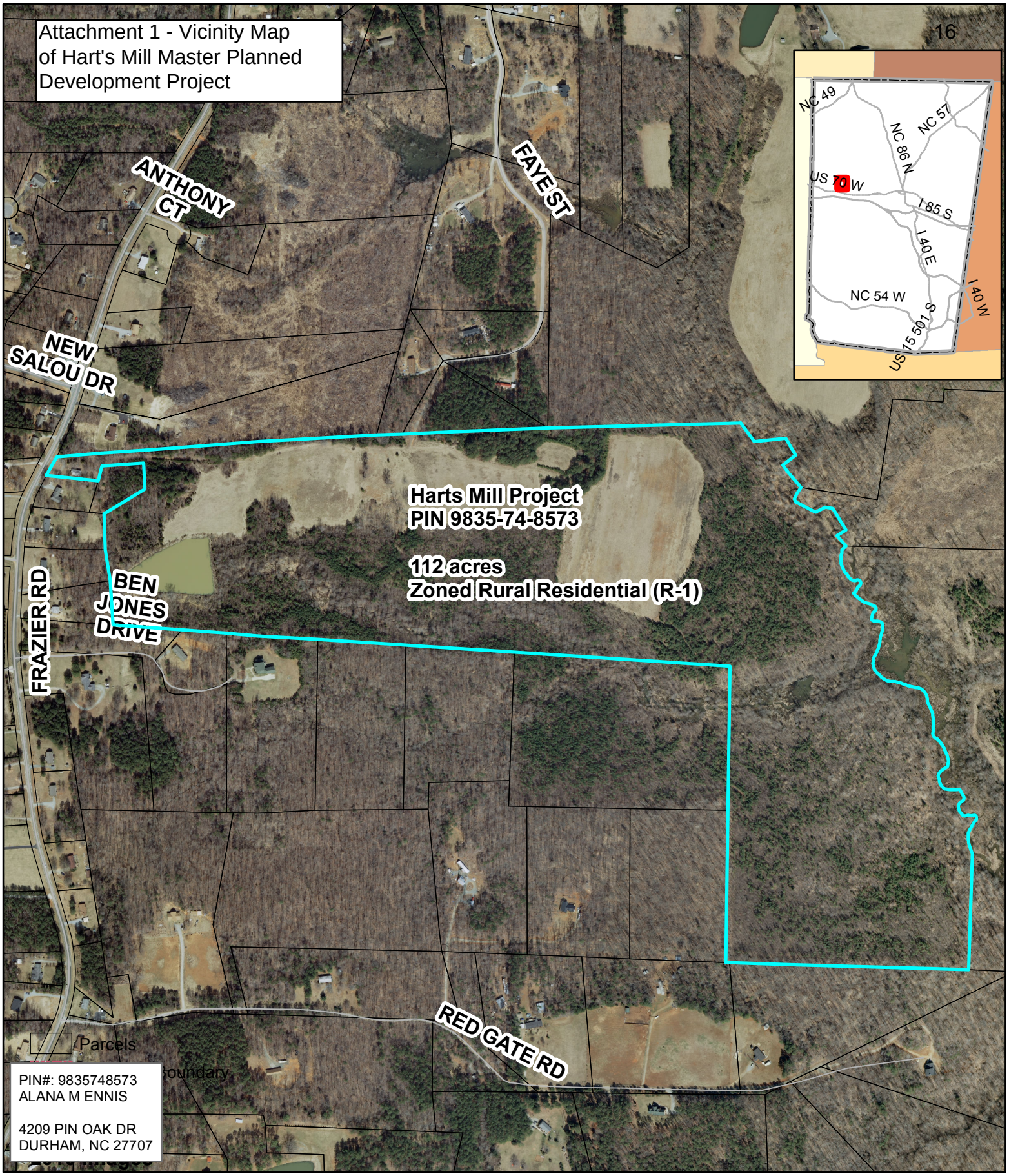
FINANCIAL IMPACT: This request has been reviewed by various County departments who have determined that the approval or denial of the request would not create the need for additional funding for the provision of County services. Costs associated with advertising, including the public hearing notice and mailings, were paid by the applicant in accordance with the adopted Orange County Fee Schedule.

Costs associated with permitting development of the project shall be paid by the applicant in accordance with the adopted Orange County Fee Schedule (i.e. erosion control, stormwater management, building, zoning, etc.).

RECOMMENDATION(S): The Planning Director recommends the Board:

1. Deliberate on the application as necessary,
2. Consider the Planning Director's recommendation, and
3. Take action on the Statement of Consistency (Attachment 4) and make a recommendation on the ordinance of approval (Attachment 5) in time for the **November 5, 2015** BOCC meeting.

Attachment 1 - Vicinity Map of Hart's Mill Master Planned Development Project



PIN#: 9835748573
ALANA M ENNIS

4209 PIN OAK DR
DURHAM, NC 27707

N

1 inch = 582 feet

0 500

Orange County Planning and Inspections Department
03/27/2015

Attachment 2

July 31, 2015

To: Orange County Planning Department

From: Hart's Mill, LLC

RE: **Hart's Mill Master Plan Development/Conditional Zoning Application**
Organizational & Operational Model

How will the land and infrastructure be owned and managed?

The entire parcel of land will remain in common, undivided ownership, much of it permanently protected by covenant restrictions, conservation easements and/or agricultural easements. All shared infrastructure such as water lines, wastewater systems and central solar panels will be owned by the community association as a whole and managed by an elected board.

Residents will have limited rights to private use and enjoyment of defined areas of land immediately adjacent to their homes. Some portions of community association land and farm structures may be leased to individuals, small businesses or nonprofits for the purpose of small-scale sustainable agricultural and forest production.

The community board will be responsible for the financial and physical management of all of the land and infrastructure. Residents may opt to maintain the yards around their homes in compliance with adopted standards.

How will housing be owned and maintained?

The majority of homes will be owner-occupied. A small portion of homes and suites will be available for rental. There will be restrictions on subleases and long-term rental of individually-owned homes. Residents will be responsible for the maintenance of the interior of their homes and the community association will be responsible for exterior maintenance.

Who can buy into or live at Hart's Mill? What is the process for entry?

Our legal documents will specifically prohibit housing discrimination for all State and Federal protected classes, and we plan to incorporate universal design principles for accessible housing. We seek diversity in attributes such as age, family composition, income, ethnicity, spiritual beliefs, skills and abilities because we believe this creates a more vibrant and resilient community.

Homes will be offered for sale and lease to the general public. At the same time, we will place reasonable restrictions in our covenants and agreements to ensure that residents of Hart's Mill are committed to our central values of environmental stewardship and social equity and are willing to embody them in their daily lives. Requirements may include energy and water conservation practices, recycling and composting, use of non-toxic household/garden

chemicals, etc. The implementation and enforcement will be spelled out in our bylaws. All residents, to the extent capable will be required to actively participate in the governance and operations of the community. This will include a requirement for residents to contribute a minimum number of hours to community activities each month according to abilities and interest.

How are you addressing affordability?

Hart's Mill is being organized according to a model which takes a comprehensive, long-term approach to affordability. We seek to create a mutually supportive, mixed-income community. Some of the features and strategies that we plan to adopt include:

- Smaller homes which are less expensive to build and to maintain
- Private suites in one or two shared homes
- Shared facilities and amenities such as laundry, commercial kitchen, workshop/crafting spaces, media and music rooms, storage spaces and guest rooms to eliminate or reduce the need for space, furnishings and equipment in individual homes
- Shared specialty and/or infrequently-used equipment
- Reduced costs and improved security for energy and food from onsite production
- Carpooling and shared vehicles to reduce the need for families to own a second car or truck and to reduce commuting costs
- Opportunities for in-kind contributions in lieu of a portion of cash payments
- Informal social support for day-to-day needs such as after-school childcare as well as emergency situations such as accidents and illnesses
- Frequent shared meals which reduce both cost and time, especially for working parents
- Emergency financial fund for short-term loans to residents

What happens when someone leaves Hart's Mill?

A homeowner leaving Hart's Mill may sell their home to the general public provided that the buyer accepts all required covenants and agreements. At the same time, the community reserves the first right to purchase homes under certain circumstances (such as foreclosure).

July 31, 2015

To: Orange County Planning Department

From: Hart's Mill, LLC

RE: Sample Covenants and Restrictions

Hart's Mill has not yet adopted formal legal covenants and restrictions for the planned community. The following are examples of the type of provisions that are expected to be put in place to ensure that the community is safe and attractive, and is aligned with its values, mission and aims.

> ***Mission:***
> To actualize Hart's Mill Village and Farm as an agrarian intentional community: restorative in its agriculture, sustainable in its designs and practices, collaborative in its social and work life, and celebratory and creative in all that we do.

Note: The term "Yard" as used below refers to the limited common area immediately surrounding each Dwelling for which the Owner of the Dwelling has more exclusive rights to use and enjoy. There will be no subdivision of separately owned lots or yards in the development.

EXTERIOR INSTALLATIONS, STORAGE AND TRASH

Utilities. All electric, television, radio and telephone line installations and connections from the Owner's property line to the Dwelling Unit shall be placed underground. All types of exterior refrigerating, cooling or heating apparatus must be concealed or integrated into the architectural design. Building integrated solar thermal and photovoltaic systems are encouraged.

Fences. The design, type of construction, and location of fences must be approved by the Design Review and Land Use Committee.

Restrictions on Signs and Advertising Devices. No sign, poster, billboard, advertising device or display of any kind shall be erected or maintained anywhere within The Property that does not comply with local sign codes, ordinances, and regulations and without prior written approval by the Land Use Committee.

Outside Installations. Any outside installation of antennas such as TV or wireless, or any projection on any physical structure including such things as sports apparatus but excluding chimneys and vent stacks shall fall under the guidelines of the Design Review Committee. Satellite dishes may be installed within The Property so long as such installation is approved by the Design Review Committee and the Land Use committee. Clotheslines may be installed on the side or back of an Owner's Yard, and are encouraged to save energy.

Personal Storage. Storage of personal items; small equipment of small recreational vehicles and equipment; or any such personal property must be stored within the Owner's Dwelling, or in the Owner's storage locker or shed. Any storage by an Owner outside of these personally owned areas can be done only with approval from the Land Use Committee.

Garbage, Trash and Recycling. All trash, rubbish, garbage, or other waste materials shall be kept in an appropriate sanitary, enclosed container on the Owner's Yard or in the approved recycling, composting and/or trash collection areas. The Community Association will provide for trash collection, recycling, and composting for the Property. No scrap or refuse such as lumber, trimmings from shrubs and trees, metals, bulk materials, or any kind of trash or waste material shall be kept, stored, or allowed to accumulate on any portion of The Property or upon any Owner's Yard except within approved enclosed structures or appropriately screened areas identified by the Land Use Committee.

The intent of the restrictions stated herein is to stay aligned with the ecological and energy goals and purposes of the community and land, and to avoid unsanitary, unsightly, or offensive conditions that might be a detriment to the Property, the people on the Property, and adjacent land and peoples. Each Owner shall keep his or her Yard at all times in a neat and clean condition.

VEHICLES AND ACCESS

Vehicular Parking and Storage. No vehicle, house trailer, camping trailer, camper, camper shells, boat trailer, hauling trailer, boat or boat accessories, truck larger than 3/4 ton, recreational vehicle or equipment, or commercial vehicle may be parked or stored anywhere within the Property except on designated parking spaces or at places defined by the Land Use Committee.

No household shall park more than the designated vehicles per household on the Property without prior written permission by the Land Use Committee.

Parking is allowed only in the designated parking areas and car shelters. No parking is allowed on landscaped areas, Common Areas, pedestrian ways, or access roads.

Vehicle Maintenance and Storage. All vehicle maintenance activities must occur within the auto workshop or parking areas. No abandoned, unlicensed, wrecked or inoperable vehicle of any kind shall be stored or parked within the Property except in garages or except in emergencies.

Pedestrian Ways. Pedestrian ways are intended for vehicular use only in rare situations when direct access is required by emergency, utility, and maintenance vehicles and moving vans. At no time can the pedestrian ways be obstructed in any way. It is the intent of the Association and these covenants that the pedestrian ways be used exclusively by people on foot and non-motorized or very small electric vehicles such as bicycles, strollers, wheelchairs and golf carts.

Emergency Easements. A nonexclusive easement for ingress and egress is hereby granted to all police, sheriff, fire protection, ambulance, and other similar emergency agencies or persons, now or hereafter servicing the Property, to enter upon any part of The Property in the performance of their duties.

ACTIVITIES

Actions upon the Property. No noxious or offensive activity shall be conducted upon the Property or any part thereof, nor shall anything be done or maintained thereon which may be or become an annoyance or nuisance to the neighborhood or which does not reflect the goals and values of the Community Association. Examples given here are not intended to define or restrict the intent of this

Article. These examples are drawn from other communities and include: habitually barking or howling dogs; glaring light; noisy or smoky vehicles; unlicensed off-road motor vehicles; or activities that interfere with television/radio reception or block solar access.

No Hazardous Activities. No activity shall be conducted on any portion of The Property which is or might be unsafe or hazardous to any person or property. Without limiting the generality of the foregoing, no open fires shall be lighted or permitted on any portion of the Property except in a contained space while attended and in use for recreational and/or cooking purposes or within a fireplace designed to prevent the dispersal of burning embers.

ANIMALS

Household Pets. The Land Use Committee guides its actions and decisions in matters of pets and animals with an intent to integrate animals into the community and onto The Property in a way that is aligned with the Association's goals and purposes that respects the Property and preserves its wild inhabitants and its natural or landscaped state. The intent of the Land Use Committee and this Paragraph is not to prevent any Owner from having an animal but rather to monitor the number and kinds of animals and their impact and compatibility with The Property and the community on an ongoing basis.

The Land use Committee must be notified of any animal kept on the Property. Animals must be approved in writing by the Land Use Committee. The only exceptions to these are animals such as birds, fish or reptiles that are kept within an Owner's Dwelling Unit that have no outside needs or use.
Any animal that needs the Common Areas for housing such as horses, goats, chickens requires that the Owner submit plans for the animal's care and maintenance for written approval by the Land Use Committee before the animal can be brought onto the Property. Animals (except wild) shall not be allowed to run at large within the Property but at all times shall be under the control of the owner or the Association member responsible for their care. Any animals on the Property shall be cared for and their living area maintained so they are healthy, not neglected in any way, and do not become a nuisance to others. All household pet litter in the Common Areas shall be cleaned up immediately by the owner or caretaker in charge at the time. Animal living areas shall be maintained so that they do not become an odorous or visual nuisance.

Animals belonging to or being cared for by any Owner or his or her Guests within the Property must abide by the provisions stated herein.

MAINTENANCE

Maintenance of the Common Areas. The Association shall provide for the repair, maintenance and/or replacement of the Common Areas located within the Property. Without limiting the generality of the foregoing and by way of illustration, the Association shall keep the Common Areas safe, attractive, clean, functional and in good repair and may make necessary or desirable alterations or improvements thereon.

No planting or gardening shall be done, and no fences, hedges or walls shall be erected upon said Common Areas to benefit a Dwelling Unit, except such as are installed in accordance with the initial

construction of the Dwelling Unit or as approved by the Land Use and Design Review Committee. If such improvements are made to the Common Areas, then such improvements must be maintained by the Owner of the Dwelling Unit benefitted in a manner acceptable to the Community Association. In the event the Owner shall fail to maintain such improvements in a manner acceptable to the Community Association, the Community Association shall have the right and duty, after Notice and Hearing, to remove the improvement and restore the Common Areas to a condition compatible with the remainder of the Common Areas.

Maintenance of the Yards and Dwelling Units. To provide and maintain exterior harmony for all of the Dwelling Units located within The Property, the Community Association shall maintain and repair the exterior of the Dwelling Unit located within The Property to include but not be limited to the painting, repairing, replacing and maintaining of roofs, gutters, down spouts, exterior building surfaces, patios, decks and perimeter fence. Such maintenance shall not include the maintenance, repair or replacement of glass in doors or windows or screened surfaces, entry door or door frames or hardware, all of which shall be the sole responsibility of the Dwelling Unit's Owner.

The maintenance obligation on the part of the Community Association shall apply to such maintenance required by ordinary wear and tear and shall not apply to maintenance, repair or restoration resulting from willful neglect or destruction.

All other Dwelling Unit maintenance and repair shall be the sole responsibility and at the sole expense of the Owner. Each Owner shall be responsible for maintaining the landscaping upon the Yard surrounding his or her own Dwelling Unit. All landscaping and maintenance thereof must comply with the Rules, Regulations and Guidelines established by the Land Use Committee and be in compliance the approved landscape plan.

An Owner may elect to turn over maintenance of landscaping on the Yard surrounding his or her Dwelling Unit to the Association. A written agreement and payment of an additional maintenance fee are required.

Maintenance of Drainage Pattern. There shall be no interference with the established drainage pattern initially established by the Declarant over any of the Yards and Common Areas within the Property, except as approved in writing by the Land Use Committee. Approval shall not be granted unless provision is made for adequate alternate drainage. The established drainage pattern shall mean the drainage pattern which exists at the time the overall grading of any property is completed by the Declarant and shall include any established drainage pattern shown on the plans approved by the Land use Committee. The established drainage pattern may include the drainage pattern from the Common Areas over any Yards with The Property and from any Yard within The Property over the common Areas, or from any Yard over another Yard.

michael m. hughes, p.e.

Civil Engineer

July 31, 2015

Michael D. Harvey AICP, CFO, CZO
Current Planning Supervisor – Planner III
Orange County Planning Department

Re: Harts Mill Water System Design

Dear Mr. Harvey:

There has been some deliberation about the extent of fire protection for the Harts Mill Village afforded by the Orange Alamance Water System (OAWS) and the sizing of the water mains within the village. The purpose of this letter is to describe some of the constraints when considering pipe sizing for Harts Mill.

The principal purpose of the proposed water supply connection to the OAWS system for Harts Mill Village is the provision of domestic potable water for the residences. OAWS provides potable water to approximately 3,450 rural customers in the area around the Harts Mill Village.

OAWS provides water via a network of underground pipes. The primary network water mains that would supply Harts Mill consist of a 12" pipe along US 70 from the water tower to intersection of Frazier Road, and a 6" waterline up Frazier Road which extends beyond the Harts Mill Village to serve customers north of Lebanon Road. The system pressures are maintained by the elevated water tower at theOAWS office at 5900 US-70, Mebane, NC.

The principal mission of OAWS is the provision of high-quality potable water, the physical and chemical characteristics of which are regulated by the USEPA. As a result the OAWS water network has not been designed and constructed for fire protection.

Unlike municipal systems which serve high-density land-use with residential and commercial water taps on the water mains every hundred feet or so, OAWS serves a low density rural community with water tap connections that may be many hundreds, or thousands, of feet apart. The water quality throughout the pipe network is regulated by the USEPA, and is directly proportional to the age of the water which, in turn, is a function of the amount of water withdrawn from the pipes by its customers. The less water that is withdrawn from the mains causes an increase of the age of the water (in the mains) as it travels from the supply (water tower) to the customer. Unlike wine, the quality of the water in the mains degrades with age as disinfectants lose their effectiveness and the natural chemical constituents in potable water have an increased opportunity for transformation.

All water systems in the United States including OAWS are monitored by the USEPA and seek to achieve regulatory requirements for water quality by minimizing the age of the water in the mains. In rural systems like OAWS this results in smaller mains because demand for water (i.e. the withdrawal of water from the mains) is much, much lower than that of its municipal counterparts.

8112 Orange Grove Road **Chapel Hill, NC 27516** **(919)270-6462**

michael m. hughes, p.e.

Civil Engineer

Municipal systems with greater water demands intrinsically have larger diameter mains and the larger diameter pipes also provide adequate supply for fire hydrants; whereas the smaller diameter water mains in the rural systems (by design for water quality purposes) are at a disadvantage where fire protection via hydrants is concerned.

In the case of Harts Mill since the water main in Frazier Road is 6" and pressure is regulated by the elevated storage tank on US70, all designed for water quality, there is no benefit to upsizing the water system within the Village to 8" pipes for the provision of adequate fire flow at the hydrants. The constraint is the network providing the water to the village. The fire flow capacity at the hydrants in the village will be the same with either 6" pipes or 8" pipes as the backbone for the residents.

To the contrary, if 8" water line were installed in the village the residents of Harts Mill would experience a degradation of water quality until the community is fully built out because they will not withdraw enough water from the system to keep the age of the water in the pipes to a minimum.

For these reasons, inasmuch as OAWS has indicated that they do not have plans to upgrade the water mains in US-70 or Frazier Road, the most appropriate pipe size for the backbone of the water system in Harts Mill Village is 6". The permit drawings we submitted show that those pipe sizes drop to 4" when the aggregate number of residence withdrawing water diminishes further into the project; again for water quality purposes.

The volunteer fire department has indicated that the 6" mains with hydrants will be acceptable to them, knowing the amount of water that they would expect from the hydrants is limited. They have indicated that their primary supply of firefighting water will be the onsite pond which is how they operate in this fire district.

The fire hydrants that the volunteer fire department requested are only there as a backup to the pond, and they indicated that they have the means and methods to utilize those hydrants, even with their limited capacity, as needed.

We hope that this clarifies the considerations in the design of the water system for Harts Mill, please feel free to call or e-mail if additional information or clarification is required.

Very truly yours,

Michael M. Hughes, PE

8112 Orange Grove Road **Chapel Hill, NC 27516** **(919)270-6462**

michael m. hughes, p.e.

Civil Engineers

July 31, 2015

Michael D. Harvey AICP, CFO, CZO
Current Planning Supervisor – Planner III
Orange County Planning Department

Re: Harts Mill Sewer System Design

Dear Mr. Harvey:

Some questions have been raised about wastewater disposal for the Harts Mill Village and they are centered about four general areas.

These questions are addressed in the paragraphs below.

1) ***What is the appropriate solution for Harts Mill, a single large field for the entire community or smaller, either individual or clustered fields?***

The answer is tightly coupled to the overall site design objectives and goals. Either answer could be correct depending on several factors. The Harts Mill Village by design is pedestrian centric, with dwelling units in close proximity to each other, maximizing open space, with an emphasis on low impact development.

These goals create a design concept which condenses the overall footprint of the community leaving the greater area of the parent tract for conservation and passive activities. The manifestation of this design is that the provision of individual or clustered septic fields and the associated tanks becomes a spatially challenged, if not impracticable and costly exercise.

The better solution for a tightly-clustered village like the current design for Harts Mill is a centralized sewage collection system resulting in a single larger diameter sewer pipe for the village. In contrast, individual or clustered septic fields if utilized would require a web of individual sewer pipes, which out of necessity would be side-by-side, difficult to access and maintain, with cleanouts at each bend, ultimately radiating from the village boundary to the smaller scale septic fields.

Individual or clustered fields would also introduce other issues that are inconsistent with the goals of the community. First, the location of the septic tanks, with appropriate access for cleanout by heavy trucks, becomes problematic considering setback requirements if they are located close to the home, and potential solids deposition in pipes if they are located further away from the homes. Secondly, the footprint of the community would have to be larger with either individual or clustered systems with more space between the homes for piping and tankage.

8112 Orange Grove Road **Chapel Hill, NC 27516** **(919)270-6462**

michael m. hughes, p.e.

Civil Engineers

In conclusion, the single large field for the entire community negates these challenges and is most appropriate because of how it fulfils, and is in harmony with, the overall site design and community goals.

2) ***What are the risks of failure?***

The risk of failure for any of the alternatives is measureable without appropriate monitoring and maintenance. The advantage to the single larger system for the entire community is that not only will it be required by State permit to be monitored monthly by a certified operator, but also the liquid dosing of the array of fields is sequenced by an automated control system minimizing the risk of failure, and evenly distributing the septic tank filtered waste water over the entire disposal area. This is not the case with individual systems. The larger system for the entire community will by design have an overall lower risk of failure for these reasons.

3) ***How would repair areas be managed?***

Drawing on the challenges discussed in the first question for individual or clustered systems, the repair areas are much more difficult to arrange and access for these systems. The footprint of the community out of necessity would have to be larger with either individual or clustered systems with the primary and repair septic areas much more proximal to the homes.

In contrast the repair area of the large community based system is much easier to access with piping and effluent distribution systems and, as a result, less costly. With individual or clustered systems, the maintenance (pumping) is not overseen by a licensed operator and they are more likely to need repair sooner than the community system. When they fail the process of repairing the individual systems is much more invasive and problematic for the community. The centralized solution in this instance negates these challenges.

4) ***Which is less expensive?***

The capital cost of the community system is expensive inasmuch as it all needs to be constructed upfront, and because of the State regulatory requirement to be monitored monthly by a certified operator, it is more expensive to operate. However, because of economies of scale, the cost per individual household is less for the larger community system taking into account of the aggregate costs of individual tanks and fields, and the additional piping and land area required because of the need to expand the footprint of the community for the individual or community systems.

We hope that this clarifies the considerations in the design of the waste water system for Harts Mill, please feel free to call or e-mail if additional information or clarification is required

Very truly yours,

Michael M. Hughes, PE

8112 Orange Grove Road **Chapel Hill, NC 27516** **(919)270-6462**

Michael Harvey

From: Jason Shepherd
Sent: Wednesday, August 05, 2015 8:14 AM
To: Michael Harvey; Craig Benedict; Howard W. Fleming; Kevin Murphy (kevin@newphirebuilding.com); James Groves; Alan Clapp; Deputy Chief Pete Hallenbeck
Cc: John Roberts; James Bryan; Anne Marie Tosco; Dan Bruce; David Sykes; Elizabeth Gregory; Jason Shepherd
Subject: RE: Response from Harts Mill on water line and wastewater disposal concerns

Michael,

Comments are on the water system design:

1. What I read in this document was the Orange Alamance Water System (OAWS) was never designed or constructed for fire protection. My question to the engineer/OAWS, If that was the intent of the design, why would you install a fire hydrant on the system in the first place and subsequently install additional hydrants?
2. Why didn't the engineer reach out to the Fire Marshal for comment and review for fire protection needs in Orange County?
3. NC Fire Code is specific and requires there to be an approved water supply capable of supplying the required fire flow for fire protection of buildings constructed or moved into within the jurisdiction. This requirement is applicable to the OAWS and any construction that expands from their water system is required to meet the fire flow requirements to protect those buildings. The insurance service office (ISO) is the grading/rating that fire departments categorize for their capability and resources. A majority of that grade is the water supply in the fire district and the capability of that department to meet fire flow requirements of structures within their jurisdiction. If this water system is "not designed" as indicated in the letter from Michael M. Hughes, P.E., I would like to know how that statement meets the intent of the code? My interpretation is that it does not and I would like to see a plan of action for infrastructure design to meet the intent of the code for purposes of fire protection. The link below has on page 3, code requirements for the water system to be maintained in an operative condition at all times and shall be repaired where defective, section 507.5.2. My understanding from the letter is that it doesn't meet that code requirement and again, I'd like to see a plan of improvement.
4. Permit drawings were mentioned as being submitted as indicated in paragraph 10. The Harts Mill water system is required per the fire code in chapter one (1) to be permitted, reviewed, approved and inspected from the Fire Marshal when there is an installation of a private fire service main. I haven't seen any construction submittals from this project. The permitting takes place at the building inspections department, 131 W. Margaret Lane, Hillsborough, NC 27278. The review will be conducted utilizing NC Fire Code and applicable NFPA Standard, 24 and (NFPA 1142 for the installation of the dry pipe for the static water source).
5. Please have OAWS provide the Fire Marshal Division (attention Jason B. Shepherd, Fire Marshal) with documentation of the most recent water supply test of the water supply system as indicated in Section 507.4 of the NC Fire Code. See link page 3 for reference http://ecodes.biz/ecodes_support/free_resources/2012NorthCarolina/Fire/PDFs/Chapter%205%20-%20Fire%20Service%20Features.pdf

If there is any other question, follow up or future discussion regarding the OAWS, please include the fire marshal in those discussions.

Thank you for the opportunity to comment on this subject.

Michael Harvey

From: Katy Ansardi <katy@resultworks.com>
Sent: Wednesday, August 05, 2015 9:25 AM
To: Michael Harvey
Cc: Hughes Michael
Subject: Re: Response from Harts Mill on water line and wastewater disposal concerns

We will review these comments. Are we confirmed for a meeting at your office tomorrow at 2:30p?

Katy

Sent from my iPhone

On Aug 5, 2015, at 8:55 AM, Michael Harvey <mharvey@orangecountync.gov> wrote:

> Mike/Katy: here are some follow up questions from the fire marshal. Without putting words in his mouth I believe the issue is not **if** a 6 inch line could provide adequate fire suppression but such a determination cannot be made until construction drawings are submitted for review for compliance with applicable code.
>
> Jason and Emergency Services is fully aware of our processes and what approval of the rezoning petition would mean. Having said that both he and I believe there are questions you can provide responses to as we move forward with the review of this project. Both the County Fire Marshal and I are aware that some of the attached questions are best addressed by OAWS, which I will assume responsibility for getting answers to.
>
> Thanks.
>
> Michael D. Harvey AICP, CFM, CZO
> Current Planning Supervisor – Planner III
> Orange County Planning Department
> 131 West Margaret Lane
> PO Box 8181
> (919) 245-2597 (phone)
> (919) 644-3002 (fax)
>
> Pursuant to North Carolina General Statute 132, correspondence sent and received from this account is a public record and may be disclosed to third parties.
>
> ---
>
> **From:** Jason Shepherd
> **Sent:** Wednesday, August 05, 2015 8:14 AM
> **To:** Michael Harvey; Craig Benedict; Howard W. Fleming; Kevin Murphy (kevin@newphirebuilding.com); James Groves; Alan Clapp; Deputy Chief Pete Hallenbeck
> **Cc:** John Roberts; James Bryan; Anne Marie Tosco; Dan Bruce; David Sykes; Elizabeth Gregory; Jason Shepherd
> **Subject:** RE: Response from Harts Mill on water line and wastewater disposal concerns
>
> Michael,
>
> Comments are on the water system design:

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5. Please have OAWS provide the Fire Marshal Division (attention Jason B. Shepherd, Fire Marshal) with documentation of the most recent water supply test of the water supply system as indicated in Section 507.4 of the NC Fire Code. See link page 3 for reference http://ecodes.biz/ecodes_support/free_resources/2012NorthCarolina/Fire/PDFs/Chapter%205%20-%20Fire%20Service%20Features.pdf

If there is any other question, follow up or future discussion regarding the OAWS, please include the fire marshal in those discussions.

Thank you for the opportunity to comment on this subject.

Jason

Jason B. Shepherd
Orange County Fire Marshal
Orange County Emergency Services
Fire Marshal Division
510 Meadowlands Drive, Hillsborough NC 27278
P.O. Box 8181, Hillsborough NC 27278
Office (919) 245-6151
Cellular (919) 257-8316
Fax (919) 732-8137
jshepherd@orangecountync.gov

Michael Harvey

From: Deputy Chief Pete Hallenbeck
Sent: Tuesday, August 04, 2015 9:46 AM
To: Michael Harvey
Cc: Jason Shepherd; James Groves
Subject: Re: Response from Harts Mill on water line and wastewater disposal concerns

Regarding the wast water system: There is so much open space land that should a field fail, there are other areas that could be utilized. Other than that comment, what Mr. Hughes wrote works for me (with the understanding that this is not an area of expertise for me).

Regarding the water pipe size for the development, I see no value to an 8" pipe. The 6" pipe will be fine. As long as there is a hydrant just before the drop from 6" to 4" Efland FD is good with 6". A hydrant location by the pond and hydrants close to the structures and at least every 1000' on a 6" line will be sufficient.

Comments on Mr Hughes comments:

With regard to the statement of the departments choice of a hydrant or pond as the primary water supply:

In the event of a fire, Efland will most likely use the hydrant 1st due to the quicker set-up times. The on-site pond would be used if there was a need for a substantial amount of water at greater than 300 GPM rate. As many Firefighters know, you are either going to get a fire put out in a few minutes with two hand held hose lines at less than 300 GPM or you are going to be there a while and flow a lot of water.

With regard to the OAWS system being used for fire supression:

There has been an ongoing "discussion" between Efland FD and OAWS regarding the role of OAWS. OAWS indeed has claimed that they are not in the business of providing water for fire protection. Yet a 12" main on US 70 was installed, which is larger than needed if the goal was just providing drinking water. The initial system was purchased with a government grant. Subsequent expansion was funded by OAWS, and typically 6" lines where installed for economic reasons. This has resulted in a bit of a "Whack-a-Mole" funding scenario where OAWS saves money installing water lines, but Efland FD has to purchase an additional engine to flow the low flow hydrants on those 6" lines.

The benefit of a water system that can support fire suppression is clear, and the Habitat for Humanity subdivisions are all hydrated and sprinklered. The Ashwick subdivision developers chose to install an 8" line so that the hydrants in the subdivision would have a usable flow rate. Both Ashwick and the Habitat developments had water systems funded by the developer and not OAWS, and it is likely that this trend will continue. The recent Tinnan Road Habitat system looped back into Richmond Hills to boost the hydrant flow, which was just barely useable for fire supression. A well designed (but more expensive) system helps with the fire departments ISO rating which in turn saves homeowners money on their insurance. Another cost "Whack-a-Mole" scenario- a cheaper water bill but more expensive insurance bill.

Since water lines bring development it is not unreasonable to see a time when the older 6" lines are upgraded to a larger pipe as the growth that accompanies water systems continues. This future growth will most likely occur with the expectation that subdivisions should have hydrants, which we are already seeing. As such, a 6" for Harts Mill will provide all the flow needed to protect the planned subdivision in the future should the Frazier Rd water line be upgraded. And for now, it will provide low-flow hydrants which still have value due to the ease of use and reduced time to connect up to a pumper critical in the initial phase of fire suppression activities.

- pete

Pete Hallenbeck
Deputy Chief
Efland Volunteer Fire Dept

On Aug 4, 2015, at 8:30 AM, Michael Harvey <mharvey@orangecountync.gov> wrote:

Please review and respond, in writing, with any additional comments/concerns by Wednesday noon August 12, 2015.

Thank you

Michael D. Harvey AICP, CFM, CZO
Current Planning Supervisor – Planner III
Orange County Planning Department
131 West Margaret Lane
PO Box 8181
(919) 245-2597 (phone)
(919) 644-3002 (fax)

Pursuant to North Carolina General Statute 132, correspondence sent and received from this account is a public record and may be disclosed to third parties.

<Harts Mill Wastewater System Memo 2015-07-31.pdf><Harts Mill Water System Memo 2015-07-31.pdf>

PLANNING & INSPECTIONS DEPARTMENT
Craig N. Benedict, AICP, Director

Engineering / Erosion Control / Stormwater
(919) 245-2575
(919) 644-3002 (FAX)
www.orangecountync.gov

ORANGE COUNTY
NORTH CAROLINA

131 W. Margaret Lane
Suite 201
P. O. Box 8181
Hillsborough, NC 27278

MEMORANDUM

TO: Michael Harvey
COPY TO: Patrick Mallett, Jason Shepherd, Craig Benedict & Kevin Lindley, PE
FROM: Howard W. Fleming, Jr., PE, Engineering/Stormwater Supervisor
DATE: 08/18/15
PROJECT: **Harts Mill: Major Subdivision**
SUBJECT: **Rezoning to Major Planning Development (MPD-CZ)**
DAC-Review, 05/07/15
Proposed On-Site Water System / Adequacy for Fire Protection

ENGINEERING COMMENTS:
Stormwater review was covered in a separate memorandum dated 05/12/15.

Engineering has reviewed the subject project for adequacy of the fire protection infrastructure and spoken with the Orange County Fire Marshal, Jason Shepherd. It is our understanding from plans submitted, dated 05/13/15, that the project proposes a 6" on-site private water line, supplying three (3) on-site fire hydrants. This water system must comply with the NC State Fire Code, adopted and published jointly by The North Carolina Building Code Council and The North Carolina Department of Insurance. In that code it references compliance with National Fire Protection Association (NFPA) Standard 24 for the design of on-site fire protection systems.

From http://www.nfpa.org/about-nfpa: *Founded in 1896, NFPA is a global, nonprofit organization devoted to eliminating death, injury, property and economic loss due to fire, electrical and related hazards. The association delivers information and knowledge through more than 300 consensus codes and standards, research, training, education, outreach and advocacy; and by partnering with others who share an interest in furthering the NFPA mission.*

NFPA 24 does not currently require a line size greater than 6" for private service mains supplying private fire hydrants. There is a proposed pending revision (First Revision No. 15-NFPA 24-2013 [Chapter 5]) that would modify paragraph 5.2.1 to read as follows: *Hydraulic calculations shall show that the main is able to supply the total demand at the appropriate pressure for systems with multiple fire hydrants.* Orange County Engineering concurs with this pending revision and looks forward to its adoption. **It is the general recommendation of the Orange County Engineering staff that on-site private service mains supplying multiple fire hydrants be no less than 8" in diameter, unless engineering calculations can demonstrate otherwise.** Such an engineering standard is not yet part of the Orange County Unified Development Ordinance.

The adoption of consensus standards and integration into State codes is impossible to predict but it is fair to say it could be years before the mentioned revision to NFPA 24 paragraph 5.2.1 is adopted or even if it will be adopted as proposed.

Engineering has been assured by the Orange County Fire Marshal that, at the appropriate time, his office will require fire-flow testing and hydraulic calculations to demonstrate adequate flow at appropriate pressure for on-site private water mains supplying more than one fire hydrant. While NFPA 24 doesn't require a line size greater than 6" for private fire service mains supplying private fire hydrants, as the authority having jurisdiction, the Fire Marshal has in place construction standards that require the contractor to apply for a construction permit for private fire hydrant installation. Such construction documents must be submitted to the Fire Marshal's office for review per section 105.7.11 of the NC Fire Code. The Fire Marshal's office will look at the proposed installation, analyze current fire flow data from the existing system and compare water flow data with the projected installation and see if it can meet the intended fire flow requirements of the structure(s) serving the private property. If the current and designed system water flows are adequate for the fire flow needs of the property being protected and it is supplied with a 6" line, there is no need to require an 8" main. If the design does not meet the fire flow needs and that need can only be provided by the water system, an increase in the size of fire protection main servicing the private property would be required.

Engineering has reviewed the 07/31/15 letter from Michael M. Hughes, P.E. addressing the recommendation by this division to provide an 8" main at least to the on-site first fire hydrant. This division will continue to investigate, along with the Orange County Fire Marshal, as to how Orange Alamance Water System (OWAS) can continue to add fire hydrants to its system and yet claim that its' principal mission is the provision of high-quality potable water (only). That being said and having received assurances that our concerns as to adequate fire flow and pressure will be enforced by the Orange County Fire Marshal's office, we have no objection to the subject property being rezoned to Major Planning Development (MPD-CZ), as proposed.

Michael Harvey

From: Alan Clapp
Sent: Wednesday, August 05, 2015 5:22 PM
To: Michael Harvey
Cc: John Kase; David Ward; John R. Davis
Subject: RE: Response from Harts Mill on water line and wastewater disposal concerns

Michael,

We are fine if they want to pursue either a large system or a cluster of smaller systems.

The criteria for a large subsurface septic system (Design flow > 3000 gpd) is linked. http://ehs.ncpublichealth.com/oswp/docs/ind/LargeSubsurfaceProcedures-2013Update.pdf. If they wish to pursue a large surface discharge system then NCDENR Division of Water Resources will be the permitting agency. Their requirements are located at: http://portal.ncdenr.org/web/wq/swp.

Typically a large system has to have all components completely installed before the system can be placed into operation. The advantage to specific use or cluster systems is that you can build as you go. NCDENR Division of Water Resources does not require repair area for their systems. NC DHHS systems via the local health department do require repair area.

We will evaluate the soil/site conditions if they choose to go the subsurface system route.

Alan

Alan Clapp
Environmental Health Director
Phone: 919.245.2360 / Fax: 919.644.3006
Website: http://www.co.orange.nc.us/envhlth/index.asp
Email: aclapp@orangecountync.gov

ORANGE COUNTY HEALTH DEPARTMENT
Improving health. Inspiring change.

Please tell us how we are doing by taking this very quick survey. We appreciate your comments.

https://www.surveymonkey.com/s/ehsurvey2014-2015

From: Michael Harvey
Sent: Tuesday, August 04, 2015 8:31 AM
To: Craig Benedict; Howard W. Fleming; Kevin Murphy (kevin@newphirebuilding.com); James Groves; Jason Shepherd; Alan Clapp; Deputy Chief Pete Hallenbeck
Cc: John Roberts; James Bryan; Anne Marie Tosco
Subject: Response from Harts Mill on water line and wastewater disposal concerns

Please review and respond, in writing, with any additional comments/concerns by Wednesday noon August 12, 2015.

Thank you

Michael D. Harvey AICP, CFM, CZO
Current Planning Supervisor – Planner III
Orange County Planning Department
131 West Margaret Lane
PO Box 8181
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Pursuant to North Carolina General Statute 132, correspondence sent and received from this account is a public record and may be disclosed to third parties.

August 19, 2015

To: Michael Harvey
Orange County Planning Department

From: Katherine Ansardi
Hart's Mill, LLC

RE: Hart's Mill MPD-CZ Application

The following memo and addenda are provided in response to recent comments and questions from the Orange County Planning Board.

MARKETING MATERIALS

At this point, our primary marketing vehicle is our website, which can be found at *www.hartsmill.org*. We also produce brochures to hand out at informational meetings and venues such as farmers markets and festivals. An example of a typical brochure is attached.

RECREATION

The large amount of open space in the site plan provides many opportunities for active and passive recreational activities. An extensive trail system has already been substantially completed through volunteer efforts (see attachment). In addition, the pedestrian street provides a paved surface for walking, running and biking, as well as for casual outdoor games and play activities, in a more closely supervised space.

A pier is planned for the pond to accommodate kayaks and canoes, and for fishing.

The open field just north of the pond has been designated as an active recreation area for informal playing of team games such as soccer and softball in the daytime. The village green to the immediate east of the common house will also be available for recreational activities. We will also incorporate residential-scale play equipment such as swings, a playhouse and basketball goal in common areas. There is a desire to include a small swimming pool as part of the amenities if the budget allows.

CRIME PREVENTION THROUGH ENVIRONMENTAL DESIGN

Crime prevention through environmental design (CPTED) calls for the altering of the physical design of a community in which humans reside and congregate in order to deter crime. Design elements range from the small-scale, such as the strategic use of shrubbery and other

vegetation, to the incorporation of 'global' design of a neighborhood to maximize the ability of residents to have 'eyes on the street'.

The concept is not just landscaping but relies on the overall design of the community. Such strategies typically rely upon the ability to influence a potential offender decisions to engage in a criminal act by increasing the perceived risk of being caught.

First and foremost it is our contention that a primary goal of any residential development project is to ensure the security and safety of the residents who will be residing there. This can be accomplished through the implementation of many different individual mechanisms such as the installation of street lights, fencing, development of appropriate roadways and pedestrian pathways to allow for internal movement of residents and vehicular traffic, etc.

Generally speaking, most implementations of CPTED occur within urbanized environments. Hart's Mill is not only a small rural development, but also has many unique features which promote safety and crime prevention even though they may not strictly adhere to some of the specific recommendations in the CPTED literature.

From our standpoint, we are incorporating the concept of crime prevention through environmental design in the following manner:

1. The project has a central entrance way requiring all residents, visitors, and guests to enter and exit the project from a central roadway.

2. Individual residences are accessible only through a restricted pedestrian street and pathways. As a result, vehicular traffic in and around them is limited, thereby reducing crimes of opportunity.

3. This will be a pedestrian oriented community where walking and bicycles will be the preferred method of travel to and from individual homes and the common house. Residences are proposed to be closely clustered along the pedestrian street and will have ample windows and porches opening onto the street. This is intended not only to create a village atmosphere, but also to provide heightened visibility of residences by neighbors,

4. Some residents are expected to have home-based occupations such as telecommuting, writing, and arts and crafts; and some will be retirees. The community is being designed to encourage on-site socializing, recreation, work and hobbies rather than as a commuter neighborhood that is largely empty during the day.

5. Adjacent parking areas are proposed to be designed with low berms and shrubs that will block headlights from shining into homes while being low enough to allow clear visibility of people and larger vehicles. Outdoor lighting in and around the parking areas (as well as the rest of the village) is proposed to be strategically located to provide security and allow residents to see 'what is going on'. This lighting shall comply with County regulations and be fully shielded to reduce glare while providing visibility for safety.

Coincidentally, the current land owner of the Hart's Mill site is a retired police chief and security consultant who has previously implemented CPTED in urban and college campus environments. She concurs that our proposed approach is appropriate for this project.

We hope this addresses the concern and demonstrates our adherence to the principal.

WATER USE IN THE LANDSCAPE

Efficiently and effectively managing water in the landscape is a core principle of the permaculture theory and practice that will guide landscaping, agriculture and forestry at Hart's Mill. We are also keenly aware of the likelihood of increased frequency and intensity of drought in our area.

Hart's Mill proposes to incorporate landscape design and management strategies derived from permaculture, low impact development (LID) and xeriscaping. A brief summary of those follows, and a more detailed description is attached, along with list of drought resistant plant materials recommended for our area.

Permaculture and low impact development utilize a systems approach that emulates natural processes with distributed small-scale practices throughout the landscape. The emphasis is on simple, nonstructural, low-tech, and low-cost methods which retain rainfall in the landscape as close to where it hits the ground as possible. These include:

- bioretention areas ("rain gardens")
- vegetated swales, buffers, and strips
- rain barrels and cisterns
- permeable pavers
- impervious surface reduction

Combining water conservation techniques with landscaping is a concept known as Xeriscape or dry landscape. Xeriscape is a term coined in a Denver, Colorado program designed to promote water conservation in the landscape. While the idea began in the western United States where landscapes can be truly dry, the same water-saving principles apply to the Southeast.

Xeriscaping combines sound horticultural practices to conserve water while maintaining a beautiful landscape. The seven basic Xeriscape principles are:

1) Careful planning and design
   Take into consideration topography, drainage, microclimates, and hydrozones; limit irrigated areas

2) Appropriate, smaller lawn areas

   Utilize low-maintenance, drought-tolerant grass species in smaller areas; limit or eliminate lawn irrigation

3) Thorough soil preparation
   Amend soils with organic matter to ensure that they retain water and nutrients while also draining freely
4) Appropriate use of plant materials
   Utilize native and well-adapted species of plants, and place them appropriately in the landscape in an environment similar to their native habitat; select drought-tolerant species for unirrigated areas
5) Effective and efficient watering methods
   Where irrigation is used, employ drip, micro-sprinkler, soaker hose and/or subsurface systems which minimize water use, reduce runoff and evaporation, and provide water directly to the root zone of plants
6) Use of mulch on trees, shrubs, and flower beds
   Reduce evaporation and runoff, increase water-holding capacity of soil, improve soil structure, and moderate soil temperatures with organic mulches
7) Proper landscape maintenance
   Careful timing and implementation of tasks such as fertilizing, watering, mulching, mowing, and pruning can drastically reduce time, effort, and resource use while improving the health and beauty of the landscape

It should be noted that in addition to capturing rainwater in the landscape and utilizing other permaculture methods, a separate well will be drilled for farm related irrigation, washing and animal drinking water.

FARM ACTIVITIES

The primary purposes of the farm at Hart's Mill are to: a) provide food and fiber for residents, and the community as capacity allows; b) model sustainable forestry and agriculture practices which are in harmony with conservation goals; and c) provide livelihood for one or more farmers on the land.

Our farming practices will be based on permaculture principles and will incorporate a mixture of small scale activities including:

Vegetables: intensively managed beds and hoop houses

Fruits & Berries: integrated orchards and hedgerows

Honey Bees: we have planted pollinator species and our first two hives are already in place!

Animals: a small number of pasture-raised chickens, sheep, goats and cattle in rotational grazing to maintain a healthy ecosystem

Forestry: manage forest resources for conservation, recreation, timber, woodcraft materials, mushrooms, herbs, etc.

Attachments:

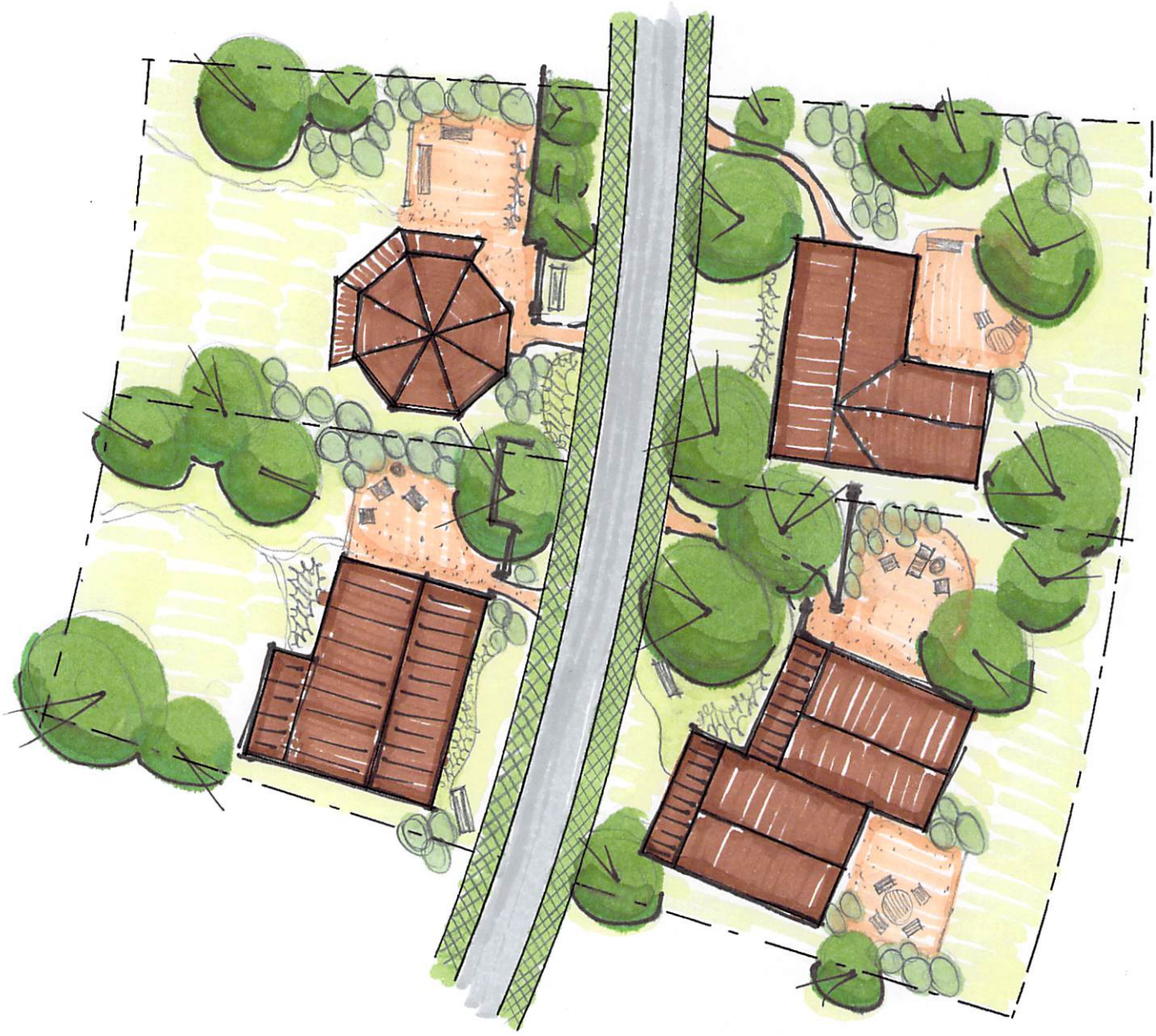
- *Trail system plan*
- *Landscape plan detail concept*
- *Pedestrian street cross-section concept*
- *Design and management for resilient landscapes*
- *Drought-tolerant plant list*

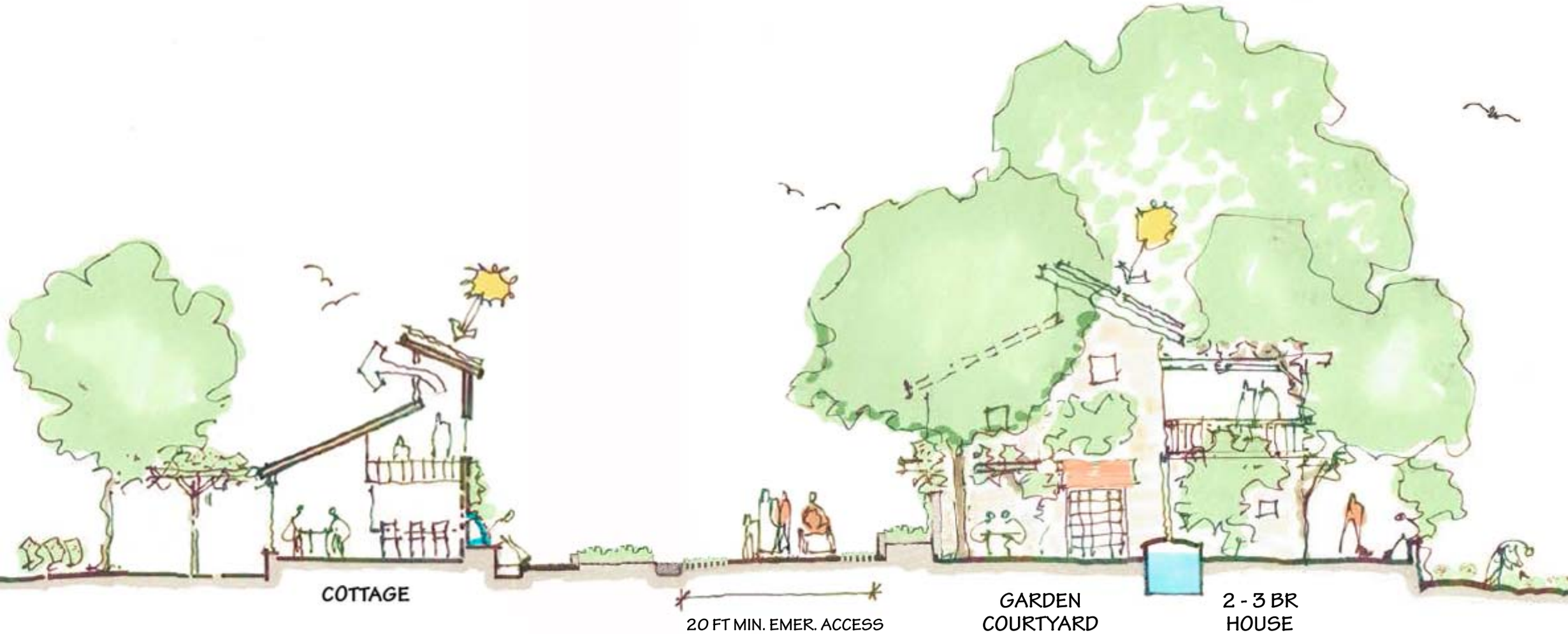
HART'S MILL TRAIL NETWORK 5/13

- MEADOW
- WOODS
- FIELD
- TRAIL
- TRAIL in PROGRESS
- FUTURE TRAIL

MASTER PLAN DEVELOPMENT
CONDITIONAL ZONING PERMIT (MPD-CZ)
PROPOSED SITE PLAN FOR THE

HARTS MILL VILLAGE AND FARM





PEDESTRIAN STREET

TYPICAL CROSS SECTION

DESIGN & MANAGEMENT FOR RESILIENT LANDSCAPES

LOW-IMPACT STORMWATER MANAGEMENT

Low Impact Development (LID) uses micro-scale techniques to manage precipitation as close to where it hits the ground as possible. LID is grounded in a core set of principles based on the paradigm that stormwater management should not be seen as simply disposal and that numerous opportunities exist within the developed landscape to control stormwater runoff close to the source. Underlying these principles is an understanding of natural systems and a commitment to work within their limits.

LID uses a systems approach that emulates natural processes with distributed small-scale practices throughout the landscape. The emphasis is on simple, nonstructural, low-tech, and low-cost methods. A near limitless universe of runoff control strategies, combined with common sense and good housekeeping practices, are the essence of a LID strategy.

Bioretention provides a good example of how LID management practices work. What looks like a nicely landscaped area is in fact an engineered system that facilitates depression storage, infiltration, and biological removal of pollutants. Runoff is directed to these low-tech treatment systems instead of conventional stormwater infrastructure. Bioretention areas use plants and soil to trap and treat petroleum products, metals, nutrients, and sediments. Bioretention areas, also known as "rain gardens," are relatively inexpensive to build, easy to maintain, and can add aesthetic value to a site, without consuming large amounts of land.

Other common LID practices include:

1. Vegetated Swales, Buffers, and Strips
2. Rain Barrels and Cisterns
3. Permeable Pavers
4. Soil Amendments (to improve water absorption and retention)
5. Impervious Surface Reduction

XERISCAPING

Combining water conservation techniques with landscaping is a concept known as Xeriscape or dry landscape. Xeriscape is a term coined in a Denver, Colorado program designed to promote water conservation in the landscape. While the idea began in the western United States where landscapes can be truly dry, the same water-saving principles apply to the Southeast. Xeriscaping combines sound horticultural practices to conserve water while maintaining a beautiful landscape. The seven basic Xeriscape principles are:

1) Careful planning and design
2) Appropriate, smaller lawn areas
3) Thorough soil preparation
4) Appropriate use of plant materials
5) Effective and efficient watering methods
6) Use of mulch on trees, shrubs, and flower beds
7) Proper landscape maintenance

Microclimates

Microclimates are areas within the design that have environmental conditions that differ from adjacent areas, such as the cool, shady north side of a building. Other microclimates would include the hottest places in full sun on the south side of a building. Areas that receive more water, such as rainfall runoff from the roof or low spots that collect water, should also be noted. Microclimates influence plant selection. For example, cooler, shady areas on the north side of buildings are a good environment for shade-loving plants. Some plants thrive in the cool morning sun of an eastern exposure, but wilt in the hot afternoon sun of a west-facing exposure.

Hydrozones

To achieve the greatest water efficiency, the landscape plan can incorporate “hydrozones” – areas within a design that receive either low, moderate or high amounts of water. All plants within a zone have similar water requirements and can be watered as a group. Plants groups in this way make the most efficient use of irrigation water. For example, certain planting areas may be designated low-water zones and would contain plants with low water requirements. These areas receive little or no extra water after plants are established.

Appropriate Lawn Areas

The concept of appropriate lawn areas is a key principle when designing Xeriscapes. Irrigated turf areas should be limited to the highest impact locations in the landscape. Lawn areas usually receive more water and require more maintenance than any other area in the landscape. Grasses should be carefully selected depending on location, use and desired maintenance programs.

Common Bermuda grass is among the best grass choices for very low irrigation regimes. This grass is an excellent choice for many Xeriscape designs. Several other warm-season grasses become dormant and may wilt or become brown during severe water shortages if they are not irrigated, but they will often "green-up" as soon as rains return. These non-irrigated turf areas provide useful control of erosion and provide play areas without wasting valuable water.

Soil Preparation

A basic life-support system of the landscape, soil is the medium for root growth and a reservoir for water and nutrients. Properly conditioned soil is of vital importance to the health or landscapes. Creating a good soil environment from the start will bring great dividends in the future.

A good soil is porous and will drain freely, yet retains water and nutrients in a form available to plants. Soils that are hard and compacted do not allow water and air to penetrate to the root zone, and irrigation water is often wasted as runoff. Sandy soils dry out quickly, and water and nutrients usually drain away before plants can use them. However, it is important to note that not all soils need amending. Many soils in the Southeast are already suitable for plant installation.

Addition or organic matter to the soil is the single most important method of improving soil structure. Organic matter increases water and nutrient-holding capacity, aeration, and drainage. Plants establish more rapidly when planted in well- prepared soils. They are healthier and more vigorous, and they have greater disease and drought resistance.

Types of organic matter for soil amendment include pine bark, decomposed wood chips, and composted materials. One of the most common mistakes in amending the soil is failure to incorporate sufficient organic matter. As a rule of thumb, a minimum or four inches of organic matter should be tilled into the planting bed to a depth of 12". It is important to amend the entire shrub or flower bed, not just the individual planting hole, so that plants can more easily form extensive root systems and achieve greater drought tolerance.

Trees and lawn areas, in general, do not receive as extensive amendment as shrub and flower beds; however, lawns establish more rapidly and grow stronger root systems when some attention is given to improving the soil. The type of tree to be planted dictates the level of soil improvement; for example, many flowering trees, such as dogwood, prefer a "richer" soil than pine trees, which can usually grow well with no soil improvement.

Plant Selection

Lush, green landscapes and seasonal color provided by a variety of plants are a hallmark of the Southeast. Xeriscapes can achieve this beauty while reducing water consumption. Xeriscaping does not require that landscapes become cactus gardens. However, careful planning and plant selection are important to insure the investment and longevity of landscape plants in a Xeriscape.

Any plant is a candidate for use in a Xeriscape; the key to success is how the plant is used. In general, the greatest success is achieved when plants are placed in an environment most similar to the plant's native habitat. However, many plants are adaptable and will perform equally well in different situations. River birch (Betula nigra) and bald cypress (Taxodium distichum) are

examples of trees native to low, wet areas that grow perfectly well on high ground. Determining a plant's adaptability often requires research into its cultural requirements, which must be compatible with the plant's placement in the landscape plan.

The Southeast is fortunate to have a large number of native plant species that are naturally well-adapted to our climate. Many of our most popular landscape plants are from similar temperate climates around the world and perform very well in the Southeast. Together these sources provide a large palate of plant materials from which to design a land- scape. The key to water efficiency is using these plants properly in the design, placing the plants where 1hey will perform their best without excess water.

A plant's candidacy for a Xeriscape hinges on its placement in the landscape. By combining proper plant selection with the other basic principles of Xeriscape such as improving the soil, mulching, and appropriate maintenance, water efficiency is maximized.

Note: A list of some suggested drought resistant plants for the Southeast from Clemson University is attached.

Watering Methods

The use of efficient irrigation systems is a technique inherent to Xeriscape planning. Irrigation systems should provide appropriate amounts of water at critical times. The irrigation system must be designed to correlate directly to the planting zones.

Drip and micro-sprinkler irrigation systems have many advantages.

1) They are precise

2) They keep the foliage dry, reducing fungus and mildew

3) They are simple to install and be used almost anywhere

4) They reduce water loss due to evaporation, runoff, and erosion

5) They reduce or prevent mildew and decay because water does not hit house siding

6) They supply water slowly so that puddling is not a problem

7) Because water is placed directly at the root zone, the plant's water requirements are met by using much less water than conventional methods

A soaker hose is also an economical choice for an irrigation system. The hose is small and esay for the homeowner to handle. Installation is relatively simple and the hose works well in small shrub or flower beds.

Subsurface irrigation system are both effective and economical. Evidence suggests that they create as much as a 60 percent savings in water use, and because the water is placed directly at the root zone, wet/dry cycles are reduced, resulting in deeper root growth.

Drip systems, soaker hoses, and subsurface systems have a low profile in the landscape, so vandalism is almost completely eliminated. These systems use much less water than conventional irrigation systems and create lush, green Xeriscape landscapes and gardens.

Mulching

As much as 75 percent of the rainfall landing on bare ground is lost due to evaporation and runoff. This loss can be enormously reduced when the proper mulch is utilized. Mulch helps to insure plant survival and is an important component of Xeriscapes.

The best mulches are usually fine-textured and non-matting organic materials. An organic mulch should decompose slowly, be free of weed seed, and should not be easily washed away by rainfall.

Woody landscape plants need an application of three to five inches of a good mulch. This should be applied under the plant and at least out to the drip line.

Organic mulches have many benefits in the landscape because they:

1) increase water-holding capacity of the soil
2) reduce the amount of water lost by runoff
3) moderate extreme soil temperature fluctuations
4) reduce weed competition
5) reduce the incidence of soil-nelated diseases
6) prevent soil erosion
7) reduce soil compaction, improve soil structure, and add nutrients and humus to the soil
8) create an aesthetically pleasing design feature
9) prevent mechanical damage to trees and shrubs caused by mowers and weedeaters
10) prevent splash-back and staining of house foundations and siding

Mulching increases the water-holding capacity of the soil. Soil moisture can be increased 5 to 25 percent or more above that of a non-mulched area. The amount of water lost by runoff can be reduced significantly. Fine-textured mulches conserve water by allowing water to percolate down into the soil instead of being lost to runoff.

One of the important qualities of mulching is that it moderates extreme soil temperature fluctuations. The temperature of the soil surface and that of the soil directly beneath the mulch are partially controlled. Summer heat is dissipated by the mulch and the soil is insulated from the winter cold. Therefore, plant roots are kept cooler in the summer and warmer in the winter. When plant roots are not stressed, they use less water.

Landscape Maintenance

Xeriscape designs that implement all seven principles have been shown to reduce maintenance by as much as 50 percent. There are nine main reasons for reduced maintenance. Xeriscape designs:

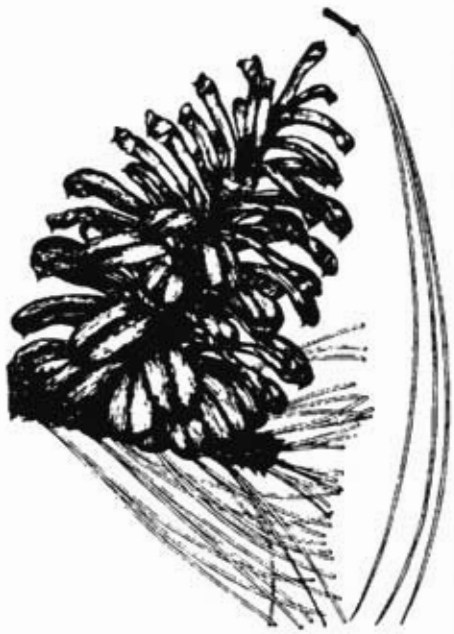
1) reduce water loss and soil erosion through careful planning, design, and implementation
2) reduce mowing by limiting lawn areas and utilizing proper fertilization techniques
3) reduce fertilization through soil preparation
4) reduce pruning of trees and shrubs through proper plant selection and through restricted applications of water and fertilizer
5) reduce replacement plants through proper watering methods and soil preparation
6) reduce weeds through proper mulching
7) reduce disease and pest problems by creating less stress on plants through the methods listed above
8) reduce irrigation through proper maintenance and selection of plants with healthier root systems
9) reduce costly damage to house/structures and foundations through proper selection, placement, and minimum watering near the house

SOURCES

Xeriscape: Landscape Water Conservation in the South, Cooperative Extension Service, Clemson University

Low Impact Development Center

Stormwater Strategies, Ch. 12 Low Impact Development, NRDC



DROUGHT-RESISTANT PLANT MATERIALS

LARGE TREES

Acer buergeranum	Trident Maple
Acer negundo	Boxelder
Alnus glutinosa	Black Alder
Betula nigra	River Birch
Carya illinoiensis	Pecan
Catalpa bignonioides	Southern Catalpa
Cedrus deodara	Deodar Cedar
Celtis laevigata	Sugar Hackberry
Celtis occidentalis	Hackberry
X Cupressocyparis leylandii *	Leyland Cypress
Fraxinus americana	White Ash
Fraxinus pennsylvanica	Green Ash
Ginkgo biloba	Ginkgo
Gymnocladus dioicus	Kentucky Coffeetree
Ilex opaca	American Holly
Juniperus virginiana*	Eastern Redcedar
Koelreuteria bipinnata*	Chinese Flame Tree
Koelreuteria paniculata*	Golden Raintree
Liquidambar styraciflua*	Sweetgum
Magnolia grandiflora*	Southern Magnolia
Pinus sp.*	Pines
Pistacia chinensis	Chinese Pistache
Populus sp.	Poplars
Pyrus calleryana 'Bradford'*	Bradford Pear
Quercus sp.*	Oaks
Sabal palmetto*	Cabbage Palm
Sapindus drummondii	Western Soapberry
Sapium sebiferum	Chinese Tallow
Sophora japonica	Japanese Pagodatree
Taxodium distichum	Bald Cypress
Trachycarpus fortunei *	Windmill Palm
Ulmus alata	Winged Elm
Ulmus carpinifolia	Smoothleaf Elm
Ulmus parvifolia	Chinese Elm
Zelkova serrata	Japanese Zelkova

SMALL TREES

Albizia julibrissin	Mimosa
Amelanchier arborea	Serviceberry
Cercis canadensis	Redbud
Cornus florida	Flowering Dogwood
Cotinus coggygria	Smoketree
Eriobotrya japonica	Loquat
Hamamelis virginiana	Witchhazel
Hibiscus syriacus*	Rose of Sharon
Ilex cassine*	Dahoon Holly
Ilex x attenuata 'Foster #2'*	Foster Holly
Ilex x attenuata 'Savannah'*	Savannah Holly
Ilex x attenuata 'Hume' *	Hume Holly
Ilex x attenuata 'East Palatka'*	East Palatka Holly
Lagerstroemia indica*	Crape Myrtle
Malus sp.	Crabapples
Osmanthus fragrans*	Tea Olive
Ostrya virginiana	Hophornbeam
Oxydendron arboreum	Sourwood
Prunus caroliniana*	Cherry Laurel
Rhus copallina	Flameleaf Sumac
Rhus typhina	Staghorn Sumac

* Plants which have been found to do well in plantings very near the coast.

SHRUBS (6-12')

Buddleia davidii	Butterfly Bush
Callicarpa americana	Beauty-Berry
Chimonanthus praecox	Wintersweet
Elaeagnus angustifolia*	Russian Olive
Elaeagnus pungens*	Thorny Elaeagnus
Exochorda racemosa	Pearl Bush
Fatsia japonica*	Fatsia
Ilex cornuta*	Burford Holly
Ilex decidua*	Possumhaw Holly
Ilex vomitoria*	Yaupon Holly
Juniperus chinensis cultivars*	Chinese Junipers
Kolkwitzia amabilis	Beauty Bush
Ligustrum japonicum*	Japanese Privet
Ligustrum x vicaryi*	Golden Privet
Loropetalum chinense	Loropetalum
Myrica cerifera*	Waxmyrtle
Osmanthus x fortunei*	Fortune's Osmanthus
Osmanthus heterophyllus*	Holly Osmanthus
Photinia glabra*	Photinia
Pittosporum tobira*	Japanese Pittosporum
Podocarpus macrophyllus*	Podocarpus
Punica granatum*	Pomegranate
Pyracantha coccinea*	Scarlet Firethorn
Pyracantha koidzumii *	Formosa Firethorn
Rhus glabra	Smooth Sumac
Sabal minor*	Dwarf Palmetto
Spirea x vanhouttei*	Vanhoutte Spirea
Viburnum plicatum tomentosum	Doublefile Viburnum
Vitex agnus-castus*	Chaste Tree
Yucca aloifolia*	Spanish Bayonet
Yucca gloriosa*	Spanish Dagger

Many of the shrubs in the 6-12' category are also pruned to grow as small trees.

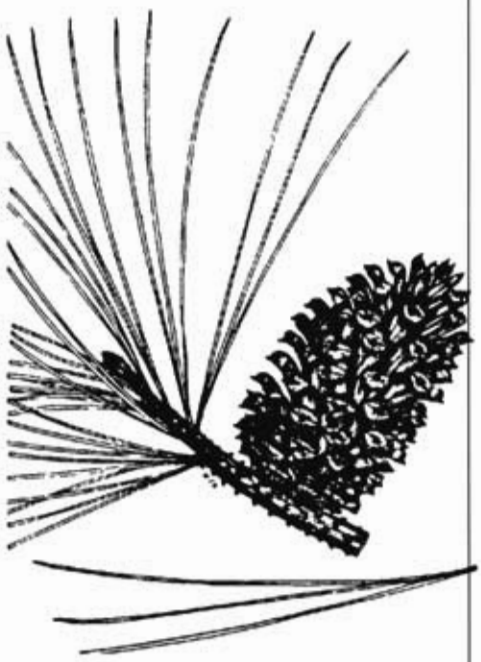
SHRUBS (4-6')

Aucuba japonica*	Aucuba
Berberis species*	Barberries
Buxus microphylla*	Japanese Boxwood
Chaenomeles speciosa*	Flowering Quince
Chamaecyparis obtusa 'Nana Gracilis'*	Dwarf Hinoki Cypress
Cytisus scoparius*	Scotch Broom
Forsythia x intermedia*	Border Forsythia
Gardenia jasminoides *	Gardenia
Hamamelis vernalis	Witch Hazel
Juniperus chinensis cultivars*	Chinese Junipers
Lantana camara*	Common Lantana
Leucophyllum frutescens*	Texas Sage
Ligustrum sinense 'Variegatum' *	Chinese Privet
Nandina domestica*	Nandina
Raphiolepis indica*	Indian Hawthorn
Raphiolepis umbellata*	Yeddo Hawthorn
Rhus aromatica	Fragrant Sumac
Rosa sp.	Rugosa Rose, Carolina Rose Cherokee Rose, Japanese Rose
Spirea thunbergii *	Thunberg Spirea

SHRUBS (1-4')

Abelia x grandiflora*	Abelia
Berberis verruculosa*	Warty Barberry
Callicarpa dichotoma	Purple Beautyberry
Ilex cornuta 'Rotunda'*	Chinese Holly

* Plants which have been found to do well in plantings very near the coast.



Ilex cornuta 'Carissa'*	Carissa Holly
Ilex vomitoria 'Nana'*	Dwarf Yaupon
Jasminum nudiflorum	Winter Jasmine
Juniperus chinensis cultivars*	Chinese Junipers
Juniperus conferta*	Shore Juniper
Pittosporum tobira 'Wheeler's Dwarf'*	Dwarf Pittosporum
Sabal etonia*	Scrub Palmetto
Salvia greggi	Sage
Yucca filamentosa*	Adams Needle Yucca

GROUND COVERS

Euonymus fortunei	Wintercreeper Euonymus
Juniperus conferta cultivars*	Shore Junipers
Juniperus horizontalis cultivars*	Creeping Junipers
Juniperus procumbens cultivars*	Japgarden Juniper
Liriope muscari *	Liriope
Liriope spicata*	Lilyturf Liriope
Ophiopogon japonicus*	Mondo Grass
Sarcococca hookerana humilis	Himalayan Sarcococca
Vinca minor	Periwinkle

VINE-LIKE PLANTS

Akebia quinata	Fiveleaf Akebia
Campsis radicans*	Trumpet vine
Clematis paniculata	Sweet Autumn Clematis
Cocculus laurifolius*	Snail Seed
X Fatshedera lizei*	Tree Ivy
Ficus pumila*	Creeping Fig
Gelsemium sempervirens*	Carolina Jessamine
Parthenocissus quinquefolia*	Virginia Creeper
Parthenocissus tricuspidata	Boston Ivy
Rosa banksiae	Lady Bank's Rose
Trachelospermum asiaticum*	Yellow Star Jasmine
Wisteria floribunda	Japanese Wisteria
Wisteria sinensis	Chinese Wisteria
Lonicera sempervirens	Trumpet Honeysuckle

HERBACEOUS PLANTS (Annuals and Perennials)

Achillea millefolium*	Yarrow
Ageratum species	Flossflowers
Anthemis species	Dog Fennels
Artemisia species	Wormwoods
Asclepias tuberosa	Butterfly Weed
Aspidistra elatior *	Cast Iron Plant
Aster x Frikartii *	Frikarti Aster
Baptista species	False Indigos
Calendula species*	Calendula
Caryopteris x clandonensis	Blue Mist Caryopteris
Catharanthus roseus*	Madagascar Periwinkle
Chrysanthemum species*	Mums
Coreopsis species*	Coreopsis
Echinacea angustifolia*	Purple Coneflower
Echinops species	Globe Thistles
Epimedium species	Epimedium
Eschscholzia californica*	California Poppy
Eustoma grandiflora*	Lisianthus
Gaillardia species*	Blanket Flower
Gaura lindheimeri	Gaura
Gazania species*	Gazanias

* Plants which have been found to do well in plantings very near the coast.

Hemerocallis cultivars*	Daylily
Hosta cultivars	Hostas
Iberis sempervirens	Candytuft
Lantana camara*	Common Lantana
Lantana montevidensis *	Trailing Lantana
Lathyrus species	Sweet Peas
Lavandula species*	Lavenders
Liatris spicata*	Spike Gayfeather
Limonium species	Sea Lavenders
Linum species	Flaxes
Lychnis species	Campions
Melampodium paludosum*	Melampodium
Oenothera species	Sundrops
Phlox species*	Phlox
Portulaca grandiflora*	Rose Moss
Rosmarinus officinalis*	Rosemary
Rudbeckia x Goldstrum*	Goldstrum Rudbeckia
Salvia species*	Sages
Santolina chamaecyparissus*	Lavender Cotton
Santolina virens*	Green Santolina
Sedum x 'Autumn Joy'*	Autumn Joy Sedum
Solidago altissima	Goldenrod
Tagetes species*	Marigolds
Thymus species	Thymes
Verbena canadensis*	Clump Verbena
Verbena tenuisecta*	Moss Verbena
Veronica species	Speedwells
Zinnia species	Zinnias

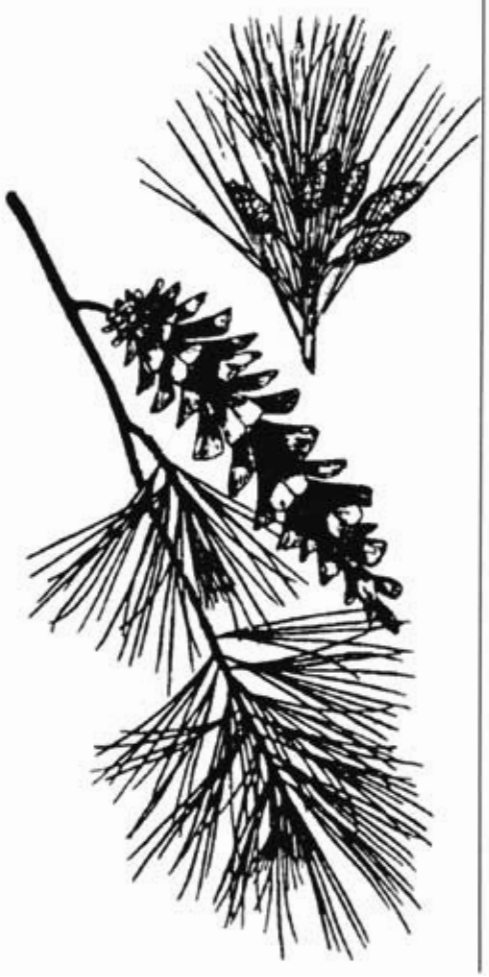
TURFGRASSES

Cynodon dactylon*	Bermuda Grass
Eremochloa ophriuroides*	Centipede Grass
Zoysia japonica*	Zoysia Grass

GRASS-LIKE ORNAMENTALS

Arundo donax*	Giant Reed
Cortaderia selloana*	Pampas Grass
Eragrostis curvula	Weeping Lovegrass
Miscanthus sinensis	Japanese Silvergrass, Eulalia
Miscanthus gracillimus	Maiden Grass
Miscanthus sinensis variegatus	Silvergrass
Miscanthus sinensis zebrinus	Zebra Grass
Panicum amarum*	Bitter Panicum
Pennisetum alopecuroides	Fountain Grass
Uniola paniculata*	Sea Oats

* Plants which have been found to do well in plantings very near the coast.



HART'S MILL
VILLAGE & FARM

HART'S MILL

Grist mill. Site of key Regulator meeting, 1766, and skirmish in 1781 that boosted the Patriot cause. Stood 1/5 mile N.

A New Farming Community
Self-Developed by Local Residents

1023 Frazier Rd, Mebane, NC

For Further Information, Please Contact

Katy Ansardi, katy@resultworks.com (919-747-3750)
Anthony Weston, weston@elon.edu (919-810-9580)
Paul Voss, paul_voss@unc.edu (919-357-7519)

Who We Are

Hart's Mill is being self-developed by a group of local people who will live here. We range in age from 20's to 70's. What we have in common is a desire to live simply in an old-fashioned neighborhood where people actually know each other and do things together. We also value self-reliance and want to raise some of our food on the land.

The Land

The property is currently owned by Alana (Settle) Ennis; it has been in her family for more than 60 years. When we started talking with Alana about building here, she told us how important it is to her for the most of the land to remain in farming, timber and conservation. That's one of the reasons that our homes will be clustered on a small area of the land. About 85% of the land will be permanently left in open space.

The Village

Most of our homes will be small privately-owned single family and duplex houses ranging in size from about 600 sf to 1800 sf. We will also have a common house for activities, as well as one or two shared homes for those who want to downsize at different stages of life. At most, there will be 30 housing units in the village.

A unique feature of Hart's Mill is that there will be no traffic on our main street! Except for moving vans and emergency vehicles, the street will be used only for walking, strolling, running, playing, and socializing. Traffic and parking will be kept to the northern edge of the village.

Here are a few other facts about Hart's Mill:

- No houses or farm operations will be visible from Frazier Rd
- Solar panels will be used to produce electricity (also not visible from the street)
- Many of us plan to work from home or on the land, reducing the need to drive
- There will be small arts and crafts studios for use by residents

The Farm & Woodlands

We plan a mix of fruit/nut trees, berries and vegetables along with a small number of pastured cows and sheep…and of course, some chickens. We expect to partner with one or more local farmers to help us manage the operation. Most of the food produced will be for our own use. There will be no sales of farm products on site.

Farm structures will include a barn, garage, workshop, greenhouse, and sheds. We are also allowing for up to two farmhouse residences separate from the village, as well as a future building for an office, workshops and meetings.

As those of you who have been down to McGowan Creek know, this place is beaver heaven! The streambeds and most of the woodlands will be permanently protected conservation areas with hiking trails.

STATEMENT OF CONSISTENCY
OF PROPOSED ZONING ATLAS AMENDMENTS WITH THE 2030 COMPREHENSIVE PLAN AND/OR OTHER ADOPTED COUNTY PLANS

Hart's Mill LLC and Ms. Alana Ennis, owners of a 112 acre parcel of property within Orange County, have initiated an amendment to the Orange County Zoning Atlas, as established in Section 1.2 of the Orange County Unified Development Ordinance (UDO) to rezone property:

From: Rural Residential (R-1), Upper Eno Protected Watershed Protection Overlay District, Special Flood Hazard Area (SFHA) Overlay District.

To: Master Plan Development Conditional Zoning (MPD-CZ), Upper Eno Protected Watershed Protection Overlay District, Special Flood Hazard Area (SFHA) Overlay District.

allowing for the development of a village style residential community. The parcel, further identified utilizing Orange County Parcel Identification Number (PIN) 9835-74-8573, is located along Frazier Road (SR 1310) approximately 2,900 feet south of the intersection of Frazier and Lebanon Road (SR 1306) hereafter referred to as 'the property'.

<u>The Planning Board finds</u>:

- The requirements of Section 2.8 of the Unified Development Ordinance (UDO) have been deemed complete, and
- Pursuant to Sections 1.1.5, and 1.1.7 of the UDO and to Section 153A-341 of the North Carolina General Statutes, the Board finds documentation within the record denoting that the rezoning **is consistent** with the adopted 2030 Comprehensive Plan and/or other adopted County plans.

<u>The amendment is consistent with applicable plans because it</u>:

- Supports the following 2030 Comprehensive Plan goals and objectives including:
    1. <u>Land Use Overarching Goal</u>: *Coordination of the amount, location, pattern and designation of future land uses, with availability of County services and facilities sufficient to meet the needs of Orange County's population and economy consistent with other Comprehensive Plan element goals and objectives*.
    2. <u>Land Use Goal 2</u>: *Land uses that are appropriate to on-site environmental conditions and features, and that protect natural resources, cultural resources, and community character.*
    3. <u>Objective LU-1.1</u>: *Coordinate the location of higher intensity / high density residential and non-residential development with existing or planned locations of public transportation, commercial and community services, and adequate supporting infrastructure (i.e., water and sewer, high-speed internet access, streets, and sidewalks), while avoiding areas with protected natural and cultural resources. This could be achieved by increasing allowable densities and creating new mixed-use zoning districts where adequate public services are available*.

4. Objective LU-3.5: *Recognize the right to farm and discourage the location of new non-farm development, particularly more intensive residential development, within farming areas to minimum the incidence of complaints and nuisance suits against farm operations.*

5. Objective LU-3.9: *Create new zoning district(s) which allow for a mixing of commercial and residential uses, a mixing of housing types, and creates a more pedestrian friendly development pattern. New districts should be applied in areas where public services exist or are planned for in the future, in areas that promote higher intensity and high density uses on the Future Land Use map.*

The amendments are reasonable and in the public interest because:

a. The amendment allows the development of a project achieving a reasonable balance of protecting existing natural area and land uses (i.e. farming operations) while allowing for an appropriate level of residential development at a density of 1 unit for every 3 acres.

   The current zoning designation allows development at a potential density of 1 unit for every 40,000 sq. ft. of land area with no guarantee existing farmland or mature forest would be preserved.

b. The amendment allows for the development of a pedestrian friendly community with different housing options for residents.

   The project requires vehicles to be parked in designated areas prohibiting access to individual residential structures, which shall be access via a proposed pedestrian trail system.

c. The project will not result in traffic impacts deemed to be detrimental to existing roadways due to the proposed density.

d. The proposed amendments promote public health, safety, and general welfare by furthering the goals and objectives of the 2030 Comprehensive Plan.

The Planning Board hereby recommends that the Orange County Board of County Commissioners consider adoption of the proposed Zoning Atlas amendments.

_____ _____

Pete Hallenbeck, Chair Date

AN ORDINANCE AMENDING
THE ORANGE COUNTY ZONING ATLAS

WHEREAS, Orange County has received and processed a petition submitted by Hart's Mill LLC and Ms. Alana Ennis seeking to amend the Orange County Zoning Atlas, as established in Section 1.2 of the Orange County Unified Development Ordinance (UDO), and

WHEREAS, This petition seeks to rezone a 112 acre parcel of property, further identified utilizing Orange County Parcel Identification Number (PIN) 9835-74-8573, to Master Plan Development Conditional Zoning District (MPD-CZD) for the purpose of developing the Hart's Mill Hart's Mill Village, a 34 unit residential farm community.

WHEREAS, The applicant has voluntarily chosen to establish development and land use limitations on the project to ensure residential and farm activities do not conflict with one another.

WHEREAS, This petition has been submitted in concert with a formal site plan in accordance with the provisions of Section 2.9.2 (C) of the UDO, and

WHEREAS, the requirements of Section 2.8 and 2.9.2 of the UDO have been deemed complete, and

WHEREAS, the Board has found the proposed zoning atlas amendment to be reasonably necessary to promote the public health, safety, and general welfare.

BE IT ORDAINED by the Board of Commissioners of Orange County that the Orange County Zoning Atlas is hereby amended to rezone the 112 acre portion of the aforementioned parcel to Master Plan Development Conditional Zoning (MPD-CZ) and allow development of the Hart's Mill Village as detailed on the submitted site plan.

BE IT FURTHER ORDAINED THAT in accordance with Section 2.9.2 (F) of the UDO the approval of this Conditional Zoning applicant is subject to the following mutually agreed to conditions:

1. The property shall be utilized only as a village oriented residential/farming community as denoted on the submitted site plan.
2. County staff shall prepare a 'Declaration of Development Restrictions and Requirements' outlining all conditions and development limitations associated with this project that the applicant shall record within the Orange County Registrar of Deeds office within 180 days of approval.
3. In accordance with the submitted application and site plan, development of the project shall be limited as follows:
    a. Permitted residential density for project shall be limited to 1 dwelling unit for every 3 acres of property with an overall limit of 34 dwelling units constructed on the property.
    b. Allowable Land Uses for the project shall include:

i. Farm operations (i.e. animal husbandry, crop production, processing, etc.)

ii. Accessory farm structures including, but not limited to:

a. A maximum of 4 farm houses/barns

b. A maximum of 4 garages for farm equipment/vehicle storage

c. Woodworking shop

d. Produce processing center (washing/packing area)

e. Pottery studio with kiln

iii. Single-family and two-family (i.e. duplex) residential units.

iv. Community House, limited to a total square footage of 3,000 sq. ft., with common facilities including, but not limited to: laundry facilities, mail room, activity room, and community kitchen

v. Administrative office including meeting facilities for local residents.

vi. Accessory uses to residential uses including:

a. Maximum of 2 art/hobby studios for use by local residents not to exceed a total square footage of 1,000 sq. ft. per building.

b. Minor home occupations shall be allowed for each residential dwelling unit. Such uses shall be reviewed and acted upon in accordance with the UDO.

c. Parking area/garages.

d. Electric car/golf cart charging stations.

vii. Solar Array – Large Facility to be reviewed and acted upon in accordance with the provisions of Section(s) 2.7 and 5.9.6 of the UDO.

viii. Recreational land uses – recreation uses for local residents shall be allowed including:

a. Walking trails/paths,

b. Multi-purpose athletic fields, as shown on the approved site plan, supporting such activities. No infrastructure (i.e. outdoor field lights, buildings, etc.) shall be permitted,

c. Individual recreational uses for residences treated as customary accessory land uses.

c. Setbacks:

i. No residential structure shall be located within 100 ft. of the perimeter of the property line.

ii. No farm structure housing animals shall be located within 40 ft. of the perimeter property line.

iii. All residential structures shall observe the following setbacks from identified residential spaces:

a. Front Yard: 10 ft.

b. Side Yard: 10 ft.

c. Rear Yard: 10 ft.

d. All structures shall comply with minimum spacing requirements established within NC State Building Code for separation between structures.

d. Ratio standards:

a. Minimum Percentage of Open Space for project: 80% or 89 acres. Farm/pasture operations, roadways and parking areas, as well as off-site septic areas shall be allowed within this open space area.

b. Maximum Allowable Floor Area Ratio (i.e. the cumulative amount of floor area for the project): 0.10

c. Required Recreation Space Ratio, minimum: 0.031

e. Landscaping shall be installed on every individual residential space in accordance with the provisions of Section 6.8.7 of the UDO and in accordance with the following general standards:

i. Preferred Plant Species - For landscaping purposes in the village, the Land Use Committee will develop a list of preferred species that will be founded on principles of being native, drought tolerant, and well adapted to Orange County, and also support shading, screening, solar access, and aesthetic enhancement goals. It will also include edible landscaping species.

This list will synthesize planting recommendations from the Cooperative Extension Service, NC Botanical Gardens, NC Native Plant Society, and other sources identified by the Land Use Committee that are consistent with the vision, missions, and goals of Hart's Mill Village.

ii. Prohibited Plants - Invasive species recognized by the North Carolina Invasive Plants Council for the Piedmont shall be prohibited.

iii. Location and Width of Land Use Buffers - Except at the property entrance, land use buffers shall be 20 ft. wide. The buffer at the project entrance street shall be 10 ft. in width along the northern property line on the narrow portion of the site beginning at Frazier Road and continuing approximately 1000 linear feet to the point at which the property widens. At that point, the buffer will transition to 20 ft. in width.

iv. Preservation of Natural Buffers:

1. If there is existing, healthy, natural vegetation in the area of a required buffer, it must be preserved. If the vegetation is removed for any reason, other than in accordance with an approved landscape and tree preservation plan, the number of required plantings shall be increased 50%.

2. The critical root zones of trees within the buffer must be protected if the applicant seeks credit for preservation of existing trees.

3. If necessary, a natural buffer will be supplemented with additional plantings in order to meet the Constructed Buffers standards established herein.

v. Constructed Buffers:

1. If existing vegetation is not sufficient to meet the buffer standards established within the conditions of approval for the project or within the UDO, additional plantings shall be installed consistent with the Type A land use buffer standards detailed within Section 6.8.6 (F) of the UDO.

vi. Fences and Walls:

1. Fences and walls shall be compatible with building architecture.
2. Fences and walls shall be setback a minimum of ten feet from any property line adjoining a road right-of-way, either public or private, to ensure adequate site visibility.
3. Fences shall not exceed 12 feet in height.
4. Chain link fencing is not permitted in areas visible from adjacent residences, parking areas, street or pedestrian walkways unless it is screened through use of evergreen shrubs or vines.

vii. Credit for Other Landscaping - Plant material in project boundary buffers may be counted towards the planting requirements of this section when located to serve both functions.

f. Provision of waste water disposal services: Wastewater shall be disposed of via a shared septic area as denoted on the approved site plan and shall be approved by the Orange County Health Department and the State of North Carolina.

g. Water service to individual buildings shall be through a water system served by Orange Alamance Water System. Individual wells shall be limited to use in support of agricultural operations.

In the event water service cannot be provided by Orange Alamance, individual wells or a community well shall be permitted if approved by the appropriate agency.

h. Access: access to the project shall be through a single access point on Frazier Road. No additional vehicular access points shall be developed.

i. Parking: all vehicles shall be parked in designated areas as identified on the site plan. A total of 90 parking spaces shall be provided for residents and their guests.

4. The applicant shall be required to obtain final approval for the proposed dumpster pad location from Orange County Solid Waste prior to the commencement of earth disturbing activity.

5. The applicant shall be required to obtain stormwater and erosion control permits from Orange County Erosion Control prior to the commencement of earth disturbing activity.

6. The applicant shall be required to obtain a driveway permit from the North Carolina Department of Transportation prior to the commencement of earth disturbing activity.

   The applicant shall provide the Orange County Planning Department with a copy of this permit.

7. The applicant shall be required to obtain final approval for the location and access of a central mail kiosk providing mail service to local residents by the Postmaster General in consultation with the North Carolina Department of Transportation and County Planning staff.

   The applicant shall provide the Orange County Planning Department with a copy of any documentation from the Postmaster General and/or the Department of Transportation of this approval.

8. The applicant shall be required to obtain building permits from the Orange County Inspections Department prior to the commencement of construction activity.

9. The applicant shall be required to obtain sign permits from the Planning Department in accordance with the provisions of the Orange County Unified Development Ordinance.

10. The Orange County Fire Marshal shall review and give final approval to road layout and construction methodology prior to the initiation of land disturbing activities. The Fire Marshal shall also review and approve the final location of the emergency fire access roadway and location of the proposed stand-pipe prior to installation.

11. The Orange County Fire Marshal shall review and give final approval to proposed water lines prior to the initiation of land disturbing activity. The ultimate required size of said lines serving the project shall be based on the results of the application, which shall include water flow test data for the project.

12. The applicant shall be required to maintain all required land use buffers in perpetuity in accordance with the requirements of Section 6.8 of the Orange County Unified Development Ordinance.

13. All required landscaping, as denoted on the site plan, shall be installed prior to the issuance of a Certificate of Occupancy for each individual residential structure or the proposed common house.

14. The applicant shall coordinate with Orange Alamance Water System, Orange County Emergency Services, and the Efland Volunteer Fire Department to hold a fire-flow test for the proposed fire hydrants. The test shall be certified by the various parties as complying with applicable State Fire Code standards with respect to necessary water flow.

BE IT FURTHER ORDAINED THAT this ordinance be placed in the book of published ordinances and that this ordinance is effective upon its adoption.

Upon motion of Commissioner _____, seconded by Commissioner _____, the foregoing ordinance was adopted this _____ day of _____, 2015.

I, Donna S. Baker, Clerk to the Board of Commissioners for Orange County, DO HEREBY CERTIFY that the foregoing is a true copy of so much of the proceedings of said Board at a meeting held on _____, 2015 as relates in any way to the adoption of the foregoing and that said proceedings are recorded in the minutes of the said Board.

WITNESS my hand and the seal of said County, this _____ day of _____, 2015.

SEAL

_____
Clerk to the Board of Commissioners