TOWN OF ASHLAND CITY
Planning Commission Meeting
March 04, 2024 5:30 PM
Agenda

Chairwoman: Nicole Binkley
Committee Members: Vivian Foston, Gerald Greer, JT Smith, Mike Stuart, Steven Stratton, Jerome Terrell

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CALL TO ORDER

ROLL CALL

APPROVAL OF AGENDA

APPROVAL OF MINUTES

1. February 05, 2024 PC Meeting Minutes

PUBLIC FORUM

2. ***Procedure for Speaking Before the Board***
   * Speakers must complete the information form and submit it to the transcriber prior to the public forum. Be prepared to speak when your name is called.
   * Each speaker will be allowed 4 minutes.
   * Speakers may comment on issues scheduled for consideration at the meeting or other appropriate concerns pertinent to the operation of the town.
   * Each speaker should state the following:
     - his/her name
     - whether they are an Ashland City resident and/or property owner
   * No person shall be allowed to make obscene, derogatory, or slanderous remarks while addressing the Council/Board. Persons doing so will be asked to stop speaking and will forfeit the remainder of their time.
   * All remarks shall be directed to the Council/Board as a body only.
   * No person shall be allowed to disrupt or interfere with the procedures.
   * Remarks shall end when the speaker's allotted time has expired. No time shall be shared with other speakers.
   * Questions from the council/board members may be asked for clarification as well as council/board members may have brief comments; however, no person shall be permitted to enter any discussion or debate either directly with or through any member of the Council/Board or anyone present at the meeting.
   * No one shall make open comments during the meeting.

OLD BUSINESS

3. AO Smith/ Ashland City Plat Approval

NEW BUSINESS

4. Rezone Request: 055C F 020.00 and 055C F 021.00
5. Site Plan Approval: Robertson-Cheatham Co-op

OTHER

6. Article V

ADJOURNMENT

Those with disabilities who require certain accommodations in order to allow them to observe and/or participate in this meeting, or who have questions regarding the accessibility of the meeting, should contact the ADA Coordinator at 615-792-6455, M-F 8:00 AM – 4:00 PM. The town will make reasonable accommodations for those persons.

TOWN OF ASHLAND CITY
Planning Commission Meeting
February 05, 2024 5:30 PM
Minutes

CALL TO ORDER
Chairwoman Binkley called the meeting to order at 5:31 p.m.
ROLL CALL
PRESENT
Chairwoman Nicole Binkley
Committee Member Gerald Greer
Committee Member Vivian Foston
Committee Member JT Smith
Committee Member Mike Stuart
Committee Member Jerome Terrell
ABSENT
Committee Member Steven Stratton
APPROVAL OF AGENDA
A motion was made by Committee Member Smith, Seconded by Committee Member Greer, to approve the agenda. All approved by voice vote.
APPROVAL OF MINUTES
1. January 08, 2024 PC Meeting Minutes
   A motion was made by Committee Member Greer, Seconded by Committee Member Foston, to approve the minutes as written. All approved by voice vote.

PUBLIC FORUM
2. ***Procedure for Speaking Before the Council***
   * Speakers must complete the information form and submit it to the transcriber prior to the public forum. Be prepared to speak when your name is called.
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   * Speakers may comment on issues scheduled for consideration at the meeting or other appropriate concerns pertinent to the operation of the town.
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   * No one shall make open comments during the meeting.

   Speakers:
   Mr. Michael Litton spoke about a property he owns.

   Committee Member Stuart arrived at 5:34 p.m.

ELECT OFFICERS
3. Chair

Chairwoman Binkley was nominated by Committee Member Greer, seconded by Committee Member Foston. Voting Yea: Chairwoman Binkley, Committee Member Greer, Committee Member Foston, Committee Member Smith, Committee Member Stuart, Committee Member Terrell.

4. Vice-Chair
   Committee Member Stuart was nominated by Committee Member Foston, seconded by Committee Member Greer, as the new Vice-Chairman. Voting Yea: Chairwoman Binkley, Committee Member Greer, Committee Member Foston, Committee Member Smith, Committee Member Stuart, Committee Member Terrell.
5. Secretary
   Committee Member Stuart nominated Ms. Martin. A motion was made by Committee Member Greer, seconded by Committee Member Foston. Voting Yea: Chairwoman Binkley, Committee Member Greer, Committee Member Foston, Committee Member Smith, Committee Member Stuart, Committee Member Terrell.

OLD BUSINESS

6. Site Plan Approval: Sleep Inn
   Mr. Gregory recommended approval of the site plan with the contingency that all staff comments be addressed. A motion was made by Committee Member Stuart, Seconded by Committee Member Smith, to approve the site plan. Voting Yea: Chairwoman Binkley, Committee Member Greer, Committee Member Foston, Committee Member Smith, Committee Member Stuart, Committee Member Terrell.
7. AO Smith/ Ashland City Plat Approval
   A motion was made by Committee Member Greer, Seconded by Committee Member Stuart, to defer to the next meeting. All approved by voice vote.

NEW BUSINESS

8. Rezoning of County Property
   Mr. Gregory discuessed the rezoning of County Property witht the Planning Commission. A motion was made by Committee Member Terrell, Seconded by Committee Member Stuart, to recommend the rezoning of this property to the council. Voting Yea: Chairwoman Binkley, Committee Member Greer, Committee Member Foston, Committee Member Smith, Committee Member Stuart, Committee Member Terrell.

OTHER

9. Article IV Continued
   Mr. Gregory and the Planning Commission continued their review of Article IV of the zoning ordinance.

ADJOURNMENT

A motion was made by Committee Member Stuart, Seconded by Committee Member Greer, to adjourm the meeting. All approved by voice vote and the meeting adjourned at 6:55 p.m.

_____ _____

CHAIRWOMAN NICOLE BINKLEY SECRETARY

Town of Ashland City
Building & Codes Department
233 Tennessee Waltz Parkway Suite 103
Ashland City TN 37015
(615) 792-6455

Application for
Reclassification of Property Under the Zoning Ordinance

Application Fee: $100.00

Application is hereby made to the Mayor and City Council, which first must be reviewed by the City Planning Commission, to reclassify the property described below now in a R-3 district.

Description of Property (Attach Map): Map 055CF 020.00 Parcel 055CF 021.00

At the corner of Willow St and Elizabeth St.

Reason for Reclassification Request: Requesting Rezoning to accomodate new construction shown on attached map

Address: Next to 126 Elizabeth St.

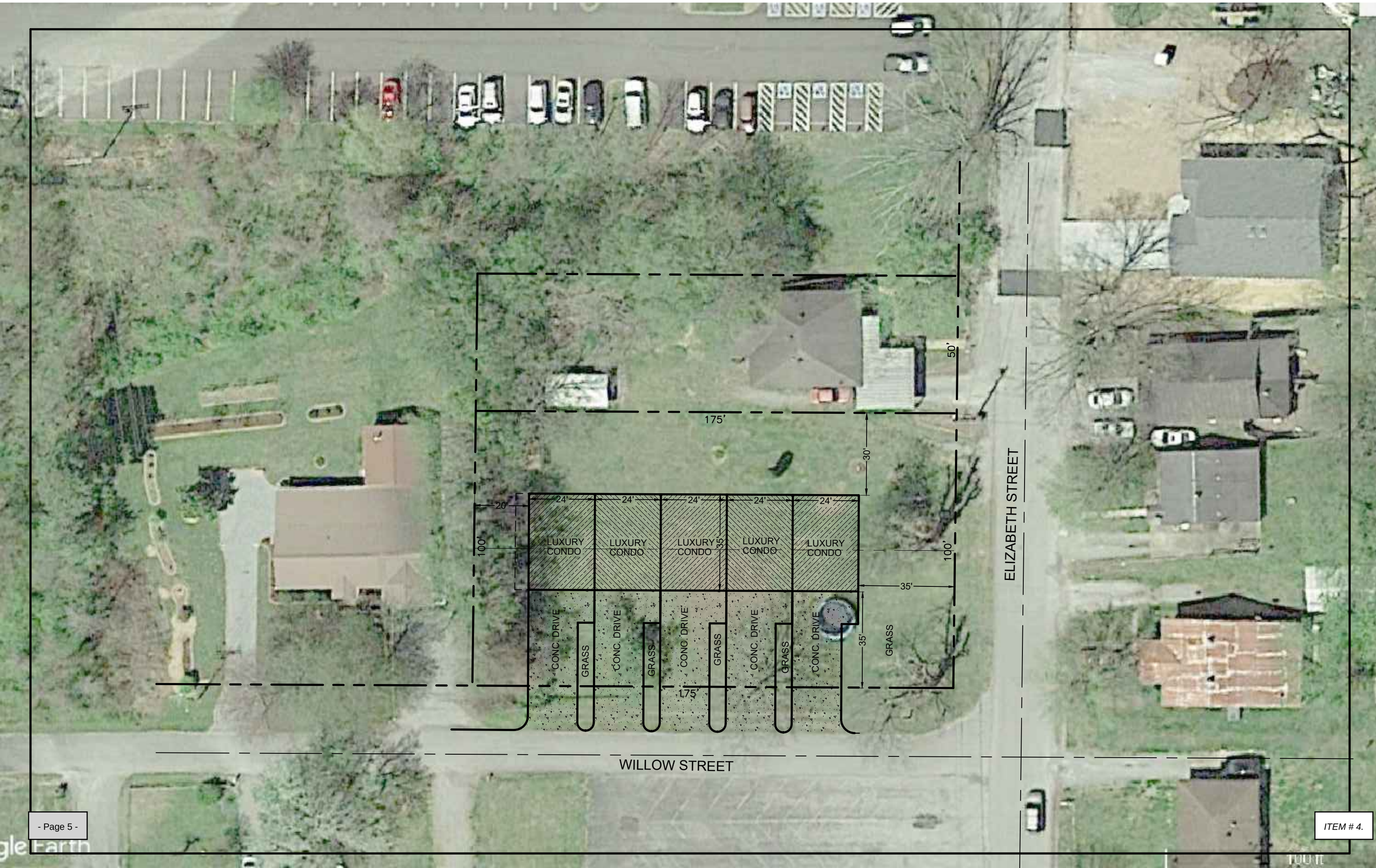
NOTE:

1. All applications for rezoning must be turned into City Hall no later than thirty (30) days prior to the upcoming planning commission meeting if they are to be entertained at said meeting.
2. An accurate graphic plat prepared and stamped by a registered design professional and a legal description of property to be rezoned must be submitted to the Building Official prior to consideration by the Town Planning Commissioners. In certain circumstances (i.e. large annexation requests having irregular boundaries) these legal descriptions must be submitted prior to planning commission consideration.
3. The applicant will submit the names and addresses of all owners of adjacent property within 1,000 feet. The applicant must also submit a map showing the property within 200 feet of said property.

Send application and other documents to amartin@ashlandcitytn.gov

Jacob Bumpus — Applicant

1-21-25 — Date


175'
30'
50'
20'
24'
24'
24'
24'
24'
100'
LUXURY CONDO
LUXURY CONDO
LUXURY CONDO
LUXURY CONDO
LUXURY CONDO
35'
100'
35'
35'
CONC. DRIVE
GRASS
CONC. DRIVE
GRASS
CONC. DRIVE
GRASS
CONC. DRIVE
GRASS
CONC. DRIVE
GRASS
175'
ELIZABETH STREET
WILLOW STREET

Receipt #R00203496

No-Reply <No-Reply@ashlandcitytn.gov>

Thu 2/1/2024 3:45 PM

To:Alicia Martin <ayoung@ashlandcitytn.gov>

The Town of Ashland City would like to thank you for your payment!

Town of Ashland City Water & Sewer
PO Box 36
Ashland City, TN 37015
(615)792-4211

DATE : 2/1/2024 3:44 PM
OPER : TC
TKBY : TC
TERM : 1
REC# : R00203496
CODES 32610 CODES BUILDING PERMITS/INSPECTION
JASSAN BUMPUS/REZONING FEE FOR ELIZABETH ST LOTS 100.00

Paid By:JASSAN BUMPUS/REZONING FEE FOR ELIZABETH ST LOTS
6-110 GEN CHECK 100.00 REF:14132

Town of Ashland City
Building & Codes Department
233 Tennessee Waltz Parkway Suite 103
Ashland City TN 37015
(615) 792-6455

APPLICATION FOR SITE PLAN APPROVAL

Site Plan Review Fee: $100.00

Date Received: 02/05/2024

Property Address: 114 Cumberland Street
Ashland City, TN 37015

Map # 055C **Parcel #** 1.00 **Acreage:** 0.86

Property Owner(s): Cheatham County Farmers Cooperative

Phone: (615)289-2579

Description of project being reviewed: 8,000 SF building with asphalt pavement and parking.

Having submitted plans for review by the Ashland City Planning Commission, I understand that I am responsible for all review fees incurred by the Town of Ashland City. In understand that the fee paid at the time of submittal is not applicable for the fees incurred through review. With my signature, I verify that I fully understand that I am responsible for said fees, and that I have received a copy of Ordinance #165.

Josh Lyon, P.E. Digitally signed by Josh Lyon, P.E. Date: 2024.02.05 16:07:44 -06'00' 02/05/2024

Applicant Signature Date

STORMWATER DESIGN CALCULATIONS

FOR

Cheatham County Farmers Cooperative

114 Cumberland Street
Ashland City, TN

January 15, 2024

Prepared By

KLOBER ENGINEERING SERVICES
3556 Tom Austin Hwy, Suite 1
Springfield, Tennessee 37172
(615) 382-2000

KLOBER
ENGINEERING SERVICES

Serving clients with Civil and Environmental Engineering Services

3556 Tom Austin Hwy, Suite 1
Springfield, Tennessee 37172
(615) 382-2000 Office
(888) 373-4485 Fax

STORM WATER CALCULATIONS

NOTE: Storm water runoff is calculated using the TR-55 Method. All flow calculations are based on methods established in the Nashville / Davidson County Stormwater Management Manual.

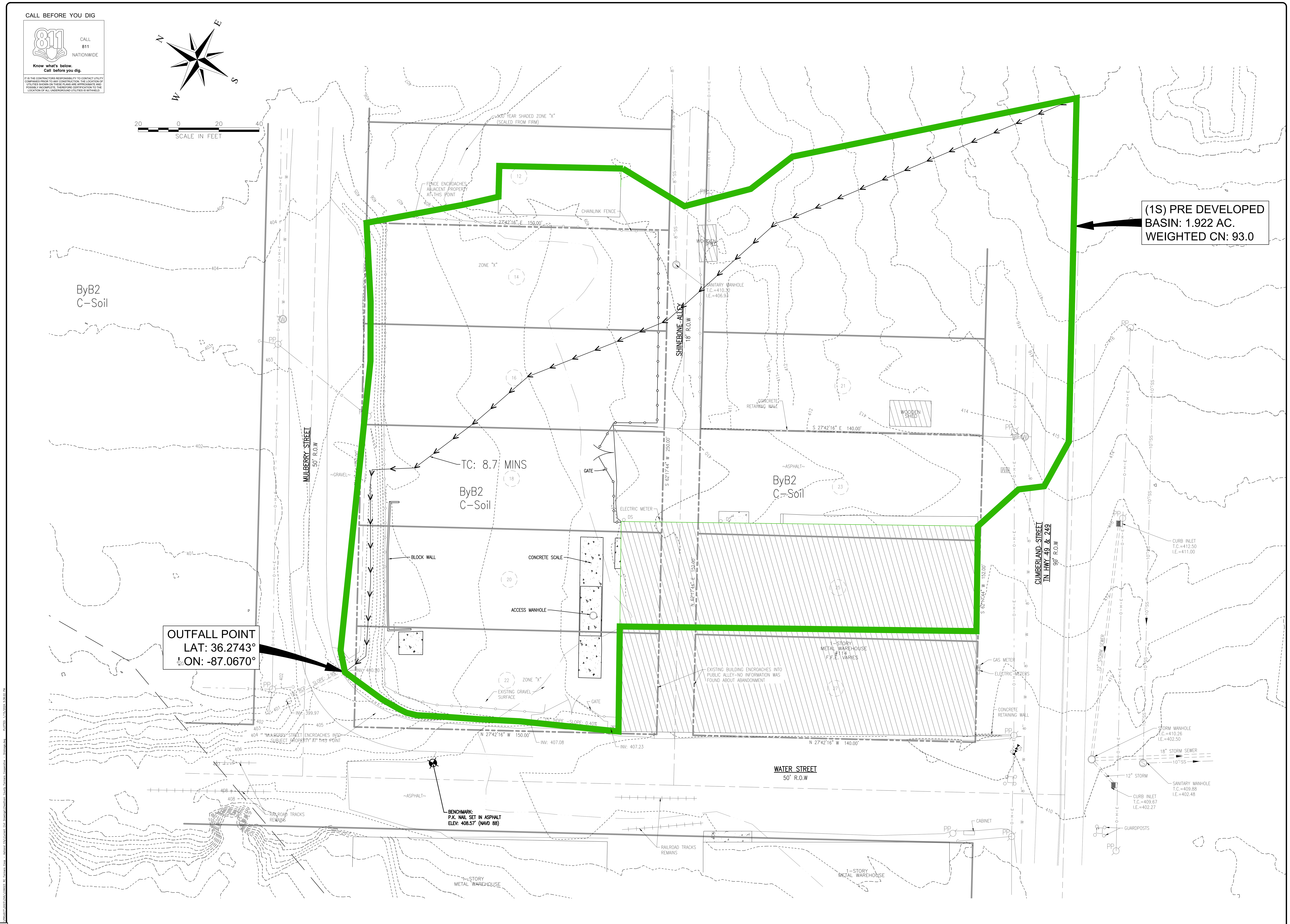
Stormwater Detention:

As seen on DM-1, the current site conditions convey runoff to the west towards the existing site outfall. The existing outfall drains towards Marks Creek, located approximately 1,690 feet west of the project location. The intention of this project is to construct a 8,000 square feet building with asphalt pavement. The post developed site will be conveyed towards a stormwater pond located along the northwest corner of the property and will be discharged at the existing outfall point. The supporting HydroCAD calculations are attached to this document along with maps, DM-1 and DM-2. See the table(s) below summarizing Pre-Developed vs. Post-Developed site conditions.

TOTAL DRAINAGE SUMMARY								
	PRE-DEVELOPMENT		POST-DEVELOPMENT				TOTAL POST DEVELOPED	
	AREA=	1.922 AC	AREA TO DETENTION POND=		1.834 AC	POND BYPASS AREA=	0.089 AC.	TOTAL POST DEVELOPED AREA TO CULVERT= 1.923 AC.
STORM EVENT (yr)	CN=	93	CN=		94	CN=	96	
	T_C=	8.7 MIN.	T_C=		8.1 MIN.	T_C=	5 MIN.	
	(1S) PRE-DEVELOPED DISCHARGE (cfs)		(2S) RUNOFF To POND (cfs)	(1P) POND DISCHARGE (cfs)	PEAK ELEVATION TOP=405.25	(3S) POND BYPASS (cfs)		(C1) DISCHARGE (cfs)
2	6.70		6.69	6.12	402.93	0.37		6.34
5	8.42		8.36	7.55	403.17	0.46		7.83
10	9.81		9.70	8.57	403.39	0.53		8.89
25	11.74		11.57	10.07	403.71	0.62		10.40
50	13.30		13.09	11.11	403.95	0.70		11.50
100	14.93		14.66	12.04	404.25	0.79		12.47

Table 1: Total Drainage Basin Runoff Results

PRE-DEVELOPED



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3556 TOM AUSTIN HWY, SUITE 1, SPRINGFIELD, TN 37172
PHONE: (615) 382-2000 FAX: (888) 373-4485
www.klobereng.com

REVISIONS

NO.	BY	DATE	DESCRIPTION

JOSHUA M. LYON, P.E. TN#112331

CONSTRUCTION DOCUMENTS

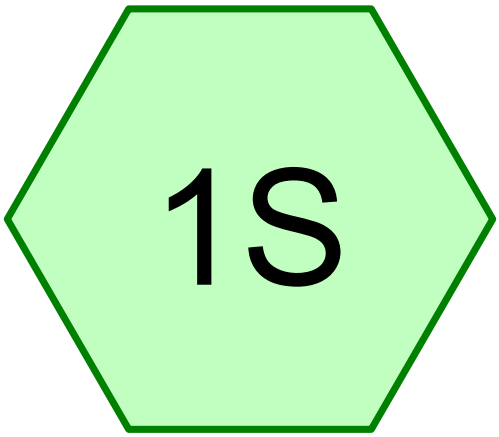
CHEATHAM COUNTY FARMERS COOPERATIVE

114 CUMBERLAND STREET
ASHLAND CITY, TN
CHEATHAM COUNTY

DRAWN BY:	RWS
CHECKED BY:	JML
PROJECT NO.:	C06023

PRE DEVELOPED DRAINAGE MAP

SHEET NUMBER
DM-1



Pre-Developed Basin

Subcat Reach Pond Link

Routing Diagram for RC Farmers- Drainage
Prepared by Klober Engineering, Printed 1/15/2024

Summary for Subcatchment 1S: Pre-Developed Basin

Runoff = 6.70 cfs @ 12.16 hrs, Volume= 0.424 af, Depth> 2.65"
Routed to nonexistent node 5R

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
NOAA 24-hr B 2-Year Rainfall=3.56"

Area (ac)	CN	Description
0.715	98	Unconnected pavement, HSG C
0.777	96	Gravel surface, HSG C
0.430	79	50-75% Grass cover, Fair, HSG C
1.922	93	Weighted Average
1.207		62.80% Pervious Area
0.715		37.20% Impervious Area
0.715		100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.4	100	0.0509	0.26		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.60"
2.3	407	0.0344	2.99		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
8.7	507	Total			

Summary for Subcatchment 1S: Pre-Developed Basin

Runoff = 8.42 cfs @ 12.16 hrs, Volume= 0.541 af, Depth> 3.38"
Routed to nonexistent node 5R

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
NOAA 24-hr B 5-Year Rainfall=4.35"

Area (ac)	CN	Description
0.715	98	Unconnected pavement, HSG C
0.777	96	Gravel surface, HSG C
0.430	79	50-75% Grass cover, Fair, HSG C
1.922	93	Weighted Average
1.207		62.80% Pervious Area
0.715		37.20% Impervious Area
0.715		100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.4	100	0.0509	0.26		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.60"
2.3	407	0.0344	2.99		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
8.7	507	Total			

Summary for Subcatchment 1S: Pre-Developed Basin

Runoff = 9.81 cfs @ 12.15 hrs, Volume= 0.636 af, Depth> 3.97"
Routed to nonexistent node 5R

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
NOAA 24-hr B 10-Year Rainfall=4.99"

Area (ac)	CN	Description
0.715	98	Unconnected pavement, HSG C
0.777	96	Gravel surface, HSG C
0.430	79	50-75% Grass cover, Fair, HSG C
1.922	93	Weighted Average
1.207		62.80% Pervious Area
0.715		37.20% Impervious Area
0.715		100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.4	100	0.0509	0.26		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.60"
2.3	407	0.0344	2.99		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
8.7	507	Total			

Summary for Subcatchment 1S: Pre-Developed Basin

Runoff = 11.74 cfs @ 12.15 hrs, Volume= 0.770 af, Depth> 4.81"
Routed to nonexistent node 5R

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
NOAA 24-hr B 25-Year Rainfall=5.89"

Area (ac)	CN	Description
0.715	98	Unconnected pavement, HSG C
0.777	96	Gravel surface, HSG C
0.430	79	50-75% Grass cover, Fair, HSG C
1.922	93	Weighted Average
1.207		62.80% Pervious Area
0.715		37.20% Impervious Area
0.715		100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.4	100	0.0509	0.26		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.60"
2.3	407	0.0344	2.99		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
8.7	507	Total			

Summary for Subcatchment 1S: Pre-Developed Basin

Runoff = 13.30 cfs @ 12.15 hrs, Volume= 0.879 af, Depth> 5.49"
Routed to nonexistent node 5R

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
NOAA 24-hr B 50-Year Rainfall=6.62"

Area (ac)	CN	Description
0.715	98	Unconnected pavement, HSG C
0.777	96	Gravel surface, HSG C
0.430	79	50-75% Grass cover, Fair, HSG C
1.922	93	Weighted Average
1.207		62.80% Pervious Area
0.715		37.20% Impervious Area
0.715		100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.4	100	0.0509	0.26		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.60"
2.3	407	0.0344	2.99		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
8.7	507	Total			

Summary for Subcatchment 1S: Pre-Developed Basin

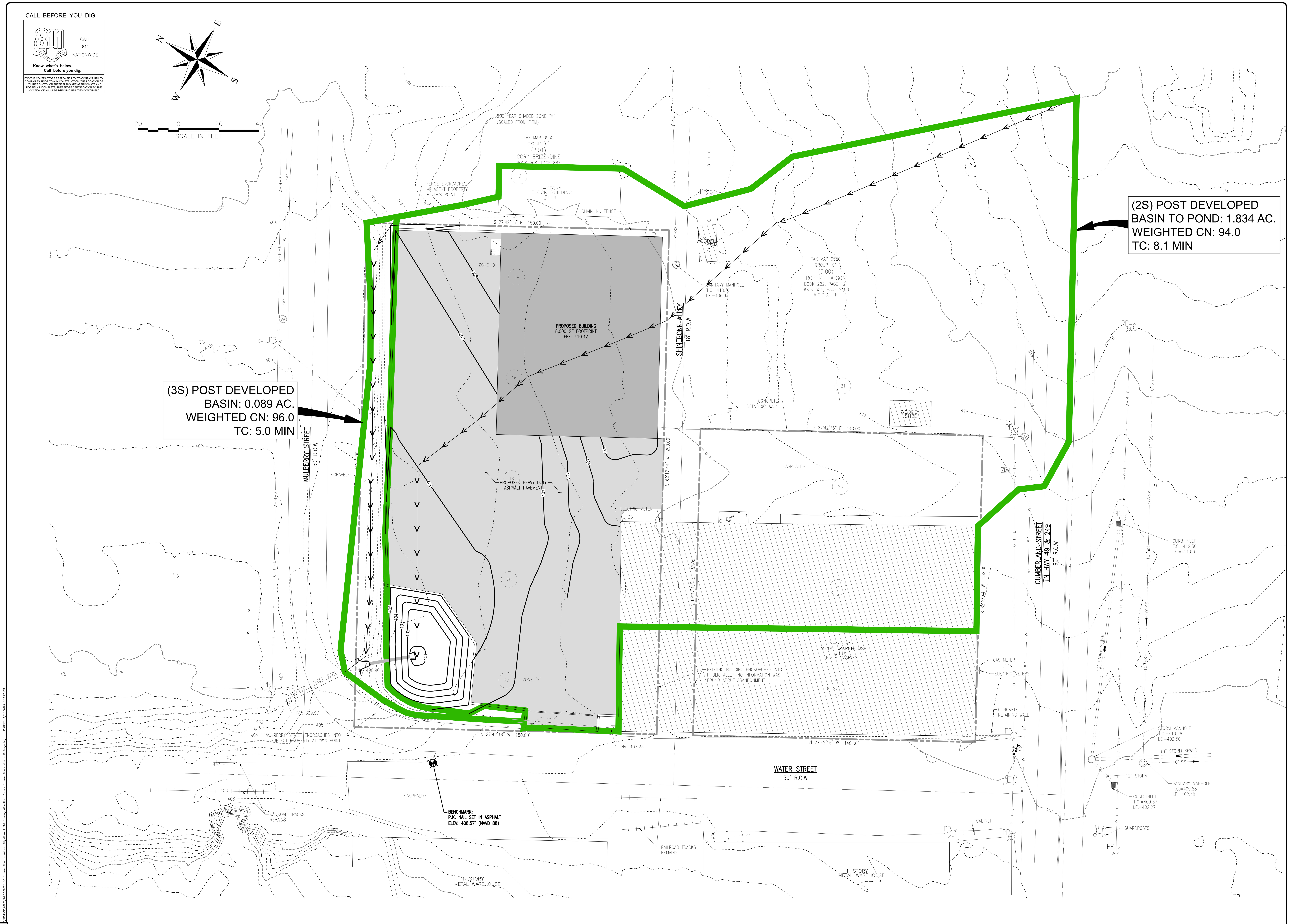
Runoff = 14.93 cfs @ 12.15 hrs, Volume= 0.992 af, Depth> 6.20"
Routed to nonexistent node 5R

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
NOAA 24-hr B 100-Year Rainfall=7.38"

Area (ac)	CN	Description
0.715	98	Unconnected pavement, HSG C
0.777	96	Gravel surface, HSG C
0.430	79	50-75% Grass cover, Fair, HSG C
1.922	93	Weighted Average
1.207		62.80% Pervious Area
0.715		37.20% Impervious Area
0.715		100.00% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.4	100	0.0509	0.26		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.60"
2.3	407	0.0344	2.99		**Shallow Concentrated Flow,** Unpaved Kv= 16.1 fps
8.7	507	Total			

POST-DEVELOPED



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NO.	BY	DATE	DESCRIPTION

REVISIONS

JOSHUA M. LYON, P.E. TN#112331

CONSTRUCTION DOCUMENTS

CHEATHAM COUNTY FARMERS COOPERATIVE

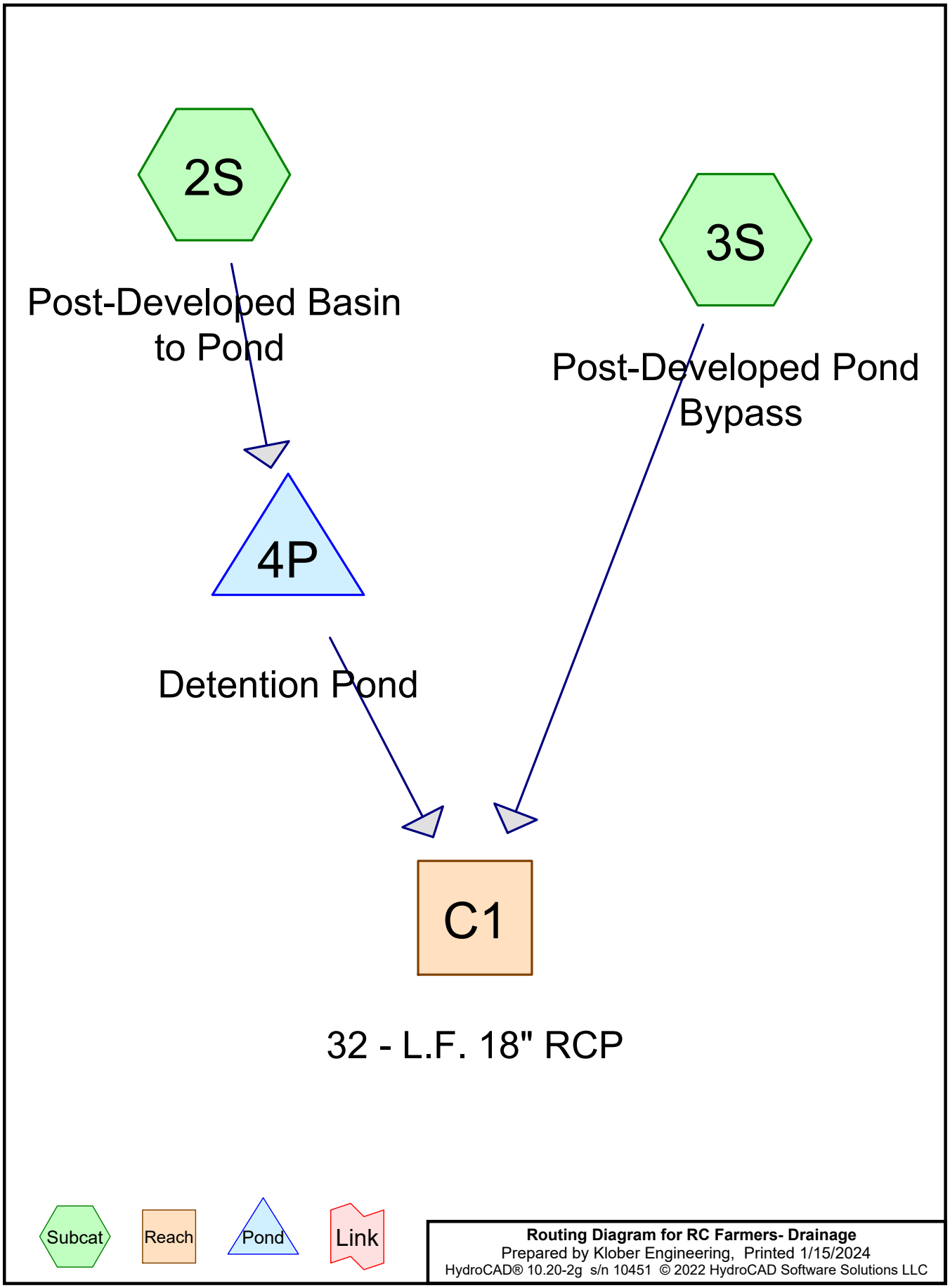
114 CUMBERLAND STREET
ASHLAND CITY, TN
CHEATHAM COUNTY

DRAWN BY:	RWS
CHECKED BY:	JML
PROJECT NO.:	C06023

POST DEVELOPED DRAINAGE MAP

SHEET NUMBER

DM-2



Routing Diagram for RC Farmers- Drainage
Prepared by Klober Engineering, Printed 1/15/2024
HydroCAD® 10.20-2g s/n 10451 © 2022 HydroCAD Software Solutions LLC

Summary for Subcatchment 2S: Post-Developed Basin to Pond

Runoff = 6.69 cfs @ 12.15 hrs, Volume= 0.420 af, Depth> 2.75"
Routed to Pond 4P : Detention Pond

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
NOAA 24-hr B 2-Year Rainfall=3.56"

Area (ac)	CN	Description
0.759	98	Paved parking, HSG C
0.516	98	Unconnected roofs, HSG C
0.129	98	Paved parking, HSG C
0.430	79	50-75% Grass cover, Fair, HSG C
1.834	94	Weighted Average
0.430		23.45% Pervious Area
1.404		76.55% Impervious Area
0.516		36.75% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.4	100	0.0509	0.26		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.60"
1.7	373	0.0326	3.67		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
8.1	473	Total			

Summary for Subcatchment 3S: Post-Developed Pond Bypass

[49] Hint: Tc<2dt may require smaller dt

Runoff = 0.37 cfs @ 12.11 hrs, Volume= 0.022 af, Depth> 2.94"
Routed to Reach C1 : 32 - L.F. 18" RCP

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
NOAA 24-hr B 2-Year Rainfall=3.56"

Area (ac)	CN	Description
0.089	96	Gravel surface, HSG C
0.089		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Summary for Reach C1: 32 - L.F. 18" RCP

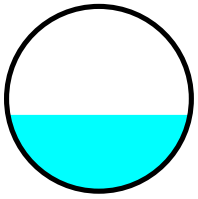
[52] Hint: Inlet/Outlet conditions not evaluated
[79] Warning: Submerged Pond 4P Primary device # 1 INLET by 0.01'

Inflow Area = 1.923 ac, 73.01% Impervious, Inflow Depth > 2.76" for 2-Year event
Inflow = 6.35 cfs @ 12.18 hrs, Volume= 0.442 af
Outflow = 6.34 cfs @ 12.18 hrs, Volume= 0.442 af, Atten= 0%, Lag= 0.1 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Max. Velocity= 9.24 fps, Min. Travel Time= 0.1 min
Avg. Velocity = 3.27 fps, Avg. Travel Time= 0.2 min

Peak Storage= 22 cf @ 12.18 hrs
Average Depth at Peak Storage= 0.62' , Surface Width= 1.48'
Bank-Full Depth= 1.50' Flow Area= 1.8 sf, Capacity= 17.91 cfs

18.0" Round Pipe
n= 0.013 Concrete pipe, bends & connections
Length= 32.0' Slope= 0.0291 '/'
Inlet Invert= 400.90', Outlet Invert= 399.97'



Summary for Pond 4P: Detention Pond

[82] Warning: Early inflow requires earlier time span

Inflow Area = 1.834 ac, 76.55% Impervious, Inflow Depth > 2.75" for 2-Year event
Inflow = 6.69 cfs @ 12.15 hrs, Volume= 0.420 af
Outflow = 6.12 cfs @ 12.19 hrs, Volume= 0.420 af, Atten= 9%, Lag= 2.2 min
Primary = 6.12 cfs @ 12.19 hrs, Volume= 0.420 af
Routed to Reach C1 : 32 - L.F. 18" RCP

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 402.93' @ 12.19 hrs Surf.Area= 977 sf Storage= 885 cf

Plug-Flow detention time= 1.9 min calculated for 0.420 af (100% of inflow)
Center-of-Mass det. time= 1.8 min (756.9 - 755.2)

Volume	Invert	Avail.Storage	Storage Description
#1	401.50'	3,800 cf	**Custom Stage Data (Irregular)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
401.50	16	16.0	0	0	16
402.00	661	103.0	130	130	840
403.00	1,004	125.0	827	957	1,256
404.00	1,411	147.0	1,202	2,158	1,751
405.00	1,884	168.0	1,642	3,800	2,300

Device	Routing	Invert	Outlet Devices
#1	Primary	401.50'	**18.0" Round Culvert** L= 20.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 401.50' / 401.30' S= 0.0100 '/' Cc= 0.900 n= 0.012 Corrugated PP, smooth interior, Flow Area= 1.77 sf

Primary OutFlow Max=6.00 cfs @ 12.19 hrs HW=402.91' (Free Discharge)
1=Culvert (Barrel Controls 6.00 cfs @ 4.51 fps)

Summary for Subcatchment 2S: Post-Developed Basin to Pond

Runoff = 8.36 cfs @ 12.15 hrs, Volume= 0.532 af, Depth> 3.48"
Routed to Pond 4P : Detention Pond

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
NOAA 24-hr B 5-Year Rainfall=4.35"

Area (ac)	CN	Description
0.759	98	Paved parking, HSG C
0.516	98	Unconnected roofs, HSG C
0.129	98	Paved parking, HSG C
0.430	79	50-75% Grass cover, Fair, HSG C
1.834	94	Weighted Average
0.430		23.45% Pervious Area
1.404		76.55% Impervious Area
0.516		36.75% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.4	100	0.0509	0.26		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.60"
1.7	373	0.0326	3.67		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
8.1	473	Total			

Summary for Subcatchment 3S: Post-Developed Pond Bypass

[49] Hint: Tc<2dt may require smaller dt

Runoff = 0.46 cfs @ 12.11 hrs, Volume= 0.027 af, Depth> 3.68"
Routed to Reach C1 : 32 - L.F. 18" RCP

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
NOAA 24-hr B 5-Year Rainfall=4.35"

Area (ac)	CN	Description
0.089	96	Gravel surface, HSG C
0.089		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Summary for Reach C1: 32 - L.F. 18" RCP

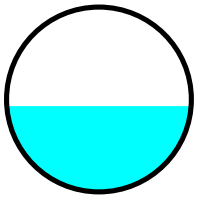
[52] Hint: Inlet/Outlet conditions not evaluated
[82] Warning: Early inflow requires earlier time span
[79] Warning: Submerged Pond 4P Primary device # 1 INLET by 0.09'

Inflow Area = 1.923 ac, 73.01% Impervious, Inflow Depth > 3.49" for 5-Year event
Inflow = 7.84 cfs @ 12.18 hrs, Volume= 0.559 af
Outflow = 7.83 cfs @ 12.18 hrs, Volume= 0.559 af, Atten= 0%, Lag= 0.1 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Max. Velocity= 9.77 fps, Min. Travel Time= 0.1 min
Avg. Velocity = 3.54 fps, Avg. Travel Time= 0.2 min

Peak Storage= 26 cf @ 12.18 hrs
Average Depth at Peak Storage= 0.69' , Surface Width= 1.50'
Bank-Full Depth= 1.50' Flow Area= 1.8 sf, Capacity= 17.91 cfs

18.0" Round Pipe
n= 0.013 Concrete pipe, bends & connections
Length= 32.0' Slope= 0.0291 '/'
Inlet Invert= 400.90', Outlet Invert= 399.97'



Summary for Pond 4P: Detention Pond

[82] Warning: Early inflow requires earlier time span

Inflow Area = 1.834 ac, 76.55% Impervious, Inflow Depth > 3.48" for 5-Year event
Inflow = 8.36 cfs @ 12.15 hrs, Volume= 0.532 af
Outflow = 7.55 cfs @ 12.19 hrs, Volume= 0.532 af, Atten= 10%, Lag= 2.3 min
Primary = 7.55 cfs @ 12.19 hrs, Volume= 0.532 af
Routed to Reach C1 : 32 - L.F. 18" RCP

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 403.17' @ 12.19 hrs Surf.Area= 1,069 sf Storage= 1,136 cf

Plug-Flow detention time= 2.0 min calculated for 0.532 af (100% of inflow)
Center-of-Mass det. time= 1.8 min (752.9 - 751.1)

Volume	Invert	Avail.Storage	Storage Description
#1	401.50'	3,800 cf	**Custom Stage Data (Irregular)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
401.50	16	16.0	0	0	16
402.00	661	103.0	130	130	840
403.00	1,004	125.0	827	957	1,256
404.00	1,411	147.0	1,202	2,158	1,751
405.00	1,884	168.0	1,642	3,800	2,300

Device	Routing	Invert	Outlet Devices
#1	Primary	401.50'	**18.0" Round Culvert** L= 20.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 401.50' / 401.30' S= 0.0100 '/' Cc= 0.900 n= 0.012 Corrugated PP, smooth interior, Flow Area= 1.77 sf

Primary OutFlow Max=7.43 cfs @ 12.19 hrs HW=403.15' (Free Discharge)
1=Culvert (Barrel Controls 7.43 cfs @ 4.76 fps)

Summary for Subcatchment 2S: Post-Developed Basin to Pond

Runoff = 9.70 cfs @ 12.15 hrs, Volume= 0.623 af, Depth> 4.07"
Routed to Pond 4P : Detention Pond

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
NOAA 24-hr B 10-Year Rainfall=4.99"

Area (ac)	CN	Description
0.759	98	Paved parking, HSG C
0.516	98	Unconnected roofs, HSG C
0.129	98	Paved parking, HSG C
0.430	79	50-75% Grass cover, Fair, HSG C
1.834	94	Weighted Average
0.430		23.45% Pervious Area
1.404		76.55% Impervious Area
0.516		36.75% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.4	100	0.0509	0.26		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.60"
1.7	373	0.0326	3.67		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
8.1	473	Total			

Summary for Subcatchment 3S: Post-Developed Pond Bypass

[49] Hint: Tc<2dt may require smaller dt

Runoff = 0.53 cfs @ 12.11 hrs, Volume= 0.032 af, Depth> 4.27"
Routed to Reach C1 : 32 - L.F. 18" RCP

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
NOAA 24-hr B 10-Year Rainfall=4.99"

Area (ac)	CN	Description
0.089	96	Gravel surface, HSG C
0.089		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Summary for Reach C1: 32 - L.F. 18" RCP

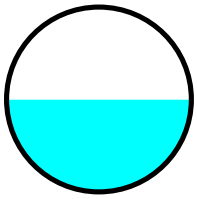
[52] Hint: Inlet/Outlet conditions not evaluated
[82] Warning: Early inflow requires earlier time span
[79] Warning: Submerged Pond 4P Primary device # 1 INLET by 0.14'

Inflow Area = 1.923 ac, 73.01% Impervious, Inflow Depth > 4.08" for 10-Year event
Inflow = 8.89 cfs @ 12.18 hrs, Volume= 0.654 af
Outflow = 8.89 cfs @ 12.19 hrs, Volume= 0.654 af, Atten= 0%, Lag= 0.1 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Max. Velocity= 10.10 fps, Min. Travel Time= 0.1 min
Avg. Velocity = 3.73 fps, Avg. Travel Time= 0.1 min

Peak Storage= 28 cf @ 12.18 hrs
Average Depth at Peak Storage= 0.75' , Surface Width= 1.50'
Bank-Full Depth= 1.50' Flow Area= 1.8 sf, Capacity= 17.91 cfs

18.0" Round Pipe
n= 0.013 Concrete pipe, bends & connections
Length= 32.0' Slope= 0.0291 '/'
Inlet Invert= 400.90', Outlet Invert= 399.97'



Summary for Pond 4P: Detention Pond

[82] Warning: Early inflow requires earlier time span

Inflow Area = 1.834 ac, 76.55% Impervious, Inflow Depth > 4.07" for 10-Year event
Inflow = 9.70 cfs @ 12.15 hrs, Volume= 0.623 af
Outflow = 8.57 cfs @ 12.19 hrs, Volume= 0.623 af, Atten= 12%, Lag= 2.5 min
Primary = 8.57 cfs @ 12.19 hrs, Volume= 0.623 af
Routed to Reach C1 : 32 - L.F. 18" RCP

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 403.39' @ 12.19 hrs Surf.Area= 1,153 sf Storage= 1,373 cf

Plug-Flow detention time= 2.1 min calculated for 0.623 af (100% of inflow)
Center-of-Mass det. time= 1.9 min (750.5 - 748.7)

Volume	Invert	Avail.Storage	Storage Description
#1	401.50'	3,800 cf	**Custom Stage Data (Irregular)**Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
401.50	16	16.0	0	0	16
402.00	661	103.0	130	130	840
403.00	1,004	125.0	827	957	1,256
404.00	1,411	147.0	1,202	2,158	1,751
405.00	1,884	168.0	1,642	3,800	2,300

Device	Routing	Invert	Outlet Devices
#1	Primary	401.50'	**18.0" Round Culvert** L= 20.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 401.50' / 401.30' S= 0.0100 '/' Cc= 0.900 n= 0.012 Corrugated PP, smooth interior, Flow Area= 1.77 sf

Primary OutFlow Max=8.49 cfs @ 12.19 hrs HW=403.37' (Free Discharge)
1=Culvert (Barrel Controls 8.49 cfs @ 4.95 fps)

Summary for Subcatchment 2S: Post-Developed Basin to Pond

Runoff = 11.57 cfs @ 12.15 hrs, Volume= 0.751 af, Depth> 4.91"
Routed to Pond 4P : Detention Pond

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
NOAA 24-hr B 25-Year Rainfall=5.89"

Area (ac)	CN	Description
0.759	98	Paved parking, HSG C
0.516	98	Unconnected roofs, HSG C
0.129	98	Paved parking, HSG C
0.430	79	50-75% Grass cover, Fair, HSG C
1.834	94	Weighted Average
0.430		23.45% Pervious Area
1.404		76.55% Impervious Area
0.516		36.75% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.4	100	0.0509	0.26		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.60"
1.7	373	0.0326	3.67		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
8.1	473	Total			

Summary for Subcatchment 3S: Post-Developed Pond Bypass

[49] Hint: Tc<2dt may require smaller dt

Runoff = 0.62 cfs @ 12.11 hrs, Volume= 0.038 af, Depth> 5.10"
Routed to Reach C1 : 32 - L.F. 18" RCP

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
NOAA 24-hr B 25-Year Rainfall=5.89"

Area (ac)	CN	Description
0.089	96	Gravel surface, HSG C
0.089		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Summary for Reach C1: 32 - L.F. 18" RCP

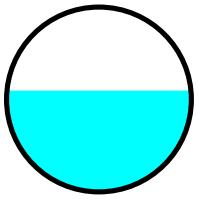
[52] Hint: Inlet/Outlet conditions not evaluated
[82] Warning: Early inflow requires earlier time span
[79] Warning: Submerged Pond 4P Primary device # 1 INLET by 0.22'

Inflow Area = 1.923 ac, 73.01% Impervious, Inflow Depth > 4.92" for 25-Year event
Inflow = 10.43 cfs @ 12.19 hrs, Volume= 0.788 af
Outflow = 10.40 cfs @ 12.19 hrs, Volume= 0.788 af, Atten= 0%, Lag= 0.1 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Max. Velocity= 10.51 fps, Min. Travel Time= 0.1 min
Avg. Velocity = 3.96 fps, Avg. Travel Time= 0.1 min

Peak Storage= 32 cf @ 12.19 hrs
Average Depth at Peak Storage= 0.82' , Surface Width= 1.49'
Bank-Full Depth= 1.50' Flow Area= 1.8 sf, Capacity= 17.91 cfs

18.0" Round Pipe
n= 0.013 Concrete pipe, bends & connections
Length= 32.0' Slope= 0.0291 '/'
Inlet Invert= 400.90', Outlet Invert= 399.97'



Summary for Pond 4P: Detention Pond

[82] Warning: Early inflow requires earlier time span

Inflow Area = 1.834 ac, 76.55% Impervious, Inflow Depth > 4.91" for 25-Year event
Inflow = 11.57 cfs @ 12.15 hrs, Volume= 0.751 af
Outflow = 10.07 cfs @ 12.20 hrs, Volume= 0.750 af, Atten= 13%, Lag= 2.9 min
Primary = 10.07 cfs @ 12.20 hrs, Volume= 0.750 af
Routed to Reach C1 : 32 - L.F. 18" RCP

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 403.71' @ 12.20 hrs Surf.Area= 1,288 sf Storage= 1,772 cf

Plug-Flow detention time= 2.2 min calculated for 0.750 af (100% of inflow)
Center-of-Mass det. time= 2.0 min (748.0 - 746.0)

Volume	Invert	Avail.Storage	Storage Description
#1	401.50'	3,800 cf	**Custom Stage Data (Irregular)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
401.50	16	16.0	0	0	16
402.00	661	103.0	130	130	840
403.00	1,004	125.0	827	957	1,256
404.00	1,411	147.0	1,202	2,158	1,751
405.00	1,884	168.0	1,642	3,800	2,300

Device	Routing	Invert	Outlet Devices
#1	Primary	401.50'	**18.0" Round Culvert** L= 20.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 401.50' / 401.30' S= 0.0100 '/' Cc= 0.900 n= 0.012 Corrugated PP, smooth interior, Flow Area= 1.77 sf

Primary OutFlow Max=10.02 cfs @ 12.20 hrs HW=403.71' (Free Discharge)
1=Culvert (Barrel Controls 10.02 cfs @ 5.67 fps)

Summary for Subcatchment 2S: Post-Developed Basin to Pond

Runoff = 13.09 cfs @ 12.15 hrs, Volume= 0.854 af, Depth> 5.59"
Routed to Pond 4P : Detention Pond

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
NOAA 24-hr B 50-Year Rainfall=6.62"

Area (ac)	CN	Description
0.759	98	Paved parking, HSG C
0.516	98	Unconnected roofs, HSG C
0.129	98	Paved parking, HSG C
0.430	79	50-75% Grass cover, Fair, HSG C
1.834	94	Weighted Average
0.430		23.45% Pervious Area
1.404		76.55% Impervious Area
0.516		36.75% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.4	100	0.0509	0.26		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.60"
1.7	373	0.0326	3.67		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
8.1	473	Total			

Summary for Subcatchment 3S: Post-Developed Pond Bypass

[49] Hint: Tc<2dt may require smaller dt

Runoff = 0.70 cfs @ 12.11 hrs, Volume= 0.043 af, Depth> 5.78"
Routed to Reach C1 : 32 - L.F. 18" RCP

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
NOAA 24-hr B 50-Year Rainfall=6.62"

Area (ac)	CN	Description
0.089	96	Gravel surface, HSG C
0.089		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Summary for Reach C1: 32 - L.F. 18" RCP

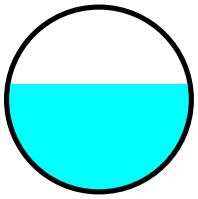
[52] Hint: Inlet/Outlet conditions not evaluated
[82] Warning: Early inflow requires earlier time span
[79] Warning: Submerged Pond 4P Primary device # 1 INLET by 0.27'

Inflow Area = 1.923 ac, 73.01% Impervious, Inflow Depth > 5.60" for 50-Year event
Inflow = 11.50 cfs @ 12.19 hrs, Volume= 0.897 af
Outflow = 11.50 cfs @ 12.19 hrs, Volume= 0.897 af, Atten= 0%, Lag= 0.1 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Max. Velocity= 10.76 fps, Min. Travel Time= 0.0 min
Avg. Velocity = 4.13 fps, Avg. Travel Time= 0.1 min

Peak Storage= 34 cf @ 12.19 hrs
Average Depth at Peak Storage= 0.87' , Surface Width= 1.48'
Bank-Full Depth= 1.50' Flow Area= 1.8 sf, Capacity= 17.91 cfs

18.0" Round Pipe
n= 0.013 Concrete pipe, bends & connections
Length= 32.0' Slope= 0.0291 '/'
Inlet Invert= 400.90', Outlet Invert= 399.97'



Summary for Pond 4P: Detention Pond

[82] Warning: Early inflow requires earlier time span

Inflow Area = 1.834 ac, 76.55% Impervious, Inflow Depth > 5.59" for 50-Year event
Inflow = 13.09 cfs @ 12.15 hrs, Volume= 0.854 af
Outflow = 11.11 cfs @ 12.20 hrs, Volume= 0.854 af, Atten= 15%, Lag= 3.0 min
Primary = 11.11 cfs @ 12.20 hrs, Volume= 0.854 af
Routed to Reach C1 : 32 - L.F. 18" RCP

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 403.95' @ 12.20 hrs Surf.Area= 1,391 sf Storage= 2,093 cf

Plug-Flow detention time= 2.2 min calculated for 0.854 af (100% of inflow)
Center-of-Mass det. time= 2.0 min (746.4 - 744.3)

Volume	Invert	Avail.Storage	Storage Description
#1	401.50'	3,800 cf	**Custom Stage Data (Irregular)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
401.50	16	16.0	0	0	16
402.00	661	103.0	130	130	840
403.00	1,004	125.0	827	957	1,256
404.00	1,411	147.0	1,202	2,158	1,751
405.00	1,884	168.0	1,642	3,800	2,300

Device	Routing	Invert	Outlet Devices
#1	Primary	401.50'	**18.0" Round Culvert** L= 20.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 401.50' / 401.30' S= 0.0100 '/' Cc= 0.900 n= 0.012 Corrugated PP, smooth interior, Flow Area= 1.77 sf

Primary OutFlow Max=11.09 cfs @ 12.20 hrs HW=403.95' (Free Discharge)
1=Culvert (Inlet Controls 11.09 cfs @ 6.28 fps)

Summary for Subcatchment 2S: Post-Developed Basin to Pond

Runoff = 14.66 cfs @ 12.15 hrs, Volume= 0.962 af, Depth> 6.30"
Routed to Pond 4P : Detention Pond

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
NOAA 24-hr B 100-Year Rainfall=7.38"

Area (ac)	CN	Description
0.759	98	Paved parking, HSG C
0.516	98	Unconnected roofs, HSG C
0.129	98	Paved parking, HSG C
0.430	79	50-75% Grass cover, Fair, HSG C
1.834	94	Weighted Average
0.430		23.45% Pervious Area
1.404		76.55% Impervious Area
0.516		36.75% Unconnected

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
6.4	100	0.0509	0.26		**Sheet Flow,** Grass: Short n= 0.150 P2= 3.60"
1.7	373	0.0326	3.67		**Shallow Concentrated Flow,** Paved Kv= 20.3 fps
8.1	473	Total			

Summary for Subcatchment 3S: Post-Developed Pond Bypass

[49] Hint: Tc<2dt may require smaller dt

Runoff = 0.79 cfs @ 12.11 hrs, Volume= 0.048 af, Depth> 6.48"
Routed to Reach C1 : 32 - L.F. 18" RCP

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
NOAA 24-hr B 100-Year Rainfall=7.38"

Area (ac)	CN	Description
0.089	96	Gravel surface, HSG C
0.089		100.00% Pervious Area

Tc (min)	Length (feet)	Slope (ft/ft)	Velocity (ft/sec)	Capacity (cfs)	Description
5.0					**Direct Entry,**

Summary for Reach C1: 32 - L.F. 18" RCP

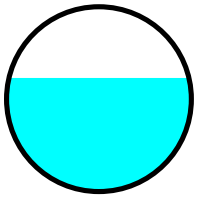
[52] Hint: Inlet/Outlet conditions not evaluated
[82] Warning: Early inflow requires earlier time span
[88] Warning: Qout>Qin may require smaller dt or Finer Routing
[79] Warning: Submerged Pond 4P Primary device # 1 INLET by 0.32'

Inflow Area = 1.923 ac, 73.01% Impervious, Inflow Depth > 6.30" for 100-Year event
Inflow = 12.46 cfs @ 12.19 hrs, Volume= 1.010 af
Outflow = 12.47 cfs @ 12.20 hrs, Volume= 1.010 af, Atten= 0%, Lag= 0.1 min

Routing by Stor-Ind+Trans method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Max. Velocity= 10.95 fps, Min. Travel Time= 0.0 min
Avg. Velocity = 4.29 fps, Avg. Travel Time= 0.1 min

Peak Storage= 36 cf @ 12.20 hrs
Average Depth at Peak Storage= 0.92' , Surface Width= 1.46'
Bank-Full Depth= 1.50' Flow Area= 1.8 sf, Capacity= 17.91 cfs

18.0" Round Pipe
n= 0.013 Concrete pipe, bends & connections
Length= 32.0' Slope= 0.0291 '/'
Inlet Invert= 400.90', Outlet Invert= 399.97'



Summary for Pond 4P: Detention Pond

[82] Warning: Early inflow requires earlier time span

Inflow Area = 1.834 ac, 76.55% Impervious, Inflow Depth > 6.30" for 100-Year event
Inflow = 14.66 cfs @ 12.15 hrs, Volume= 0.962 af
Outflow = 12.04 cfs @ 12.20 hrs, Volume= 0.962 af, Atten= 18%, Lag= 3.4 min
Primary = 12.04 cfs @ 12.20 hrs, Volume= 0.962 af
Routed to Reach C1 : 32 - L.F. 18" RCP

Routing by Stor-Ind method, Time Span= 5.00-20.00 hrs, dt= 0.05 hrs
Peak Elev= 404.25' @ 12.20 hrs Surf.Area= 1,524 sf Storage= 2,529 cf

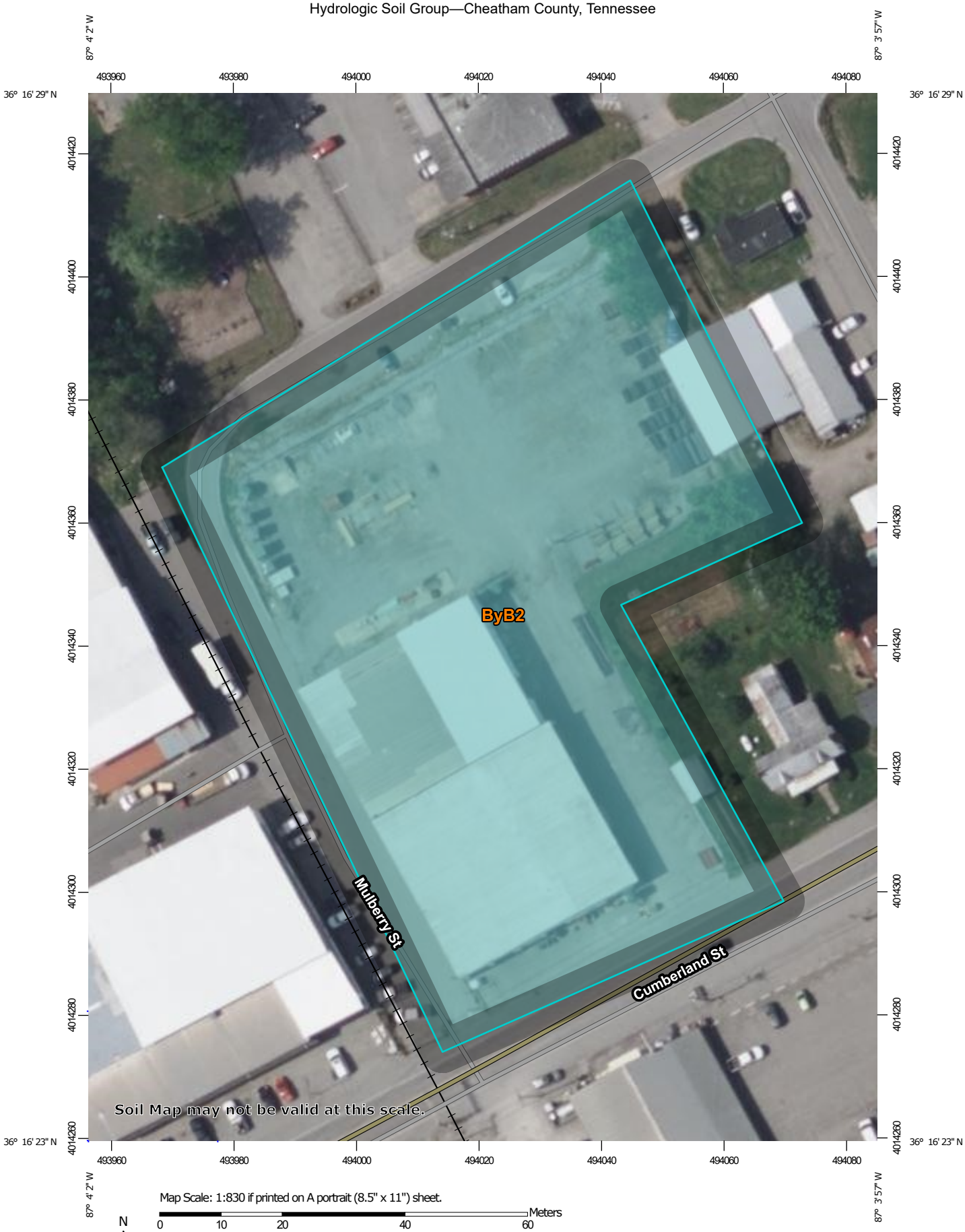
Plug-Flow detention time= 2.3 min calculated for 0.962 af (100% of inflow)
Center-of-Mass det. time= 2.1 min (745.0 - 742.9)

Volume	Invert	Avail.Storage	Storage Description
#1	401.50'	3,800 cf	**Custom Stage Data (Irregular)** Listed below (Recalc)

Elevation (feet)	Surf.Area (sq-ft)	Perim. (feet)	Inc.Store (cubic-feet)	Cum.Store (cubic-feet)	Wet.Area (sq-ft)
401.50	16	16.0	0	0	16
402.00	661	103.0	130	130	840
403.00	1,004	125.0	827	957	1,256
404.00	1,411	147.0	1,202	2,158	1,751
405.00	1,884	168.0	1,642	3,800	2,300

Device	Routing	Invert	Outlet Devices
#1	Primary	401.50'	**18.0" Round Culvert** L= 20.0' CPP, square edge headwall, Ke= 0.500 Inlet / Outlet Invert= 401.50' / 401.30' S= 0.0100 '/' Cc= 0.900 n= 0.012 Corrugated PP, smooth interior, Flow Area= 1.77 sf

Primary OutFlow Max=12.00 cfs @ 12.20 hrs HW=404.24' (Free Discharge)
1=Culvert (Inlet Controls 12.00 cfs @ 6.79 fps)


87° 4' 2" W
87° 3' 57" W
493960
493980
494000
494020
494040
494060
494080
36° 16' 29" N
36° 16' 23" N
4014420
4014400
4014380
4014360
4014340
4014320
4014300
4014280
4014260
ByB2
Mulberry St
Cumberland St
Soil Map may not be valid at this scale.
Map Scale: 1:830 if printed on A portrait (8.5" x 11") sheet.
N
Meters
0 10 20 40 60
Feet
0 40 80 160 240
Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 16N WGS84

MAP LEGEND

Area of Interest (AOI)

Area of Interest (AOI)

Soils

Soil Rating Polygons

A
A/D
B
B/D
C
C/D
D
Not rated or not available

Soil Rating Lines

A
A/D
B
B/D
C
C/D
D
Not rated or not available

Soil Rating Points

A
A/D
B
B/D
C
C/D
D
Not rated or not available

Water Features

Streams and Canals

Transportation

Rails
Interstate Highways
US Routes
Major Roads
Local Roads

Background

Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Cheatham County, Tennessee
Survey Area Data: Version 17, Sep 12, 2023

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Mar 21, 2021—May 1, 2021

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Hydrologic Soil Group

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
ByB2	Byler silt loam, 2 to 5 percent slopes, eroded	C	2.1	100.0%
Totals for Area of Interest			**2.1**	**100.0%**

Description

Hydrologic soil groups are based on estimates of runoff potential. Soils are assigned to one of four groups according to the rate of water infiltration when the soils are not protected by vegetation, are thoroughly wet, and receive precipitation from long-duration storms.

The soils in the United States are assigned to four groups (A, B, C, and D) and three dual classes (A/D, B/D, and C/D). The groups are defined as follows:

Group A. Soils having a high infiltration rate (low runoff potential) when thoroughly wet. These consist mainly of deep, well drained to excessively drained sands or gravelly sands. These soils have a high rate of water transmission.

Group B. Soils having a moderate infiltration rate when thoroughly wet. These consist chiefly of moderately deep or deep, moderately well drained or well drained soils that have moderately fine texture to moderately coarse texture. These soils have a moderate rate of water transmission.

Group C. Soils having a slow infiltration rate when thoroughly wet. These consist chiefly of soils having a layer that impedes the downward movement of water or soils of moderately fine texture or fine texture. These soils have a slow rate of water transmission.

Group D. Soils having a very slow infiltration rate (high runoff potential) when thoroughly wet. These consist chiefly of clays that have a high shrink-swell potential, soils that have a high water table, soils that have a claypan or clay layer at or near the surface, and soils that are shallow over nearly impervious material. These soils have a very slow rate of water transmission.

If a soil is assigned to a dual hydrologic group (A/D, B/D, or C/D), the first letter is for drained areas and the second is for undrained areas. Only the soils that in their natural condition are in group D are assigned to dual classes.

Rating Options

Aggregation Method: Dominant Condition

Component Percent Cutoff: None Specified

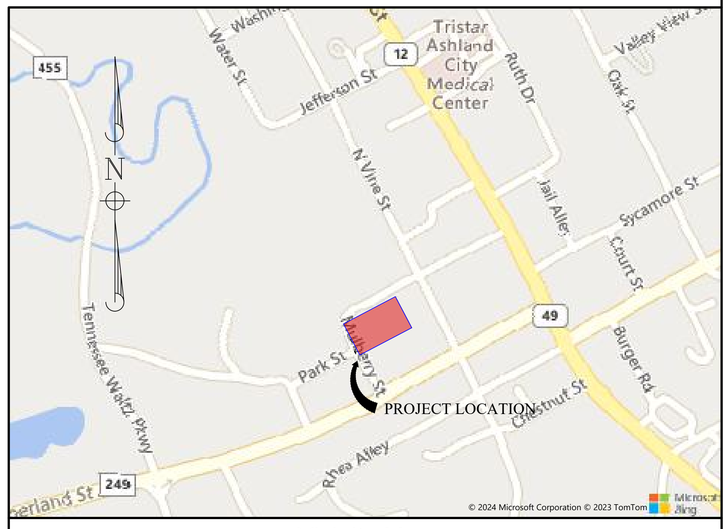
Tie-break Rule: Higher

SITE PLAN FOR

CHEATHAM COUNTY FARMERS COOPERATIVE

114 CUMBERLAND STREET
ASHLAND CITY, TN 37015
CHEATHAM COUNTY

SHEET INDEX



Vicinity Map
Not to Scale

DATE: 02/01/2024

CHEATHAM COUNTY FARMERS COOPERATIVE

KLOBER
ENGINEERING SERVICES
SERVING CLIENTS WITH CIVIL ENGINEERING & LAND DEVELOPMENT SERVICES
3556 TOM AUSTIN HWY, SUITE 1, SPRINGFIELD, TN 37172
PHONE: (615) 382-2000 FAX: (888) 373-4485
www.klobereng.com

JOSHUA M. LYON, P.E. TN#112331

NOT FOR CONSTRUCTION

APPLICANT/PROPERTY OWNER & DEVELOPER:

CHEATHAM COUNTY FARMERS COOPERATIVE
114 CUMBERLNAD STREET
ASHLAND CITY, TN

DEED REFERENCE:

MAP 055C, PARCEL 1.00 TAOCCT
PB 69, PG 316 ROCCT
DB 126, PG 559 ROCCT

PROPERTY INFORMATION:

ZONING: C1, CENTRAL BUSINESS
AREA: 37,500 S.F. = 0.86 ACRES

SITE USE

EXISTING USE: COMMERCIAL
PROPOSED USE: WAREHOUSE

LOT COVERAGE

EXISTING BUILDING AREA = ± 0 S.F.
NEW BUILDING AREA = 8,000 S.F.
BUILDING COVERAGE = 21.3%
MAX BUILDING HEIGHT: 40'-0"
PROPOSED ASPHALT SURFACE: ±15,655 S.F.
IMPERVIOUS AREA: ±23655 S.F. = 63.08%

PARKING INFORMATION:

REQUIRED PARKING:
1/1,000 S.F. (BLD. MATERIALS & FARM EQUIP. SALES) = 8,000/1,000 = 8.0 SPACES
PROVIDED: 8 SPACES

TEMPORARY BENCHMARK:

P.K. NAIL SET IN THE ASPHALT ALONG THE WESTERLY CURB LINE
ELEVATION = 408.57' (NAVD 88)

SIGN NOTE:

ALL SIGNS SHALL COMPLY WITH THE MOST CURRENT EDITION OF THE JURISDICTIONAL ZONING ORDINANCE. SEPARATE SIGN PERMIT MAY BE REQUIRED.

LANDSCAPE NOTE:

ALL LANDSCAPING SHALL COMPLY WITH THE MOST CURRENT EDITION OF THE JURISDICTIONAL DESIGN STANDARDS AND ZONING REGULATIONS. PLANT TYPES SHOWN MAY BE SUBSTITUTED WITH SIMILAR TYPES AND SIZES THAT ARE NATIVE TO THE AREA AND APPROVED BY THE GOVERNING JURISDICTION.

UTILITIES NOTE:

COORDINATE LOCATION AND INSTALLATION OF UTILITIES WITH MECHANICAL, ELECTRICAL AND PLUMBING PLANS, ASHLAND CITY WATER DEPARTMENT AND TENNESSEE WATER RESOURCES

WATER: ASHLAND CITY WATER DEPARTMENT
101 COURT ST.
ASHLAND CITY, TENNESSEE 37015
TELEPHONE: (615) 792-4211

SEWER: ASHLAND CITY WASTEWATER
199 RHEA STREET
ASHLAND CITY, TENNESSEE 37015
TELEPHONE: (615) 792-3074

ELECTRIC: CUMBERLAND ELECTRIC MEMBERSHIP
315 N MAIN STREET
ASHLAND CITY, TENNESSEE 37015
TELEPHONE: (615) 384-6770

GENERAL NOTES:

1. PRIOR TO BEGINNING CONSTRUCTION ON THIS SITE THE LOCATION OF UTILITIES MUST BE IDENTIFIED BY CALLING THE TOLL-FREE TENNESSEE ONE CALL REFERENCE NUMBER 1-800-351-1111.
2. ALL CONSTRUCTION ON THIS SITE SHALL COMPLY WITH APPLICABLE REGULATIONS AS SPECIFIED BY THE CITY OF ASHLAND CITY AND THE STATE OF TENNESSEE.
3. THE BOUNDARY SURVEY SHOWN HEREON WAS TAKEN FROM A SURVEY BY BLUE RIDGE SURVEYING SERVICES OF GALLATIN, TN, DATED 10/09/2023.
4. ACCORDING TO MAP 47021C0165E, DATED 02/26/2021, THIS SITE IS ONLY WITHIN THE 0.2% (500 YR) FLOOD HAZARD AREA.
5. SITE CONSTRUCTION WILL BEGIN FOLLOWING PLAN APPROVAL BY THE CITY OF ASHLAND CITY.

GENERAL UTILITY NOTES:

1. WATER AND SEWER CONSTRUCTION SHALL BE PERFORMED IN ACCORDANCE WITH ALL LOCAL CODES AND SPECIFICATIONS.
2. THE CONTRACTOR SHALL PAY ALL FEES AND OBTAIN ALL PERMITS.
3. ALL EXISTING UNDERGROUND UTILITY LOCATIONS ARE APPROXIMATE AND ARE BASED ON TOPOGRAPHIC SURVEYS AND RECORD DRAWINGS FROM THE FACILITY. ADDITIONAL UTILITIES MAY BE PRESENT. SHOULD UNCHARTED UTILITIES BE ENCOUNTERED DURING EXCAVATION OPERATIONS, THE CONTRACTOR SHALL NOTIFY THE ENGINEER AS SOON AS POSSIBLE FOR INSTRUCTIONS.
4. THE CONTRACTOR SHALL NOTIFY THE TENNESSEE ONE-CALL SYSTEM, INC. (TOCS) AT 1-800-351-1111 OF 811 AND ANY NON-TOCS MEMBER UTILITY INDIVIDUALLY, AT LEAST 3 WORKING DAYS PRIOR TO ANY EXCAVATION AND/OR DEMOLITION. IT IS THE CONTRACTOR'S RESPONSIBILITY TO CONTACT THE LOCAL UTILITY COMPANY NO LESS THAN 72 HOURS PRIOR TO COMMENCING WORK.
5. MAINTAIN 10-FOOT HORIZONTAL AND 18-INCH VERTICAL SEPARATION BETWEEN SANITARY SEWER AND WATER SUPPLY LINES UNLESS NOTED OTHERWISE.
6. CONTRACTOR SHALL VERIFY THE EXACT LOCATION OF ALL EXISTING UTILITIES INCLUDING IRRIGATION. TAKE CARE TO PROTECT UTILITIES THAT ARE TO REMAIN. REPAIR DAMAGE ACCORDING TO LOCAL STANDARDS AND AT THE CONTRACTOR'S EXPENSE. COORDINATE ALL CONSTRUCTION WITH THE APPROPRIATE UTILITY COMPANY. RELOCATE IRRIGATION LINES AS NECESSARY FOR CONSTRUCTION.
7. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING THE SEQUENCING OF CONSTRUCTION FOR ALL UTILITY LINES SO THAT WATER LINES AND UNDERGROUND ELECTRIC DO NOT CONFLICT WITH SANITARY SEWERS OR STORM SEWERS. INSTALL UTILITIES PRIOR TO FINAL PAVEMENT CONSTRUCTION.
8. BACKFILL UTILITY TRENCHES UNDER PAVEMENT AREAS WITH CRUSHED STONE OR GRAVEL. BACKFILL UTILITY TRENCHES IN LAWN AREAS WITH SATISFACTORY FILL MATERIAL COMPACTED TO AT LEAST 95% OF MAXIMUM PER ASTM D698.
9. ADJUST ALL EXISTING CASTINGS TO MATCH PROPOSED FINISH GRADE.
10. THRUST BLOCK ALL WATERLINE FITTINGS WITH CONCRETE (4,000 P.S.I. MINIMUM) POURED AGAINST UNDISTURBED EARTH TO SUSTAIN TEST PRESSURE SPECIFIED. FORM THRUST BLOCKING SO AS TO NOT EMBED JOINTS, BOLTS, VALVE BOXES, OR OPERATING NUTS.
11. PROVIDE VENTS AT HIGH POINTS IN WATERLINE AS NECESSARY FOR EXPELLING AIR DURING FILLING OF WATERLINE. PROVIDE BRONZE CORPORATION STOP FOR CLOSING VENT DURING TESTING AND SERVICE. LEAVE VENT COMPONENTS PLUGGED AND ATTACHED TO PIPE AFTER SUCCESSFUL TEST.
12. EXCESS MATERIAL SHALL BE DISPOSED OF BY THE CONTRACTOR OFF THE OWNER'S PROPERTY AT NO ADDITIONAL COST IN A LEGAL MANNER.
13. ALL SANITARY SEWER PIPE SHALL BE CLASS SDR 35 PVC UNLESS NOTED OTHERWISE.
14. ALL WATER MAINS SHALL BE PRESSURE C900 PVC UNLESS NOTED OTHERWISE.
15. ALL FIRE HYDRANT ASSEMBLIES SHALL BE INSTALLED BETWEEN 3' AND 7' FROM PAVED SURFACE.
16. PROVIDE AS-BUILT DRAWINGS WHICH INCLUDE AT LEAST TWO DIMENSIONS TO EACH VALVE AND MANHOLE FROM KNOWN SITE FEATURES. DRAWINGS SHALL INCLUDE VERTICAL AND HORIZONTAL INFORMATION ON ALL NEW UTILITIES AS WELL AS EXISTING UTILITIES ENCOUNTERED.

LAYOUT AND PAVING NOTES:

1. THE CONTRACTOR SHALL CHECK EXISTING GRADES, DIMENSIONS, AND INVERTS IN THE FIELD AND REPORT ANY DISCREPANCIES TO THE ENGINEER PRIOR TO BEGINNING WORK.
2. THE CONTRACTOR SHALL VERIFY THE EXACT LOCATION OF ALL EXISTING UTILITIES, INCLUDING IRRIGATION LINES, TAKE CARE TO PROTECT UTILITIES THAT ARE TO REMAIN, AND REPAIR CONTRACTOR CAUSED DAMAGE ACCORDING TO CURRENT LOCAL STANDARDS AND AT THE CONTRACTOR'S EXPENSE. COORDINATE ALL CONSTRUCTION WITH THE APPROPRIATE UTILITY COMPANY. RELOCATE IRRIGATION LINES AS NECESSARY FOR CONSTRUCTION.
3. THE CONTRACTOR SHALL COMPLY WITH ALL LOCAL CODES, OBTAIN ALL PERMITS, AND PAY ALL FEES PRIOR TO BEGINNING WORK.
4. PROVIDE A SMOOTH TRANSITION BETWEEN EXISTING PAVEMENT AND NEW PAVEMENT. FIELD ADJUSTMENT OF FINAL GRADES MAY BE NECESSARY. INSTALL ALL UTILITIES PRIOR TO INSTALLATION OF PAVEMENT.
5. THE CONTRACTOR SHALL PROTECT ALL TREES TO REMAIN, IN ACCORDANCE WITH THE SPECIFICATIONS. DO NOT OPERATE OR STORE HEAVY EQUIPMENT, NOR HANDLE, NOR STORE MATERIALS WITHIN THE DRIPLINES OF TREES OR OUTSIDE THE LIMIT OF GRADING.
6. CONCRETE WALKS AND PADS SHALL HAVE A BROOM FINISH. ALL CONCRETE SHALL BE 3,500 P.S.I. UNLESS OTHERWISE NOTED. CURB RAMPS, SIDEWALK SLOPES, AND DRIVEWAY RAMPS SHALL BE CONSTRUCTED IN ACCORDANCE WITH ALL CURRENT ADA & LOCAL REQUIREMENTS. IF APPLICABLE, THE CONTRACTOR SHALL REQUEST INSPECTION OF SIDEWALK AND RAMP FORMS PRIOR TO PLACEMENT OF CONCRETE.
7. ALL DAMAGE TO EXISTING ASPHALT PAVEMENT TO REMAIN WHICH RESULTS FROM NEW CONSTRUCTION SHALL BE REPLACED WITH LIKE MATERIALS AT CONTRACTOR'S EXPENSE.
8. DIMENSIONS ARE TO THE FACE OF CURB, EDGE OF CONCRETE, OR TO THE FACE OF BUILDING, UNLESS OTHERWISE NOTED.
9. COORDINATES ARE FOR FACE OF BUILDINGS, CENTER LINES OF DRIVEWAYS, CENTER OF SANITARY SEWER MANHOLES, AND CENTER AT FACE OF CURB ON CURB INLETS, UNLESS OTHERWISE NOTED.
10. EXCESS MATERIAL SHALL BE DISPOSED OF BY THE CONTRACTOR OFF THE OWNER'S PROPERTY AT NO ADDITIONAL COST IN A LEGAL MANNER.
11. MAINTAIN ONE SET OF APPROVED CONSTRUCTION DRAWINGS ON THE JOB SITE, WITH FIELD REVISIONS, FOR DISTRIBUTION TO THE ENGINEER UPON COMPLETION.
12. PARKING STRIPES SHALL BE 4-INCH WHITE PAVEMENT PAINT.
13. CONTRACTION JOINTS SHALL BE CONSTRUCTED TO A DEPTH OF AT LEAST 1/4 THE CONCRETE THICKNESS, AND SHALL DIVIDE THE CONCRETE ROUGHLY INTO SQUARES WITH MAXIMUM 10' SEGMENTS.
14. REFER TO THE MOST CURRENT ARCHITECTURAL PLANS FOR BUILDING LAYOUT AND DIMENSIONS

GRADING AND DRAINAGE NOTES:

1. TOPSOIL SHALL BE STRIPPED FROM ALL CUT AND FILL AREAS, STOCKPILED AND REDISTRIBUTED OVER GRADED AREAS TO A MINIMUM DEPTH OF 6 INCHES. MAKE STOCKPILES FREE DRAINING AND PROVIDE EROSION AND SEDIMENTATION CONTROLS AROUND STOCKPILES.
2. ALL GRADED AREAS SHALL BE SEEDED AND MULCHED WITHIN 14 DAYS AFTER GRADING IS COMPLETED.
3. CONSTRUCT TEMPORARY EROSION CONTROL AS SHOWN ON THE DRAWINGS PRIOR TO BEGINNING GRADING OPERATIONS.
4. ALL DRAINAGE STRUCTURES, PIPES WITHIN THE LIMITS OF CONSTRUCTION, AND DETENTION PONDS SHALL HAVE SEDIMENT REMOVED PRIOR TO FINAL ACCEPTANCE.
5. THE GRATE ELEVATIONS FOR CURB INLETS ARE GIVEN TO THE CENTER OF THE INLETS AT THE FACE OF CURB. THE GRATES SHALL SLOPE LONGITUDINALLY WITH THE PAVEMENT GRADE. ADJUST THE CASTING TO FALL ALONG THE CURB LINE.
6. THE CONTRACTOR SHALL VERIFY THE EXACT LOCATION OF ALL EXISTING UTILITIES, PROTECT UTILITIES TO REMAIN, AND REPAIR CONTRACTOR-CAUSED DAMAGE ACCORDING TO LOCAL STANDARDS AT CONTRACTOR'S EXPENSE.
7. NOTIFY LOCAL UTILITY LOCATOR SERVICE OF INTENDED EXCAVATION/UTILTY TRENCHING OPERATIONS.
8. IN THE EVENT OF ANY DISCREPANCIES FOUND IN THE DRAWINGS OR IF PROBLEMS ARE ENCOUNTERED DURING CONSTRUCTION, THE CONTRACTOR SHALL NOTIFY THE ENGINEER BEFORE PROCEEDING WITH THE WORK.
9. THE CONTRACTOR SHALL GIVE ALL NECESSARY NOTICES AND OBTAIN ALL PERMITS.
10. SPOT ELEVATIONS AND CONTOURS REPRESENT PROPOSED FINISHED GRADE AND TOP OF FINISHED PAVEMENT.
11. CONTRACTOR SHALL VERIFY EXISTING ELEVATIONS AND INVERTS PRIOR TO BEGINNING WORK.
12. EXCESS MATERIAL SHALL BE DISPOSED OF BY THE CONTRACTOR OFF THE OWNER'S PROPERTY AT NO ADDITIONAL COST IN A LEGAL MANNER.
13. CONTOUR LINES AND SPOT ELEVATIONS ARE THE RESULT OF A DETAILED ENGINEERING GRADING DESIGN AND REFLECT A PLANNED INTENT WITH REGARD TO DRAINAGE. SHOULD THE CONTRACTOR HAVE ANY QUESTIONS OF THIS INTENT OR ANY PROBLEMS WITH THE CONTINUITY OF GRADES, THE ENGINEER SHALL BE CONTACTED PRIOR TO BEGINNING WORK.
14. EXISTING MANHOLE CASTINGS TO REMAIN SHALL BE RESET TO MATCH NEW GRADE.
15. ALL CURBS AND SIDEWALKS SHALL BE BACKFILLED WITH TOPSOIL, AND SEEDED AND MULCHED, UNLESS OTHERWISE NOTED.
16. ALL PIPES UNDER PAVED AREAS SHALL BE BACKFILLED WITH CRUSHED STONE. ALL PIPES UNDER LAWN AREAS SHALL BE BACKFILLED WITH SATISFACTORY MATERIAL COMPACTED TO 95% MAXIMUM PER ASTM D698.
17. ALL STORM DRAINAGE PIPE SHALL BE CLASS III RCP UNLESS OTHERWISE NOTED. PIPE LENGTHS SHOWN ARE APPROXIMATE.
18. ALL CUT AND FILL SLOPES TO BE 3:1 MAXIMUM, UNLESS NOTED OTHERWISE.
19. SATISFACTORY TOPSOIL IS DEFINED AS SOIL BEING FREE OF SUBSOIL, CLAY LUMPS, STONES, OTHER OBJECTS OVER 1 INCH IN DIAMETER, OR CONTAMINANTS.
20. AFTER STRIPPING TOPSOIL, PROOFROLL SUBGRADE WITH A LOADED DUMP TRUCK WITH A MINIMUM WEIGHT OF 20 TONS. A GEOTECHNICAL ENGINEER SHOULD BE CONSULTED WITH DURING PROOFROLLS.
21. FINISH GRADES TOLERANCES ARE 0.10 FOOT ABOVE OR BELOW DESIGN ELEVATIONS.
22. MAXIMUM SLOPES IN ALL DIRECTIONS OF HANDICAP PARKING SPACES/AISLES SHALL BE 2%.
23. EARTHWORK FILL SHALL INCLUDE STRIPPING TOPSOIL AND PLACING ENGINEERED FILL IN MAXIMUM 8" COMPACTED LIFTS WITH DENSITY OF 95% OF MAXIMUM PER ASTM D698. CONSULT WITH CURRENT GEOTECHNICAL REPORT.
24. AN AS-BUILT TOPOGRAPHIC SURVEY OF THE FINAL STORMWATER MANAGEMENT POND(S) AND OUTLET STRUCTURE(S) SHALL BE SUBMITTED TO THE ENGINEER FOR REVIEW FOR COMPLIANCE WITH THE ORIGINAL DESIGN. THE CONTRACTOR MAY SUBMIT A PRELIMINARY TOPOGRAPHIC SURVEY TO THE ENGINEER PRIOR TO FINAL TOPSOIL APPLICATION.
25. THE STORMWATER RUNOFF CALCULATIONS ON THIS SITE HAVE BEEN PERFORMED USING THE TR-55 METHOD AND RATIONAL METHOD. RAINFALL DATA WAS OBTAINED FROM NRCS USGS PROGRAM. THE DETENTION BASIN IS SIZED TO HANDLE A 2 THROUGH 100 YEAR STORM EVENTS WITHOUT OVERTOPPING THE POND. STORMWATER PIPES HAVE BEEN SIZED TO HANDLE A 25 YEAR STORM EVEN UNDER FREEFLOW CONDITIONS.
26. IF PRESENT THE WATER QUALITY FEATURES SHALL BE INSPECTED AND CLEANED PER THE APPROVED LONG TERM MAINTENANCE PLAN.
27. IF A STORMWATER QUALITY UNIT/SYSTEM IS REQUIRED ON A SITE PLAN/SUBDIVISION PLAT, THE ENGINEER OF RECORD WILL BE REQUIRED TO INSPECT AND CERTIFY TO THE CONSTRUCTION/INSTALLATION OF THE FACILITY PER THE PLANS APPROVED BY THE CITY OF ASHLAND CITY. WRITTEN CERTIFICATION SHALL INCLUDE AS-BUILT DRAWINGS, PICTURES OF INSTALLATION AND VARIOUS ANALYSES THAT MAY BE REQUIRED BY THE STORMWATER DEPARTMENT.
28. ALL TEMPORARY AND PERMANENT BMP'S, INCLUDING DETENTION, SHALL BE INSPECTED BY THE ENGINEER OF RECORD AND CERTIFIED TO BE IN ACCORDANCE WITH THE APPROVED CONSTRUCTION PLANS PRIOR TO THE COMMENCEMENT OF WORK AND THE ISSUANCE OF AN OCCUPANCY PERMIT.

EP&SC NOTES:

1. THE CONTRACTOR SHALL DESIGNATE IN WRITING THE NAME AND PHONE NUMBER OF THE INDIVIDUAL RESPONSIBLE FOR EROSION AND SEDIMENT CONTROLS.
2. THE CONSTRUCTION ACTIVITY ANTICIPATED ON THIS PROJECT INCLUDES CLEARING, GRUBBING, GRADING, TOPSOILING, AND SEEDING.
3. THE PROJECT IS SUBJECT TO INSPECTION BY THE CITY AT ANY TIME AND ITEMS FOUND DEFICIENT SHALL BE IMMEDIATELY CORRECTED. THE CITY MAY STOP CONSTRUCTION OF PROPERTIES, OR ADMINISTER OTHER ENFORCEMENT ACTIONS AS DEFINED BY THE CITY.
4. INSPECTIONS SHALL BE CONDUCTED PER THE LATEST EDITION OF THE TDEC CONSTRUCTION GENERAL PERMIT. SEE SECTION 3.5.8.2.
5. THE APPROXIMATE TOTAL AREA OF THE SITE IS 0.86 ACRES. THE APPROXIMATE TOTAL AREA OF GRADING PROPOSED IS 0.46 ACRES.
6. THE INCREASE IN POST-CONSTRUCTION IMPERVIOUS AREA IS 0.00 ACRES.
7. THE ANTICIPATED FILL MATERIAL WILL CONSIST OF ON-SITE SOIL AND/OR OFF-SITE SOIL BORROW MATERIALS.
8. IF REQUIRED, THE OWNER AND THE CONTRACTOR SHALL SUBMIT A NOTICE OF INTENT (NOI) TO DISCHARGE CONSTRUCTION ACTIVITY STORMWATER APPLICATION TO THE LOCAL TENNESSEE ENVIRONMENTAL ASSISTANCE CENTER AT LEAST 30 DAYS PRIOR TO BEGINNING CONSTRUCTION. THE CONTRACTOR AND OWNER SHALL PROVIDE (WITH THE NOI FOR THIS PROJECT) EXISTING NPDES PERMIT TRACKING NUMBERS FOR SITE WHERE BORROW MATERIAL MAY BE OBTAINED AND WHERE SPOIL MATERIAL MAY BE PLACED. SHOULD PERMITS NOT EXIST FOR BORROW AND SPOIL SITES, SEPARATE NOI'S SHALL BE PROVIDED BY THE OWNER OR CONTRACTOR.
9. IF REQUIRED, THE NOTICE OF COVERAGE (NOC) OF THE PERMIT TO DISCHARGE CONSTRUCTION ACTIVITY STORMWATER SHALL BE POSTED NEAR THE CONSTRUCTION ENTRANCE. THE CONTRACTOR SHALL HAVE A SET OF APPROVED EROSION CONTROL PLANS ON SITE DURING ALL CONSTRUCTION.
10. IF REQUIRED, AN EROSION PREVENTION SILTATION CONTROL PLAN (EP&SC) AND LAND DISTURBANCE PERMIT SHALL BE IN PLACE PRIOR TO ANY GRADING, CLEARING AND/OR ANY OTHER CONSTRUCTION ACTIVITY. EROSION CONTROL DEVICES SHALL BE MAINTAINED THROUGHOUT THE CONSTRUCTION PERIOD; GENERALLY CONSIDERED TO BE THROUGH THE COMPLETION OF RESTORATION. IF REQUIRED, THE EP&SC PLAN ALONG WITH AN INSPECTION CHECKLIST AND STORMWATER PERMIT MUST BE AT THE PROJECT SITE AT ALL TIMES. THE INSPECTION CHECKLIST SHALL HAVE A RECORD OF DATES EP&SC DEVICES ARE INSPECTED AND ANY CORRECTION ACTION TAKEN OR MAJOR OBSERVATIONS. BMP'S MUST BE INSPECTED BY A QUALIFIED PERSON WHO HAS TAKEN AN APPROVED EROSION AND SEDIMENTATION COURSE.
11. APPROVED INLET PROTECTIONS FOR NEARBY STORM SEWER CURB AND DROP INLETS MUST BE INSTALLED PRIOR TO GRADING COMMENCEMENT.
12. SILT FENCE, OR OTHER SEDIMENT BARRIERS ARE TO BE INSTALLED PROPERLY ALONG TOPOGRAPHICAL CONTOURS DOWN SLOPE OF THE AREA TO BE DISTURBED PRIOR TO ANY GRADING, CLEARING AND/OR ANY OTHER CONSTRUCTION ACTIVITY.
13. ALL EP&SC DEVICES ARE TO REMAIN IN PLACE UNTIL THE SITE HAS BEEN STABILIZED AND A GOOD STAND OF GRASS HAS BEEN ESTABLISHED.
14. STABILIZATION MEASURES MUST BE PERFORMED WITHIN SEVEN (7) DAYS IN PORTIONS OF THE SITE WHERE CONSTRUCTION ACTIVITIES HAVE TEMPORARILY OR PERMANENTLY CEASED, AND WITHIN FOURTEEN (14) DAYS AFTER FINAL GRADING. ALL SLOPES 3:1 OR GREATER SHALL BE STABILIZED WITHIN SEVEN (7) DAYS.
15. REFER TO STORMWATER POLLUTION PREVENTION PLAN (SWPPP) FOR ADDITIONAL REQUIREMENTS.
16. PRE-CONSTRUCTION VEGETATIVE GROUND COVER SHALL NOT BE REMOVED MORE THAN 14 CALENDAR DAYS PRIOR TO GRADING. ALL GRADED AREAS EXPECTED TO REMAIN UNFINISHED AND UNWORKED FOR MORE THAN 14 CALENDAR DAYS SHALL BE COVERED WITH TEMPORARY GRASS, SOD, STRAW, MULCH, OR FABRIC MATS. PERMANENT SOIL STABILIZATION SHALL BE INSTALLED WITHIN 14 CALENDAR DAYS OF FINAL GRADING.
17. EXCAVATED TOPSOIL TO BE REUSED MUST BE STOCKPILED AND ENCIRCLED WITH SILT FENCING.
18. THIS SITE SHALL CONTAIN A TEMPORARY STONE CONSTRUCTION ENTRANCE THAT CONFORMS TO REQUIRED SPECIFICATIONS PRIOR TO GRADING COMMENCEMENT. THE STONE SHALL BE 2 TO 3 INCH IN DIAMETER AND SHALL BE KEPT CLEAN BY ADDING STONE AS NEEDED. IT SHALL BE AT LEAST 8 INCHES DEEP UNDERLAIN WITH FILTER FABRIC AND 20 FEET WIDE.
19. VEGETATIVE BUFFERS OR OTHER PROTECTION MUST BE PROVIDED ALONG STREAMS, RIVERS, AND PONDS TO AVOID EROSION OF BANKS.
20. ALL TREES DESIGNATED TO REMAIN, MUST BE PROTECTED. HEAVY EQUIPMENT SHOULD NOT BE OPERATED OR STORED, NOR MATERIALS HANDLED OR STORED, WITHIN THE DRIP LINES OF TREES.
21. SEDIMENT MUST BE REMOVED FROM SEDIMENT BARRIERS, PONDS, AND OTHER SEDIMENT CONTROLS WHEN DESIGN CAPACITY HAS BEEN REDUCED BY 50%
22. SEDIMENT THAT HAS ESCAPED THE CONSTRUCTION SITE AND HAS COLLECTED IN THE STREET OR DRAINAGE STRUCTURES MUST IMMEDIATELY BE PHYSICALLY REMOVED.
23. BUILDING AND WASTE MATERIALS, AND NON STORM WATER DISCHARGES, SUCH AS CONCRETE, PAINT WASH WATER, OR MACHINERY LEAKAGE, OR SPILLAGE MUST BE MANAGED TO PREVENT THEM FROM ENTERING THE STORM WATER SYSTEM, GROUND WATER, OR NEARBY WATER BODY.
24. ALL EPSCS HAVE BEEN DESIGNED TO CONTROL THE RAINFALL AND RUNOFF FROM A 2 YEAR, 24 HOUR STORM EVENT.
25. TEMPORARY SEEDING FOR TENNESSEE PROJECTS INCLUDE THE FOLLOWING OPTIONS:
    JAN 1 - MAY 1 ITALIAN RYE / KOREAN LESPEDEZA / SUMMER OATS
    MAY 1 - JULY 15 SUDAN OR STARR MILLET
    JULY 15 - JAN 1 BALBOA RYE / ITALIAN RYE
26. MULCHING SHALL CONSIST OF LOOSE HAY OR STRAW APPLIED AT THE RATE OF 2 TONS/ACRE
27. UPON COMPLETION OF SITE STABILIZATION, THE OWNER AND CONTRACTOR SHALL PROVIDED A NOTICE OF TERMINATION (NOT) FOR THE PROJECT TO THE LOCAL ENVIRONMENTAL ASSISTANCE CENTER. A COPY OF THE NOT SHALL BE PROVIDED TO THE ENGINEER.
28. THE CONTRACTOR SHALL MAINTAIN RECORDS OF EROSION CONTROL INSPECTIONS AND REPAIRS FOR A MINIMUM OF 3 YEARS AFTER COMPLETION OF CONSTRUCTION.
29. TOPSOIL SHALL BE PLACED ON EXCAVATED AREAS WHICH REQUIRE NEW VEGETATION. GROUND COVER SHALL BE REESTABLISHED WITH KENTUCKY 31 FESCUE SEEDED AT A MINIMUM OF 250 LBS. PER ACRE WITHIN 72 HOURS OF FINAL GRADING. SLOPES 3:1 OR GREATER, AND AREAS INDICATED ON PLANS, SHALL BE LINED WITH NORTH AMERICAN GREEN S150 GRASS MATTING OR EQUAL. SOD MAY BE SUBSTITUTED FOR MATTING OR SEED & STRAW AREAS.
30. SILT FENCE SHALL BE INSTALLED IN ALL EROSION AREAS WHICH COULD ALLOW UNTREATED STORMWATER RUNOFF TO BE DISCHARGED FROM THE PROPERTY. ALL EROSION CONTROL MEASURES SHALL BE CONSISTENT WITH THE PROVISIONS DESCRIBED IN THE MOST CURRENT EDITION OF THE TENNESSEE EROSION & SEDIMENT CONTROL HANDBOOK.
31. SILT BARRIERS SHALL BE CLEANED OF ACCUMULATED SEDIMENT WHEN APPROXIMATELY 1/3 FILLED.
32. ALL LOCATIONS OF TEMPORARY EROSION CONTROL DEVICES SHALL BE SUBJECT TO ADJUSTMENT AS DIRECTED BY THE ENGINEER.
33. WHEN THE TEMPORARY EROSION CONTROL DEVICES ARE NO LONGER REQUIRED FOR THE INTENDED PURPOSE THEY SHALL BE REMOVED.
34. REPLACE DAMAGED AND WORN OUT SILT BARRIERS AS DIRECTED BY THE CITY/ENGINEER.
35. PROVIDE TEMPORARY SEEDING ON STOCKPILES AND ALL OTHER AREAS OF THE SITE THAT WILL REMAIN UNDISTURBED FOR 14 DAYS OR MORE.
36. I CERTIFY THAT THESE PLANS HAVE BEEN PREPARED BY ME AND/OR UNDER MY DIRECT SUPERVISION. THIS PROJECT IS PLANNED NOT TO DISTURB MORE THAN ONE ACRE, IT THEREFORE DOES NOT FALL UNDER THE TENNESSEE DIVISION OF WATER POLLUTION CONTROL'S GENERAL NPDES PERMIT TO DISCHARGE STORMWATER ASSOCIATED WITH CONSTRUCTION ACTIVITY.

[signature] 02/01/24
JOSHUA M. LYON, P.E., PROJECT ENGINEER DATE

LEGEND:

EXISTING SYMBOLS

- PP EXISTING POWER POLE
- LP EXISTING LIGHT POLE
- WP EXISTING WALL PACK LIGHT
- SS EXISTING SANITARY SEWER BOX
- S EXISTING SANITARY SEWER MANHOLE
- PS EXISTING PRESSURE SEWER VALVE
- WM EXISTING WATER METER
- EXISTING FIRE HYDRANT
- W EXISTING WATER VALVE
- AR EXISTING AIR RELEASE
- BO EXISTING BLOW OFF
- EXISTING HEADWALL
- PROPOSED HANDICAP SYMBOL

PROPOSED SYMBOLS

- PP PROPOSED POWER POLE
- LP PROPOSED LIGHT POLE
- WP PROPOSED WALL PACK LIGHT
- SS PROPOSED SANITARY SEWER BOX
- S PROPOSED SANITARY SEWER MANHOLE
- PS PROPOSED PRESSURE SEWER VALVE
- WM PROPOSED WATER METER
- PROPOSED FIRE HYDRANT
- W PROPOSED WATER VALVE
- AR PROPOSED AIR RELEASE
- BO PROPOSED BLOW OFF
- PROPOSED HEADWALL
- PROPOSED HANDICAP SYMBOL
- PROPOSED WHEEL STOP
- PROPOSED SIGN
- PROPOSED FLOW ARROW / DOWNHILL SLOPE DIRECTION
- xx.xx PROPOSED SPOT ELEVATION
- INV. xx.xx PROPOSED PIPE INVERT
- TW. xx.xx TOP OF WALL ELEVATION
- BW. xx.xx BOTTOM OF WALL ELEVATION @ FINISHED GRADE

PROPOSED CURB INLET

SINGLE DOUBLE TRIPLE
INTERMEDIATE EPSC WEIGHTED SEDIMENT TUBE

PROPOSED CATCH BASIN

SINGLE DOUBLE TRIPLE

PROPOSED TRAFFIC FLOW ARROWS

STRAIGHT TURN ONLY STRAIGHT & TURN

PROPOSED STABILIZATION

SOD MATTING SEED & STRAW RIP RAP MULCH

EXISTING LINE TYPES

- DEMO LINE
- EXISTING CONTOURS MINOR 1' INTERVAL
- EXISTING CONTOURS MAJOR 5' INTERVAL
- O-H-T EXISTING COMMUNICATIONS OVERHEAD
- U-G-T EXISTING COMMUNICATIONS UNDERGROUND
- PUDE EXISTING PUDE
- EXISTING EASEMENTS WATER & SEWER
- O-H-E EXISTING ELECTRIC OVERHEAD
- U-G-E EXISTING ELECTRIC UNDERGROUND
- F-O EXISTING FIBER OPTIC
- EXISTING FENCE
- G EXISTING GAS
- EXISTING BUILDING
- EXISTING CONCRETE
- EXISTING GRAVEL/RIP RAP
- EXISTING PROPERTY LINE
- EXISTING PROPERTY LINE ADJACENT
- EXISTING RAILROAD
- 8"-SS EXISTING SEWER LINE
- SS-FM EXISTING FORCE MAIN
- SS EXISTING SEWER SERVICE
- W EXISTING WATER LINE
- WS EXISTING WATER SERVICE
- EXISTING SETBACKS
- EXISTING STORM SEWER

PROPOSED LINE TYPES

- PROPOSED CONTOURS MINOR 1' INTERVAL
- O-H-T PROPOSED COMMUNICATIONS OVERHEAD
- U-G-E PROPOSED COMMUNICATIONS UNDERGROUND
- PUDE PROPOSED PUDE
- PROPOSED EASEMENTS WATER & SEWER
- O-H-E PROPOSED ELECTRIC OVERHEAD
- U-G-E PROPOSED ELECTRIC UNDERGROUND
- F-O PROPOSED FIBER OPTIC
- PROPOSED FENCE
- G PROPOSED GAS
- PROPOSED BUILDING
- PROPOSED CONCRETE
- PROPOSED GRAVEL/RIP RAP
- PROPOSED PROPERTY LINE
- PROPOSED EXTRUDED/POST CURB
- PROPOSED CURB AND GUTTER
- PROPOSED RETAINING WALL
- 8"-SS PROPOSED SEWER LINE
- SS-FM PROPOSED FORCE MAIN
- SS PROPOSED SEWER SERVICE
- W 6" PROPOSED WATER LINE
- WS PROPOSED WATER SERVICE
- PROPOSED SETBACKS
- PROPOSED STORM SEWER
- X SF PROPOSED SILT FENCE
- PROPOSED GUARD RAIL
- LOD PROPOSED LIMITS OF DISTURBANCE
- PROPOSED REVISION CLOUD

LEGEND NOTES:

1. SCALES OF HATCHING WILL VERY FROM LEGEND DUE TO SCALE OF SHEETS
2. LINE THICKNESS WILL VERY FROM SHEET TO SHEET. THICKER LINE WEIGHT IS USE TO EMPHASIZE THE MOST RELEVANT INFORMATION ON EACH SHEET.

RECORD SURVEY REQUIRED OF STORMWATER POND:

A RECORD SURVEY OF THE STORMWATER DETENTION POND AND FACILITIES PERFORMED BY A LICENSED TN SURVEYOR, IS REQUIRED PRIOR TO THE CITY ISSUING A CERTIFICATE OF OCCUPANCY. THE CERTIFICATE OF OCCUPANCY WILL BE WITHHELD UNTIL THE STORMWATER DETENTION POND AND FACILITIES ARE SUBSTANTIALLY CONSTRUCTED IN ACCORDANCE WITH THE DESIGN. THE DETERMINATION OF SUBSTANTIAL COMPLETION SHALL BE MADE BY THE CITY. THE APPLICANT SHOULD ANTICIPATE THAT ADDITION ENGINEERING CALCULATIONS MAY BE REQUIRED BY THE CITY AS PART OF THEIR DETERMINATION

STORMWATER POND MAINTENANCE REQUIREMENT:

THE PROPERTY OWNER SHALL BE REQUIRED TO MAINTAIN THE STORMWATER DETENTION POND AND FACILITIES IN PERPETUITY. THIS INCLUDES MAINTAINING THE ORIFICES, WEIRS AND DISCHARGE AREAS IN A WORKING AND NON-PLUGGED STATE. THIS ALSO INCLUDES, BUT IS NOT LIMITED TO, MAINTAINING VEGETATION AND CLEANING DEBRIS, SILT, TRASH ETC FROM THE STORMWATER POND.

CALL BEFORE YOU DIG

811 CALL 811 NATIONWIDE
Know what's below. Call before you dig.

IT IS THE CONTRACTORS RESPONSIBILITY TO CONTACT UTILITY COMPANIES PRIOR TO ANY CONSTRUCTION. THE LOCATION OF UTILITIES SHOWN ON THESE PLANS ARE APPROXIMATE AND POSSIBLY INCOMPLETE, THEREFORE CERTIFICATION TO THE LOCATION OF ALL UNDERGROUND UTILITIES IS WITHHELD.

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www.klobereng.com

REVISIONS

NO.	BY	DATE	DESCRIPTION

JOSHUA M. LYON REGISTERED ENGINEER AGRICULTURE COMMERCE NO. 112331 STATE OF TENNESSEE 02/01/24

JOSHUA M. LYON, P.E. TN#112331

NOT FOR CONSTRUCTION

CHEATHAM COUNTY FARMERS COOPERATIVE

114 CUMBERLAND STREET
ASHLAND CITY, TN
CHEATHAM COUNTY

DRAWN BY:	RWS
CHECKED BY:	JML
PROJECT NO.:	C06023

PROJECT NOTES

SHEET NUMBER
NOTE

\PROJECT\2023\CIVIL\C06023 RC Farmers Coop - Ashland City\Current Civil Drawings\20240115 - Cheatham County Farmers Cooperative.dwg PLOTTED: 2/2/2024 12:15:26 PM

CALL BEFORE YOU DIG

811 CALL 811 NATIONWIDE

Know what's below. Call before you dig.

IT IS THE CONTRACTORS RESPONSIBILITY TO CONTACT UTILITY COMPANIES FOR FIELD LOCATIONS PRIOR TO CONSTRUCTION. UTILITIES SHOWN ON THESE PLANS ARE APPROXIMATE AND POSSIBLY INCOMPLETE. THEREFORE CERTIFICATION TO THE LOCATION OF ALL UNDERGROUND UTILITIES IS WITHHELD.

LEGEND:

PROPERTY LINE
EXISTING WATER LINE
EXISTING SEWER LINE
OVERHEAD ELECTRIC LINE
FENCE
NEW CURB
SILT FENCE
EXISTING 5' CONTOUR
EXISTING 1' CONTOUR
NEW 1' CONTOUR
DEMO LINE

MANHOLE
CLEAN OUT
POWER POLE
WATER METER
FIRE HYDRANT
IR(O) IRON ROD OLD
IR(N) IRON ROD NEW

INV.-25.42 PIPE INVERT
28.14 SPOT ELEVATION
SLOPE DIRECTION

20 0 20 40
SCALE IN FEET

500 YEAR SHADED ZONE "X" (SCALED FROM FIRM)

TAX MAP 055C
GROUP "C"
(2.01)
CORY BRIZENDINE
BOOK 508, PAGE 867
R.O.C.C., TN
ZONING: C-1

1-STORY BLOCK BUILDING #114

FENCE ENCROACHES ADJACENT PROPERTY AT THIS POINT

CHAINLINK FENCE

S 27°42'16" E 150.00'

WOODEN SHED

ZONE "X"

20' REAR YARD SETBACK

SILT FENCE

EXISTING FENCE TO BE REMOVED

SANITARY MANHOLE
T.C.=410.32
I.E.=406.93

TAX MAP 055C
GROUP "C"
(5.00)
ROBERT BATSON
BOOK 222, PAGE 121
BOOK 554, PAGE 2408
R.O.C.C., TN
ZONING: C-1

SHINEBONE ALLEY
18' R.O.W

EXISTING POWER POLE AND LINE(S) TO BE RELOCATED

20' REAR YARD SETBACK

CONCRETE RETAINING WALL

S 27°42'16" E 140.00'

EXISTING FIRE HYDRANT

MULBERRY STREET
50' R.O.W

~GRAVEL~

N 62°17'44" E 250.00'

25' FRONT YARD SETBACK

EXISTING FENCE/GATE TO BE REMOVED

S 62°17'44" W 250.00'

~ASPHALT~

EXISTING BLOCK WALL TO BE REMOVED

TEMPORARY CONSTRUCTION ENTRANCE (20'X100')

ELECTRIC METER

EXISTING CONCRETE/ACCESS MANHOLE TO BE REMOVED

N 62°17'44" E 152.00'

S 62°17'44" W 152.00'

CUMBERLAND STREET
TN HWY. 49 & 249
90' R.O.W

1-STORY METAL WAREHOUSE F.F.E. VARIES

GAS METER

ELECTRIC METERS

CONCRETE RETAINING WALL

CURB INLET
T.C.=412.50
I.E.=411.00

12" STORM SEWER

STORM MANHOLE
T.C.=410.26
I.E.=402.50

18" STORM SEWER

12" STORM

SANITARY MANHOLE
T.C.=409.88
I.E.=402.48

CURB INLET
T.C.=409.67
I.E.=402.27

GUARDPOSTS

INV: 400.90

SLOPE: 2.9%

INV: 399.97

ZONE "X"

25' FRONT YARD SETBACK

EXISTING FENCE/GATE TO BE REMOVED

SILT FENCE

N 27°42'16" W 150.00'

INV: 407.08

TEMPORARY CONCRETE WASHOUT

INV: 407.23

15" HDPE SLOPE: 0.40%

EXISTING BUILDING ENCROACHES INTO PUBLIC ALLEY-NO INFORMATION WAS FOUND ABOUT ABANDONMENT

N 27°42'16" W 140.00'

MULBERRY STREET ENCROACHES INTO SUBJECT PROPERTY AT THIS POINT

LIMITS OF DISTURBANCE: 0.821 AC.

WATER STREET
50' R.O.W

~ASPHALT~

BENCHMARK:
P.K. NAIL SET IN ASPHALT
ELEV: 408.57' (NAVD 88)

RAILROAD TRACKS REMAINS

RAILROAD TRACKS REMAINS

CABINET

1-STORY METAL WAREHOUSE

1-STORY METAL WAREHOUSE

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NO.	BY	DATE	DESCRIPTION
			REVISIONS

JOSHUA M. LYON, P.E. TN#112331

NOT FOR CONSTRUCTION

CHEATHAM COUNTY FARMERS COOPERATIVE

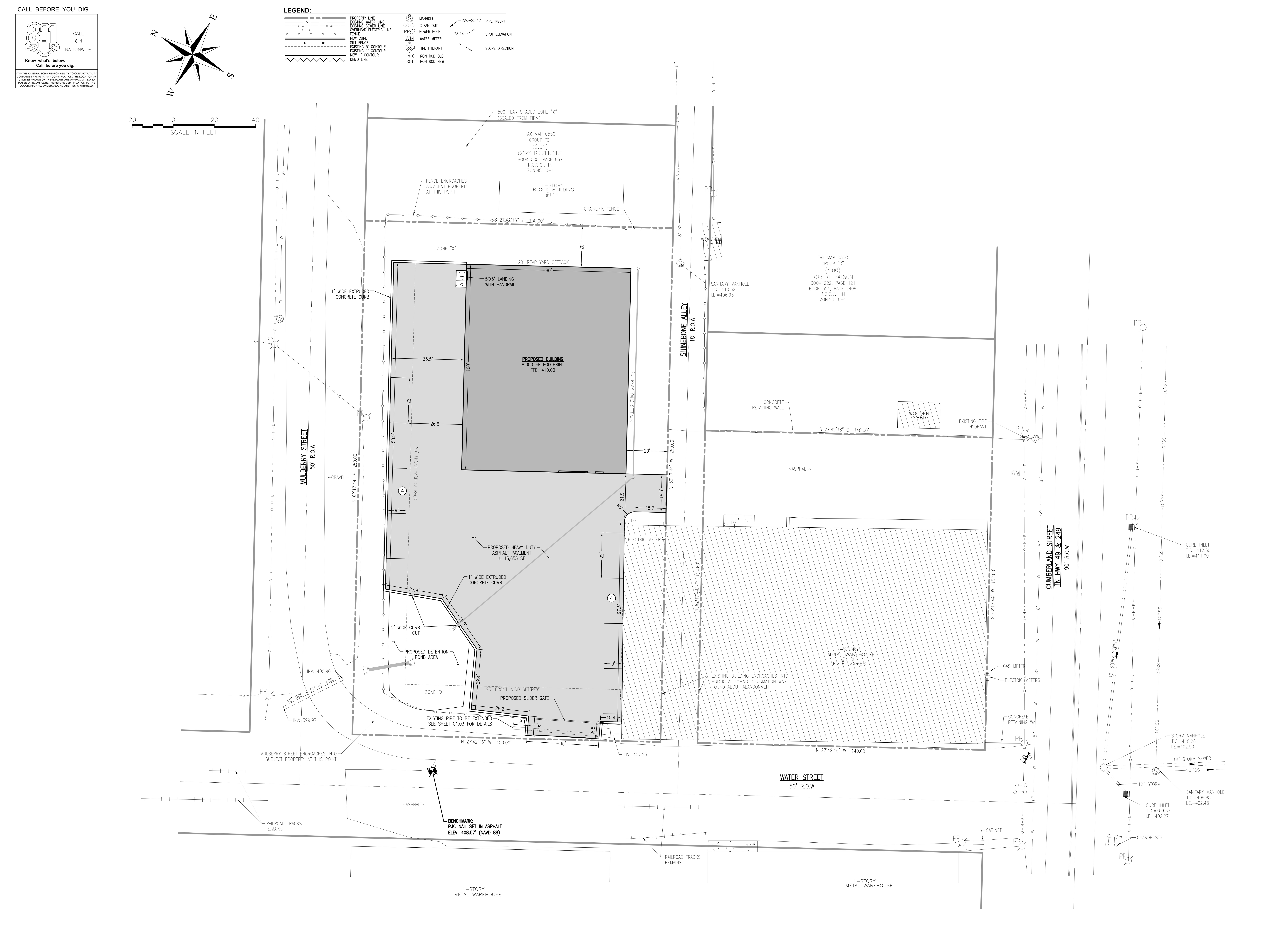
114 CUMBERLAND STREET
ASHLAND CITY, TN
CHEATHAM COUNTY

DRAWN BY:	RWS
CHECKED BY:	JML
PROJECT NO.:	C06023

DEMO & INITIAL EPSC

SHEET NUMBER
C1.01

ITEM # 5.



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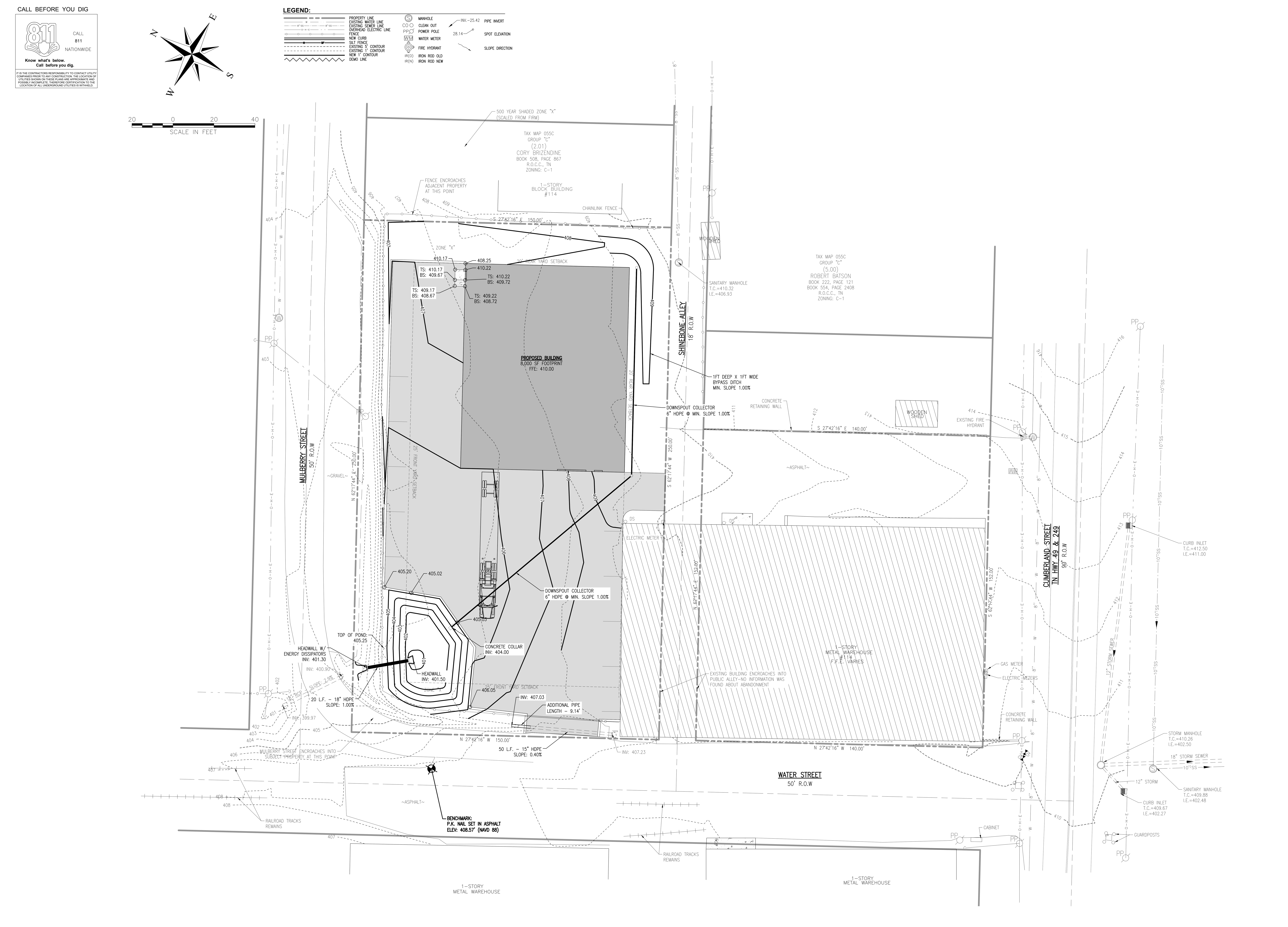
CHEATHAM COUNTY

DRAWN BY:	RWS
CHECKED BY:	JML
PROJECT NO.:	C06023

SITE LAYOUT

SHEET NUMBER
C1.02



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114 CUMBERLAND STREET
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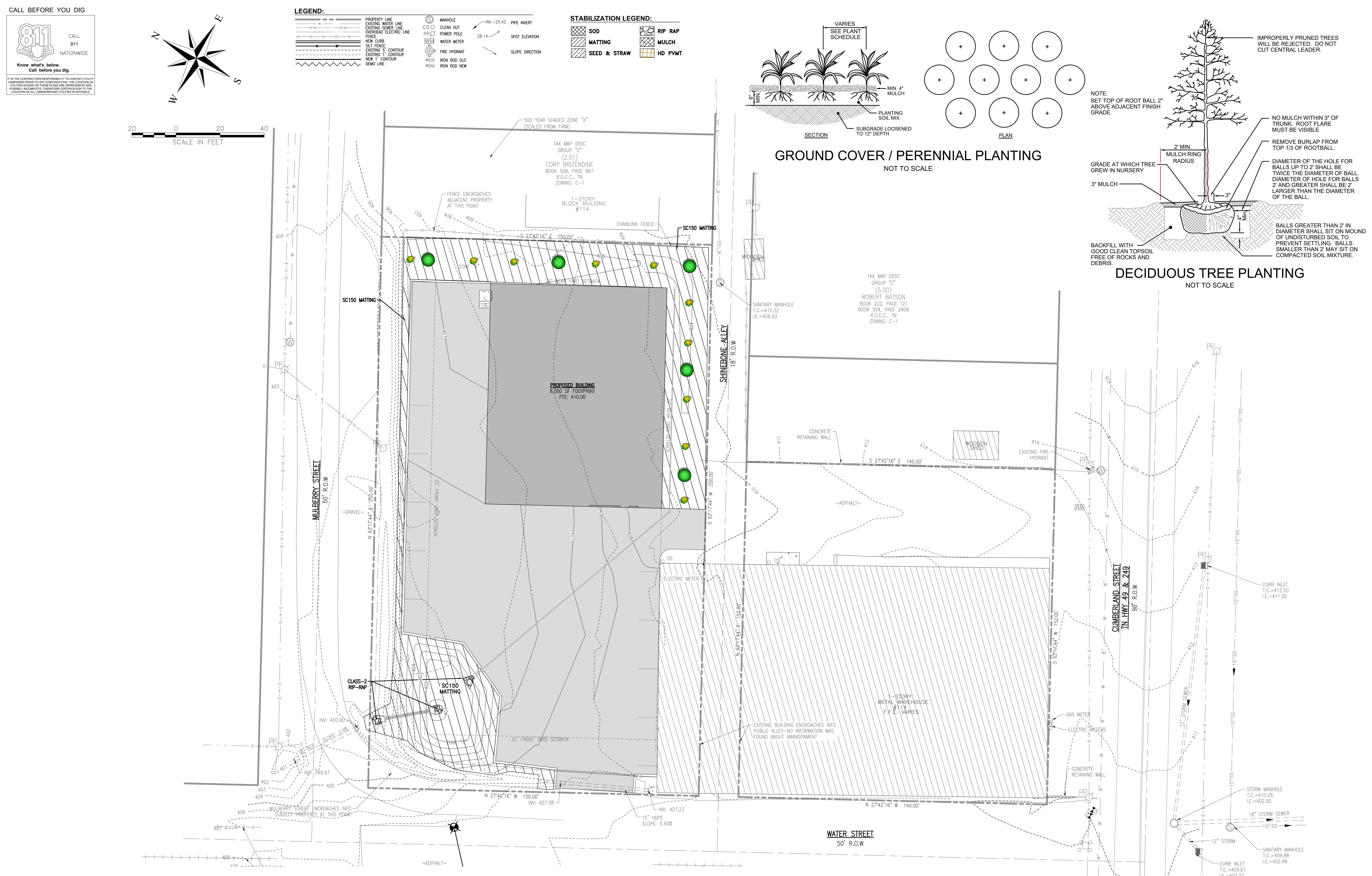
CHEATHAM COUNTY

DRAWN BY:	RWS
CHECKED BY:	JML
PROJECT NO.:	C06023

GRADING & DRAINAGE PLAN

SHEET NUMBER
C1.03

ITEM # 5.



LANDSCAPING REQUIREMENTS

35 CALIPER INCH PER ACRE	ACRES	TOTAL REQUIRED	TOTAL PROVIDED
CANOPY TREES			
1	0.86	5	5
UNDERSTORY TREES			
1	0.86	10	10

PLANT SCHEDULE

QTY.	COMMON NAME	BOTANICAL NAME	HEIGHT	TRUNK	COMMENTS
CANOPY TREES					
5	AMERICAN SYCAMORE		10' - 12'	2" Cal.	
5	TOTAL - CANOPY TREES				
UNDERSTORY TREES					
10	GREEN GIANT ARBORVITAE		7' Min.	2" Cal.	
10	TOTAL - UNDERSTORY TREES				
15	TOTAL - ALL TREES				

TREE/SHRUB LEGEND

CANOPY TREES	
(symbol)	AMERICAN SYCAMORE
UNDERSTORY TREES	
(symbol)	GREEN GIANT ARBORVITAE

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CHEATHAM COUNTY FARMERS COOPERATIVE

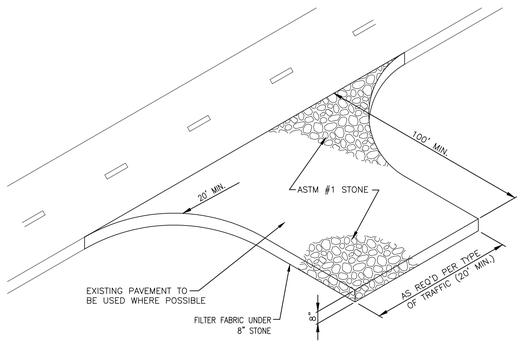
114 CUMBERLAND STREET
ASHLAND CITY, TN
CHEATHAM COUNTY

DRAWN BY:	RWS
CHECKED BY:	JML
PROJECT NO.:	C06023

FINAL STABILIZATION & LANDSCAPING

SHEET NUMBER

C1.04

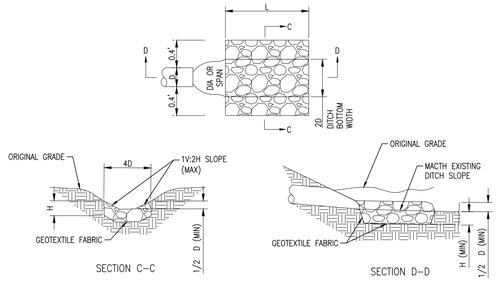


TEMPORARY CONSTRUCTION ENTRANCE DETAIL

NOT TO SCALE METRO STORMWATER MANAGEMENT MANUAL TCP-03

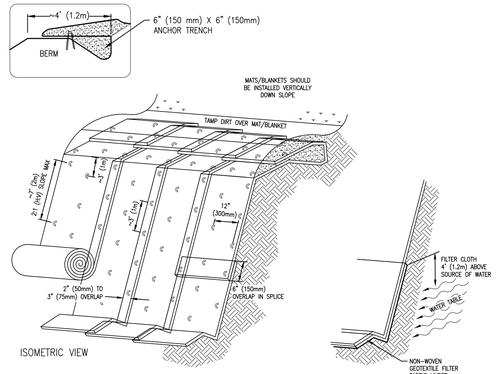
OUTLET WITH DITCH PROTECTIVE APRON DIMENSIONS AND ESTIMATED QUANTITIES

	(D) – CULVERT SIZE IN INCHES	RIPRAP CLASS	(L) LENGTH OF APRON IN FEET	(H) DEPTH OF APRON IN FEET	(CY) ESTIMATED RIPRAP QUANTITY	(SY) ESTIMATED GEOTEXTILE FAB.
WITH END SECTION	12	2	4.0	1.5	0.9	5
	18	2	6.0	1.5	2.0	8
	24	2	8.0	1.5	3.6	13
	30	3	12.5	2.0	9.3	24
	36	3	15.0	2.0	13.4	32
	42	4	21.0	2.5	27.3	53
	48	4	24.0	2.5	35.6	65



TYPICAL RIP-RAP APRON AT HEADWALL

NOT TO SCALE



TYPICAL SLOPE SOIL STABLIZATION

N.T.S.

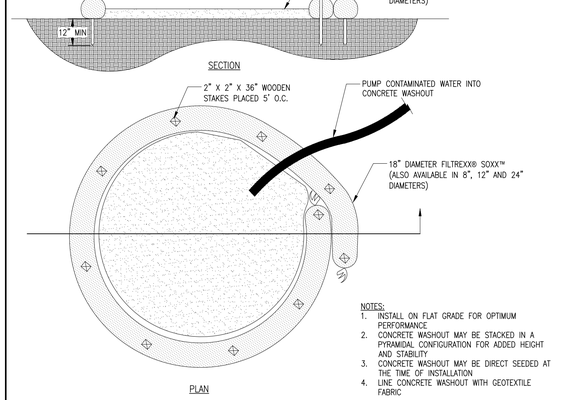
WET SLOPE LINING

N.T.S.

NOTES:
1. SLOPE SURFACE SHALL BE FREE OF ROCKS, SOIL CLODS, STICKS AND GRASS. MATS/BLANKETS SHALL HAVE GOOD SOIL CONTACT
2. LAY BLANKETS LOOSELY AND STAKE OR STAPLE TO MAINTAIN DIRECT CONTACT WITH THE SOIL. DO NOT STRETCH.

GRASS MATTING PLACEMENT

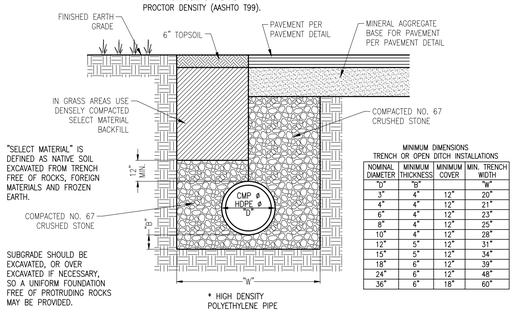
METRO STORMWATER MANAGEMENT MANUAL PESC-02



NOTES:
1. INSTALL ON FLAT GRADE FOR OPTIMUM PERFORMANCE
2. CONCRETE WASHOUT MAY BE STACKED IN A PYRAMIDAL CONFIGURATION FOR ADDED HEIGHT AND STABILITY
3. CONCRETE WASHOUT MAY BE DIRECT SEEDED AT THE TIME OF INSTALLATION
4. LINE CONCRETE WASHOUT WITH GEOTEXTILE FABRIC

FILTREXX® CONCRETE WASHOUT

NOT TO SCALE

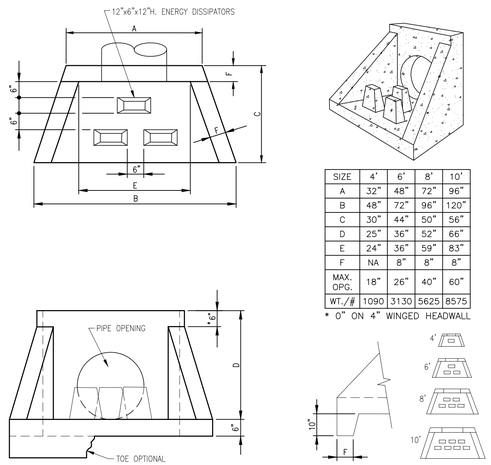


MINIMUM DIMENSIONS TRENCH OR OPEN DITCH INSTALLATIONS

NOMINAL DIAMETER "D"	MINIMUM THICKNESS "S"	MINIMUM COVER	MIN. TRENCH WIDTH "W"
3"	4"	12"	20"
4"	4"	12"	21"
6"	4"	12"	23"
8"	4"	12"	25"
10"	4"	12"	28"
12"	5"	12"	31"
15"	5"	12"	34"
18"	6"	12"	39"
24"	6"	12"	48"
36"	6"	18"	60"

CMP OR HDPE* BEDDING (NON-PERFORATED)

NOT TO SCALE

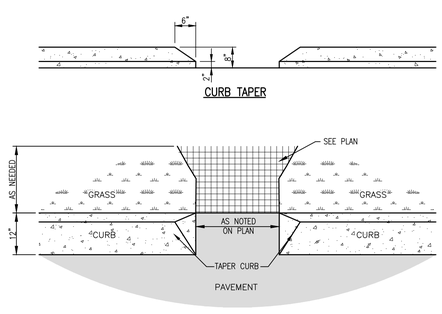


SIZE	4'	6'	8'	10'
A	32"	48"	72"	96"
B	48"	72"	96"	120"
C	30"	44"	50"	56"
D	25"	36"	52"	66"
E	24"	36"	59"	83"
F	NA	8"	8"	8"
MAX. OPG.	18"	26"	40"	60"
WT./#	1090	3130	5625	8575

* 0" ON 4" WINGED HEADWALL

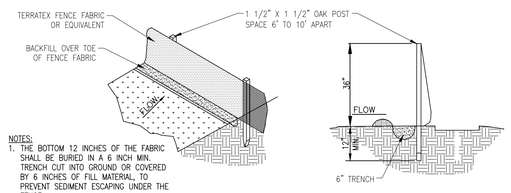
WINGED HEADWALL W/ENERGY DISSIPATORS

NOT TO SCALE CLOUD SW-301 OR EQUAL



TYPICAL CURB CUT

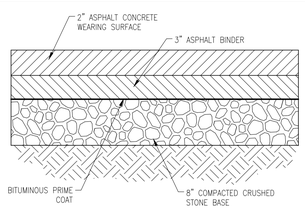
NOT TO SCALE



NOTES:
1. THE BOTTOM 12 INCHES OF THE FABRIC SHALL BE BURIED IN A 6 INCH MIN. TRENCH CUT INTO GROUND OR COVERED BY 6 INCHES OF FILL MATERIAL, TO PREVENT SEDIMENT ESCAPING UNDER THE FENCE.
2. SILT FENCE SHALL REMAIN IN PLACE UNTIL GROUND COVER HAS BEEN ESTABLISHED.

SILT CONTROL FENCE

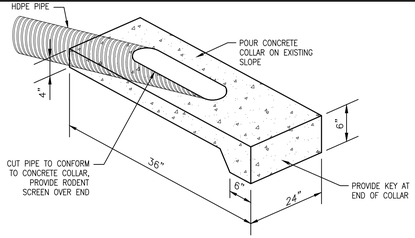
NOT TO SCALE
METRO STORMWATER MANAGEMENT MANUAL TCP-13



HEAVY DUTY ASPHALT PAVING DETAIL

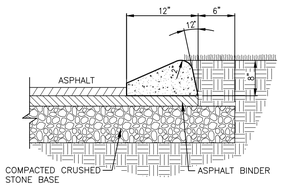
NOT TO SCALE

VERIFY PAVEMENT AND STONE THICKNESS WITH ANY CURRENT GEOTECH REPORT



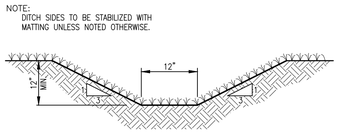
CONCRETE COLLAR

NOT TO SCALE



EXTRUDED CURB DETAIL

NOT TO SCALE



TYPICAL FLAT BOTTOM DITCH DETAIL

NOT TO SCALE

KLOBER ENGINEERING SERVICES
SERVING CLIENTS WITH CIVIL ENGINEERING & LAND DEVELOPMENT SERVICES
3556 TOM AUSTIN HWY., SUITE 1, SPRINGFIELD, TN 37172
PHONE: (615) 382-2000 FAX: (888) 373-4485
www.kloberengr.com

REVISIONS			
NO.	BY	DATE	DESCRIPTION

JOSHUA M. LYON, P.E. TN#112331

NOT FOR CONSTRUCTION

CHEATHAM COUNTY FARMERS COOPERATIVE

114 CUMBERLAND STREET
ASHLAND CITY, TN
CHEATHAM COUNTY

DRAWN BY:	RWS
CHECKED BY:	JML
PROJECT NO.:	C06023

CONSTRUCTION DETAILS

SHEET NUMBER
C2.01

Receipt #R00203892

No-Reply <No-Reply@ashlandcitytn.gov>

Tue 2/6/2024 2:00 PM

To:Alicia Martin <ayoung@ashlandcitytn.gov>

The Town of Ashland City would like to thank you for your payment!

Town of Ashland City Water & Sewer
PO Box 36
Ashland City, TN 37015
(615)792-4211

DATE : 2/6/2024 1:58 PM
OPER : CF
TKBY : Carrie Forster
TERM : 2
REC# : R00203892
CODES 32610 CODES BUILDING PERMITS/INSPECTION
ROBERTSON CHEATHAM FARMERS COOPERATIVE: SITE PLAN 100.00

Paid By:ROBERTSON CHEATHAM FARMERS COOPERATIVE: SITE PLAN
6-110 GEN CHECK 100.00 REF:115