



**SWM / DETENTION**

CITY ENGINEERING

**DRAINAGE PLAN**

CITY ENGINEERING

**EROSION CONTROL**

FOR A PRE-CONSTRUCTION MEETING  
48 HRS. PRIOR TO ANY LAND  
DISTURBING ACTIVITY, CONTACT:

**TREE ORDINANCE**

URBAN FORESTRY

**CDOT**

CHARLOTTE DEPT. OF TRANSPORTATION

**APPROVED**

By Brendan Smith at 3:27 pm, Apr 05, 2013

**APPROVED**

By Brendan Smith at 3:27 pm, Apr 05, 2013

**APPROVED**

By Gary Turner (704-336-4330) at 9:01 am, Apr 09, 2013

**APPROVED**

By Joshua Weaver at 11:10 am, Apr 09, 2013

Per Felix Obregon

APPROVED FOR  
CONSTRUCTION  
CHARLOTTE-MECKLENBURG PLANNING DEPARTMENT  
BY: Joshua Weaver 4/9/2013  
REVISION

PLANS FOR IMPROVEMENT

OF

KARRAS COMMONS  
SUBDIVISION

CHARLOTTE, NORTH CAROLINA



VICINITY MAP  
NOT TO SCALE

INDEX OF SHEETS

SHEET TITLE	SHEET NO.	LATEST REVISION DATE
COVER SHEET	1	APRIL 3, 2013
EXISTING CONDITIONS PLAN	2	NOVEMBER 16, 2007
SITE PLAN	3	APRIL 3, 2013
EROSION CONTROL PLAN	4	APRIL 3, 2013
EROSION CONTROL DETAILS	5	NOVEMBER 16, 2007
EROSION CONTROL DETAILS	6	NOVEMBER 16, 2007
GRADING AND STORM DRAINAGE PLAN	7	APRIL 3, 2013
DETAIL LOT GRADING PLAN	7A	APRIL 3, 2013
STORM DRAINAGE & SEDIMENT BASIN AREAS	8	APRIL 3, 2013
STORM DRAINAGE PROFILES	9	APRIL 3, 2013
STREET PROFILES	10	NOVEMBER 16, 2007
KARRAS COMMONS WAY DRIVE & HELENA PARK COURT STREET PROFILES	11	NOVEMBER 16, 2007
TILLEY MORRIS ROAD & KNOX AVENUE TRAFFIC CONTROL STANDARDS & TURN MOVEMENTS	12	NOVEMBER 16, 2007
TRAFFIC CONTROL PLAN	13	NOVEMBER 16, 2007
KNOX AVENUE TRAFFIC CONTROL PLAN	14	NOVEMBER 16, 2007
SPRING STREET PAVEMENT MARKING PLAN & INTERSECTION DETAIL	15	DECEMBER 28, 2007
TILLEY MORRIS ROAD PLAN VIEW	16	NOVEMBER 16, 2007
KNOX AVENUE PLAN VIEW	17	NOVEMBER 16, 2007
SPRING STREET SITE DETAILS	18	NOVEMBER 16, 2007
SITE DETAILS	19	DECEMBER 28, 2007
SITE DETAILS	20	NOVEMBER 16, 2007
SITE DETAILS	21	NOVEMBER 16, 2007
SITE DETAILS	22	NOVEMBER 16, 2007
SITE DETAILS	23	NOVEMBER 16, 2007
LANDSCAPE PLAN & DETAILS	24	NOVEMBER 16, 2007
INTERSECTION SIGHT DISTANCE	25	NOVEMBER 16, 2007
TILLEY MORRIS ROAD INTERSECTION SIGHT DISTANCE	26	NOVEMBER 16, 2007
KNOX AVENUE CROSS SECTIONS: TILLEY MORRIS ROAD	27	NOVEMBER 16, 2007
CROSS SECTIONS: KNOX AVENUE	28	NOVEMBER 16, 2007
CROSS SECTIONS: SPRING STREET	29	NOVEMBER 16, 2007
FLOOD CROSS SECTIONS	30	NOVEMBER 16, 2007

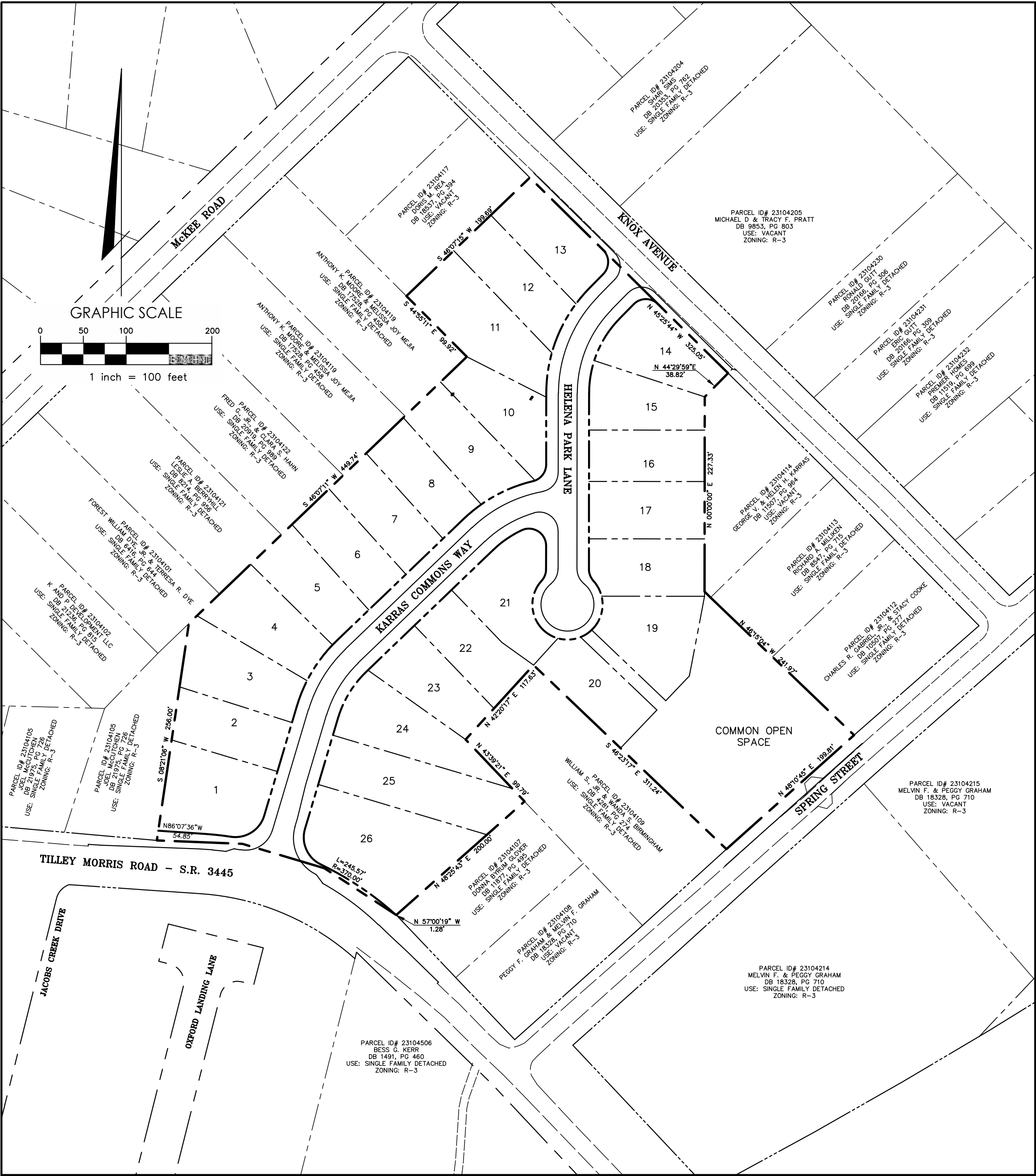


North Carolina One-Call Center  
2300 W. Meadowview Road, Suite 227  
Greensboro, North Carolina 27407  
(910) 855-5760

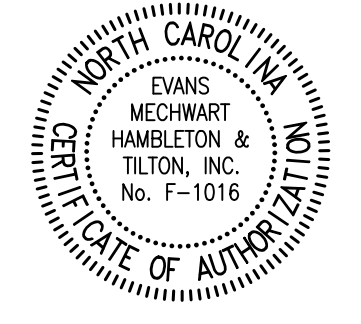
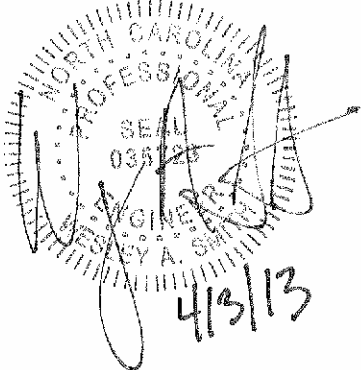
2 DAYS BEFORE DIGGING IN  
NORTH CAROLINA  
**CALL 1-800-632-4949**

UNDERGROUND LOCATORS:  
CONTRACTOR SHALL CONTACT  
THE UNDERGROUND LOCATORS  
EVERY 10 DAYS FOR AN UPDATE  
TO UTILITY LOCATIONS.

**Call BEFORE you DIG!**  
"It's The Law"



SCALE: 1"=100'



KARRAS COMMONS  
CHARLOTTE, NORTH CAROLINA

PREPARED FOR:

R.H. HAGEMEYER INC.  
PO Box 472685  
CHARLOTTE, NORTH CAROLINA 28247

PREPARED BY:

**EMHT**  
Evans, Mechwart, Hambleton, & Tilton, Inc.  
Engineers • Surveyors • Planners • Scientists  
8307 University Executive Park Drive, Suite 231, Charlotte, NC 28242  
Phone: 704-548-0333 Fax: 704-548-0334  
M C M X X V T

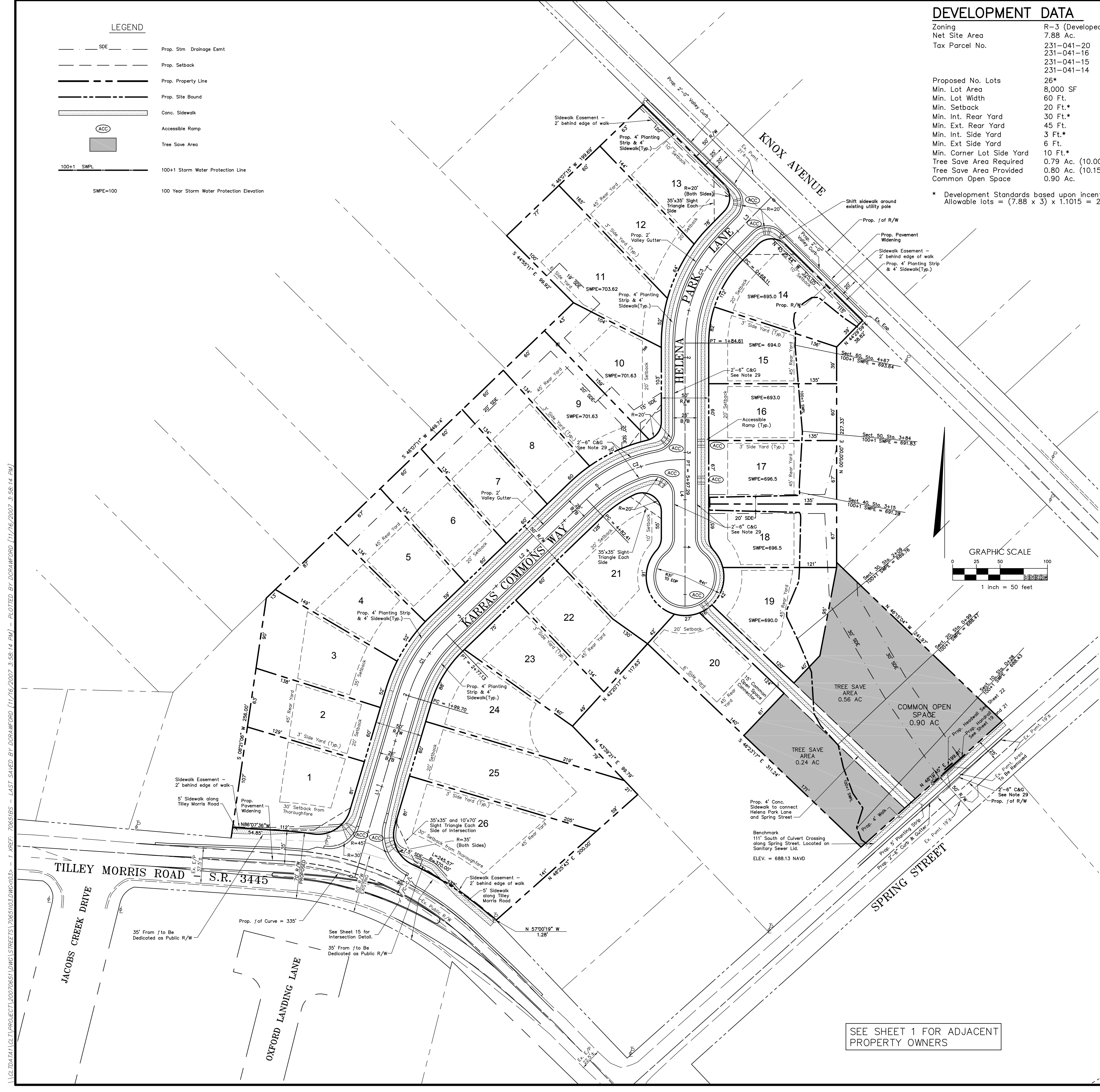
COVER SHEET

REVISIONS		
MARK	DATE	DESCRIPTION
1	12/28/07	REVISED SHEET SCHEDULE DATES
3	4/03/13	ADJUST GRADING, EXTEND STORM
		SEWER TO REAR OF LOTS 10 & 11
		AND PROVIDE FLOOD ANALYSIS FROM
		HW 14 TO MH 6

Date	Job No.
NOVEMBER 16, 2007	2007-0651
Scale	Sheet
1" = 100'	1/30

\\CLT\DATA\1\CLT\PROJECT\20070651\DWG\STREETS\70651R01.DWG<R01> - 1. XREF: 70651B5 - LAST SAVED BY REGGERS [12/28/2007 11:19:03 AM] - PLOTTED BY REGGERS [12/28/2007 11:19:04 AM]

\\C:\DATA\1\1\PROJECT\20070651\DWG\STREETS\7065101.DWG-033- - 1 XREF: 7065105 - LAST SAVED BY DCRAMFORD [11/16/2007 3:58:14 PM] - PLOTTED BY DCRAMFORD [11/16/2007 3:58:14 PM]



DEVELOPMENT DATA		
Zoning	R-3 (Developed As Cluster)*	
Net Site Area	7.88 Ac.	
Tax Parcel No.	231-041-20	231-041-11
	231-041-16	231-041-10
	231-041-15	231-041-06
	231-041-14	
Proposed No. Lots	26*	
Min. Lot Area	8,000 SF	
Min. Lot Width	60 Ft.	
Min. Setback	20 Ft.*	
Min. Int. Rear Yard	30 Ft.*	
Min. Ext. Rear Yard	45 Ft.	
Min. Int. Side Yard	3 Ft.*	
Min. Ext. Side Yard	6 Ft.	
Min. Corner Lot Side Yard	10 Ft.*	
Tree Save Area Required	0.79 Ac. (10.00% of site area)	
Tree Save Area Provided	0.80 Ac. (10.15% of site area)	
Common Open Space	0.90 Ac.	

\* Development Standards based upon incentives of Charlotte Tree Ordinance.  
Allowable lots = (7.88 x 3) x 1.1015 = 26

LINE TABLE		
LINE	LENGTH	BEARING
L1	199.70	N16°32'33"E
L2	205.28	N46°07'11"E
L3	68.11	S44°29'59"W
L4	277.64	S00°00'00"E

CURVE TABLE					
CURVE	LENGTH	RADIUS	TANGENT	CHORD	CHORD BEARING
C1	77.43	150.00	39.60	76.58	S31°19'52"W
C2	114.88	150.00	60.42	112.09	S68°03'36"W
C3	116.50	150.00	61.37	113.59	S22°15'00"W

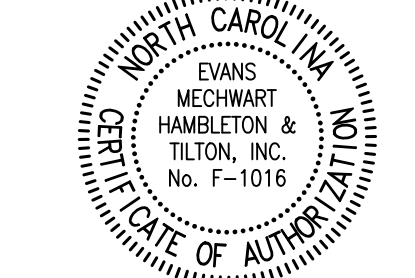
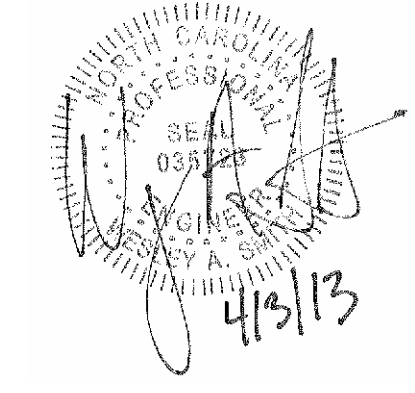
GENERAL NOTES:

- Boundary survey by Steve Amos, PLS, EMH&T.
- Project to be serviced with public (CMUD) water and sewer systems.
- The location of the subject property has been checked against area FEMA/FIRM maps, and it has been determined that it is NOT located in a special flood hazard area (Community Panel number 37119C0288E, effective date: February 4, 2004).
- Land Development Inspector to be given 24 hours notice prior to start of construction.
- Coordinate all curb and street grades in intersections with Inspector.
- Project is expected to be completed by January, 2011.
- Provide handicap ramp curb depressions at street intersections per CLDSM standard detail 10.33, latest revision.
- There will be no on-site demolition landfills associated with this project. All demolition shall be hauled off-site and legally disposed in an approved off-site landfill.
- All lot dimensions and lot areas shown are approximate. See record plat for exact dimensions and areas.
- All work and materials shall conform to the latest edition of the Charlotte Land Development Standards Manual.
- In rolling and hilly terrain, sweeping of the stone base and/or application of a tack coat may be required near intersections. These requirements will be established by the Inspector and based on field conditions.
- The contractor shall maintain two-way traffic at all times when working within existing streets. The contractor shall place and maintain signs, danger lights, and barricades and furnish watchmen or flagmen to direct traffic in accordance with the latest edition *Work Area Traffic Control Handbook (WATCH)*.
- All road improvements along Tilley Morris Road, Knox Avenue, and Spring Street are to be coordinated with the City of Charlotte Engineering Department prior to construction.
- Sight triangles shown are the minimum required.
- Approval of this plan is not an authorization to grade adjacent properties. When field conditions warrant off-site grading, permission must be obtained from the affected property owners.
- In order to ensure proper drainage, keep a minimum of 0.5% slope on the curb.
- The purpose of the storm drainage easement (SDE) is to provide storm water conveyance and any structures and/or obstruction to storm water flow is prohibited.
- The developer shall maintain each stream, creek, or backwash channel in an obstructed state and shall remove from the channel and banks of the stream all debris, logs, timber, junk and other accumulations.
- "As-Built" drawings and plans of the storm drainage system, including designed ditches, must be submitted prior to subdivision final inspection to the City Engineering Department in accordance with the City Subdivision Ordinance.
- Non-standard items (i.e. pavers, irrigation systems, etc.) in the right-of-way require a Right-of-Way Encroachment Agreement with the Charlotte Department of Transportation before installation.
- The current "Land Development Standards Manual" by the Charlotte Engineering Department will govern in case of conflicts in site construction specifications, details, notes standards and policies. Where necessary, construction of the following standard details, (and all "STD." numbers) shall be referenced to the current Charlotte Land Development Standards manual.
- 2'-6" Standard & 2'-0" Valley Gutter
- Curb Transition: 2'-6" C & G to 2'-0" Valley
- Concrete Sidewalk
- Graded Driveway for Valley Gutter
- CB Frame in Valley Gutter
- Accessible Ramp Standard with Planting Strip
- HC Ramp with Valley Gutter
- Standard Placement of HC Ramps & General Notes
- Trench Detail for Storm Drain Pipes
- Subdrain Detail
- Minimum Drainage Easement Requirements
- Street Sign Names
- Street Name Sign Installation Locations

- 10.17 A/B/C
  - 10.19
  - 10.22
  - 10.27
  - 10.29
  - 10.31 A/B
  - 10.33 A/B
  - 10.35
  - 20.25
  - 20.28
  - 20.30
  - 50.05 A/B
  - 50.06
22. Tilley Morris Road is a minor thoroughfare. Right-of-way equal to 35 feet from the road centerline will be dedicated to the North Carolina Department of Transportation.
23. Developer will provide street signs per CLDSM #50.05 (9" Signs Only)
24. Direct vehicular access to Tilley Morris Road from lots 1 and 26 is prohibited.
25. Subsurface drainage facilities may be required in the street right-of-way if deemed necessary by the inspector.
26. The purpose of the storm drainage easement (SDE) is to provide storm water conveyance. Building area in the easement area. Any other objects which impede storm water flow or system maintenance are also prohibited.
27. All existing on-site houses and structures shall be demolished and removed from property prior to final platting of lots.
28. Any building within the 100+1 Stormwater Elevation Line is subject to the restrictions of the (City of Charlotte/Mecklenburg County) Subdivision Ordinance, Section 7.200.8.
29. Use 2'-6" standard curb and gutter at each curb inlet location, per CLDS 10.29.
30. See Storm Drainage Plan for exact locations.

- References
- North Carolina Department of Transportation, January 1, 1995 or most recent edition, *Standard Specifications for Road and Structures*.
  - City of Charlotte Department of Transportation, June, 1995 or most recent edition, *Work Area Traffic Control Handbook (WATCH)*.
  - City of Charlotte Storm Water Services-Mecklenburg County Storm Water Services, July 8, 1993 or most recent edition, *Charlotte-Mecklenburg Storm Water Design Manual*.
  - American Association of State Highway and Transportation Officials, 1990 or most recent edition, *A Policy on Geometric Design of Highways and Streets*.
  - North Carolina Department of Transportation, *Roadway Design Manual*.
  - North Carolina Department of Environment, Health, and Natural Resources, September 1, 1988 or most recent edition, *Erosion and Sediment Control Planning and Design Manual*.

SEE SHEET 1 FOR ADJACENT PROPERTY OWNERS



KARRAS COMMONS  
CHARLOTTE, NORTH CAROLINA

PREPARED FOR:  
  
R.H. HAGEMEYER INC.  
PO Box 472685  
CHARLOTTE, NORTH CAROLINA 28247

PREPARED BY:  
  
EMH&T  
Evans, Mechwart, Hambleton, & Tilton, Inc.  
Engineers • Surveyors • Planners • Scientists  
8807 University Executive Park Drive, Suite 231, Charlotte, NC 28226  
Phone: 704.546.0333 Fax: 704.546.0334

SITE PLAN

REVISIONS		
MARK	DATE	DESCRIPTION
3	3/14/13	ADJUST GRADING & EXTEND STORM SEWER TO REAR OF LOTS 10 & 11

Date	Job No.
NOVEMBER 16, 2007	2007-0651
Scale	Sheet
1" = 50'	3/30