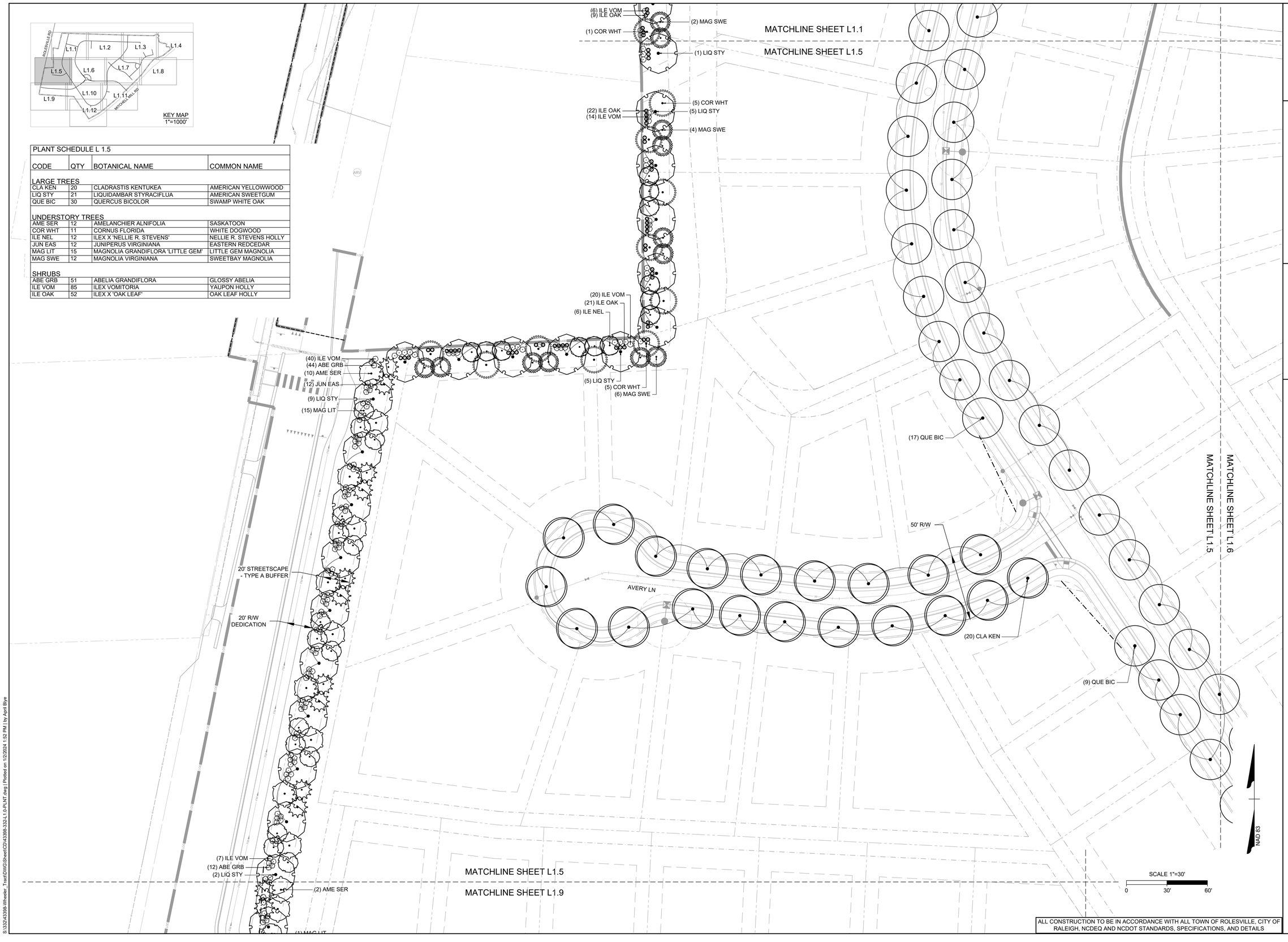
PLANT SCHEDULE L 1.5			
CODE	QTY	BOTANICAL NAME	COMMON NAME
LARGE TREES			
CLA KEN	20	CLADRASTIS KENTUKEA	AMERICAN YELLOWWOOD
LIQ STY	21	LIQUIDAMBAR STYRACIFLUA	AMERICAN SWEETGUM
QUE BIC	30	QUERCUS BICOLOR	SWAMP WHITE OAK
UNDERSTORY TREES			
AME SER	12	AMELANCHIER ALNIFOLIA	SASKATOON
COR WHT	11	CORNUS FLORIDA	WHITE DOGWOOD
ILE NEL	12	ILEX X 'NELLIE R. STEVENS'	NELLIE R. STEVENS HOLLY
JUN EAS	12	JUNIPERUS VIRGINIANA	EASTERN REDCEDAR
MAG LIT	15	MAGNOLIA GRANDIFLORA 'LITTLE GEM'	LITTLE GEM MAGNOLIA
MAG SWE	12	MAGNOLIA VIRGINIANA	SWEETBAY MAGNOLIA
SHRUBS			
ABE GRB	51	ABELIA GRANDIFLORA	GLOSSY ABELIA
ILE VOM	85	ILEX VOMITORIA	YAUPON HOLLY
ILE OAK	52	ILEX X 'OAK LEAF'	OAK LEAF HOLLY



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09/06/2023	REVISIONS PER CITY OF RALEIGH COMMENTS
01/02/2024	REVISIONS TO APPROVED PLANS

DATE	09/17/2021
DRAWN BY	R. WINGATE
DESIGNED BY	P. BARBEAU
CHECKED BY	P. BARBEAU
SCALE	AS SHOWN

TIMMONS GROUP

NORTH CAROLINA LICENSE NO. C-1652

ROLESVILLE CROSSING - CD 21-08

ROLESVILLE - WAKE COUNTY - NORTH CAROLINA

LANDSCAPE PLAN

JOB NO.	SHEET NO.
43398	L1.5

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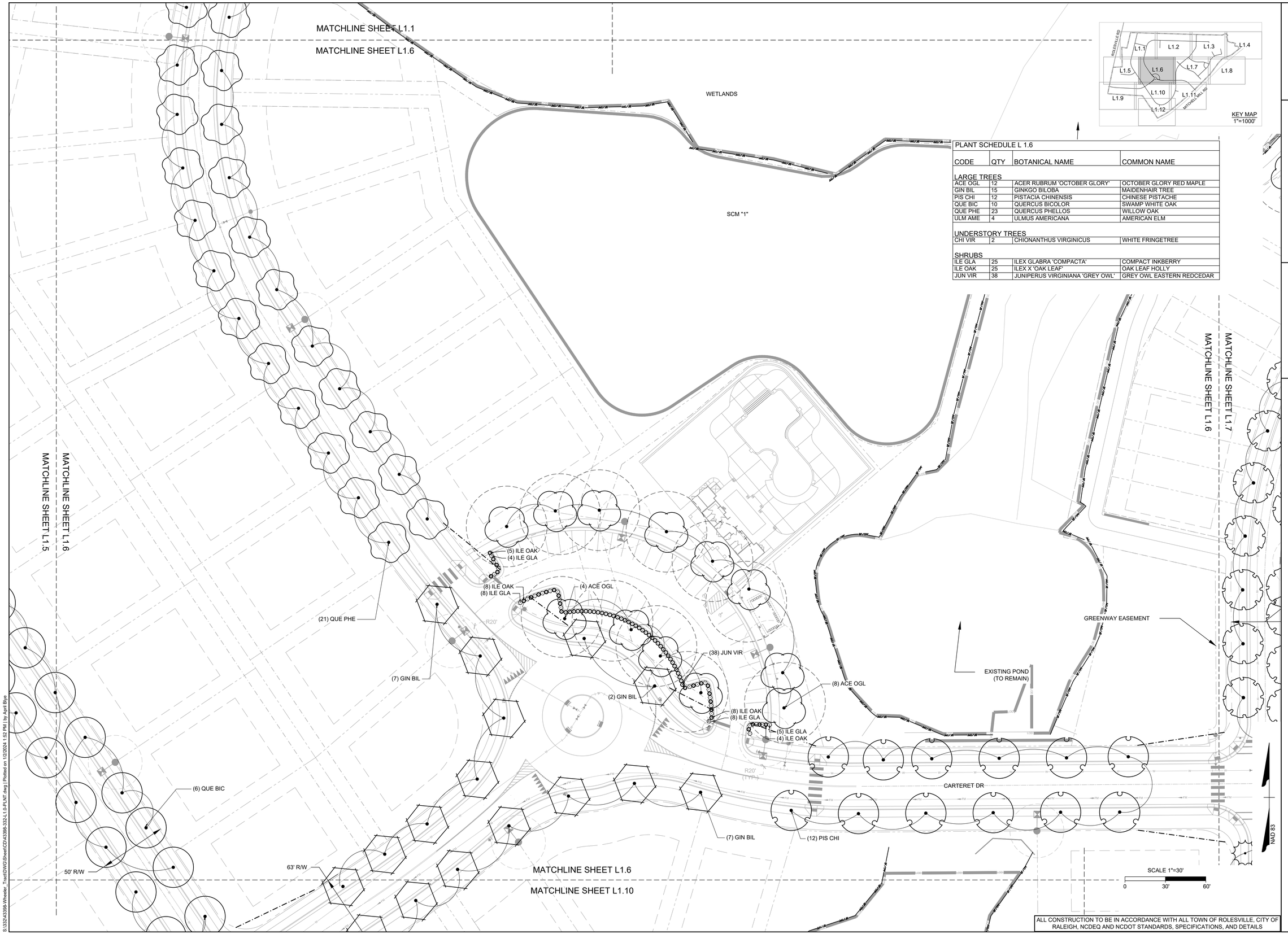

PLANT SCHEDULE L 1.6			
CODE	QTY	BOTANICAL NAME	COMMON NAME
LARGE TREES			
ACE OGL	12	ACER RUBRUM 'OCTOBER GLORY'	OCTOBER GLORY RED MAPLE
GIN BIL	15	GINKGO BILOBA	MAIDENHAIR TREE
PIS CHI	12	PISTACIA CHINENSIS	CHINESE PISTACHE
QUE BIC	10	QUERCUS BICOLOR	SWAMP WHITE OAK
QUE PHE	23	QUERCUS PHELLOS	WILLOW OAK
ULM AME	4	ULMUS AMERICANA	AMERICAN ELM
UNDERSTORY TREES			
CHI VIR	2	CHIONANTHUS VIRGINICUS	WHITE FRINGETREE
SHRUBS			
ILE GLA	25	ILEX GLABRA 'COMPACTA'	COMPACT INKBERRY
ILE OAK	25	ILEX X 'OAK LEAF'	OAK LEAF HOLLY
JUN VIR	38	JUNIPERUS VIRGINIANA 'GREY OWL'	GREY OWL EASTERN REDCEDAR

ALL CONSTRUCTION TO BE IN ACCORDANCE WITH ALL TOWN OF ROLESVILLE, CITY OF RALEIGH, NCDEQ AND NCDOT STANDARDS, SPECIFICATIONS, AND DETAILS

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09/06/2023	REVISIONS PER CITY OF RALEIGH COMMENTS
01/02/2024	REVISIONS TO APPROVED PLANS

DATE
09/17/2021

DRAWN BY
R. WINGATE

DESIGNED BY
P. BARBEAU

CHECKED BY
P. BARBEAU

SCALE
AS SHOWN

TIMMONS GROUP

NORTH CAROLINA LICENSE NO. C-1652

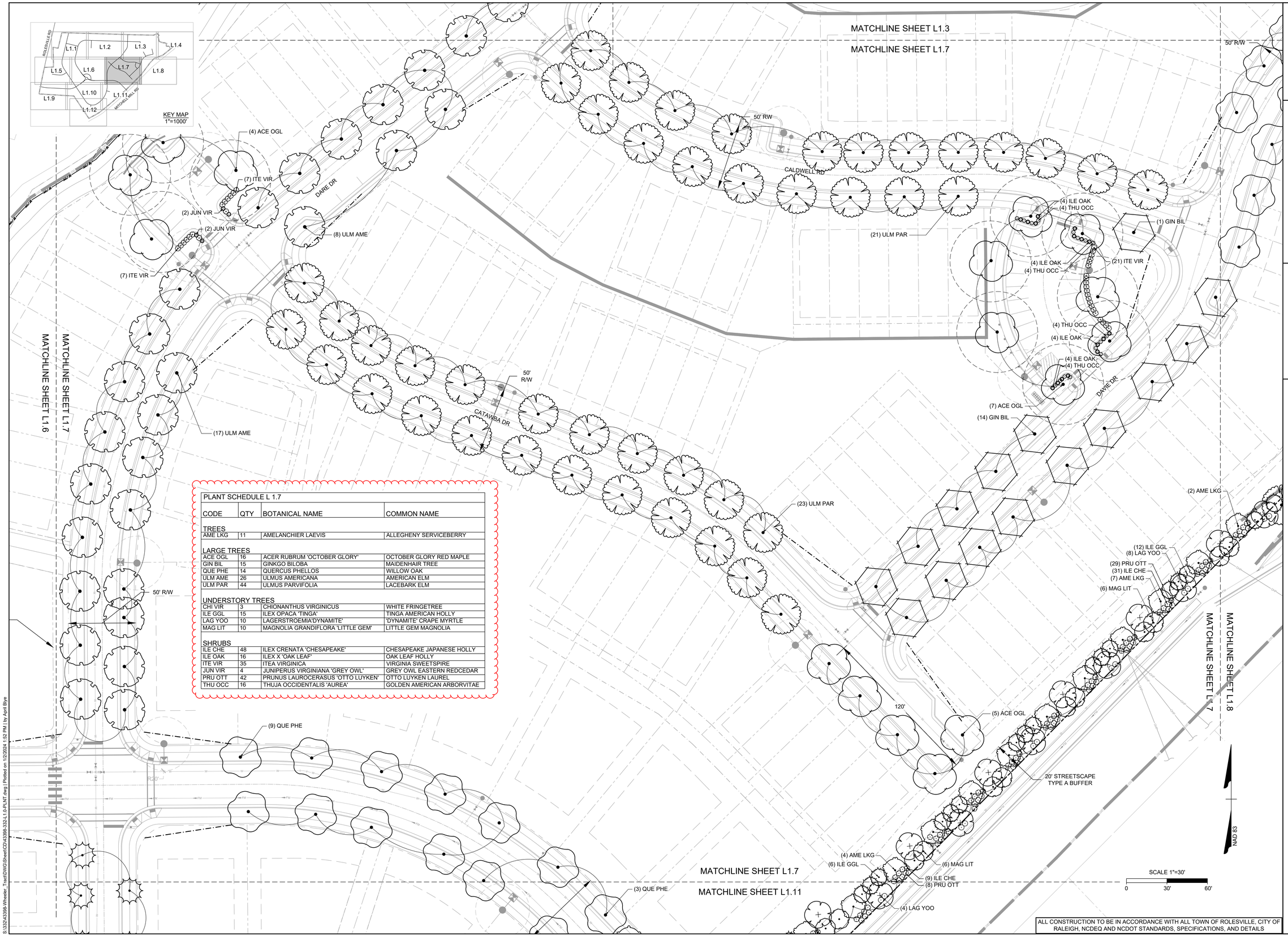
ROLESVILLE CROSSING - CD 21-08

ROLESVILLE - WAKE COUNTY - NORTH CAROLINA

LANDSCAPE PLAN

JOB NO.
43398

SHEET NO.
L1.6



PLANT SCHEDULE L 1.7			
CODE	QTY	BOTANICAL NAME	COMMON NAME
TREES			
AME LKG	11	AMELANCHIER LAEVIS	ALLEGHENY SERVICEBERRY
LARGE TREES			
ACE OGL	16	ACER RUBRUM 'OCTOBER GLORY'	OCTOBER GLORY RED MAPLE
GIN BIL	15	GINKGO BILOBA	MAIDENHAIR TREE
QUE PHE	14	QUERCUS PHELLOS	WILLOW OAK
ULM AME	26	ULMUS AMERICANA	AMERICAN ELM
ULM PAR	44	ULMUS PARVIFOLIA	LACEBARK ELM
UNDERSTORY TREES			
CHI VIR	3	CHIONANTHUS VIRGINICUS	WHITE FRINGETREE
ILE GGL	15	ILEX OPACA 'TINGA'	TINGA AMERICAN HOLLY
LAG YOO	10	LAGERSTROEMIA'DYNAMITE'	'DYNAMITE' CRAPE MYRTLE
MAG LIT	10	MAGNOLIA GRANDIFLORA 'LITTLE GEM'	LITTLE GEM MAGNOLIA
SHRUBS			
ILE CHE	48	ILEX CRENATA 'CHESAPEAKE'	CHESAPEAKE JAPANESE HOLLY
ILE OAK	16	ILEX X 'OAK LEAF'	OAK LEAF HOLLY
ITE VIR	35	ITEA VIRGINICA	VIRGINIA SWEETSPIRE
JUN VIR	4	JUNIPERUS VIRGINIANA 'GREY OWL'	GREY OWL EASTERN REDCEDAR
PRU OTT	42	PRUNUS LAUROCERASUS 'OTTO LUYKEN'	OTTO LUYKEN LAUREL
THU OCC	16	THUJA OCCIDENTALIS 'AUREA'	GOLDEN AMERICAN ARBORVITAE

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REVISIONS PER RALEIGH COMMENTS	09/06/2023
REVISIONS TO APPROVED PLANS	01/02/2024

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DESIGNED BY	P. BARBEAU
CHECKED BY	P. BARBEAU
SCALE	AS SHOWN

TIMMONS GROUP

NORTH CAROLINA LICENSE NO. C-1652

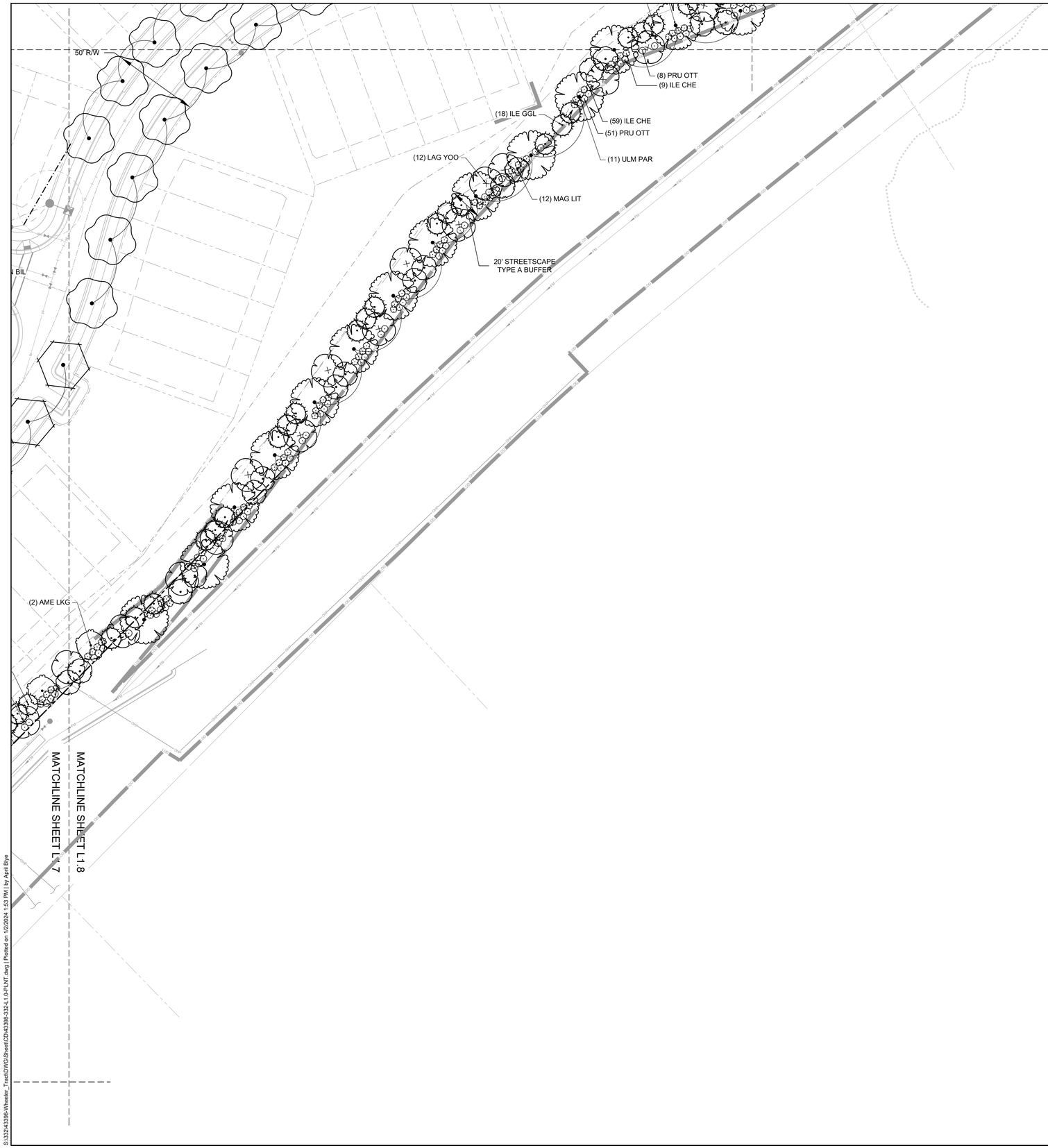
ROLESVILLE CROSSING - CD 21-08

ROLESVILLE - WAKE COUNTY - NORTH CAROLINA

LANDSCAPE PLAN

JOB NO. 43398

SHEET NO. L1.7



MATCHLINE SHEET L1.4

MATCHLINE SHEET L1.8

KEY MAP
1"=1000'

PLANT SCHEDULE L 1.8			
CODE	QTY	BOTANICAL NAME	COMMON NAME
TREES			
AME LKG	2	AMELANCHIER LAEVIS	ALLEGHENY SERVICEBERRY
LARGE TREES			
GIN BIL	2	GINKGO BILOBA	MAIDENHAIR TREE
QUE PHE	9	QUERCUS PHELLOS	WILLOW OAK
ULM PAR	14	ULMUS PARVIFOLIA	LACEBARK ELM
UNDERSTORY TREES			
ILE GGL	22	ILEX OPACA 'TINGA'	TINGA AMERICAN HOLLY
LAG YOO	14	LAGERSTROEMIA'DYNAMITE'	'DYNAMITE' CRAPE MYRTLE
MAG LIT	16	MAGNOLIA GRANDIFLORA 'LITTLE GEM'	LITTLE GEM MAGNOLIA
SHRUBS			
ILE CHE	69	ILEX CRENATA 'CHESAPEAKE'	CHESAPEAKE JAPANESE HOLLY
PRU OTT	63	PRUNUS LAUROCERASUS 'OTTO LUYKEN'	OTTO LUYKEN LAUREL

NAD 83

SCALE 1"=30'
0 30' 60'

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09/17/2021

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R. WINGATE

DESIGNED BY
P. BARBEAU

CHECKED BY
P. BARBEAU

SCALE
AS SHOWN

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NORTH CAROLINA LICENSE NO. C-1652

ROLESVILLE CROSSING - CD 21-08

ROLESVILLE - WAKE COUNTY - NORTH CAROLINA

LANDSCAPE PLAN

JOB NO.
43398

SHEET NO.
L1.8

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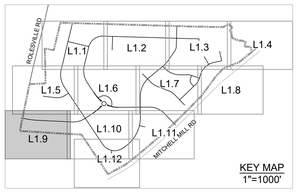

MATCHLINE SHEET L1.5

MATCHLINE SHEET L1.9

(7) ILE VOM
(12) ABE GRB
(2) LIQ STY
(2) AME SER
(1) MAG LIT

BRUNSWICK DR

63' R/W

(18) ULM PAR
(12) AME SER

(3) MAG LIT
(3) LIQ STY
(12) ILE VOM
(15) ABE GRB
20' STREETSCAPE
- TYPE A BUFFER IN EAS
(3) MAG LIT
(3) AME SER

(35) ITE VIR
(30) VIB MIS

(40) ITE VIR
(24) JUN EAS
(14) ILE GGL
(15) COR WHT
(32) VIB MIS
(16) LIR TUL

MATCHLINE SHEET L1.10

MATCHLINE SHEET L1.9

NAD 83

SCALE 1"=30'

0 30' 60'

PLANT SCHEDULE L 1.9			
CODE	QTY	BOTANICAL NAME	COMMON NAME
LARGE TREES			
LIQ STY	5	LIQUIDAMBAR STYRACIFLUA	AMERICAN SWEETGUM
LIR TUL	17	LIRIODENDRON TULIPIFERA	TULIP POPLAR
ULM PAR	20	ULMUS PARVIFOLIA	LACEBARK ELM
UNDERSTORY TREES			
AME SER	17	AMELANCHIER ALNIFOLIA	SASKATOON
COR WHT	16	CORNUS FLORIDA	WHITE DOGWOOD
ILE GGL	16	ILEX OPACA 'TINGA'	TINGA AMERICAN HOLLY
JUN EAS	29	JUNIPERUS VIRGINIANA	EASTERN REDCEDAR
MAG LIT	8	MAGNOLIA GRANDIFLORA 'LITTLE GEM'	LITTLE GEM MAGNOLIA
SHRUBS			
ABE GRB	27	ABELIA GRANDIFLORA	GLOSSY ABELIA
ILE VOM	19	ILEX VOMITORIA	YAUPON HOLLY
ITE VIR	82	ITEA VIRGINICA	VIRGINIA SWEETSPIRE
VIB MIS	66	VIBURNUM OBOVATUM `MRS. SCHILLER`S DELIGHT`	VIBURNUM

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R. WINGATE

DESIGNED BY
P. BARBEAU

CHECKED BY
P. BARBEAU

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AS SHOWN

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NORTH CAROLINA LICENSE NO. C-1652

ROLESVILLE CROSSING - CD 21-08

ROLESVILLE - WAKE COUNTY - NORTH CAROLINA

LANDSCAPE PLAN

JOB NO.
43398

SHEET NO.
L1.9

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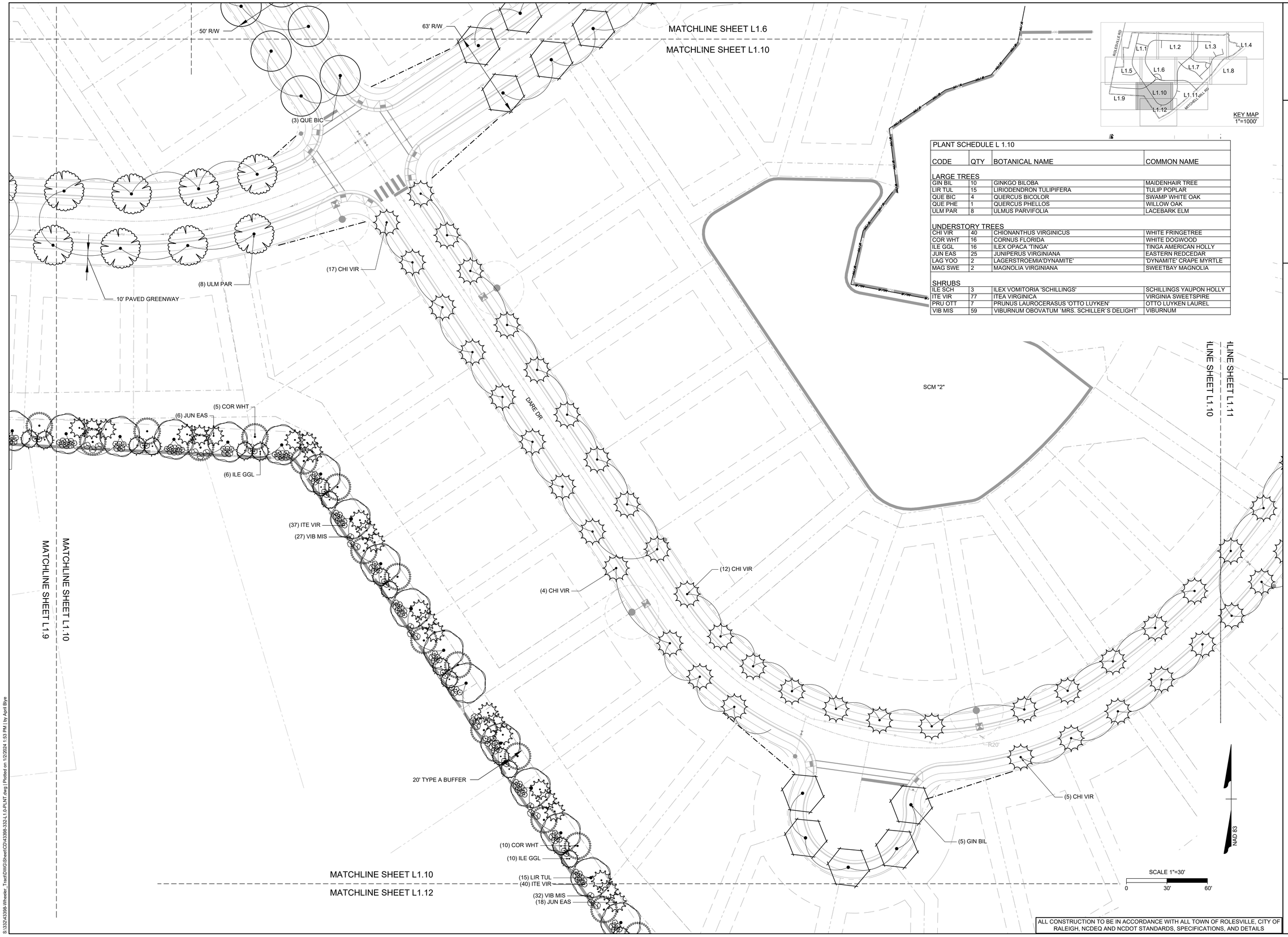

PLANT SCHEDULE L 1.10			
CODE	QTY	BOTANICAL NAME	COMMON NAME
LARGE TREES			
GIN BIL	10	GINKGO BILOBA	MAIDENHAIR TREE
LIR TUL	15	LIRIODENDRON TULIPIFERA	TULIP POPLAR
QUE BIC	4	QUERCUS BICOLOR	SWAMP WHITE OAK
QUE PHE	1	QUERCUS PHELLOS	WILLOW OAK
ULM PAR	8	ULMUS PARVIFOLIA	LACEBARK ELM
UNDERSTORY TREES			
CHI VIR	40	CHIONANTHUS VIRGINICUS	WHITE FRINGETREE
COR WHT	16	CORNUS FLORIDA	WHITE DOGWOOD
ILE GGL	16	ILEX OPACA 'TINGA'	TINGA AMERICAN HOLLY
JUN EAS	25	JUNIPERUS VIRGINIANA	EASTERN REDCEDAR
LAG YOO	2	LAGERSTROEMIA'DYNAMITE'	'DYNAMITE' CRAPE MYRTLE
MAG SWE	2	MAGNOLIA VIRGINIANA	SWEETBAY MAGNOLIA
SHRUBS			
ILE SCH	3	ILEX VOMITORIA 'SCHILLINGS'	SCHILLINGS YAUPON HOLLY
ITE VIR	77	ITEA VIRGINICA	VIRGINIA SWEETSPIRE
PRU OTT	7	PRUNUS LAUROCERASUS 'OTTO LUYKEN'	OTTO LUYKEN LAUREL
VIB MIS	59	VIBURNUM OBOVATUM `MRS. SCHILLER`S DELIGHT`	VIBURNUM

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REVISIONS PER RALEIGH COMMENTS	09/06/2023
REVISIONS TO APPROVED PLANS	01/02/2024

DATE
09/17/2021

DRAWN BY
S. FANTAYE

DESIGNED BY
S. FANTAYE

CHECKED BY
J. BLASCO

SCALE
AS SHOWN

TIMMONS GROUP

NORTH CAROLINA LICENSE NO. C-1652

ROLESVILLE CROSSING - CD 21-08

ROLESVILLE - WAKE COUNTY - NORTH CAROLINA

LANDSCAPE PLAN

JOB NO.
43398

SHEET NO.
L1.10

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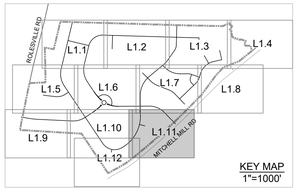

(4) CHI VIR

(12) CHI VIR

20' TYPE A BUFFER

(5) CHI VIR

(5) GIN BIL

(6) MAG SWE
(22) PRU OTT
(5) LAG YOO
(16) ILE SCH
(4) QUE PHE
(6) JUN EAS

(10) COR WHT
(10) ILE GGL
(15) LIR TUL
(40) ITE VIR
(32) VIB MIS
(18) JUN EAS

MATCHLINE SHEET L1.10

MATCHLINE SHEET L1.12

(21) ILE SCH
(23) PRU OTT
(4) QUE PHE
(15) JUN EAS
(9) LAG YOO
(8) MAG SWE

(6) AME LKG

(20) PRU OTT
(16) ILE SCH

20' TYPE A BUFFER

(6) JUN EAS

(6) COR WHT

(6) ILE GGL

(19) VIB MIS
(27) ITE VIR

(6) LIR TUL

(6) LIR TUL

20' STREETSCAPE
TYPE A BUFFER

EXISTING PROPERTY
MARKER

EXISTING
RIGHT-OF-WAY

MATCHLINE SHEET L1.12

MATCHLINE SHEET L1.11

NAD 83

SCALE 1"=30'
0 30' 60'

PLANT SCHEDULE L 1.11			
CODE	QTY	BOTANICAL NAME	COMMON NAME
TREES			
AME LKG	15	AMELANCHIER LAEVIS	ALLEGHENY SERVICEBERRY
LARGE TREES			
GIN BIL	7	GINKGO BILOBA	MAIDENHAIR TREE
QUE PHE	12	QUERCUS PHELLOS	WILLOW OAK
UNDERSTORY TREES			
AME SER	8	AMELANCHIER ALNIFOLIA	SASKATOON
CHI VIR	23	CHIONANTHUS VIRGINICUS	WHITE FRINGETREE
ILE GGL	6	ILEX OPACA 'TINGA'	TINGA AMERICAN HOLLY
JUN EAS	27	JUNIPERUS VIRGINIANA	EASTERN REDCEDAR
LAG YOO	23	LAGERSTROEMIA'DYNAMITE'	'DYNAMITE' CRAPE MYRTLE
MAG LIT	6	MAGNOLIA GRANDIFLORA 'LITTLE GEM'	LITTLE GEM MAGNOLIA
MAG SWE	20	MAGNOLIA VIRGINIANA	SWEETBAY MAGNOLIA
SHRUBS			
ILE CHE	18	ILEX CRENATA 'CHESAPEAKE'	CHESAPEAKE JAPANESE HOLLY
ILE SCH	72	ILEX VOMITORIA 'SCHILLINGS'	SCHILLINGS YAUPON HOLLY
PRU OTT	108	PRUNUS LAUROCERASUS 'OTTO LUYKEN'	OTTO LUYKEN LAUREL

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09/06/2023	REVISIONS PER RALEIGH COMMENTS
01/02/2024	REVISIONS TO APPROVED PLANS

DATE
09/17/2021

DRAWN BY
J. BLASCO

DESIGNED BY
J. BLASCO

CHECKED BY
J. BLASCO

SCALE
AS SHOWN

TIMMONS GROUP

NORTH CAROLINA LICENSE NO. C-1652

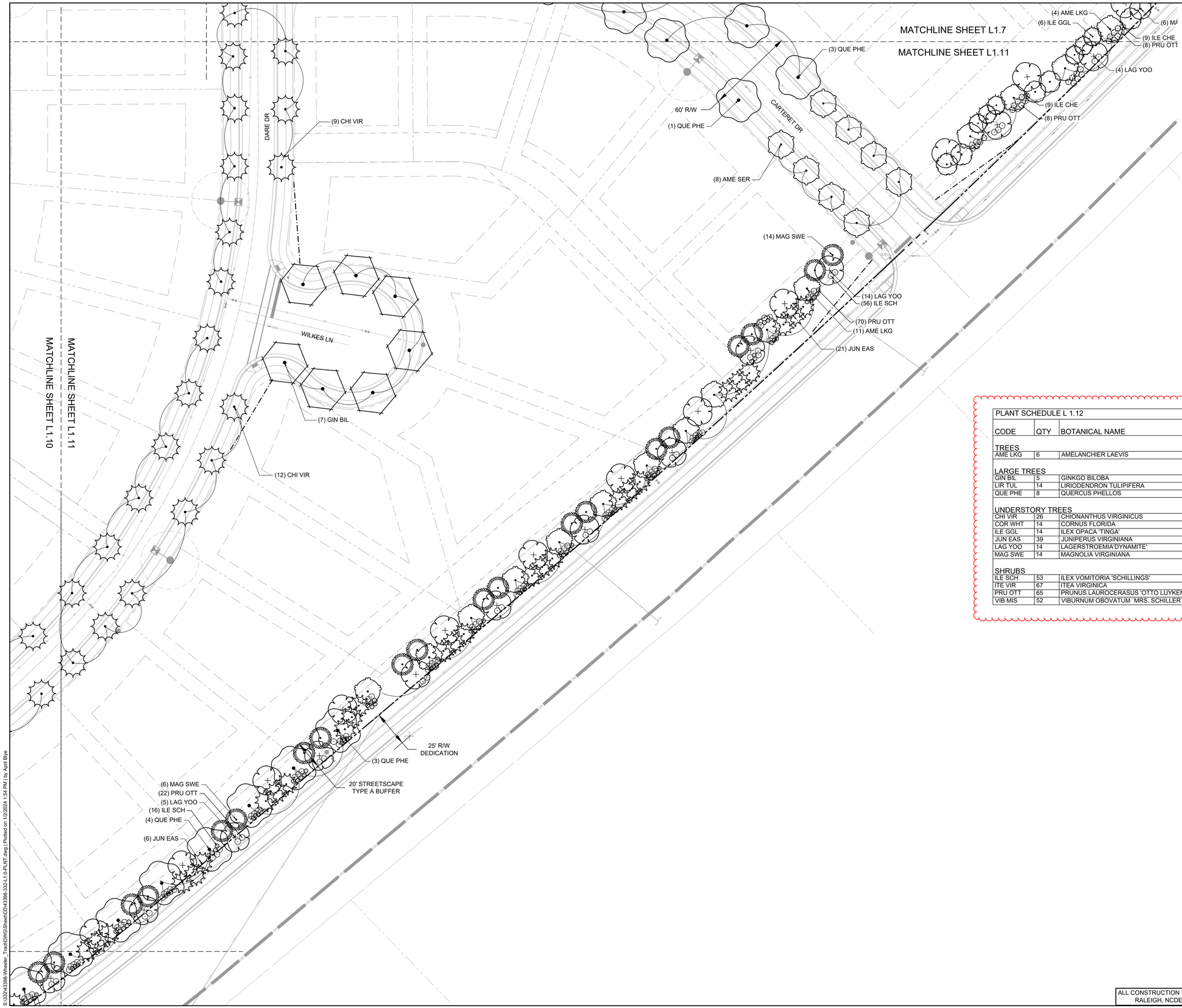
ROLESVILLE CROSSING - CD 21-08

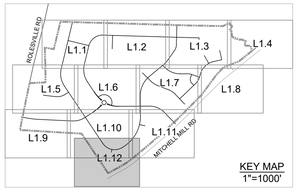
ROLESVILLE - WAKE COUNTY - NORTH CAROLINA

LANDSCAPE PLAN

JOB NO.
43398

SHEET NO.
L1.11





PLANT SCHEDULE L 1.12			
CODE	QTY	BOTANICAL NAME	COMMON NAME
TREES			
AME LKG	6	AMELANCHIER LAEVIS	ALLEGHENY SERVICEBERRY
LARGE TREES			
GIN BIL	5	GINKGO BILOBA	MAIDENHAIR TREE
LIR TUL	14	LIRIODENDRON TULIPIFERA	TULIP POPLAR
QUE PHE	8	QUERCUS PHELLOS	WILLOW OAK
UNDERSTORY TREES			
CHI VIR	26	CHIONANTHUS VIRGINICUS	WHITE FRINGETREE
COR WHT	14	CORNUS FLORIDA	WHITE DOGWOOD
ILE GGL	14	ILEX OPACA 'TINGA'	TINGA AMERICAN HOLLY
JUN EAS	39	JUNIPERUS VIRGINIANA	EASTERN REDCEDAR
LAG YOO	14	LAGERSTROEMIA'DYNAMITE'	'DYNAMITE' CRAPE MYRTLE
MAG SWE	14	MAGNOLIA VIRGINIANA	SWEETBAY MAGNOLIA
SHRUBS			
ILE SCH	53	ILEX VOMITORIA 'SCHILLINGS'	SCHILLINGS YAUPON HOLLY
ITE VIR	67	ITEA VIRGINICA	VIRGINIA SWEETSPIRE
PRU OTT	65	PRUNUS LAUROCERASUS 'OTTO LUYKEN'	OTTO LUYKEN LAUREL
VIB MIS	52	VIBURNUM OBOVATUM 'MRS. SCHILLER'S DELIGHT'	VIBURNUM

ALL CONSTRUCTION TO BE IN ACCORDANCE WITH ALL TOWN OF ROLESVILLE, CITY OF RALEIGH, NCDEQ AND NCDOT STANDARDS, SPECIFICATIONS, AND DETAILS

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YOUR VISION ACHIEVED THROUGH OURS.

01/02/2024

DATE	REVISION DESCRIPTION
06/24/2022	REVISIONS PER WAKE COUNTY COMMENTS
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01/02/2024	REVISIONS TO APPROVED PLANS

DATE	09/17/2021
DRAWN BY	S. FANTAYE
DESIGNED BY	S. FANTAYE
CHECKED BY	J. BLASCO
SCALE	AS SHOWN

TIMMONS GROUP

NORTH CAROLINA LICENSE NO. C-1652

ROLESVILLE CROSSING - CD 21-08

ROLESVILLE - WAKE COUNTY - NORTH CAROLINA

LANDSCAPE PLAN

JOB NO.	43398
SHEET NO.	L1.12

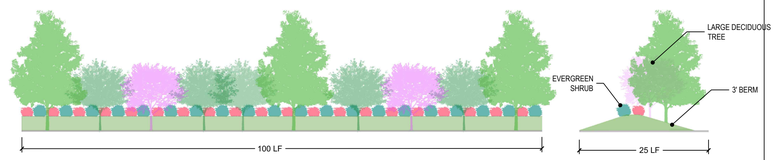
LARGE TREES	CODE	QTY	BOTANICAL NAME	COMMON NAME	MIN. INSTALLED SIZE	ROOT	TYPE
	ACE RBR	48	ACER RUBRUM	RED MAPLE	2.5" CAL., 10` HT. MIN.	B&B	PERIMETER BUFFER
	ACE OGL	58	ACER RUBRUM 'OCTOBER GLORY'	OCTOBER GLORY RED MAPLE	2.5" CAL., 10` HT. MIN.	B&B	STREET TREES
	CLA KEN	48	CLADRASTIS KENTUKEA	AMERICAN YELLOWWOOD	2.5" CAL., 10` HT. MIN.	B&B	STREET TREES
	GIN BIL	43	GINKGO BILOBA	MAIDENHAIR TREE	2.5" CAL., 10` HT. MIN.	B&B	STREET TREES
	LIQ STY	44	LIQUIDAMBAR STYRACIFLUA	AMERICAN SWEETGUM	2.5" CAL., 10` HT. MIN.	B&B	PERIMETER BUFFER
	LIR TUL	37	LIRIODENDRON TULIPIFERA	TULIP POPLAR	2.5" CAL., 10` HT. MIN.	B&B	PERIMETER BUFFER
	PIS CHI	67	PISTACIA CHINENSIS	CHINESE PISTACHE	2.5" CAL., 10` HT. MIN.	B&B	STREET TREES
	QUE BIC	62	QUERCUS BICOLOR	SWAMP WHITE OAK	2.5" CAL., 10` HT. MIN.	B&B	STREET TREES
	QUE PHE	80	QUERCUS PHELLOS	WILLOW OAK	2.5" CAL., 10` HT. MIN.	B&B	STREET TREES
	ULM AME	46	ULMUS AMERICANA	AMERICAN ELM	2.5" CAL., 10` HT. MIN.	B&B	STREET TREES
	ULM PAR	88	ULMUS PARVIFOLIA	LACEBARK ELM	2.5" CAL., 10` HT. MIN.	B&B	STREET TREES

UNDERSTORY TREES	CODE	QTY	BOTANICAL NAME	COMMON NAME	MIN. INSTALLED SIZE	ROOT	TYPE
	AME SER	82	AMELANCHIER ALNIFOLIA	SASKATOON	1.5" CAL., 8` HT MIN.	B&B	PERIMETER BUFFER
	CER CAN	30	CERCIS CANADENSIS	EASTERN REDBUD	1.5" CAL., 8` HT MIN.	B&B	PERIMETER BUFFER
	CHI VIR	59	CHIONANTHUS VIRGINICUS	WHITE FRINGETREE	1.5" CAL., 8` HT MIN.	B&B	STREET TREES
	COR WHT	66	CORNUS FLORIDA	WHITE DOGWOOD	1.5" CAL., 8` HT MIN.	B&B	PERIMETER BUFFER
	ILE GGL	86	ILEX OPACA 'TINGA'	TINGA AMERICAN HOLLY	1.5" CAL., 8` HT MIN.	B&B	PERIMETER BUFFER
	ILE NEL	84	ILEX X 'NELLIE R. STEVENS'	NELLIE R. STEVENS HOLLY	1.5" CAL., 8` HT MIN.	B&B	PERIMETER BUFFER
	JUN EAS	110	JUNIPERUS VIRGINIANA	EASTERN REDCEDAR	1.5" CAL., 8` HT MIN.	B&B	PERIMETER BUFFER
	LAG YOO	57	LAGERSTROEMIA'DYNAMITE'	'DYNAMITE' CRAPE MYRTLE	1.5" CAL., 8` HT MIN.	B&B	PERIMETER BUFFER
	MAG LIT	69	MAGNOLIA GRANDIFLORA 'LITTLE GEM'	LITTLE GEM MAGNOLIA	1.5" CAL., 8` HT MIN.	B&B	PERIMETER BUFFER
	MAG SWE	111	MAGNOLIA VIRGINIANA	SWEETBAY MAGNOLIA	1.5" CAL., 8` HT MIN.	B&B	PERIMETER BUFFER

SHRUBS	CODE	QTY	BOTANICAL NAME	COMMON NAME	MIN. INSTALLED SIZE	ROOT	REMARKS
	ABE GRB	71	ABELIA GRANDIFLORA	GLOSSY ABELIA	24" HT. MIN.		PERIMETER BUFFER
	ILE CHE	139	ILEX CRENATA 'CHESAPEAKE'	CHESAPEAKE JAPANESE HOLLY	24" HT. MIN.		PERIMETER BUFFER
	ILE GLA	25	ILEX GLABRA 'COMPACTA'	COMPACT INKBERRY	24" HT. MIN.		SCREENING
	ILE GGW	192	ILEX GLABRA 'SHAMROCK'	SHAMROCK HOLLY	24" HT. MIN.		PERIMETER BUFFER
	ILE VOM	162	ILEX VOMITORIA	YAUPON HOLLY	24" HT. MIN.		PERIMETER BUFFER
	ILE SCH	109	ILEX VOMITORIA 'SCHILLINGS'	SCHILLINGS YAUPON HOLLY	24" HT. MIN.		PERIMETER BUFFER
	ILE OAK	193	ILEX X 'OAK LEAF'	OAK LEAF HOLLY	24" HT. MIN.		SCREENING
	ITE VIR	224	ITEA VIRGINICA	VIRGINIA SWEETSPIRE	24" HT. MIN.		SCREENING
	JUN VIR	42	JUNIPERUS VIRGINIANA 'GREY OWL'	GREY OWL EASTERN REDCEDAR	24" HT. MIN.		SCREENING
	LOR CHI	215	LOROPETALUM CHINENSE	CHINESE FRINGE FLOWER	24" HT. MIN.		SCREENING
	PRU OTT	257	PRUNUS LAUROCERASUS 'OTTO LUYKEN'	OTTO LUYKEN LAUREL	24" HT. MIN.		PERIMETER BUFFER
	THU OCC	16	THUJA OCCIDENTALIS 'AUREA'	GOLDEN AMERICAN ARBORVITAE	24" HT. MIN.		SCREENING
	VIB MIS	140	VIBURNUM OBOVATUM `MRS. SCHILLER`S DELIGHT`	VIBURNUM	24" HT. MIN.		PERIMETER BUFFER

NOTE:

NO SINGLE SPECIES SHALL COMPRISE MORE THAN 50% OF PLANT TYPE IN BUFFERS.



25' TYPE A: OPAQUE YARD BUFFER W/ BERM

3 CANOPY TREES MIN 40' @ MATURITY
7 UNDERSTORY TREES MIN 20' @ MATURITY
35-40 EVERGREEN SHRUBS 90 (3' H* 5' W)

CANOPY TREES

Quercus phellos / WILLOW OAK
Ulmus americana / AMERICAN ELM
Liriodendron tulipifera / TULIP POPLAR
Acer rubrum / RED MAPLE
Liquidambar styraciflua / FRUITLESS SWEETGUM

UNDERSTORY EVERGREEN

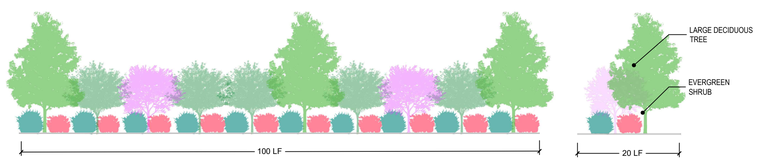
Magnolia grandiflora 'little gem' / LITTLE GEM MAGNOLIA
Magnolia virginiana / SWEETBAY MAGNOLIA
Ilex nellie / NELLIE R. STEVENS HOLLY
Juniperus virginiana / EASTERN CEDAR
Ilex opeca 'tinga' / TINGA AMERICAN HOLLY

UNDERSTORY DECIDUOUS

Amelanchier alnifolia / SERVICEBERRY
Cercis sp. / REDBUD
Cornus sp. / DOGWOOD

EVERGREEN SHRUB - 3' H

Itea virginica / VIRGINIA SWEETSPIRE
Ilex vomitoria / DWARF YAUPON HOLLY
Ilex glabra ' georgia winer' / INKBERRY HOLLY
LOROPETALUM SP. / FRINGE



20' TYPE A: OPAQUE YARD BUFFER - NO BERM

3 CANOPY TREES MIN 40' @ MATURITY
7 UNDERSTORY TREES MIN 20' @ MATURITY
20 EVERGREEN SHRUBS (3' H* 5' W)

CANOPY TREES

Quercus phellos / WILLOW OAK
Ulmus americana / AMERICAN ELM
Liriodendron tulipifera / TULIP POPLAR
Acer rubrum / RED MAPLE
Liquidambar styraciflua / FRUITLESS SWEETGUM

UNDERSTORY EVERGREEN

Magnolia grandiflora 'little gem' / LITTLE GEM MAGNOLIA
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Ilex nellie / NELLIE R. STEVENS HOLLY
Juniperus virginiana / EASTERN CEDAR
Ilex opeca 'tinga' / TINGA AMERICAN HOLLY

UNDERSTORY DECIDUOUS

Amelanchier alnifolia / SERVICEBERRY
Cercis sp. / REDBUD
Cornus sp. / DOGWOOD

EVERGREEN SHRUB - 6' H

Ilex glabra 'cape cod' / INKBERRY HOLLY
Chinese Fringe / LOROPETALUM CHINENSIS
Glossy Abelia / ABELIA GRANDIFLORA
Sasanqua camellia / CAMELIA SASANQUA

LANDSCAPE CALCULATIONS:

PERIMETER AND STREETSCAPE YARD BUFFERS

20' AND 25' TYPE A:
OPAQUE TYPE A
THIS BUFFER FUNCTIONS AS AN OPAQUE SCREEN FROM THE GROUND TO A HEIGHT OF AT LEAST SIX FEET. PLANTINGS OF DECIDUOUS AND EVERGREEN TREES ARE EXPECTED TO REACH A HEIGHT OF NO LESS THAN 20 FEET AND TO HAVE NO UNOBSTRUCTED OPENINGS WIDER THAN TEN FEET BETWEEN TREE CANOPIES AT MATURITY.

THE TYPE "A" BUFFER SHALL INCLUDE A WALL, AN OPAQUE FENCE, LANDSCAPED EARTHEN BERM, EXISTING OR PLANTED VEGETATION, OR ANY APPROPRIATE COMBINATION OF THESE ELEMENTS WHICH WILL CREATE THE DESIRED SPATIAL SEPARATION BETWEEN LAND USES. AT LEAST 50 PERCENT OF THE REQUIRED TREES AND SHRUBS MUST BE OF THE EVERGREEN SPECIES. SHRUBBERY IS TO BE PLANTED SUFFICIENTLY CLOSE TOGETHER TO FORM AN OPAQUE SCREEN WITHIN THREE YEARS AFTER PLANTING.

STREET TREES

REQUIRED: SHADE TREES 40' OC OR UNDERSTORY TREES 20' OC

DARE DR
7,650 LF
191.25 SHADE TREES REQUIRED
191 SHADE TREES PROVIDED*

CARTERET RD
6,750 LF
168.75 SHADE TREES REQUIRED
165 SHADE TREES PROVIDED*
8 UNDERSTORY TREES PROVIDED

DAVIE RD
1500 LF
37.5 SHADE TREES REQUIRED
37 SHADE TREES PROVIDED*

BRUNSWICK DR
1,650 LF
41.25 SHADE TREES REQUIRED
35 SHADE TREES PROVIDED*
12 UNDERSTORY TREES PROVIDED

AVERY LANE
750 LF
18.75 SHADE TREES REQUIRED
20 SHADE TREES PROVIDED

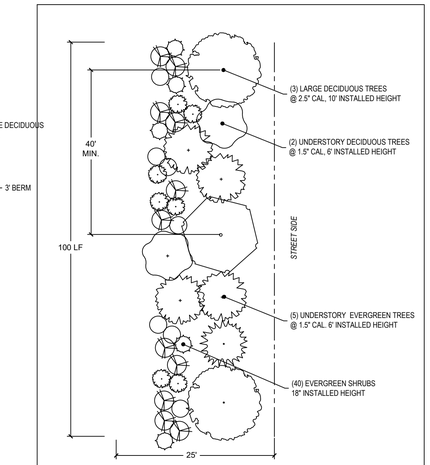
HYDE DR
450 LF
11.25 SHADE TREES REQUIRED
12 SHADE TREES PROVIDED

ROAD 5
450 LF
11.25 SHADE TREES REQUIRED
13 SHADE TREES PROVIDED

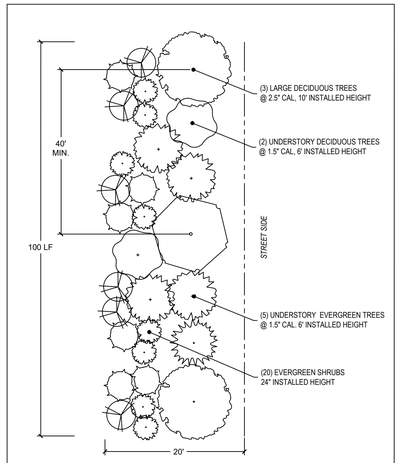
CALDWELL DR
950 LF
23.75 SHADE TREES REQUIRED
25 SHADE TREES PROVIDED

CATAWBA DR
1250 LF
31.25 SHADE TREES REQUIRED
30 SHADE TREES PROVIDED*

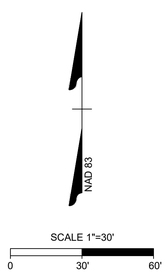
**SIGHT DISTANCE TRIANGLES AND LIGHT POLES PREVENT ADDITIONAL TREES FROM BEING PLANTED.*



25' TYPE A: OPAQUE YARD BUFFER W/ BERM
NTS



20' TYPE A: OPAQUE YARD BUFFER - NO BERM
NTS



ALL CONSTRUCTION TO BE IN ACCORDANCE WITH ALL TOWN OF ROLESVILLE, CITY OF RALEIGH, NCDEQ AND NCDOT STANDARDS, SPECIFICATIONS, AND DETAILS

NORTH CAROLINA REGISTERED LANDSCAPE ARCHITECT 2069 JONATHAN BLASCO 03/04/22

THIS DRAWING PREPARED AT THE
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SHEET NO.	L2.0

TIMMONS GROUP

NORTH CAROLINA LICENSE NO. C-1652

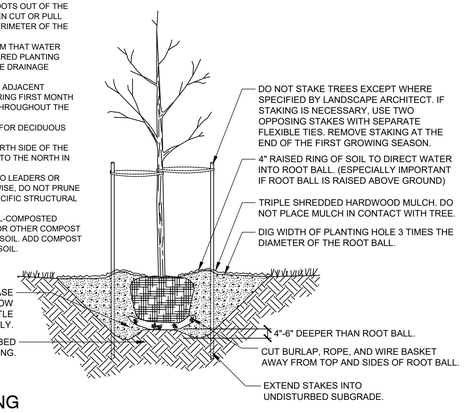
ROLESVILLE CROSSING - CD 21-08

ROLESVILLE - WAKE COUNTY - NORTH CAROLINA

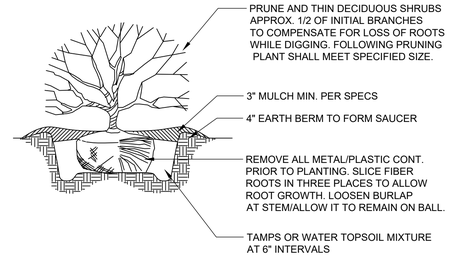
LANDSCAPE NOTES & DETAILS 1

S:\53X\43398\BP\Water\JB\JBASCO\SHEETS\Water\EGS\43398-SHEET-L1.dwg\JB\JBASCO\ PM:FMA\ MyLAYOUT\ JB\ 1:1

NOTES:
1. WHERE SEVERAL TREES WILL BE PLANTED CLOSE TOGETHER SUCH THAT THEY WILL LIKELY SHARE ROOT SPACE, TILL IN SOIL AMENDMENTS TO A DEPTH OF 4-6" (10-15CM) OVER THE ENTIRE AREA.
2. FOR CONTAINER-GROWN TREES, USE FINGERS OR SMALL HAND TOOLS TO PULL THE ROOTS OUT OF THE OUTER LAYER OF POTTING SOIL; THEN CUT OR PULL APART ANY ROOTS CIRCLING THE PERIMETER OF THE CONTAINER.
3. DURING THE DESIGN PHASE, CONFIRM THAT WATER DRAINS OUT OF THE SOIL; USE LOWERED PLANTING HOLE DEPTH AND DESIGN ALTERNATE DRAINAGE SYSTEM AS REQUIRED.
4. THOROUGHLY SOAK ROOT BALL AND ADJACENT PREPARED SOIL SEVERAL TIMES DURING FIRST MONTH AFTER PLANTING AND REGULARLY THROUGHOUT THE FOLLOWING TWO SUMMERS.
5. THE PLANTING PROCESS IS SIMILAR FOR DECIDUOUS AND EVERGREEN TREES.
6. DO NOT WRAP TRUNK; MARK THE NORTH SIDE OF THE TREE IN THE NURSERY AND LOCATE TO THE NORTH IN THE FIELD.
7. AVOID PURCHASING TREES WITH TWO LEADERS OR REMOVE ONE AT PLANTING; OTHERWISE, DO NOT PRUNE TREE AT PLANTING EXCEPT FOR SPECIFIC STRUCTURAL CORRECTIONS
8. BEFORE PLANTING, ADD 3-4" OF WELL-COMPOSTED LEAVES, RECYCLED YARD WASTE OR OTHER COMPOST AND TILL INTO TOP 6" OF PREPARED SOIL. ADD COMPOST AT 20-35% BY VOLUME TO BACKFILL SOIL.



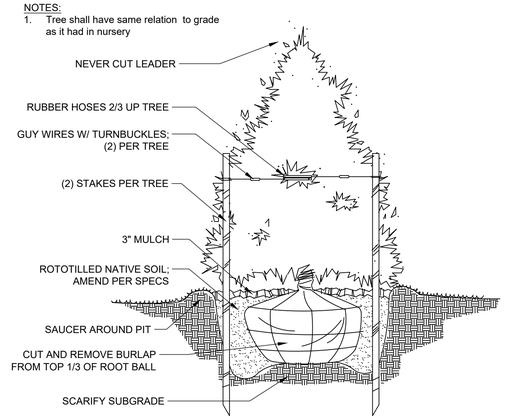
1 TREE PLANTING
NTS



NOTES:
1. SOIL MIX: 1/3 ORGANIC MATTER, 2/3 EXIST SOIL.
2. WIDTH OF PLANT PIT: SANDY SOIL, 24" WIDER THAN PLANT BALL; CLAY SOIL, 12" WIDER THAN PLANT BALL
3. FOR PLANTING AREAS WHERE SOIL HAS BEEN COM-PACTED BY EQUIP. CONTACT LA PRIOR TO PLANTING.
4. FOR CAMELLIAS, RHODOS, AZALEAS, AND LAURELS: SOIL MIX, 2/3 ORGANIC AND 1/3 EXISTING SOIL
5. SHRUB SHALL BEAR SAME RELATIONSHIP TO GRADE AS IT DID PRIOR TO DIGGING.

2 SHRUB PLANTING
NTS

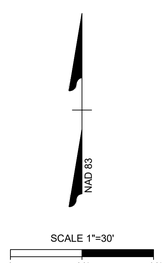
NOTES:
1. Tree shall have same relation to grade as it had in nursery



3 EVERGREEN PLANTING
NTS

LANDSCAPE NOTES:

1. ALL PLANT MATERIAL INSTALLED MUST MEET STANDARDS SET BY AMERICAN ASSOCIATION OF NURSERYMEN, INC., "STANDARDS FOR NURSERY STOCK.".
2. THE MINIMUM NUMBER OF PLANTS REQUIRED, REGARDLESS OF AREA CALCULATIONS, IS (3)TREES AND (20) SHRUBS.
3. PLANTING AREAS SHALL BE PERMANENTLY PROTECTED FROM DAMAGE BY VEHICULAR TRAFFIC THROUGH THE USE OF CURBING AND/OR WHEEL STOPS. WHEEL STOPS SHALL BE USED IN PARKING AREAS WHERE:
3.1. CURBING HAS NOT BEEN USED OR IS LESS THAN 6" IN HEIGHT.
3.2. PROPOSED NEW TREES AND SHRUBS ARE PLANTED WITHIN 5' FROM ADJACENT CURBING OR EDGE OF VEHICULAR SURFACE AREA PAVING.
4. A CERTIFICATE OF OCCUPANCY SHALL BE ISSUED ONLY WHEN ALL PLANTINGS HAVE BEEN INSTALLED AND ALL THE WORK SHOWN ON THE APPROVED LANDSCAPE PLAN HAS BEEN COMPLETED. SUBSTANTIAL CHANGES IN PLANTINGS WHICH HAVE CHANGED THE INTENT OF THE APPROVED PLANS AND CHANGED THE CREDIT TOTALS USED TO MEET THE ORDINANCE REQUIREMENTS SHALL BE REVIEWED BY THE TOWN STAFF FOR COMPLIANCE PRIOR TO THE ISSUANCE OF THE CERTIFICATE OF OCCUPANCY.
5. WHERE SUPPLEMENTAL PLANTING IS REQUIRED IN BUFFERS, THE PLANNING DIRECTOR SHALL HAVE THE AUTHORITY TO SPECIFY THE LOCATION TO ACCOUNT FOR AND PROVIDE MAXIMUM SCREENING IN THE EVENT OF SIGNIFICANT GRADE DIFFERENCES BETWEEN PROPERTIES TO WHICH THE BUFFER STANDARD APPLIES. PROPOSED VEGETATION SHALL ADHERE TO THE FOLLOWING BUFFER PLANTING REQUIREMENTS:
5.1. IN CALCULATING BUFFER PLANTING REQUIREMENTS, AREAS OF DRIVEWAYS AND SIGHT DISTANCE TRIANGLES SHALL BE EXCLUDED.
5.2. DECIDUOUS OVERSTORY TREES, SMALL TREES OR LARGE SHRUBS, EVERGREEN SHRUBS AND EVERGREEN TREES SHALL BE DISTRIBUTED ALONG THE ENTIRE LENGTH OF THE BUFFER. DUE TO UNIQUE CHARACTERISTICS OF A SITE, OR DESIGN OBJECTIVES, ALTERNATIVE DESIGNS THAT ACHIEVE THE REQUIRED SCREENING MAY BE APPROVED BY THE PLANNING DIRECTOR.
6. NO SCREENING OR BUFFERING SHALL INTERFERE WITH THE SIGHT DISTANCE TRIANGLES REQUIRED FOR SAFE TRAFFIC MOVEMENTS AT DRIVEWAY OR STREET INTERSECTIONS.
6.1. PLANTINGS MUST NOT CREATE ANY VISUAL OBSTRUCTION BETWEEN 30" AND 7' IN HEIGHT WITHIN SIGHT DISTANCE TRIANGLES.
6.2. THE PRUNING OF VSA SCREENING SHRUBS SHALL ALLOW LATERAL GROWTH OF BRANCHES AS TO FORM A HEDGE.
7. ALL LANDSCAPE ISLANDS SHALL BE GRADED FOR POSITIVE DRAINAGE WITH NO LOW SPOTS ALLOWING WATER TO BE TRAPPED



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ROLESVILLE CROSSING - CD 21-08
ROLESVILLE - WAKE COUNTY - NORTH CAROLINA
LANDSCAPE NOTES & DETAILS 2

JOB NO. 43398
SHEET NO. L2.1

S:\S3\2023\43398\Plans\Plan Sheets\Rezoning\Sheets\01 Site Plan\L2.1 Details.dwg

WHEELER TRACT

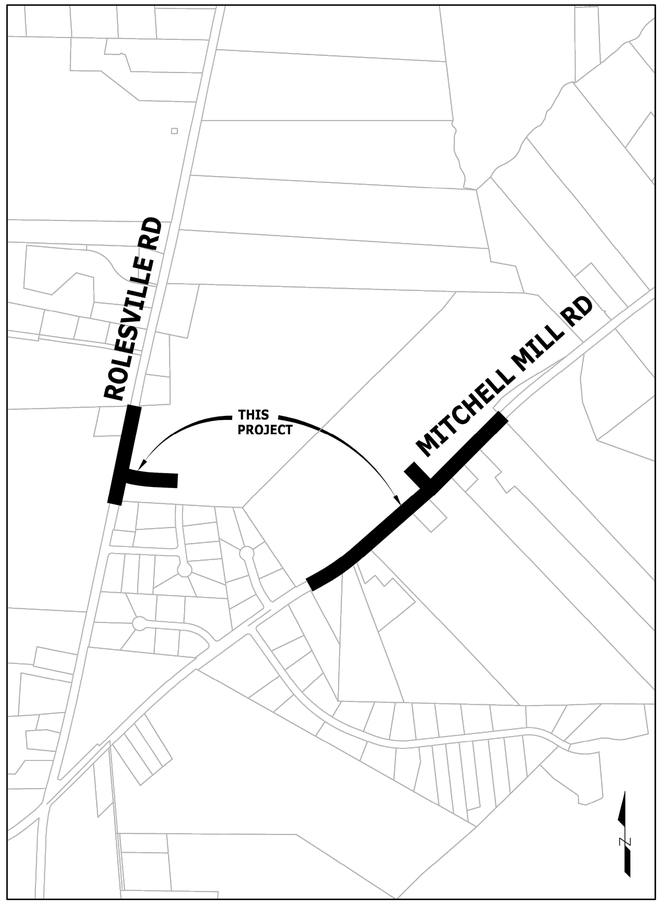
OFFSITE IMPROVEMENTS

TOWN OF ROLESVILLE

WAKE COUNTY, NORTH CAROLINA

DATE: 07/21/22

SHEET INDEX



OVERALL VICINITY MAP
SCALE: 1" = 500'

Know what's below. Call before you dig.

ALL CONSTRUCTION SHALL CONFORM WITH THE LATEST VERSION OF NCDOT STANDARDS AND SPECIFICATIONS.

SURVEY NOTES:

1. HORIZONTAL CONTROL (BASIS OF THE BEARINGS) IS BASED ON NC STATE GRID, NAD'83 (2011); VERTICAL CONTROL IS BASED ON NAVD'88, AS ESTABLISHED BY GPS. ALL DISTANCES SHOWN HERON ARE GROUND DISTANCES.
2. CONTOUR INTERVALS ARE 1'.
3. THE LOCATION OF SUB SURFACE UTILITIES AS SHOWN HEREON, IF ANY, ARE BASED ON FIELD LOCATION OF SURFACE FEATURES AND MARKINGS PROVIDED BY NC 811 AND ARE APPROXIMATE. OTHER SUB SURFACE UTILITIES MAY EXIST ON THIS SITE THAT ARE NOT INCLUDED IN THIS SURVEY.
4. THIS MAP CONSTITUTES NEITHER A SUBDIVISION NOR A RECOMBINATION PLAT OF THE PARCELS OF LAND SHOWN HEREON. THIS MAP HAS NOT BEEN PREPARED IN ACCORDANCE WITH NC G.S. 47-30 AND IS NOT SUITABLE FOR RECORDING.
5. THERE ARE NO RECOVERABLE NGS MONUMENTS WITHIN 2000' OF THIS PROPERTY.

EXISTING CONDTIONS NOTES:

1. OTHER SOURCES OF INFORMATION INCLUDE TOWN GIS AND AERIAL IMAGERY.
2. THE UTILITIES ON THESE PLANS ARE APPROXIMATE ONLY, AND ARE NOT ACCURATE FOR CONSTRUCTION PURPOSES. FOR FIELD MARKS CALL 811.

DEMOLITION NOTES:

1. ALL UTILITIES OR STRUCTURES NOT INDICATED FOR REMOVAL OR MODIFICATION ARE TO REMAIN AND BE PROTECTED FROM DAMAGE.
2. ALL WASTE MATERIAL GENERATED FROM CLEARING AND DEMOLITION ACTIVITIES SHALL BE DISPOSED OF OFF-SITE IN ACCORDANCE WITH ALL APPLICABLE RULES AND REGULATIONS.
3. REMOVE TOPSOIL AND STOCKPILE APPROPRIATELY ON-SITE. ON-SITE TEMPORARY STOCKPILES SHALL BE LOCATED WITHIN CONSTRUCTION LIMITS.
4. ALL PAVEMENT OR CONCRETE TO BE REMOVED SHALL BE SAW CUT TO PROVIDE A STRAIGHT AND UNIFORM JOINT WITH NEW CONSTRUCTION. ANY EXISTING PAVEMENT, SIDEWALK, CURB & GUTTER, ETC. THAT MUST BE REMOVED TO ALLOW NEW CONSTRUCTION SHALL BE REMOVED AND REPAIRED PER THE SPECIFICATIONS AND DETAILS OR TO MATCH EXISTING CONDITIONS (WHETHER OR NOT SHOWN ON THE DRAWINGS TO BE REMOVED). UTILITY INSTALLATIONS MAY UTILIZE OPEN CUT OF PAVEMENTS UNLESS INDICATED OTHERWISE. TRENCH IN EXISTING ASPHALT SHALL BE PATCHED PER PAVEMENT REPAIR DETAIL.
5. PROTECT ALL ADJACENT PROPERTIES, THE GENERAL PUBLIC AND ALL OF THE OWNER'S FACILITIES. SHOULD DAMAGE OCCUR, NOTIFY ENGINEER IMMEDIATELY.
6. THE CONTRACTOR SHALL USE NC ONE CALL (811) TO LOCATE ALL UNDERGROUND UTILITIES.
7. VERIFY ALL ILLUSTRATED KNOWN UNDERGROUND ELEMENTS. EXERCISE REASONABLE EFFORTS TO PROTECT ANY UNKNOWN UNDERGROUND ELEMENTS. NOTIFY THE ENGINEER IMMEDIATELY IF UNKNOWN ELEMENTS ARE DISCOVERED THAT WOULD NECESSITATE MODIFICATION TO THE PROPOSED DESIGN.
8. ALL WORK SHALL BE PERFORMED IN ACCORDANCE WITH APPLICABLE LOCAL, STATE AND OSHA REGULATIONS.
9. EXISTING MANHOLES, VALVE BOXES, VAULTS, CLEANOUTS, UTILITY POLES ETC. TO REMAIN WITHIN THE GRADING LIMITS SHALL BE ADJUSTED AS NEEDED TO FUNCTION PROPERLY WITH THE PROPOSED FINISHED GRADES (WHETHER OR NOT INDICATED TO BE MODIFIED).
10. GENERAL CONTRACTOR TO COORDINATE ALL PEDESTRIAN ACCESS PATHS, LOCATIONS, LIGHTING ETC. WITH THE OWNER.
11. CONTRACTOR TO COORDINATE ALL WORK AS NEEDED WITH UTILITY COMPANIES, MUNICIPALITY, AND INSPECTORS.
12. CONTRACTOR TO COORDINATE ALL DEMOLITION WORK AS NEEDED WITH UTILITY COMPANIES AND MUNICIPALITIES. ALL WORK SHALL BE IN COMPLIANCE WITH ALL FEDERAL, STATE AND LOCAL REGULATIONS.
13. CONTRACTOR TO CONFIRM LOCATION OF ALL ONSITE UTILITY SERVICES AND COORDINATE REMOVAL AS NEEDED.

GRADING AND STORM DRAINAGE NOTES:

1. CONTRACTOR SHALL CALL "NORTH CAROLINA ONE CALL" (1-800-632-4949) AT LEAST 48 HOURS PRIOR TO DIGGING TO HAVE EXISTING UTILITIES LOCATED. REPORT ANY DISCREPANCIES TO THE ENGINEER.
2. CONTRACTOR TO COORDINATE ACTIVITIES WITH UTILITY COMPANIES INVOLVED IN ANY RELATED RELOCATION (I.E. POWER POLES, TELEPHONE PEDESTALS, WATER METERS, ETC.).
3. EXISTING UTILITIES SHOWN ARE BASED ON FIELD SURVEYS AND THE BEST AVAILABLE RECORD DRAWINGS. THE CONTRACTOR SHALL VERIFY CONDITIONS PRIOR TO BEGINNING CONSTRUCTION. ANY DISCREPANCIES BETWEEN ACTUAL FIELD CONDITIONS AND THE PLANS SHALL BE REPORTED TO THE ENGINEER IMMEDIATELY.
4. ALL EXISTING VAULTS, MANHOLES, STORM DRAIN STRUCTURES, VALVE BOXES, CLEANOUTS, ETC. SHALL BE ADJUSTED AS NEEDED TO MATCH FINISHED GRADE.
5. ALL BACKFILL, COMPACTION, SOILS TESTING, ETC. SHALL BE PERFORMED BY THE CONTRACTOR'S INDEPENDENT TESTING LABORATORY.
6. A PRE-CONSTRUCTION MEETING MUST BE SCHEDULED PRIOR TO ANY WORK, GRADING OR INSTALLATION OF EROSION CONTROL MEASURES.
7. IF CONTRACTOR NOTICES ANY DISCREPANCIES IN ANY OF THESE SLOPE REQUIREMENTS, IT IS THE CONTRACTOR'S RESPONSIBILITY TO CONTACT THE ENGINEER PRIOR TO POURING ANY ASPHALT SO THAT A SOLUTION CAN BE FOUND.
8. SPOT ELEVATIONS ARE GIVEN AT THE MAJORITY OF THE MAJOR BREAK POINTS BUT IT SHOULD NOT BE ASSUMED THAT ALL NECESSARY SPOT ELEVATIONS ARE SHOWN. DUE TO SPACE LIMITATIONS, THERE MAY BE OTHER CRITICAL SPOTS NOT LABELED THAT SHOULD BE TAKEN INTO CONSIDERATION. THE CONTRACTOR SHALL REVIEW THE GRADING PLAN IN DETAIL AND SHALL ENSURE THAT ALL CRITICAL GRADE POINTS ARE STAKED AND FOLLOWED TO PROVIDE POSITIVE DRAINAGE.
9. EXISTING VEGETATION WITHIN TREE PROTECTIVE AREAS SHALL REMAIN UNDISTURBED UNLESS NOTED OTHERWISE. ANY AND ALL LANDSCAPING AND EXISTING TREES & SHRUBS TO REMAIN WHICH ARE DAMAGED DURING DEMOLITION OR CONSTRUCTION SHALL BE REPLACED BY THE CONTRACTOR USING A LICENSED LANDSCAPE CONTRACTOR AT NO ADDITIONAL COST TO THE OWNER.
10. THE GRADING CONTRACTOR SHALL COMPLY WITH ALL STATE CODES IN OBSERVING EROSION CONTROL MEASURES BOTH ON AND OFF-SITE. THE GRADING CONTRACTOR SHALL MAINTAIN ALL EROSION CONTROL DEVICES AFTER EACH RAINFALL EVENT OR AS DIRECTED BY THE EROSION CONTROL INSPECTOR OR THE ENGINEER.
11. THE GRADING CONTRACTOR SHALL BE RESPONSIBLE FOR OFF-SITE DISPOSAL OF ALL CLEARING AND GRADING WASTE MATERIALS GENERATED DURING CONSTRUCTION AND FOR OBTAINING ALL APPLICABLE PERMITS FOR OFF-SITE STOCKPILES AND/OR WASTE AREAS.

DESIGN DATA

Rolesville Road (SR-1003)	Mitchell Mill Road (SR-2224)
ADT 2019 = 4,300	ADT 2019 = 1,900
Vd = 50 mph	Vd = 50 mph
F.C. = Minor Arterial	F.C. = Major Collector

NOTE: SEE TRAFFIC STUDY FOR FUTURE VOLUMES

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DATE	REVISION DESCRIPTION
06-15-2023	ROLESVILLE ROAD TAPER SHIFT AND STORM NETWORK UPDATE
10-24-2023	GRADING AND STORM NETWORK ADJUSTMENTS

DATE	07/21/22
DRAWN BY	BPW
DESIGNED BY	BPW
CHECKED BY	BPW
SCALE	----

TIMMONS GROUP

WHEELER TRACT - OFFSITE IMPROVEMENTS
ROLESVILLE - WAKE COUNTY, NORTH CAROLINA
COVER SHEET

JOB NO. 43398

SHEET NO. R1.00

S:\33243398-Wheeler_Tract\DWG\Sheet\CD\20243398-203C-R1.00.dwg | Plotted on 10/24/2023 11:40 AM | by Brian Welch

HORIZONTAL ALIGNMENT DATA

****
Alignment Name: MMRD
Station Range: Start: 200+00.00, End: 231+84.86
Description:
****

Begin MMRD
N 776,527.3310 E 2,164,529.4110 200+00.00

Line (1)
N54° 21' 49.81"E 144.382'
N 776,611.4531 E 2,164,646.7550 201+44.38
Line (1)

Curve (2)
BC N 776,611.4531 E 2,164,646.7550 201+44.38
CTR N 774,985.9868 E 2,165,812.0271
PI N 776,682.9466 E 2,164,746.4829

Direction Back N54° 21' 49.81"E
Radius 2,000.000'
Delta 7°01'18"(RT)
Length 245.107'
Tangent 122.707'
Chord Direction N57° 52' 29.02"E Distance 244.953'
Direction Ahead N61° 23' 08.24"E

EC N 776,741.7124 E 2,164,854.2028 203+89.49
Curve (2)

Line (3)
N61° 23' 08.24"E 78.306'
N 776,779.2139 E 2,164,922.9443 204+67.79
Line (3)

Curve (4)
BC N 776,779.2139 E 2,164,922.9443 204+67.79
CTR N 778,096.0081 E 2,164,204.5760
PI N 776,852.1175 E 2,165,056.5791

Direction Back N61° 23' 08.24"E
Radius 1,500.000'
Delta 11°35'23"(LT)
Length 303.416'
Tangent 152.227'
Chord Direction N55° 35' 26.88"E Distance 302.899'
Direction Ahead N49° 47' 45.52"E

EC N 776,950.3820 E 2,165,172.8430 207+71.21
Curve (4)

Line (5)
N49° 47' 45.52"E 283.432'
N 777,133.3404 E 2,165,389.3142 210+54.64
Line (5)

Curve (6)
BC N 777,133.3404 E 2,165,389.3142 210+54.64
CTR N 782,785.0958 E 2,160,612.5306
PI N 777,349.6114 E 2,165,645.1999

Direction Back N49° 47' 45.52"E
Radius 7,400.000'
Delta 5°11'05"(LT)
Length 669.619'
Tangent 335.038'
Chord Direction N47° 12' 13.16"E Distance 669.391'
Direction Ahead N44° 36' 40.81"E

EC N 777,588.1209 E 2,165,880.4953 217+24.26
Curve (6)

Line (7)
N44° 36' 40.81"E 471.600'
N 777,923.8467 E 2,166,211.6969 221+95.86
Line (7)

Curve (8)
BC N 777,923.8467 E 2,166,211.6969 221+95.86
CTR N 776,168.1119 E 2,167,991.4147
PI N 778,026.3744 E 2,166,312.8430

Direction Back N44° 36' 40.81"E
Radius 2,500.000'
Delta 6°35'39"(RT)
Length 287.727'
Tangent 144.022'
Chord Direction N47° 54' 30.39"E Distance 287.568'
Direction Ahead N51° 12' 19.98"E

EC N 778,116.6085 E 2,166,425.0939 224+83.59
Curve (8)

Line (9)
N51° 12' 19.98"E 701.272'
N 778,555.9755 E 2,166,971.6646 231+84.86
Line (9)

N 778,555.9755 E 2,166,971.6646 231+84.86
End MMRD

****
Alignment Length: 3,184.860'
****

****
Alignment Name: RVRD
Station Range: Start: 100+00.00, End: 110+50.00
Description:
****

Begin RVRD
N 777,078.2946 E 2,163,445.9929 100+00.00

Line (1)
N11° 58' 11.82"E 244.367'
N 777,317.3483 E 2,163,496.6743 102+44.37
Line (1)

Line (2)
N11° 42' 08.00"E 299.800'
N 777,610.9169 E 2,163,557.4813 105+44.17
Line (2)

Line (3)
N11° 32' 42.39"E 505.833'
N 778,106.5156 E 2,163,658.7184 110+50.00
Line (3)

N 778,106.5156 E 2,163,658.7184 110+50.00
End RVRD

****
Alignment Length: 1,050.000'
****

****
Alignment Name: ROAD1
Station Range: Start: 10+00.00, End: 14+01.54
Description:
****

Begin ROAD1
N 777,513.6758 E 2,163,537.3397 10+00.00

Line (1)
S78° 25' 03.43"E 81.989'
N 777,497.2142 E 2,163,617.6597 10+81.99
Line (1)

Curve (2)
BC N 777,497.2142 E 2,163,617.6597 10+81.99
CTR N 778,476.8513 E 2,163,818.4364
PI N 777,481.6558 E 2,163,693.5729

Direction Back S78° 25' 03.43"E
Radius 1,000.000'
Delta 8°51'44"(LT)
Length 154.673'
Tangent 77.491'
Chord Direction S82° 50' 55.26"E Distance 154.519'
Direction Ahead S87° 16' 47.09"E

EC N 777,477.9781 E 2,163,770.9768 12+36.66
Curve (2)

Line (3)
S87° 16' 47.09"E 164.875'
N 777,470.1532 E 2,163,935.6661 14+01.54
Line (3)

N 777,470.1532 E 2,163,935.6661 14+01.54
End ROAD1

****
Alignment Length: 401.538'
****

****
Alignment Name: ROAD2
Station Range: Start: 10+00.00, End: 12+17.61
Description:
****

Begin ROAD2
N 777,413.3649 E 2,165,702.1990 10+00.00

Line (1)
N43° 55' 39.13"W 217.614'
N 777,570.0941 E 2,165,551.2300 12+17.61
Line (1)

N 777,570.0941 E 2,165,551.2300 12+17.61
End ROAD2

****
Alignment Length: 217.614'
****

NCDOT GENERAL NOTES: 2018 SPECIFICATIONS
EFFECTIVE: 07-27-2021
REVISED:

GRADE LINE:
GRADING AND SURFACING:

THE GRADE LINES SHOWN DENOTE THE FINISHED ELEVATION OF THE PROPOSED SURFACING AT GRADE POINTS SHOWN ON THE TYPICAL SECTIONS. GRADE LINES MAY BE ADJUSTED AT THEIR BEGINNING AND ENDING AND AT STRUCTURES AS DIRECTED BY THE ENGINEER IN ORDER TO SECURE A PROPER TIE-IN.

GRADING AND SURFACING OR RESURFACING AND WIDENING:

THE GRADE LINES SHOWN DENOTE THE FINISHED ELEVATION OF THE PROPOSED SURFACING AT GRADE POINTS SHOWN ON THE TYPICAL SECTIONS. WHERE NO GRADE LINES ARE SHOWN, THE PROFILES SHOWN DENOTE THE TOP ELEVATION OF THE EXISTING PAVEMENT ALONG THE CENTER LINE OF SURVEY ON WHICH THE PROPOSED RESURFACING WILL BE PLACED. GRADE LINES MAY BE ADJUSTED BY THE ENGINEER IN ORDER TO SECURE A PROPER TIE-IN.

GRADING:

THE GRADE LINES SHOWN DENOTE THE FINISHED ELEVATION OF THE PROPOSED OR FUTURE SURFACING AT GRADE POINTS SHOWN ON THE TYPICAL SECTIONS. GRADE LINES MAY BE ADJUSTED AT THEIR BEGINNING AND ENDING AND AT STRUCTURES AS DIRECTED BY THE ENGINEER IN ORDER TO SECURE A PROPER TIE-IN.

SURFACING:

THE ROUGH GRADING AND STRUCTURES ON THIS PROJECT HAVE BEEN DONE OR ARE NOW BEING DONE UNDER A PREVIOUS CONTRACT. THE GRADE LINES SHOWN DENOTE THE FINISHED ELEVATION OF THE PROPOSED SURFACING AT GRADE POINTS SHOWN ON THE TYPICAL SECTIONS. GRADE LINES MAY BE ADJUSTED AT THEIR BEGINNING AND ENDING AND AT STRUCTURES AS DIRECTED BY THE ENGINEER IN ORDER TO SECURE A PROPER TIE-IN.

CLEARING:

CLEARING ON THIS PROJECT SHALL BE PERFORMED TO THE LIMITS ESTABLISHED BY METHOD II.

SIDE ROADS:

THE CONTRACTOR WILL BE REQUIRED TO DO ALL NECESSARY WORK TO PROVIDE SUITABLE CONNECTIONS WITH ALL ROADS, STREETS, AND DRIVES ENTERING THIS PROJECT. THIS WORK WILL BE PAID FOR AT THE CONTRACT UNIT PRICE FOR THE PARTICULAR ITEMS INVOLVED.

UNDERDRAINS:

UNDERDRAINS SHALL BE CONSTRUCTED IN ACCORDANCE WITH STD. NO. 815.03 AT LOCATIONS DIRECTED BY THE ENGINEER.

DRIVEWAYS:

DRIVEWAYS SHALL BE CONSTRUCTED IN ACCORDANCE WITH STD. 848.03 AT LOCATIONS SHOWN ON PLANS OR AS DIRECTED BY THE ENGINEER.

STREET TURNOUT:

STREET RETURNS SHALL BE CONSTRUCTED IN ACCORDANCE WITH STD. NO. 848.04 USING THE RADII NOTED ON PLANS.

SUBSURFACE PLANS:

NO SUBSURFACE PLANS ARE AVAILABLE ON THIS PROJECT. THE CONTRACTOR SHOULD MAKE HIS OWN INVESTIGATION AS TO THE SUBSURFACE CONDITIONS.

ANY RELOCATION OF EXISTING UTILITIES WILL BE ACCOMPLISHED BY OTHERS.

CURB RAMPS

CURB RAMPS ARE SHOWN ON THE PLANS AT APPROXIMATE LOCATIONS. CONSTRUCT ALL CURB RAMPS ACCORDANCE WITH STD 848.05 and/or 848.06.

EFF. 07-27-2021
REV.
2018 ROADWAY ENGLISH STANDARD DRAWINGS

The following Roadway Standards as appear in "Roadway Standard Drawings" Highway Design Branch - N. C. Department of Transportation - Raleigh, N. C., Dated January, 2018 are applicable to this project and by reference hereby are considered a part of these plans:

STD.NO. TITLE
DIVISION 2 - EARTHWORK
200.02 Method of Clearing - Method II
DIVISION 8 - INCIDENTALS
815.03 Pipe Underdrain and Blind Drain
816.01 Concrete Pads - for Shoulder Drain Installation
838.01 Concrete Endwall for Single and Double Pipe Culverts - 15" thru 48" Pipe 90 Skew
840.02 Concrete Catch Basin - 12" thru 54" Pipe
840.03 Frame, Grates and Hood - for Use on Standard Catch Basin
840.14 Concrete Drop Inlet - 12" thru 30" Pipe
840.16 Drop Inlet Frame and Grates - for use with Std. Dwg 840.14 and 840.15
846.01 Concrete Curb, Gutter and Curb & Gutter
848.01 Concrete Sidewalk
848.03 Driveway Turnout - Drop Curb Type
848.04 Street Turnout
848.05 Curb Ramp - Proposed Curb & Gutter
876.02 Guide for Rip Rap at Pipe Outlets

EXISTING CONDITIONS

IPF - IRON PIPE FOUND
IRF - IRON ROD FOUND
IPS - IRON PIPE SET
PT - CALCULATED POINT
CM - CONCRETE MONUMENT
FIRE HYDRANT
ELECTRIC BOX
TELEPHONE PEDESTAL
CABLE TV PEDESTAL
POWER POLE < GUY
LIGHT POLE
YARD LIGHT
WELL
R / W - RIGHT-OF-WAY
P / L - PROPERTY LINE
C / L - CENTERLINE
NTS - NOT TO SCALE
CB - CATCH BASIN
GI - GRATE INLET
YI - YARD INLET
CI - CURB INLET
EP - EDGE OF PAVING
TBC - TOP BACK OF CURB
DB - DEED BOOK
PB - PLAT BOOK PG - PAGE
SF - SQUARE FEET
(T) - INDICATES POINTS SET BY TIMMONS GROUP IN 2009
- CALCULATED POINT UNLESS OTHERWISE NOTED
MAILBOX
MH GREASE
BOLLARD
MH STORM SEWER
MH SANITARY SEWER
MH ELECTRIC
MH TELEPHONE
MH WATER
SPRINKLER BOX
ELECTRIC METER
CLEAN OUT
WATER METER
WATER VALVE
ROOF DRAIN
TRAFFIC SIGNAL POLE
SIGN
SPRINKLER HEAD
SPRINKLER VALVE
GAS METER
GAS VALVE
FLAG POLE
GROUND LAMP
BRICK CONCRETE
STORM LINE
SANITARY LINE
FENCE
OVERHEAD POWER LINE
PAINTED GAS LINE
PAINTED POWER LINE
PAINTED TELEPHONE LINE
PAINTED WATER LINE
EDGE OF SHRUBBERY
EDGE OF WOODS
RCP - REINFORCED CONCRETE PIPE
CMP - CORRUGATED METAL PIPE
CPP - CORRUGATED PLASTIC PIPE
DIP - DUCTILE IRON PIPE
VCP - VITRIFIED CLAY PIPE
HDPE - HIGH DENSITY POLYETHYLENE PIPE
HVAC - HEATING, VENTILATION AND AIR CONDITIONING
C A - CONTROLLED ACCESS

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REVISION DESCRIPTION	DATE
ROLESVILLE ROAD TAPER SHIFT AND STORM NETWORK UPDATE	06-15-2023
GRADING AND STORM NETWORK ADJUSTMENTS	10-24-2023

DATE	07/21/22
DRAWN BY	BPW
DESIGNED BY	BPW
CHECKED BY	BPW
SCALE	----

TIMMONS GROUP

WHEELER TRACT - OFFSITE IMPROVEMENTS
ROLESVILLE - WAKE COUNTY, NORTH CAROLINA
GENERAL NOTES, DETAILS & CONVENTIONAL SYMBOLS

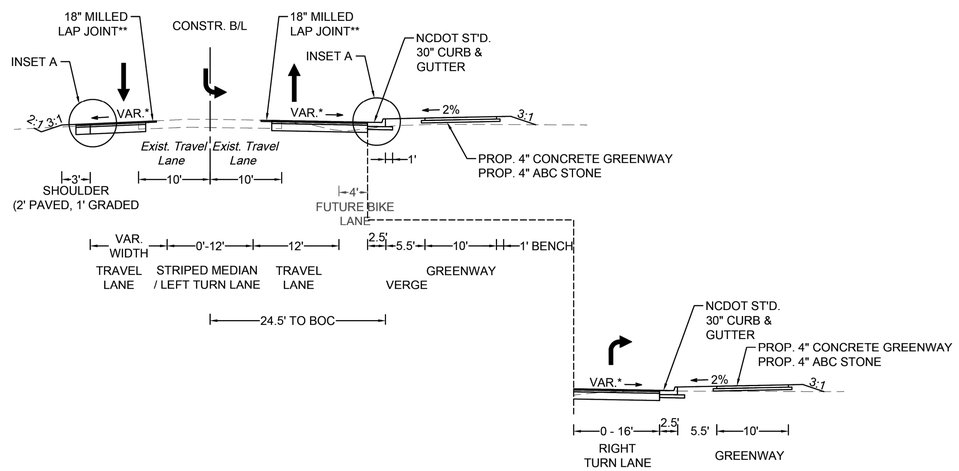
JOB NO. 43398
SHEET NO. R2.00

TYPICAL SECTIONS

ROLESVILLE ROAD

PROPOSED TYPICAL SECTION

STA. 102+70 TO 110+00



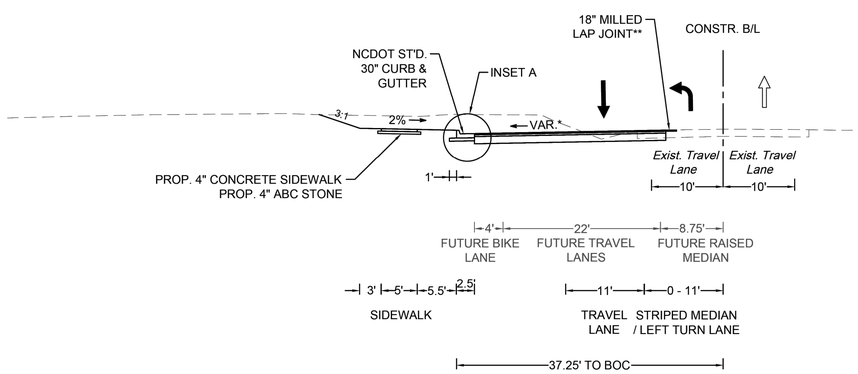
* OR AS CONTROLLED BY SUPERELEVATION, SEE CROSS SECTIONS FOR FURTHER DETAILS

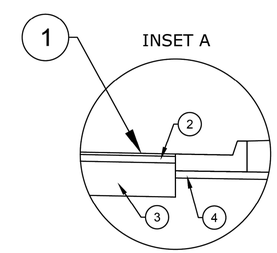
** SAW CUT 18" INTO EXISTING PAVEMENT TO KEY-IN PAVEMENT WIDENING AREAS. MATCH AND REPLACE EXISTING.

MITCHELL MILL ROAD

PROPOSED TYPICAL SECTION

STA. 203+00 TO 220+75





1. 3" ASPHALT CONCRETE SURFACE COURSE (NCDOT S9.5C)
2. 4" ASPHALT INTERMEDIATE COURSE (NCDOT I19.0C)
3. 10" AGGREGATE BASE MATERIAL (NCDOT ABC STONE)
   * USE 5" DEPTH ASPHALT CONCRETE BASE COURSE (NCDOT B25.0C) IF WIDENING < 6'
4. 4" AGGREGATE BASE MATERIAL (NCDOT ABC STONE)

NORTH CAROLINA PROFESSIONAL SEAL 049206 ENGINEER BRIAN PATRICK WELCH

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DRAWN BY	BPW
DESIGNED BY	BPW
CHECKED BY	BPW
SCALE	AS NOTED

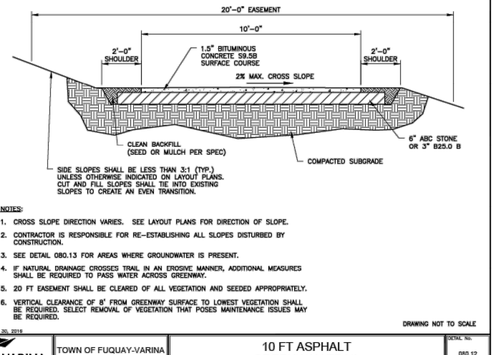
TIMMONS GROUP

WHEELER TRACT - OFFSITE IMPROVEMENTS

ROLESVILLE - WAKE COUNTY, NORTH CAROLINA

TYPICAL SECTIONS

JOB NO.	43398
SHEET NO.	R2.01



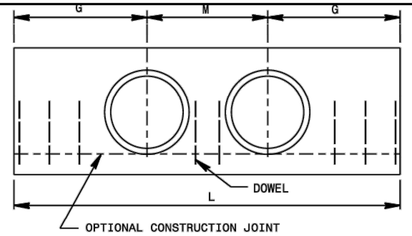
NOTES:

1. CROSS SLOPE DIRECTION VARIES. SEE LAYOUT PLANS FOR DIRECTION OF SLOPE.
2. CONTRACTOR IS RESPONSIBLE FOR RE-ESTABLISHING ALL SLOPES DISTURBED BY CONSTRUCTION.
3. SEE DETAIL 080.13 FOR AREAS WHERE GROUNDWATER IS PRESENT.
4. IF NATURAL DRAINAGE CROSSES TRAIL IN AN EROSIVE MANNER, ADDITIONAL MEASURES SHALL BE REQUIRED TO PASS WATER ACROSS GREENWAY.
5. 20 FT EASEMENT SHALL BE CLEARED OF ALL VEGETATION AND SEEDED APPROPRIATELY.
6. VERTICAL CLEARANCE OF 8' FROM GREENWAY SURFACE TO LOWEST VEGETATION SHALL BE REQUIRED. SELECT REMOVAL OF VEGETATION THAT POSES MAINTENANCE ISSUES MAY BE REQUIRED.

DRAWING NOT TO SCALE

EFFECTIVE: DECEMBER 20, 2016

FUQUAY-VARINA north carolina	TOWN OF FUQUAY-VARINA STANDARD DETAILS	10 FT ASPHALT GREENWAY TRAIL	DETAIL No. 080.12 SHEET 01 of 05



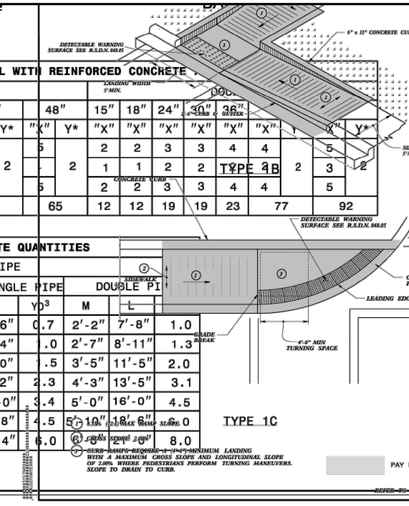
ELEVATION

END ELEVATION

DOWELS IN ENDWALL WITH REINFORCED CONCRETE																					
LOC.	PIPE DIA.	SINGLE PIPE							DOUBLE PIPE												
		15"	18"	24"	30"	36"	42"		48"		15"	18"	24"	30"	36"						
	BARS	"X"	"X"	"X"	"X"	"X"	"X"	Y*	"X"	Y*	"X"	"X"	"X"	"X"	"X"	"X"			"X"	Y*	
G	QTY.	2	2	3	3	4	4	2	5	2	2	2	3	3	4	4	2	2	5	3	2
M	QTY.	-	-	-	-	-	-		-		1	1	2	2	TYPE 3B						
G	QTY.	2	2	3	3	4	4		5		2	2	3	3	4	4			5		
TOTAL LBS.		9	9	14	14	19	55		65		12	12	19	19	23	77			92		

DIMENSIONS AND CONCRETE QUANTITIES USING CONCRETE PIPE										
	COMMON DIMENSIONS						SINGLE PIPE	DOUBLE PI		
D	H	B	G	T	S	L	YD³	M	L	
15"	3'-3"	1'-8"	2'-9"	2¼"	9½"	5'-6"	0.7	2'-2"	7'-8"	1.0
18"	3'-7"	1'-10"	3'-2"	2½"	10"	6'-4"	1.0	2'-7"	8'-11"	1.3
24"	4'-2"	2'-1"	4'-0"	3"	10"	8'-0"	1.5	3'-5"	11'-5"	2.0
30"	5'-0"	2'-6"	4'-7"	4¼"	11½"	9'-2"	2.3	4'-3"	13'-5"	3.1
36"	5'-8"	2'-8"	5'-6"	4¾"	11½"	11'-0"	3.4	5'-0"	16'-0"	4.5
42"	6'-2"	3'-1"	6'-4"	5¼"	11½"	12'-8"	4.5	5'-10"	18'-7"	6.0
48"	6'-9"	3'-5"	7'-2"	5¾"	11½"	14'-4"	6.0	6'-8"	21'-2"	8.0

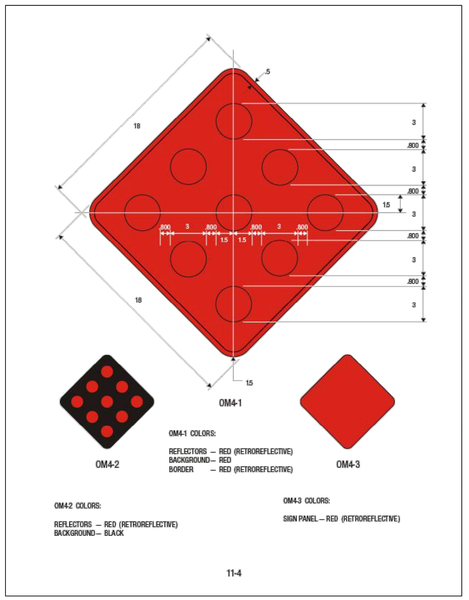
*SEE SHEET 3



TYPE 1D

ROADWAY STANDARD DRAWING FOR
CONCRETE ENDWALL FOR SINGLE AND DOUBLE PIPE CULVERTS
15" THRU 48" PIPE - 90° SKEW

SHEET 1 OF 3
838.01



OM4-1 COLORS:

REFLECTORS — RED (RETROREFLECTIVE)
BACKGROUND— RED
BORDER — RED (RETROREFLECTIVE)

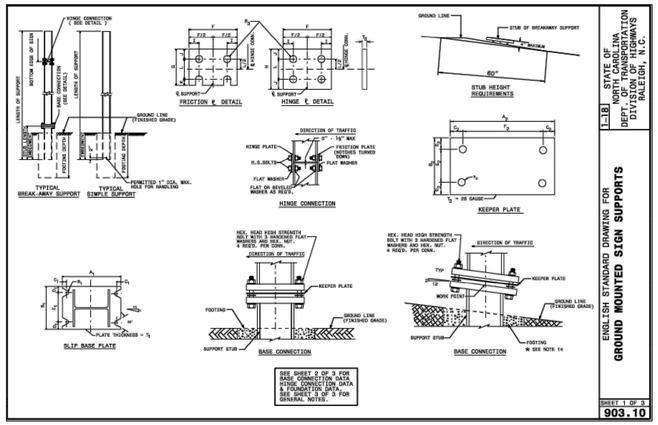
OM4-2 COLORS:

REFLECTORS — RED (RETROREFLECTIVE)
BACKGROUND— BLACK

OM4-3 COLORS:

SIGN PANEL — RED (RETROREFLECTIVE)

11-4



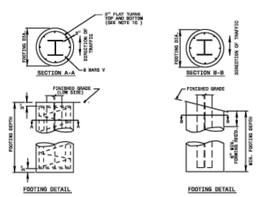
STATE OF NORTH CAROLINA DEPT. OF TRANSPORTATION DIVISION OF HIGHWAYS RALEIGH, N.C.

1-18

ENGLISH STANDARD DRAWING FOR
GROUND MOUNTED SIGN SUPPORTS

SHEET 1 OF 3
903.10

SLIP BASE PLATE DATA								KEEPER PLATE DATA							HINGE CONNECTION DATA											
SIGN SUPPORT	BOLT SIZE	A_1	B_1	C_1	D_1	E_1	T_1	A_2	B_2	C_2	D_2	E_2	T_2	BOLT SIZE	F	G	H	I	J	K	L	R_1	T_3	PREMA AMPT BEFORE CONSTANT LBS.
S325.7	3/4"DIA.x 3¼"	7"	4"	1"	9/16"	3½"	1"	5/8"	7"	4"	1"	9/16"	3½"	5/8"	28 GAUGE	3/4"DIA.X1/8"	3¼"	3½"	1"	3/8"	2"	5/8"	3/8"	18
S437.7	3/4"DIA.x 3¼"	8"	4"	1"	9/16"	3½"	1"	5/8"	8"	4"	1"	9/16"	3½"	5/8"	28 GAUGE	3/4"DIA.X1/8"	3¼"	3½"	1"	3/8"	2"	5/8"	3/8"	20
BG59	3/4"DIA.X 3¼	10"	5"	1"	9/16"	3½"	1"	5/8"	10"	5"	1"	9/16"	3½"	5/8"	28 GAUGE	3/4"DIA.X1/8"	4"	3½"	1"	3/8"	2"	5/8"	3/8"	32
BG512	3/4"DIA.x 4"	11"	5"	1"	9/16"	3½"	1"	5/8"	11"	5"	1"	9/16"	3½"	5/8"	28 GAUGE	3/4"DIA.X 2"	4"	4"	4½"	3/8"	2½"	5/8"	3/8"	39
BG516	3/4"DIA.x 4½"	14"	5"	1¼"	9/16"	4½"	1½"	5/8"	14"	5"	1¼"	9/16"	4½"	5/8"	28 GAUGE	3/4"DIA.X1/4"	4"	4"	4½"	3/8"	2½"	5/8"	3/8"	47
BG518	3/4"DIA.x 4½"	15½"	6½"	1¼"	3/4"	4½"	1½"	5/8"	15½"	6½"	1¼"	3/4"	4½"	5/8"	28 GAUGE	3/4"DIA.X1/4"	4"	4½"	5"	3/8"	2½"	5/8"	3/8"	70
BG527	3/4"DIA.x 4½"	14"	7"	1½"	1"	5"	1½"	5/8"	14"	7"	1½"	1"	5"	5/8"	28 GAUGE	3/4"DIA.X2½"	5¼"	4"	7"	1"	3/4"	3/4"	5/8"	78
BG5X20	3/4"DIA.x 4½"	18"	8"	1½"	1"	6"	1½"	5/8"	18"	8"	1½"	1"	6"	5/8"	28 GAUGE	3/4"DIA.X2½"	5¼"	4"	7"	1"	3/4"	3/4"	5/8"	110
BG5X28	3/4"DIA.x 5½"	18½"	6"	1½"	1"	8"	3/4"	5/8"	18½"	6"	1½"	1"	8"	5/8"	28 GAUGE	3/4"DIA.X2½"	5¼"	4"	7"	1"	3/4"	3/4"	5/8"	140
BG5X32	3/4"DIA.x 5½"	18½"	6"	1½"	1"	8"	3/4"	5/8"	18½"	6"	1½"	1"	8"	5/8"	28 GAUGE	3/4"DIA.X2½"	5¼"	4"	7"	1"	3/4"	3/4"	5/8"	176
BF4X32	1"DIA.x 6"	20"	6"	2"	3/4"	4"	2"	5/8"	20"	6"	2"	3/4"	4"	5/8"	28 GAUGE	1"DIA.X 3"	6¼"	4"	8"	1"	4"	5/8"	3/4"	200
BF6X31	1"DIA.X 6"	24"	6"	2"	3/4"	6"	2"	5/8"	24"	6"	2"	3/4"	6"	5/8"	28 GAUGE	1"DIA.X 3"	6¼"	5"	8"	1"	4"	5/8"	3/4"	222
BF8X35	1"DIA.X 6"	25"	6"	2"	3/4"	6"	2"	5/8"	25"	6"	2"	3/4"	6"	5/8"	28 GAUGE	1"DIA.X 3"	6"	7"	8"	1"	4"	5/8"	3/4"	243
BF28X45	1"DIA.X 6¼"	26"	6"	2"	3/4"	6"	2"	5/8"	26"	6"	2"	3/4"	6"	5/8"	28 GAUGE	1"DIA.X3¼"	6"	7"	8"	1"	4"	5/8"	3/4"	278
BF28X4	1"DIA.X 7"	29"	6"	2"	3/4"	6"	2"	5/8"	29"	6"	2"	3/4"	6"	5/8"	28 GAUGE	1"DIA.X3¼"	6"	7"	8"	1"	4"	5/8"	3/4"	310



FOUNDATION DATA *		
FOOTING DIAMETER	REINFORCEMENT	SPIRAL BAR
1'-6"	8 # 5 BARS	#3 BAR, 6" PITCH
2'	8 # 7 BARS	#3 BAR, 6" PITCH
2'-6"	8 # 9 BARS	#3 BAR, 6" PITCH
3'	8 # 11 BARS	#3 BAR, 6" PITCH
3'-6"	8 # 12 BARS	#3 BAR, 6" PITCH
4'	8 # 14 BARS	#3 BAR, 6" PITCH

* FOUNDATION DIMENSIONS ARE SHOWN IN PLANS

STATE OF NORTH CAROLINA DEPT. OF TRANSPORTATION DIVISION OF HIGHWAYS RALEIGH, N.C.

1-18

ROADWAY STANDARD DRAWING FOR
GROUND MOUNTED SIGN SUPPORTS

SHEET 2 OF 3
903.10

NOTES:

1. DESIGN CONFORMS WITH THE SPECIFICATIONS FOR THE DESIGN AND CONSTRUCTION OF STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS - AASHTO.
2. USE MATERIALS, FABRICATE AND ERECT SIGNS AND SUPPORTS THAT CONFORM TO THE NORTH CAROLINA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR ROADS AND STRUCTURES.
3. USE HIGH STRENGTH BOLTS, NUTS AND WASHERS THAT CONFORM TO ASTM A-325 AND THAT ARE GALVANIZED IN ACCORDANCE WITH ASTM F2329 OR B695 CLASS 55.
4. USE BACKING PLATES, SLIP BASE PLATES, FRICTION PLATES, AND HINGE PLATES THAT CONFORM TO ASTM A-36 AND THAT ARE GALVANIZED IN ACCORDANCE WITH ASTM A-123 PRIOR TO GALVANIZING, GRIND SMOOTH ANY METAL PROJECTION BEYOND THE PLATE FACE. KEEPER PLATES SHALL BE MANUFACTURED FROM 28 GAUGE SHEET STEEL THAT CONFORMS TO ASTM A-36 AND IS GALVANIZED IN ACCORDANCE WITH ASTM A-123
5. ASSEMBLE HINGE CONNECTIONS IN THE SHOP. THE SHOP SHALL TIGHTEN BOLTS BY USE OF EITHER A CALIBRATED POWER WRENCH OR A MANUAL TORQUE WRENCH. TIGHTEN EACH HINGE CONNECTION BOLT TO 1/3 PAST SNUG.
6. BASE PLATES DETAILS ARE FOR INSTALLATIONS ON THE RIGHT SHOULDER AND IN GORE AREAS.
7. ASSEMBLE UPPER SUPPORT TO STUB AS SHOWN IN DETAIL. SLIP BASE PLATES SHALL BE FILLET WELDED ONTO POSTS ALL AROUND THE STRUCTURAL SHAPE SO AS TO INSURE NO LOSS OF STRENGTH. ASSEMBLE IN EITHER SHOP OR FIELD. 28 GAUGE KEEPER PLATE IS PLACED BETWEEN SLIP BASE PLATES TO PREVENT BOLT SLIPPING. TIGHTEN BOLTS TO THE FOLLOWING PRESCRIBED TORQUE:

BOLT DIAMETER	TORQUE (LB. FT.)
5/8"	9
5/8"	22
3/4"	37
1"	48

COMPLETELY ASSEMBLE B/A POSTS PRIOR TO ERECTION. B/A POST TO BE SET IN ONE PIECE. AFTER SUPPORT HAS BEEN ERECTED AND THE CONCRETE FOOTINGS HAS CURED AT LEAST 48 HR'S., CLEAN CONCRETE FROM BASE CONNECTION BOLTS THEN LOOSEN AND RE TIGHTEN EACH BOLT IN A SYSTEMATIC ORDER TO THE PRESCRIBED TORQUE. DO NOT OVER TIGHTEN. BURN ALL BOLT THREADS OF BASE CONNECTIONS TO PREVENT LOOSENING.

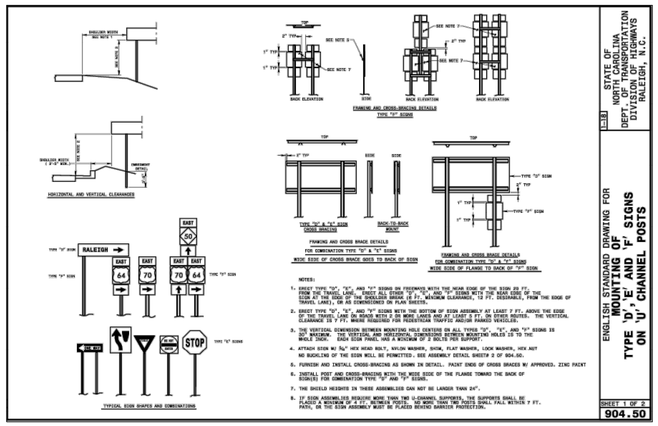
8. USE REINFORCED FOOTINGS WITH DIMENSIONS AS SHOWN IN PLANS. WHERE SOLID ROCK IS ENCOUNTERED, THE ENGINEER DIRECTS WHETHER TO PLACE THE FOOTING AT THE PRESCRIBED DEPTH OR EXTEND IT AT LEAST TWO FEET INTO THE ROCK. CONSTRUCT ALL FOOTINGS OF CLASS A CONCRETE.
9. FORM TOP 6" OF FOOTINGS. ENGINEER APPROVES THE METHOD USED.
10. THE FINAL FLAT TURN OF SPIRAL OR HOOPS NO. 3 OR LARGER PLACED 3" FROM TOP AND BOTTOM OF FOOTING MAY BE WELDED TO VERTICAL REINFORCING BARS. NO OTHER WELDING WILL BE PERMITTED.
11. ELIMINATE HINGE CONNECTION FOR ALL SINGLE SUPPORT SIGNS.
12. DETAIL IS FOR ONE DIRECTION BREAKAWAY. WHEN PLANS REQUIRE A TWO DIRECTION BREAKAWAY, TWO FRICTION PLATES SHALL BE USED IN LIEU OF ONE FRICTION PLATE AND ONE HINGE PLATE.
13. SHAPE THE TOPS OF THE FOOTINGS TO CONFORM WITH FINISHED GROUND ELEVATIONS SUCH THAT WATER WILL NOT COLLECT AGAINST THE SUPPORTS.
14. IF THE GROUNDWATER IS ENCOUNTERED AT AN DEPTH SHALLOWER THAN 7 FEET, THE SIGN FOUNDATION MUST BE REDESIGNED BASED UPON THE ACTUAL FIELD CONDITIONS. THE FOUNDATION DESIGN DOES NOT APPLY TO VERY SOFT OR LOOSE SOIL, MUCK, WEATHERED ROCK, OR HARD ROCK.

STATE OF NORTH CAROLINA DEPT. OF TRANSPORTATION DIVISION OF HIGHWAYS RALEIGH, N.C.

1-18

ROADWAY STANDARD DRAWING FOR
GROUND MOUNTED SIGN SUPPORTS

SHEET 3 OF 3
903.10



NOTES:

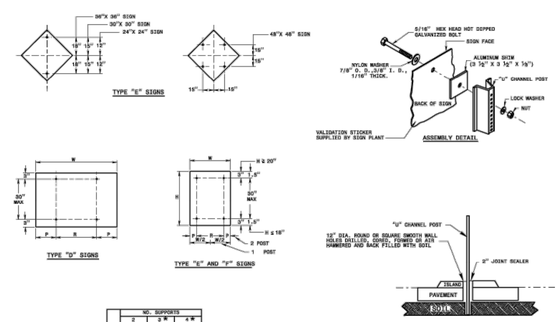
1. EXCEPT TYPE "D", "E", AND "F" SIGNS ON FREEWAYS WITH THE MEAN EDGE OF THE SIGN 28 FT. FROM THE TRAVEL LANE, ERECT ALL OTHER "D", "E", AND "F" SIGNS WITH THE NEAR EDGE OF THE SIGN AT THE EDGE OF THE SHOULDER BREAK (8 FT. MINIMUM CLEARANCE, 12 FT. DESIRABLE, FROM THE EDGE OF TRAVEL LANE). OR AS DIMENSIONED ON PLAN SHEETS.
2. ERECT TYPE "D", "E", AND "F" SIGNS WITH THE BOTTOM OF SIGN ASSEMBLY AT LEAST 7 FT. ABOVE THE EDGE OF THE TRAVEL LANE. ERECT TYPE "D" SIGNS WITH THE BOTTOM OF SIGN ASSEMBLY AT LEAST 5 FT. ABOVE THE VERTICAL CLEARANCE IS 7 FT. ABOVE SIDEWALKS FOR PEDESTRIAN TRAFFIC. ERECT SIGNS AS DIMENSIONED.
3. THE VERTICAL DIMENSION BETWEEN MOUNTING HOLE CENTERS ON ALL TYPES "D", "E", AND "F" SIGNS IS 30" MAXIMUM. THE VERTICAL AND HORIZONTAL DIMENSIONS BETWEEN MOUNTING HOLES IS 18 TO THE WHOLE INCH. EACH SIGN PANEL HAS A MINIMUM OF 3 HOLES PER SUPPORT.
4. ATTACH SIGN W/ 5/8" HEX HEAD BOLT, NYLON WASHER, SHIM, FLAT WASHER, LOCK WASHER, HEX NUT NO BUCKLING OF THE SIGN WILL BE PERMITTED. SEE ASSEMBLY DETAIL SHEETS 2 OF 904.50.
5. FURNISH AND INSTALL CROSS-BRACING AS SHOWN IN DETAIL. PAINT SIDES OF CROSS BRACES W/ APPROVED. ZINC PAINT
6. INSTALL POST AND CROSS-BRACING WITH THE WIDE SIDE OF THE FLANGE TOWARD THE BACK OF SIGN(S) FOR COMBINATION TYPE "D" & "E" OR TYPE "E" & "F" SIGNS.
7. THE SHOULD WIDTHS IN THESE ASSEMBLIES CAN NOT BE LARGER THAN 24".
8. IF SIGN ASSEMBLIES REQUIRE MORE THAN TWO U-CHANNEL SUPPORTS, THE SUPPORTS SHALL BE PLACED A MINIMUM OF 8 FT. MAXIMUM POSTS. NO MORE THAN TWO POSTS SHALL FALL WITHIN 2 FT. PATH, OR THE SIGN ASSEMBLY MUST BE PLACED BEHIND BARRIER PROTECTION.

STATE OF NORTH CAROLINA DEPT. OF TRANSPORTATION DIVISION OF HIGHWAYS RALEIGH, N.C.

1-18

ENGLISH STANDARD DRAWING FOR
MOUNTING OF TYPE 'D', 'E' AND 'F' SIGNS ON 'U' CHANNEL POSTS

SHEET 1 OF 2
904.50



NO. SUPPORTS		
	2	3 *
F	102"W	148"W
G	120"W	210"W

UNITS ON ATTACHED SHEET
*MINIMUM 4 FT. BETWEEN CHANNEL POSTS

HOLE PUNCHING DETAIL

STATE OF NORTH CAROLINA DEPT. OF TRANSPORTATION DIVISION OF HIGHWAYS RALEIGH, N.C.

1-18

ENGLISH STANDARD DRAWING FOR
MOUNTING OF TYPE 'D', 'E' AND 'F' SIGNS ON 'U' CHANNEL POSTS

SHEET 2 OF 2
904.50

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YOUR VISION ACHIEVED THROUGH OURS.

DATE	REVISION DESCRIPTION
06-15-2023	ROLESVILLE ROAD TAPER SHIFT AND STORM NETWORK UPDATE
10-24-2023	GRADING AND STORM NETWORK ADJUSTMENTS

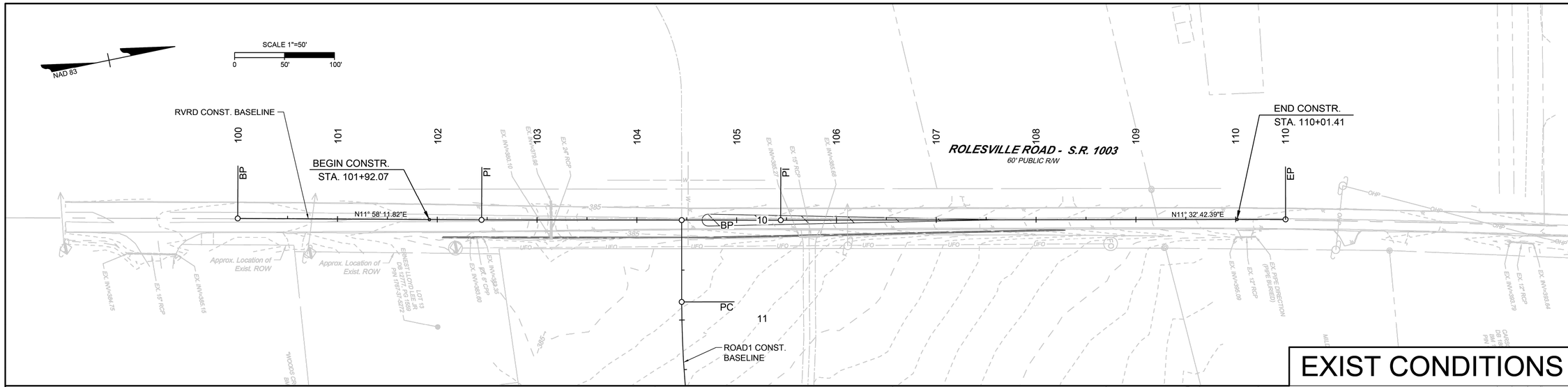
NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 049206 10-23-23 BRIAN PATRICK WELCH

DATE	07/21/22
DRAWN BY	BPW
DESIGNED BY	BPW
CHECKED BY	BPW
SCALE	N.T.S.

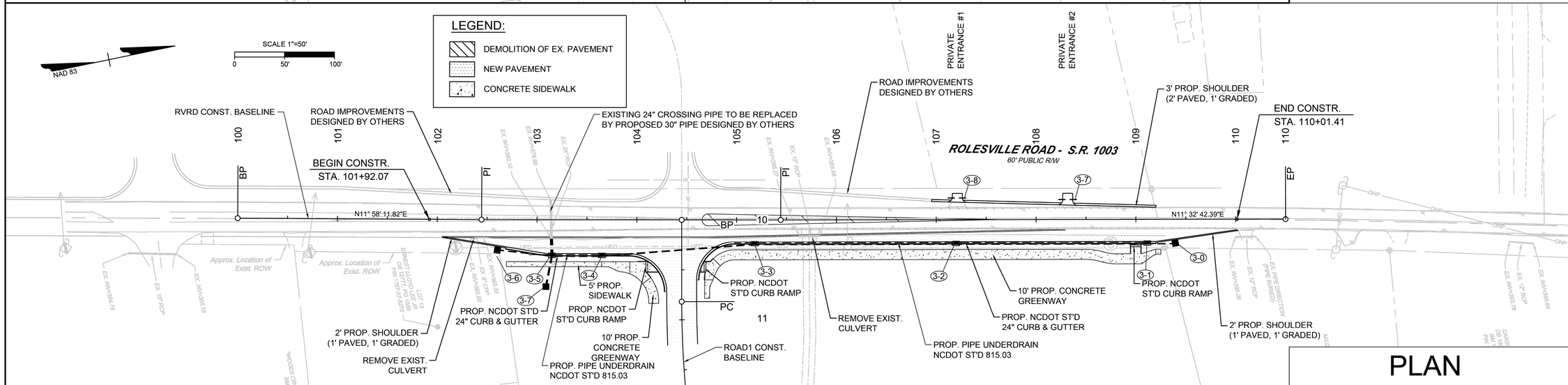
TIMMONS GROUP

WHEELER TRACT - OFFSITE IMPROVEMENTS
ROLESVILLE - WAKE COUNTY STATE - NORTH CAROLINA
STANDARD DETAILS

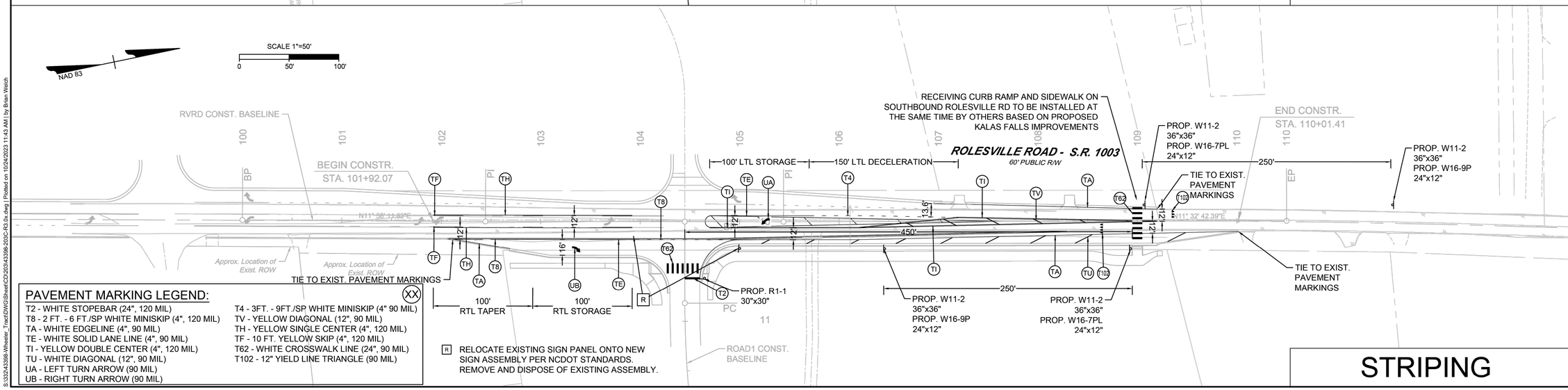
JOB NO. 43398
SHEET NO. R2.02



EXIST CONDITIONS



PLAN



PAVEMENT MARKING LEGEND:

(XX)

T2 - WHITE STOPEBAR (24", 120 MIL)
T8 - 2 FT. - 6 FT./SP WHITE MINISKIP (4", 120 MIL)
TA - WHITE EDGELINE (4", 90 MIL)
TE - WHITE SOLID LANE LINE (4", 90 MIL)
TI - YELLOW DOUBLE CENTER (4", 120 MIL)
TU - WHITE DIAGONAL (12", 90 MIL)
UA - LEFT TURN ARROW (90 MIL)
UB - RIGHT TURN ARROW (90 MIL)
T4 - 3FT. - 9FT./SP WHITE MINISKIP (4" 90 MIL)
TV - YELLOW DIAGONAL (12", 90 MIL)
TH - YELLOW SINGLE CENTER (4", 120 MIL)
TF - 10 FT. YELLOW SKIP (4", 120 MIL)
T62 - WHITE CROSSWALK LINE (24", 90 MIL)
T102 - 12" YIELD LINE TRIANGLE (90 MIL)

R RELOCATE EXISTING SIGN PANEL ONTO NEW SIGN ASSEMBLY PER NCDOT STANDARDS. REMOVE AND DISPOSE OF EXISTING ASSEMBLY.

STRIPING

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NORTH CAROLINA PROFESSIONAL SEAL 049206 ENGINEER BRIAN PATRICK WELCH 10-24-23

DATE	REVISION DESCRIPTION
06-15-2023	ROLESVILLE ROAD TAPER SHIFT AND STORM NETWORK UPDATE
10-24-2023	GRADING AND STORM NETWORK ADJUSTMENTS

DATE	07/21/22
DRAWN BY	BPW
DESIGNED BY	BPW
CHECKED BY	BPW
SCALE	1" = 50'

TIMMONS GROUP

WHEELER TRACT - OFFSITE IMPROVEMENTS

ROLESVILLE - WAKE COUNTY - NORTH CAROLINA

EXISTING CONDITIONS & PLAN & STRIPING SHEET

JOB NO. 43398

SHEET NO. R3.01

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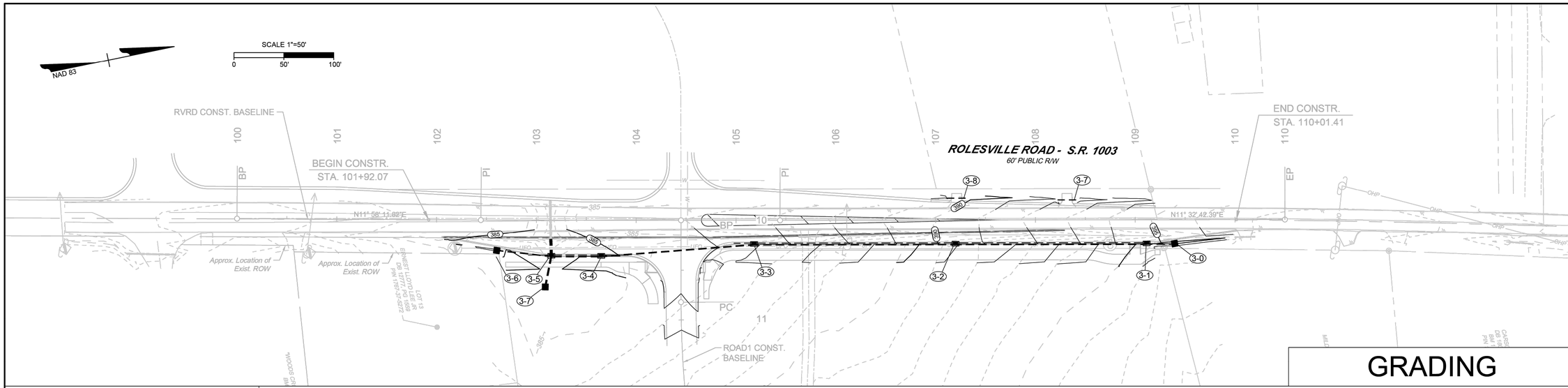
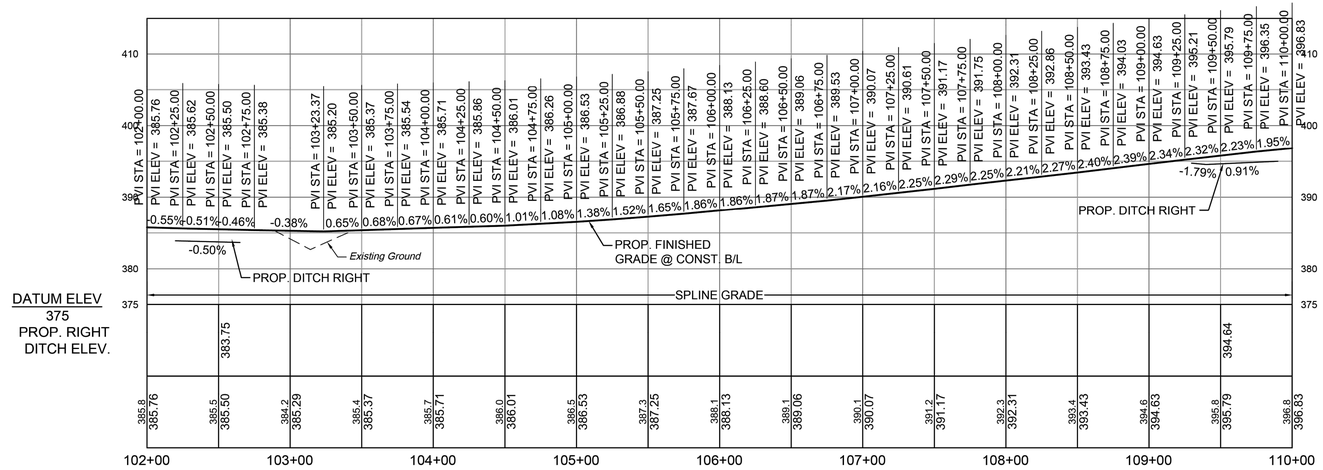


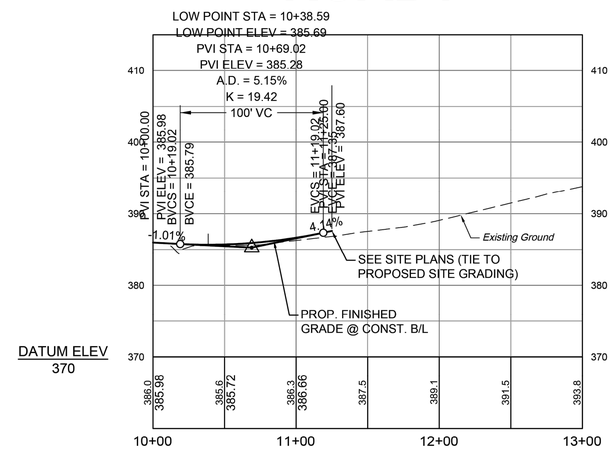
GRADING

PROFILE

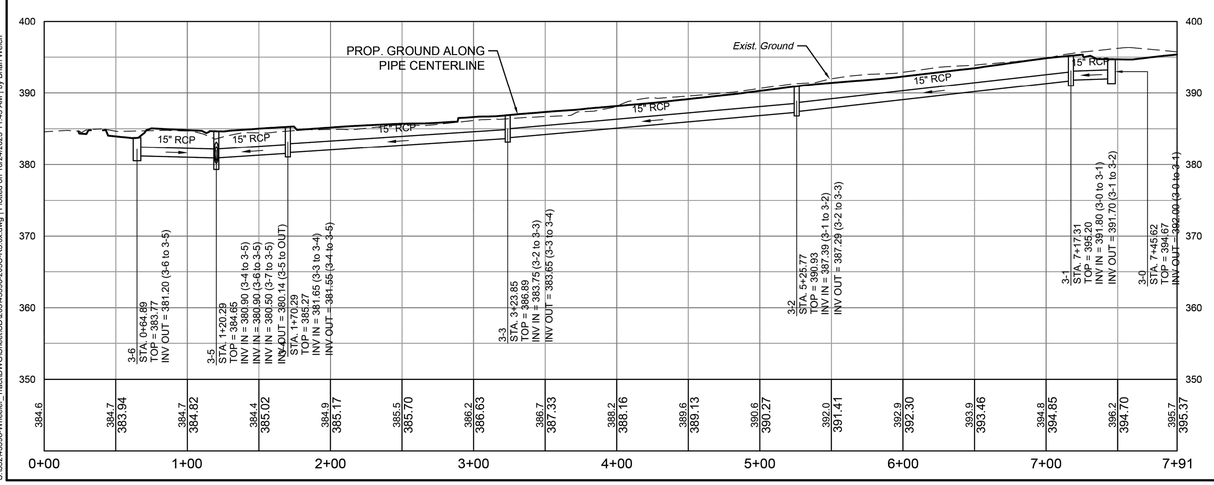
RVRD



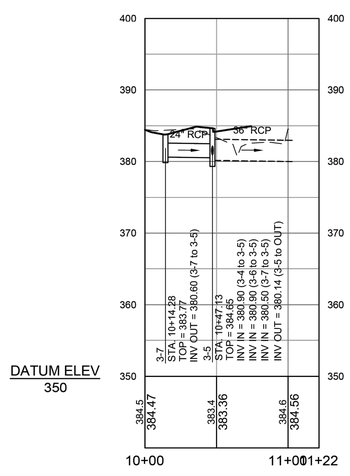
ROAD1



STM ROLESVILLE RD



STRM 3-7 TO OUTFALL



STORM STRUCTURE TABLE
STM Rolesville Road

STR. #	TOP	INV. IN	INV. OUT	DESCRIPTION
3-6	383.77'		381.20' (15" RCP TO 3-5)	NCDOT 840.14 CONCRETE DI
3-5	384.65'	380.90' (15" RCP FROM 3-4) 380.90' (15" RCP FROM 3-6)	380.14' (36" RCP TO OUT)	NCDOT 840.02 CONCRETE CB
3-4	385.27'	381.65' (15" RCP FROM 3-3)	381.55' (15" RCP TO 3-5)	NCDOT 840.02 CONCRETE CB
3-3	386.89'	383.75' (15" RCP FROM 3-2)	383.65' (15" RCP TO 3-4)	NCDOT 840.02 CONCRETE CB
3-2	390.93'	387.39' (15" RCP FROM 3-1)	387.29' (15" RCP TO 3-3)	NCDOT 840.02 CONCRETE CB
3-0	394.67'		392.00' (15" RCP TO 3-1)	NCDOT 840.14 CONCRETE DI
3-1	395.20'	391.80' (15" RCP FROM 3-0)	391.70' (15" RCP TO 3-2)	NCDOT 840.02 CONCRETE CB

STORM PIPE TABLE
STM Rolesville Road

FROM - TO	UPSTREAM INVERT	DOWNSTREAM INVERT	SLOPE	LENGTH	DIA.	MATERIAL	DESCRIPTION
3-0 - 3-1	392.00'	391.80'	0.71%	28.30 LF	15"	RCP	CLASS III
3-1 - 3-2	391.70'	387.39'	2.25%	191.54 LF	15"	RCP	CLASS III
3-2 - 3-3	387.29'	383.75'	1.75%	201.92 LF	15"	RCP	CLASS III
3-3 - 3-4	383.65'	381.65'	1.30%	153.56 LF	15"	RCP	CLASS III
3-4 - 3-5	381.55'	380.90'	1.30%	50.00 LF	15"	RCP	CLASS III
3-6 - 3-5	381.20'	380.90'	0.55%	54.98 LF	15"	RCP	CLASS III
OUT - 3-5	379.98'	380.14'	0.29%	55.64 LF	36"	RCP	EXIST. PIPE

PROFILE

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REVISION DESCRIPTION	DATE
ROLESVILLE ROAD TAPER SHIFT AND STORM NETWORK UPDATE	06-15-2023
GRADING AND STORM NETWORK ADJUSTMENTS	10-24-2023

DATE	07/21/22
DRAWN BY	BPW
DESIGNED BY	BPW
CHECKED BY	BPW
SCALE	1" = 50'

TIMMONS GROUP

WHEELER TRACT - OFFSITE IMPROVEMENTS
ROLESVILLE - WAKE COUNTY - NORTH CAROLINA
GRADING & PROFILE SHEET

JOB NO. 43398
SHEET NO. R3.02

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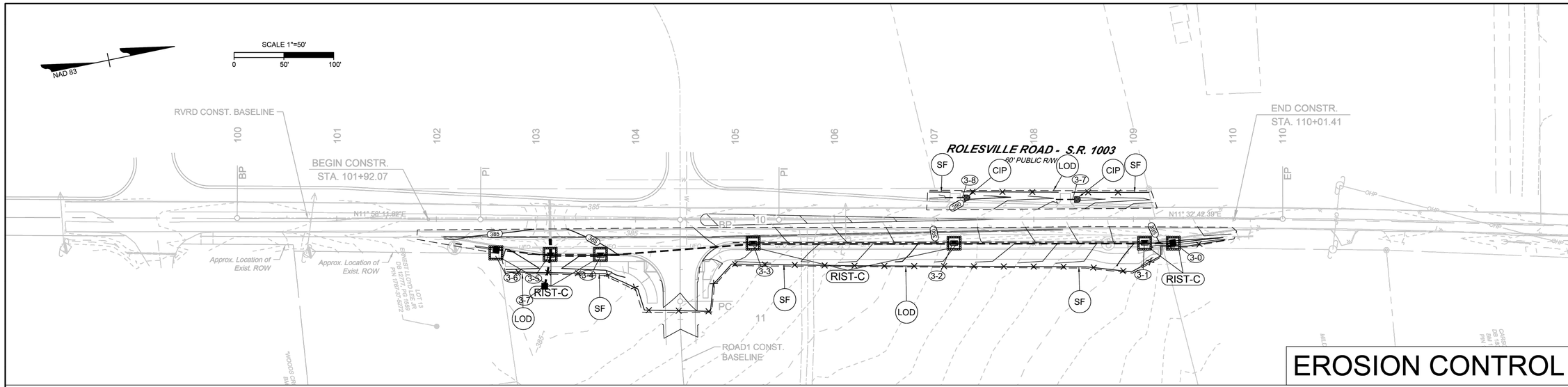

EROSION CONTROL

EROSION CONTROL NOTES & DETAILS

PROJECT DESCRIPTION

THE PURPOSE OF THIS PROJECT IS TO WIDEN ROLESVILLE ROAD AND MITCHELL MILL ROAD TO THE ONE-HALF THE ULTIMATE CROSS SECTION PER THE TOWN'S COMPREHENSIVE TRANSPORTATION PLAN. THESE IMPROVEMENTS SPAN FOR THE ENTIRE FRONTAGE SITE DEVELOPMENT PER TOWN UDO REQUIREMENTS. ADDITIONAL IMPROVEMENTS INCLUDE STRIPING AND DITCHES.

EROSION AND SEDIMENT CONTROL MEASURES:

UNLESS OTHERWISE INDICATED, ALL VEGETATIVE AND STRUCTURAL EROSION AND SEDIMENT CONTROL PRACTICES SHALL BE CONSTRUCTED AND MAINTAINED ACCORDING TO THE MINIMUM STANDARDS AND SPECIFICATIONS OF THE NORTH CAROLINA DEPARTMENT OF TRANSPORTATION EROSION AND SEDIMENT CONTROL DESIGN AND CONSTRUCTION MANUAL. THE MINIMUM STANDARDS SET FORTH BY THIS MANUAL SHALL BE ADHERED TO UNLESS OTHERWISE WAIVED OR APPROVED BY A VARIANCE.

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A SINGLE-PHASED EROSION CONTROL APPROACH IS PROVIDED BELOW TO DESCRIBE GENERAL MEASURES REQUIRED TO MAINTAIN THE SITE THROUGHOUT CONSTRUCTION. THE CONTRACTOR SHALL APPLY PHASE I AS DESCRIBED HEREIN TO THE VARIOUS WORK AREAS ASSOCIATED WITH THIS PROJECT. DUE TO THE NATURE OF WORK AREAS, THE CONTRACTOR SHALL ENSURE EROSION CONTROL MEASURES ARE PROVIDED AS DESCRIBED THROUGH PROJECT COMPLETION AND ACCEPTANCE.

PHASE I:

1. PROVIDE MINIMAL CLEARING TO INSTALL SILT FENCE AS SHOWN ON THE PLANS. INSTALL CULVERT PROTECTION AS REQUIRED FOR EXISTING PIPES. TAKE SPECIAL CARE TO KEEP SOIL BUILD-UP FROM ENTERING THE EXISTING ROAD PAVEMENT.
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6. CONTRACTOR SHALL REMOVE AND REPLACE ANY DAMAGED EROSION CONTROL MEASURES UNTIL FINAL APPROVAL OF CONSTRUCTION.
7. THE SITE SHALL BE PERMANENTLY STABILIZED AFTER ALL GRADING HAS BEEN COMPLETED BY SEEDING ALL DISTURBED AREAS.
8. UPON CONSTRUCTION COMPLETION, THE CONTRACTOR MUST CONTACT THE INSPECTOR FOR EROSION CONTROL INSPECTION OF SLOPE STABILITY. EROSION CONTROL MEASURES MAY NOT BE REMOVED WITHOUT AUTHORIZATION BY THE ASSIGNED INSPECTOR.
9. UPON APPROVAL CONTRACTOR SHALL REMOVE ALL TEMPORARY EROSION CONTROL DEVICES.

NOTE:

1. CONTRACTOR MUST KEEP THE EXISTING ROAD FREE FROM BUILDUP OF SOIL.

EROSION & SEDIMENT CONTROL LEGEND

- LOD — LIMITS OF DISTURBANCE
- SF — TEMPORARY SILT FENCE (NCDOT ST'D. 1605.01)
- W — WATTLE WITH FLOCCULANT
- RIST-C — ROCK INLET SEDIMENT TRAP - TYPE C (NCDOT ST'D. 1632.03)
- CIP — ROCK PIPE SEDIMENT TRAP - TYPE B (NCDOT ST'D. 1635.02)

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(NCSCS)

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- Slopes between 2:1 and 3:1, with a slope length of 10 ft. or less
- Slopes 3:1 or flatter, with a slope of length of 50 ft. or less
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The stabilization timeframe for High Quality Water (HQW) Zones shall be 7 calendar days with no exceptions for slope grades or lengths. High Quality Water Zones (HQW) Zones are defined by North Carolina Administrative Code 15A NCAC 04A.0105 (25). Temporary and permanent ground cover stabilization shall be achieved in accordance with the provisions in this contract and as directed.

SEEDING AND MULCHING: (East)

The kinds of seed and fertilizer, and the rates of application of seed, fertilizer, and limestone, shall be as stated below. During periods of overlapping dates, the kind of seed to be used shall be determined. All rates are in pounds per acre.

All Roadway Areas

March 1 - August 31		September 1 - February 28	
50#	Tall Fescue	50#	Tall Fescue
10#	Centipede	10#	Centipede
25#	Bermudagrass (hulled)	35#	Bermudagrass (unhulled)
500#	Fertilizer	500#	Fertilizer
4000#	Limestone	4000#	Limestone

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Constitution	Guardian 21	Rebel IV	Turbo RZ
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Endeavor	Jamboree	Scorpion	

On cut and fill slopes 2:1 or steeper Centipede shall be applied at the rate of 5 pounds per acre and add 20# of Serices Lespedeza from January 1 - December 31.

Fertilizer shall be 10-20-20 analysis. A different analysis of fertilizer may be used provided the 1-2-2 ratio is maintained and the rate of application adjusted to provide the same amount of plant food as a 10-20-20 analysis and as directed.

TEMPORARY SEEDING:

Fertilizer shall be the same analysis as specified for *Seeding and Mulching* and applied at the rate of 400 pounds and seeded at the rate of 50 pounds per acre. Sweet Sudan Grass, German Millet or Browntop Millet shall be used in summer months and Rye Grain during the remainder of the year. The Engineer will determine the exact dates for using each kind of seed.

FERTILIZER TOPDRESSING:

Fertilizer used for topdressing on all roadway areas except slopes 2:1 and steeper shall be 10-20-20 grade and shall be applied at the rate of 500 pounds per acre. A different analysis of fertilizer may be used provided the 1-2-2 ratio is maintained and the rate of application adjusted to provide the same amount of plant food as 10-20-20 analysis and as directed.

Fertilizer used for topdressing on slopes 2:1 and steeper and waste and borrow areas shall be 16-8-8 grade and shall be applied at the rate of 500 pounds per acre. A different analysis of fertilizer may be used provided the 2-1-1 ratio is maintained and the rate of application adjusted to provide the same amount of plant food as 16-8-8 analysis and as directed.

SUPPLEMENTAL SEEDING:

The kinds of seed and proportions shall be the same as specified for *Seeding and Mulching*, with the exception that no centipede seed will be used in the seed mix for supplemental seeding. The rate of application for supplemental seeding may vary from 25# to 75# per acre. The actual rate per acre will be determined prior to the time of topdressing and the Contractor will be notified in writing of the rate per acre, total quantity needed, and areas on which to apply the supplemental seed. Minimum tillage equipment, consisting of a sod seeder shall be used for incorporating seed into the soil as to prevent disturbance of existing vegetation. A clodbuster (ball and chain) may be used where degree of slope prevents the use of a sod seeder.

MOWING:

The minimum mowing height on this project shall be 4 inches.

Mulching Materials and Application Rates

Material	Rate Per Acre	Quality	Notes
Organic Materials			
Straw	1-2 tons	Dry, unchopped, unweathered, avoid weeds.	Should come from wheat or oats; spread by hand or mechine; must be tacked down.
Wood chips	5-6 tons	Air dry	Treat with 12 lbs nitrogen/ton. Apply with mulch blower, chip handler, or by hand. Not for use in fine turf.
Wood fiber	0.5-1 ton		Also referred to as wood cellulose. May be hydromulched. Do not use in hot, dry weather.
Bark	35 cubic yards	Air dry, shredded or hammer-milled, or chips.	Apply with mulch blower, chip handler, or by hand. Do not use asphalt tack.
Corn stalks	4-6 tons	Cut or shredded in 4-6 in. lengths.	Apply with mulch blower or by hand. Not for use in fine turf.
Guinea bagasse seed-bearing waste	1-3 tons	Green or dry; should contain mature seed.	
Nets and Mats*			
JUTE NET	Cover area	Heavy, uniform weave of single jute yarn.	Withstands waterflow. Best when used with organic mulch.
Fiberglass net	Cover area		Withstands waterflow. Best when used with organic mulch.
Excelsior (wood fiber) mat	Cover area		Withstands waterflow.
Fiberglass roving	0.5-1 mile	Continuous fibers of drawn glass bound together with a non-toxic agent.	Apply with a compressed air ejector. Tack with emulsified asphalt at a rate of 25-35 gal/1,000 sq ft.
Chemical Stabilizers*			
Agrebon Agropoly Curasol AN Petroset SB Terra Tack Crust 500 Genapro 765 N-Ver	follow manufacturer's specifications		Not beneficial to plant growth.

*Refer to Practice No. 6.36, Green Linear Channels.

*Use of trade names does not imply endorsement of product.

NOTES

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YOUR VISION ACHIEVED THROUGH OURS.

NORTH CAROLINA PROFESSIONAL SEAL 049206 ENGINEER BRIAN PATRICK WELCH 10-23-23

DATE	REVISION DESCRIPTION
06-15-2023	ROLESVILLE ROAD TAPER SHIFT AND STORM NETWORK UPDATE
10-24-2023	GRADING AND STORM NETWORK ADJUSTMENTS

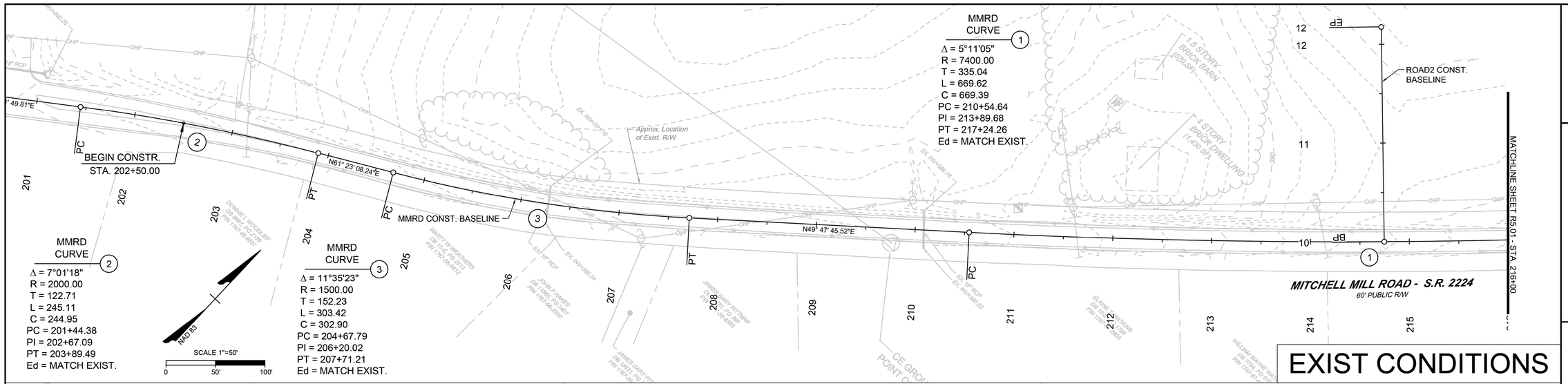
DATE	07/21/22
DRAWN BY	BPW
DESIGNED BY	BPW
CHECKED BY	BPW
SCALE	----

TIMMONS GROUP

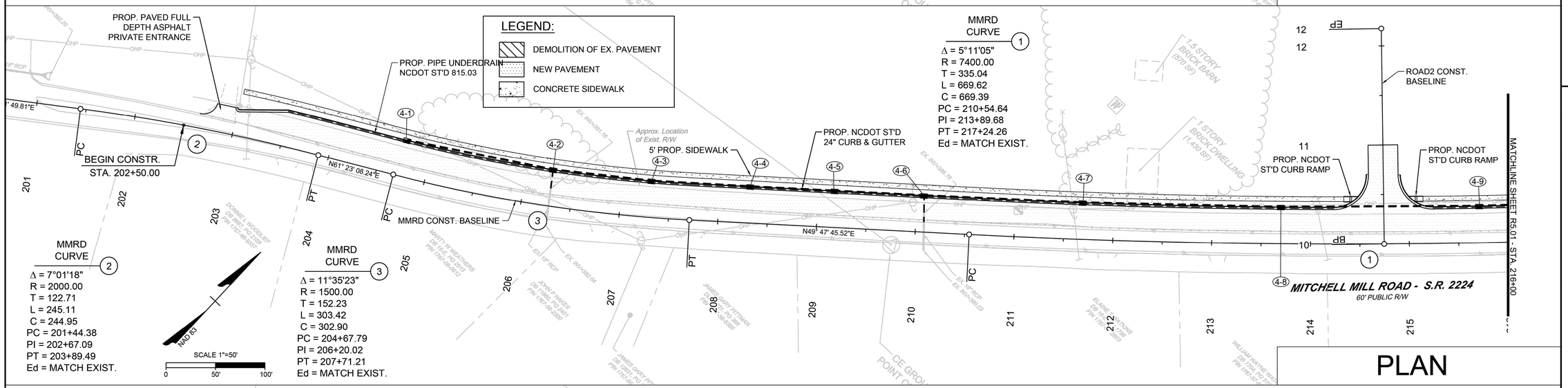
WHEELER TRACT - OFFSITE IMPROVEMENTS
ROLESVILLE - WAKE COUNTY - NORTH CAROLINA
EROSION CONTROL PLAN

JOB NO. 43398

SHEET NO. R3.03



EXIST CONDITIONS



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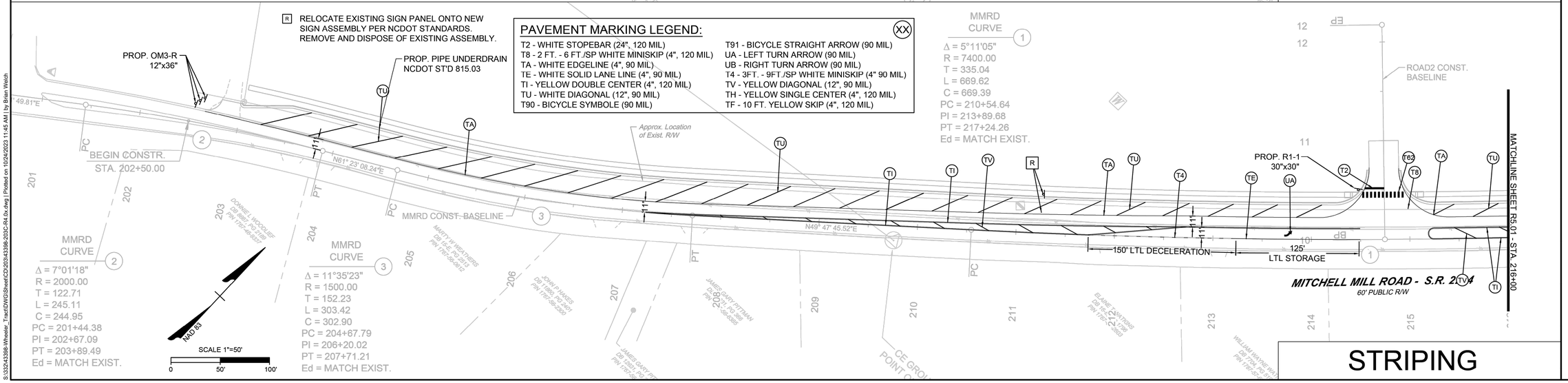

STRIPING

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SCALE	1" = 50'

TIMMONS GROUP

WHEELER TRACT - OFFSITE IMPROVEMENTS

ROLESVILLE - WAKE COUNTY - NORTH CAROLINA

EXISTING CONDITIONS & PLAN & STRIPING SHEET

JOB NO. 43398

SHEET NO. R4.01

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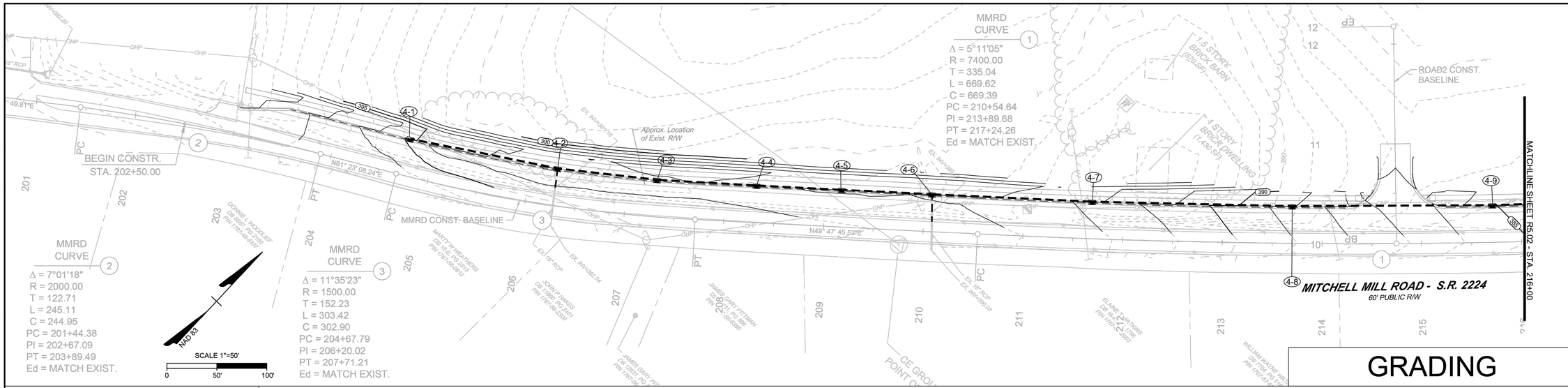
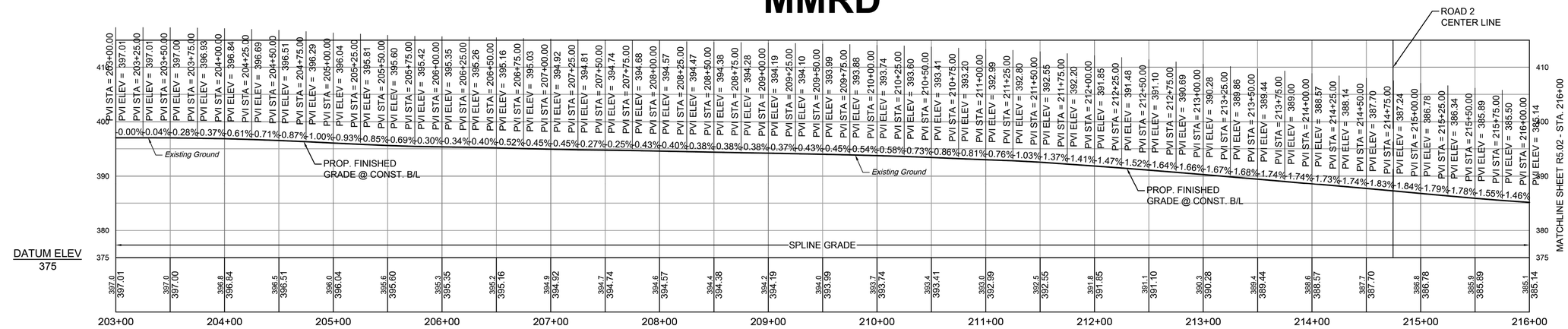


GRADING

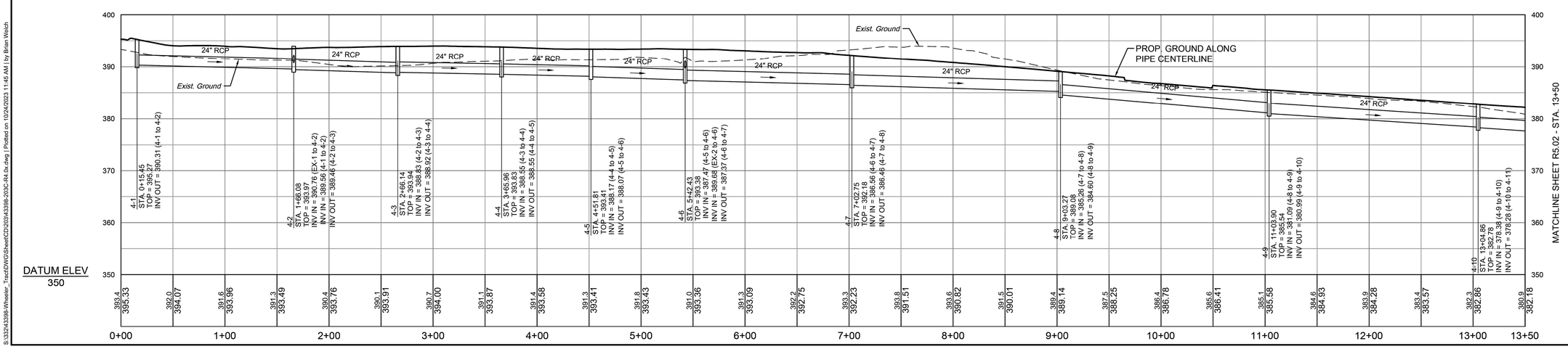
PROFILE

MMRD



STM MITCHELL MILL ROAD

PROFILE



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TIMMONS GROUP

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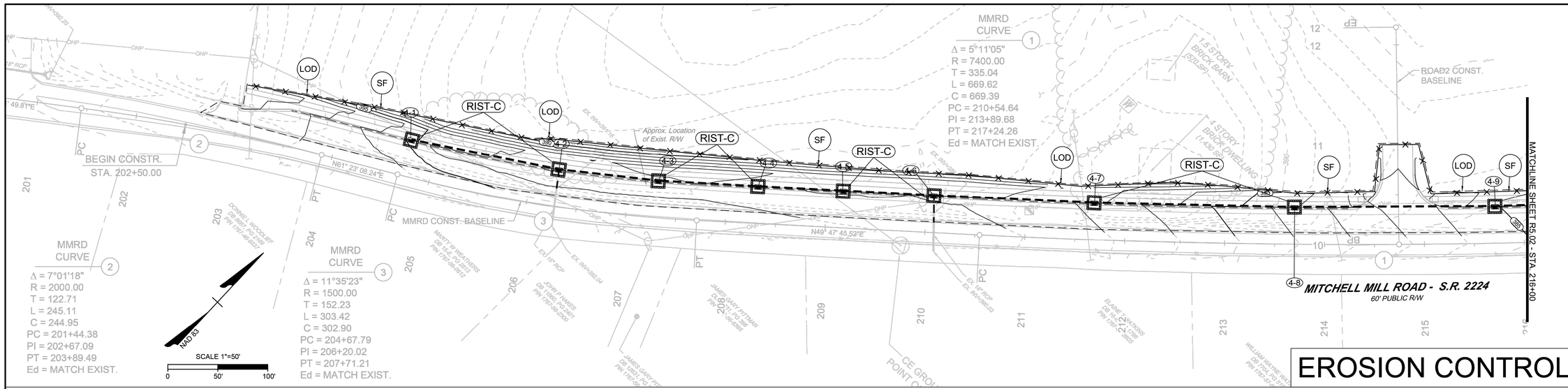
ROLESVILLE - WAKE COUNTY - NORTH CAROLINA
GRADING & PROFILE SHEET

JOB NO. 43398
SHEET NO. R4.02



EROSION CONTROL

EROSION CONTROL NOTES & DETAILS

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Fertilizer shall be 10-20-20 analysis. A different analysis of fertilizer may be used provided the 1-2-2 ratio is maintained and the rate of application adjusted to provide the same amount of plant food as a 10-20-20 analysis and as directed.

TEMPORARY SEEDING:

Fertilizer shall be the same analysis as specified for *Seeding and Mulching* and applied at the rate of 400 pounds and seeded at the rate of 50 pounds per acre. Sweet Sudan Grass, German Millet or Browntop Millet shall be used in summer months and Rye Grain during the remainder of the year. The Engineer will determine the exact dates for using each kind of seed.

FERTILIZER TOPDRESSING:

Fertilizer used for topdressing on all roadway areas except slopes 2:1 and steeper shall be 10-20-20 grade and shall be applied at the rate of 500 pounds per acre. A different analysis of fertilizer may be used provided the 1-2-2 ratio is maintained and the rate of application adjusted to provide the same amount of plant food as 10-20-20 analysis and as directed.

Fertilizer used for topdressing on slopes 2:1 and steeper and waste and borrow areas shall be 16-8-8 grade and shall be applied at the rate of 500 pounds per acre. A different analysis of fertilizer may be used provided the 2-1-1 ratio is maintained and the rate of application adjusted to provide the same amount of plant food as 16-8-8 analysis and as directed.

SUPPLEMENTAL SEEDING:

The kinds of seed and proportions shall be the same as specified for *Seeding and Mulching*, with the exception that no centipede seed will be used in the seed mix for supplemental seeding. The rate of application for supplemental seeding may vary from 25# to 75# per acre. The actual rate per acre will be determined prior to the time of topdressing and the Contractor will be notified in writing of the rate per acre, total quantity needed, and areas on which to apply the supplemental seed. Minimum tillage equipment, consisting of a sod seeder shall be used for incorporating seed into the soil as to prevent disturbance of existing vegetation. A clodbuster (ball and chain) may be used where degree of slope prevents the use of a sod seeder.

MOWING:

The minimum mowing height on this project shall be 4 inches.

Mulching Materials and Application Rates

Material	Rate Per Acre	Quality	Notes
Organic Materials			
Straw	1-2 tons	Dry, unchopped, unweathered, avoid weeds.	Should come from wheat or oats; spread by hand or machine; must be tacked down.
Wood chips	5-6 tons	Air dry	Treat with 12 lbs nitrogen/ton. Apply with mulch blower, chip handler, or by hand. Not for use in fine turf.
Wood fiber	0.5-1 ton		Also referred to as wood cellulose. May be hydromulched. Do not use in hot, dry weather.
Bark	35 cubic yards	Air dry, shredded or hammer-milled, or chips.	Apply with mulch blower, chip handler, or by hand. Do not use asphalt tack.
Corn stalks	4-6 tons	Cut or shredded in 4-8 in. lengths.	Apply with mulch blower or by hand. Not for use in fine turf.
Guinea bagasse seed-bearing waste	1-3 tons	Green or dry; should contain mature seed.	
Nets and Mats*			
JUTE NET	Cover area	Heavy, uniform weave of single jute yarn.	Withstands waterflow. Best when used with organic mulch.
Fiberglass net	Cover area		Withstands waterflow. Best when used with organic mulch.
Excelsior (wood fiber) mat	Cover area		Withstands waterflow.
Fiberglass roving	0.5-1 mile	Continuous fibers of drawn glass bound together with a non-toxic agent.	Apply with a compressed air ejector. Tack with emulsified asphalt at a rate of 25-35 gal/1,000 sq ft.
Chemical Stabilizers*			
Agrebon Agropoly Curasol AM Petroset SB Terra Tack Crust 500 Genapore 765 N-Ver	follow manufacturer's specifications		Not beneficial to plant growth.

*Refer to Practice No. 6.36, Green Linear Channels.

*Use of trade names does not imply endorsement of product.

NOTES

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REVISION DESCRIPTION	DATE
ROLESVILLE ROAD TAPER SHIFT AND STORM NETWORK UPDATE	06-15-2023
GRADING AND STORM NETWORK ADJUSTMENTS	10-24-2023

DATE	07/21/22
DRAWN BY	BPW
DESIGNED BY	BPW
CHECKED BY	BPW
SCALE	----

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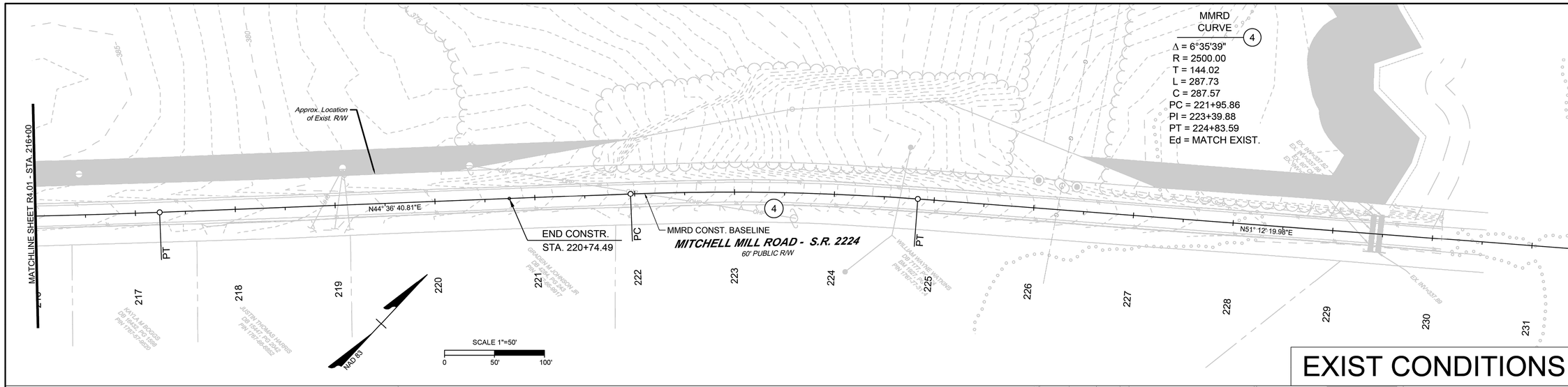
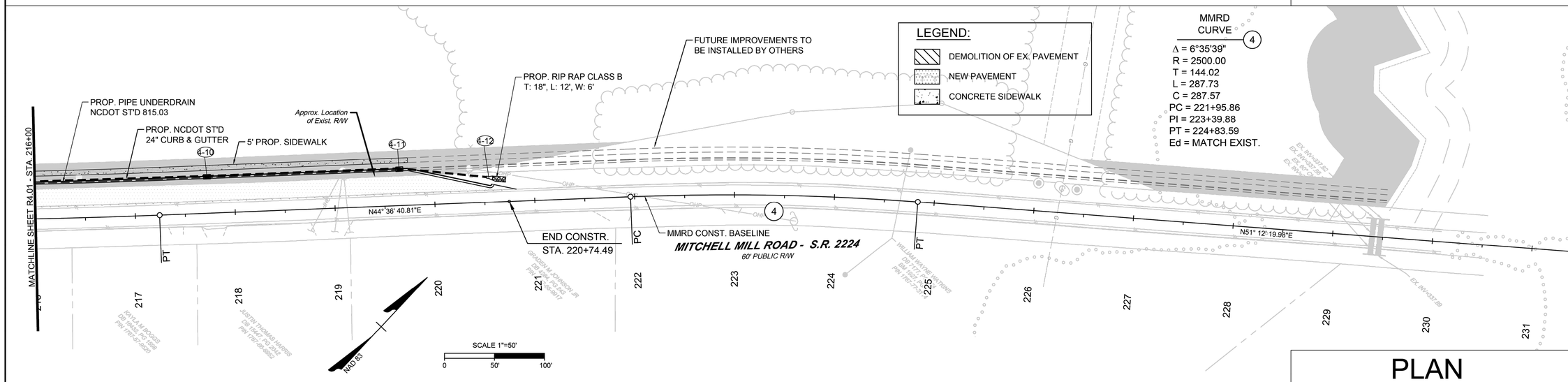
WHEELER TRACT - OFFSITE IMPROVEMENTS
ROLESVILLE - WAKE COUNTY - NORTH CAROLINA
EROSION CONTROL PLAN

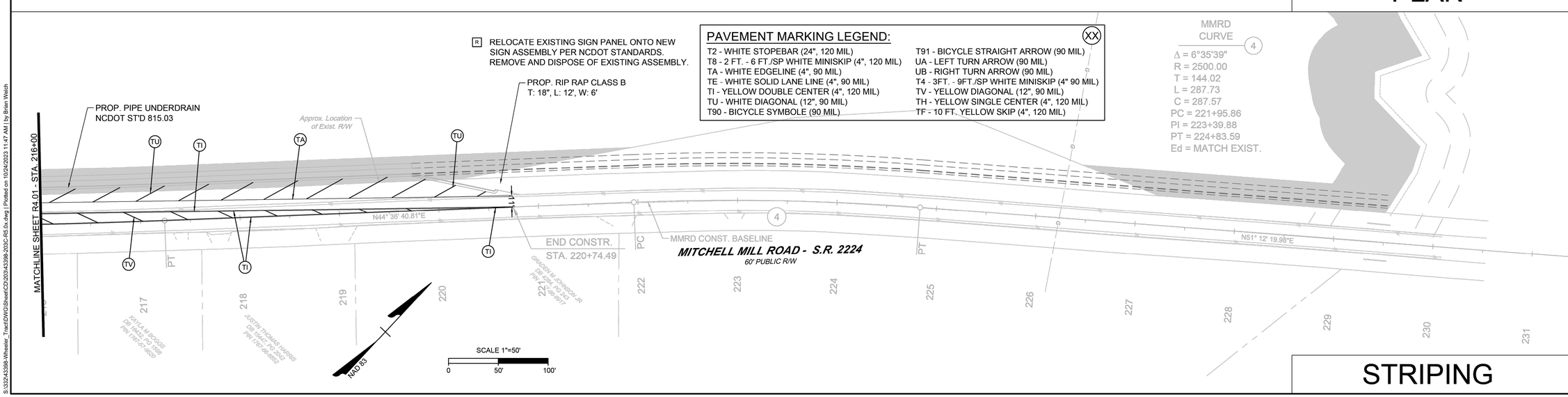
JOB NO. 43398
SHEET NO. R4.03



EXIST CONDITIONS



PLAN



STRIPING

NORTH CAROLINA PROFESSIONAL SEAL 049206 ENGINEER BRIAN PATRICK WELCH

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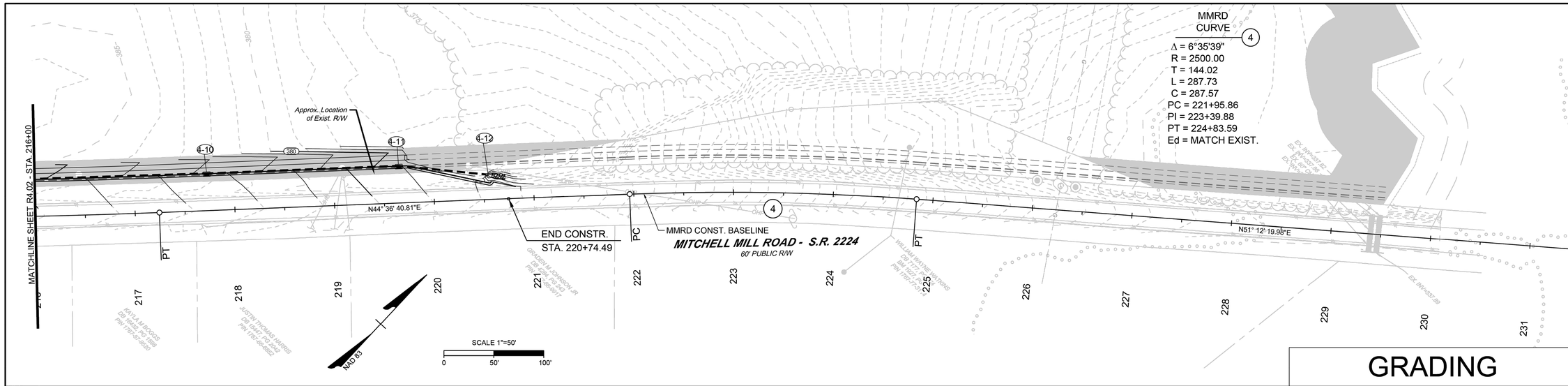
WHEELER TRACT - OFFSITE IMPROVEMENTS

ROLESVILLE - WAKE COUNTY - NORTH CAROLINA

EXISTING CONDITIONS & PLAN & STRIPING SHEET

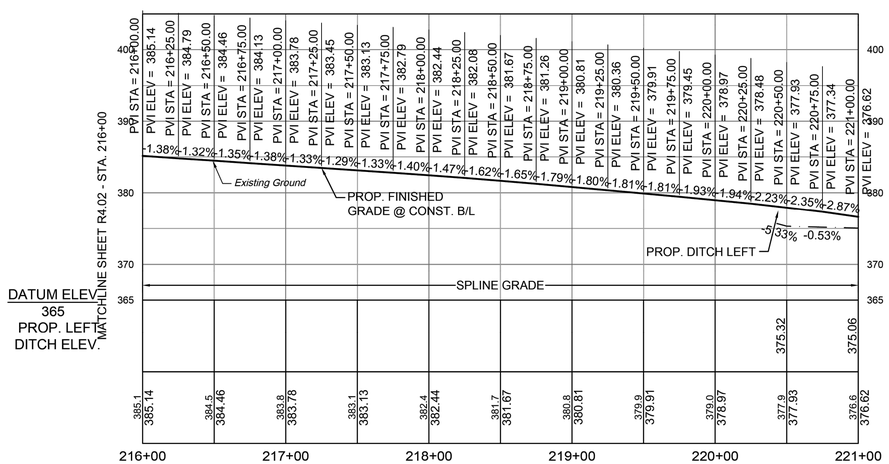
JOB NO. 43398

SHEET NO. R5.01



GRADING

MMRD



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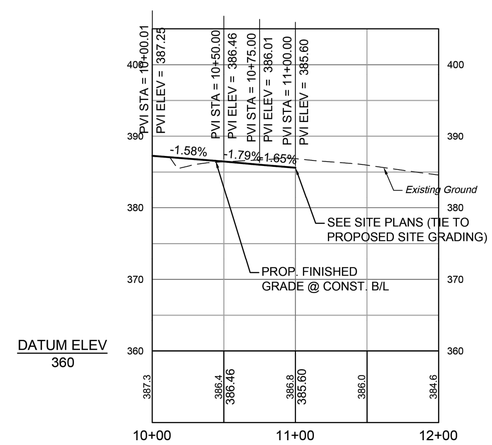
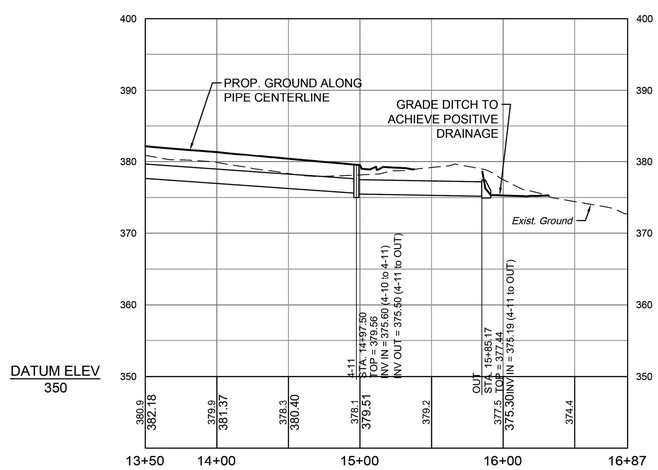


PROFILE

STM MITCHELL MILL ROAD



STORM STRUCTURE TABLE
STM Mitchell Mill Road

STR. #	TOP	INV. IN	INV. OUT	DESCRIPTION
OUT	377.44'	375.19' (24" RCP FROM 4-11)		NCDOT 310.02 CONCRETE ES
4-11	379.56'	375.60' (24" RCP FROM 4-10)	375.50' (24" RCP TO OUT)	NCDOT 840.02 CONCRETE CB
4-10	382.78'	378.38' (24" RCP FROM 4-9)	378.28' (24" RCP TO 4-11)	NCDOT 840.02 CONCRETE CB
4-9	385.54'	381.09' (24" RCP FROM 4-8)	380.99' (24" RCP TO 4-10)	NCDOT 840.02 CONCRETE CB
4-8	389.08'	385.26' (24" RCP FROM 4-7)	384.60' (24" RCP TO 4-9)	NCDOT 840.02 CONCRETE CB
4-7	392.18'	386.56' (24" RCP FROM 4-6)	386.46' (24" RCP TO 4-8)	NCDOT 840.02 CONCRETE CB
4-6	393.38'	387.47' (24" RCP FROM 4-5) 389.68' (18" RCP FROM IN-NORTH)	387.37' (24" RCP TO 4-7)	NCDOT 840.02 CONCRETE CB
4-5	393.41'	388.17' (24" RCP FROM 4-4)	388.07' (24" RCP TO 4-6)	NCDOT 840.02 CONCRETE CB
4-2	393.51'	390.76' (18" RCP FROM EX-1) 389.56' (24" RCP FROM 4-1)	389.46' (24" RCP TO 4-3)	NCDOT 840.02 CONCRETE CB
4-4	393.83'	388.55' (24" RCP FROM 4-3)	388.55' (24" RCP TO 4-5)	NCDOT 840.02 CONCRETE CB
4-3	393.94'	388.83' (24" RCP FROM 4-2)	388.92' (24" RCP TO 4-4)	NCDOT 840.02 CONCRETE CB
4-1	395.27'		390.31' (24" RCP TO 4-2)	NCDOT 840.02 CONCRETE CB

STORM PIPE TABLE
STM Mitchell Mill Road

FROM - TO	UPSTREAM INVERT	DOWNSTREAM INVERT	SLOPE	LENGTH	DIA.	MATERIAL	DESCRIPTION
4-1 - 4-2	390.31'	389.56'	0.50%	150.63 LF	24"	RCP	CLASS III
4-2 - 4-3	389.46'	388.83'	0.63%	100.06 LF	24"	RCP	CLASS III
4-3 - 4-4	388.92'	388.55'	0.38%	99.79 LF	24"	RCP	CLASS III
4-4 - 4-5	388.55'	388.17'	0.44%	85.85 LF	24"	RCP	CLASS III
4-5 - 4-6	388.07'	387.47'	0.66%	90.61 LF	24"	RCP	CLASS III
4-6 - 4-7	387.37'	386.56'	0.51%	160.33 LF	24"	RCP	CLASS III
4-7 - 4-8	386.46'	385.26'	0.60%	200.51 LF	24"	RCP	CLASS III
4-8 - 4-9	384.60'	381.09'	1.75%	200.64 LF	24"	RCP	CLASS III
4-9 - 4-10	380.99'	378.38'	1.30%	200.96 LF	24"	RCP	CLASS III
4-10 - 4-11	378.28'	375.60'	1.39%	192.64 LF	24"	RCP	CLASS III
4-11 - OUT	375.50'	375.19'	0.35%	87.67 LF	24"	RCP	CLASS III
EX-1 - 4-2	392.04'	390.76'	2.25%	56.87 LF	18"	RCP	EXIST. PIPE
IN-NORTH - 4-6	390.03'	389.68'	0.63%	55.98 LF	18"	RCP	EXIST. PIPE

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WHEELER TRACT - OFFSITE IMPROVEMENTS
ROLESVILLE - WAKE COUNTY - NORTH CAROLINA
GRADING & PROFILE SHEET

JOB NO. 43398
SHEET NO. R5.02