TIP PROJECT:

CONTRACT:

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

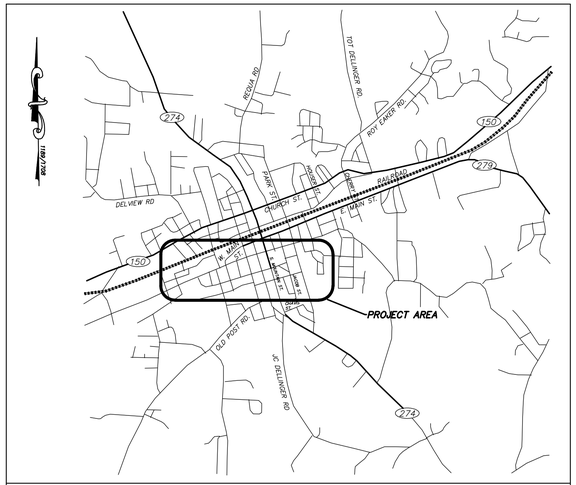
GASTON COUNTY

LOCATION: CITY OF CHERRYVILLE

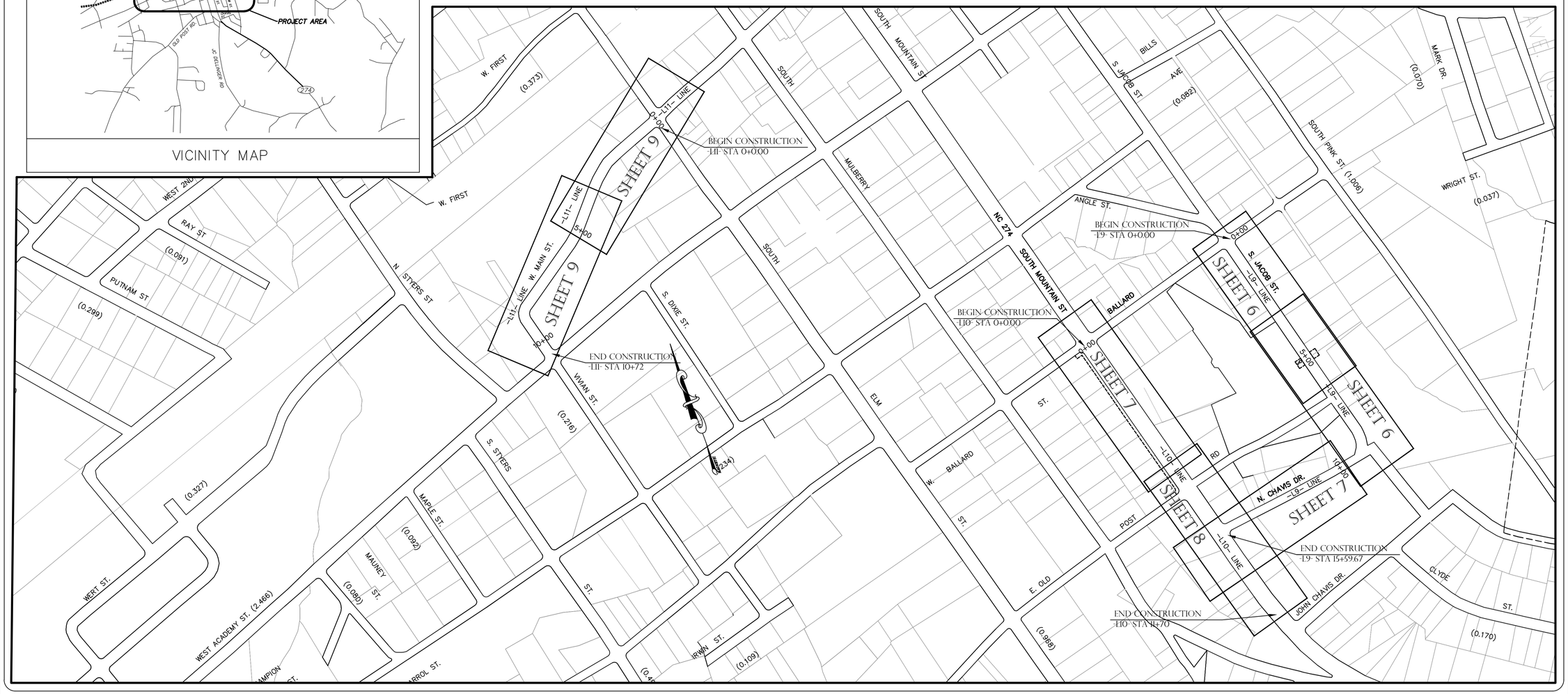
TYPE OF WORK: CONCRETE SIDEWALK

STATE	STATE PROJECT REFERENCE NO.:	SHEET NO.	TOTAL SHEETS
N.C.	C-5148	1	22

STATE PROJECT NO.	F.A. PROJECT NO.	DESCRIPTION



VICINITY MAP



PROJECT LENGTH

SIDEWALK LENGTH OF PROJECT = 3,803 LF.

PREPARED IN THE OFFICE OF:

WRIGHT & ASSOCIATES

2012 STANDARD SPECIFICATIONS

LETTING DATE:

RECIL H. WRIGHT, PE
PROJECT ENGINEER

MILES A. WRIGHT, PE
PROJECT DESIGN ENGINEER

DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA

M.L. HOLDER P.E.
STATE HIGHWAY DESIGN ENGINEER

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS
CONVENTIONAL PLAN SHEET SYMBOLS

BOUNDARIES AND PROPERTY:

- State Line
- County Line
- Township Line
- City Line
- Reservation Line
- Property Line
- Existing Iron Pin — EIP
- Property Corner
- Property Monument — ECM
- Parcel / Sequence Number — 123
- Existing Fence Line
- Proposed Woven Wire Fence
- Proposed Chain Link Fence
- Proposed Barbed Wire Fence
- Existing Wetland Boundary — WLB
- Proposed Wetland Boundary — WLB
- Existing Endangered Animal Boundary — EAB
- Existing Endangered Plant Boundary — EPB

BUILDINGS AND OTHER CULTURE:

- Gas Pump Vent or U/G Tank Cap
- Sign — S
- Well — W
- Small Mine
- Foundation
- Area Outline
- Cemetery
- Building
- School
- Church
- Dam

HYDROLOGY:

- Stream or Body of Water
- Hydro, Pool or Reservoir
- Jurisdictional Stream — JS
- Buffer Zone 1 — BZ 1
- Buffer Zone 2 — BZ 2
- Flow Arrow
- Disappearing Stream
- Spring
- Wetland
- Proposed Lateral, Tail, Head Ditch — FLOW
- False Sump

RAILROADS:

- Standard Gauge — CSX TRANSPORTATION
- RR Signal Milepost — MILEPOST 35
- Switch — SWITCH
- RR Abandoned
- RR Dismantled

RIGHT OF WAY:

- Baseline Control Point
- Existing Right of Way Marker — h
- Existing Right of Way Line
- Proposed Right of Way Line — RW
- Proposed Right of Way Line with Iron Pin and Cap Marker — RW
- Proposed Right of Way Line with Concrete or Granite Marker — RW
- Existing Control of Access — CA
- Proposed Control of Access — CA
- Existing Easement Line — E
- Proposed Temporary Construction Easement
- Proposed Temporary Drainage Easement
- Proposed Permanent Drainage Easement — PDE
- Proposed Permanent Drainage / Utility Easement — DUE
- Proposed Permanent Utility Easement
- Proposed Temporary Utility Easement — TUE
- Proposed Permanent Easement with Iron Pin and Cap Marker

ROADS AND RELATED FEATURES:

- Existing Edge of Pavement
- Existing Curb
- Proposed Top of Cut
- Proposed Toe of Fill
- Proposed Wheel Chair Ramp — WCR
- Existing Metal Guardrail
- Proposed Guardrail
- Existing Cable Guiderail
- Proposed Cable Guiderail
- Equality Symbol
- Pavement Removal

VEGETATION:

- Single Tree
- Single Shrub
- Hedge
- Woods Line
- Orchard
- Vineyard — Vineyard

EXISTING STRUCTURES:

MAJOR:

- Bridge, Tunnel or Box Culvert — CONC
- Bridge Wing Wall, Head Wall and End Wall — CONC WW

MINOR:

- Head and End Wall — CONC HW
- Pipe Culvert
- Footbridge
- Drainage Box: Catch Basin, DI or JB — CB
- Paved Ditch Gutter
- Storm Sewer Manhole — m
- Storm Sewer — S

UTILITIES:

POWER:

- Existing Power Pole
- Proposed Power Pole
- Existing Joint Use Pole
- Proposed Joint Use Pole
- Power Manhole — P
- Power Line Tower
- Power Transformer
- U/G Power Cable Hand Hole — HH
- H-Frame Pole
- Recorded U/G Power Line — P
- Designated U/G Power Line (S.U.E.*) — P

TELEPHONE:

- Existing Telephone Pole
- Proposed Telephone Pole
- Telephone Manhole — T
- Telephone Booth
- Telephone Pedestal — T
- Telephone Cell Tower
- U/G Telephone Cable Hand Hole — HH
- Recorded U/G Telephone Cable — T
- Designated U/G Telephone Cable (S.U.E.*) — T
- Recorded U/G Telephone Conduit — TC
- Designated U/G Telephone Conduit (S.U.E.*) — TC
- Recorded U/G Fiber Optics Cable — T FO
- Designated U/G Fiber Optics Cable (S.U.E.*) — T FO

WATER:

- Water Manhole — W
- Water Meter
- Water Valve
- Water Hydrant
- Recorded U/G Water Line — W
- Designated U/G Water Line (S.U.E.*) — W
- Above Ground Water Line — A/G Water

TV:

- TV Satellite Dish
- TV Pedestal — C
- TV Tower
- U/G TV Cable Hand Hole — HH
- Recorded U/G TV Cable — TV
- Designated U/G TV Cable (S.U.E.*) — TV
- Recorded U/G Fiber Optic Cable — TV FO
- Designated U/G Fiber Optic Cable (S.U.E.*) — TV FO

GAS:

- Gas Valve
- Gas Meter
- Recorded U/G Gas Line — G
- Designated U/G Gas Line (S.U.E.*) — G
- Above Ground Gas Line — A/G Gas

SANITARY SEWER:

- Sanitary Sewer Manhole — S
- Sanitary Sewer Cleanout
- U/G Sanitary Sewer Line — SS
- Above Ground Sanitary Sewer — A/G Sanitary Sewer
- Recorded SS Forced Main Line — FSS
- Designated SS Forced Main Line (S.U.E.*) — FSS

MISCELLANEOUS:

- Utility Pole
- Utility Pole with Base
- Utility Located Object — S
- Utility Traffic Signal Box — 3
- Utility Unknown U/G Line — TUTL
- U/G Tank; Water, Gas, Oil
- A/G Tank; Water, Gas, Oil
- U/G Test Hole (S.U.E.*)
- Abandoned According to Utility Records — AATUR
- End of Information — E.O.I.

INDEX OF SHEETS

SHEET NUMBER	SHEET
1	TITLE SHEET
2	CONVENTIONAL SYMBOLS.
3	INDEX OF SHEETS, GENERAL NOTES, AND LIST OF STANDARD DRAWINGS.
4	PARK STREET SIDEWALK PLAN
5	HOUSER STREET SIDEWALK PLAN
6	E. CHURCH STREET SIDEWALK PLAN
7	PARK STREET SIDEWALK PLAN
8	CHERRY STREET SIDEWALK PLAN
9	RUDISILL STREET SIDEWALK PLAN
10	DRIVEWAY TURNOUT & SIDEWALK SECTION DETAIL
11	WHEELCHAIR RAMP DETAIL AT PROP. SIDEWALK & RETROFITTING DETECTABLE WARNING DOME DETAIL
12	WHEELCHAIR RAMP DETAIL AT EXIST. SIDEWALK & RETROFITTING DETECTABLE WARNING DOME DETAIL
13	PAVEMENT MARKING DETAIL & DRAINAGE STRUCTURE DETAIL
14	FRAME GRATES & HOOD DETAIL CATCH BASIN DETAIL RETAINING WALL DETAIL RAILROAD AT SIDEWALK DETAIL PROPOSED STEP DETAIL
15	TEMPORARY LANE & SHOULDER CLOSURES DETAIL

GENERAL NOTES: 2006 SPECIFICATIONS
EFFECTIVE: 07–18–06
REVISED: 07–30–08

CLEARING:

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

DRIVEWAYS:

DRIVEWAYS SHALL BE CONSTRUCTED AS SHOWN ON THE PLANS. LOCATIONS OF DRIVES WILL BE AS SHOWN ON THE PLANS OR AS DIRECTED BY THE ENGINEER.

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 G.C.

DISPOSAL :

CONTRACTOR SHALL PROVIDE VERIFICATION OF AN APPROVED SITE FOR DISPOSAL OF DEBRIS FROM THIS PROJECT.

EFF. 07–18–06
REV. 01–02–07

2006 ROADWAY ENGLISH STANDARD DRAWINGS

THE FOLLOWING ROADWAY STANDARDS AS APPEAR IN "ROADWAY STANDARD DRAWINGS" HIGHWAY DESIGN BRANCH – N.C. DEPARTMENT OF TRANSPORTATION – RALEIGH, NC. DATED JULY 18, 2006 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	
848.01	CONCRETE SIDEWALK
848.06	WHEELCHAIR RAMP – RETROFITTING OF EXISTING CURB – (USE DETAIL IN LIEU OF STANDARD BEGINNING 6/15/10)

COMPUTED BY: LGC DATE: 3/23/12
CHECKED BY: MAW DATE: 4/20/12

PROJECT NO.	SHEET NO.
C-5148	

NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS

Note: Invert Elevations indicated are for Bid Purposes only and shall not be used for project construction stakeout. See "Standard Specifications For Roads and Structures, Section 300-5".

LIST OF PIPES, ENDWALLS, ETC. (FOR PIPES 48 INCHES & UNDER)

STATION	LOCATION (LT, RT, OR CL)	STRUCTURE NO. FROM	STRUCTURE NO. TO	TOP ELEVATION	INVERT ELEVATION	INVERT ELEVATION	SLOPE CRITICAL
–L1– 11+54	LT	CB1		911.75	908.75		
–L1– 11+57	LT	CB1	CB2		908.75	908.65	
–L1– 11+60	LT	CB2		911.55	908.55		
–L4– 3+30	RT	CB3		952.20	949.20		
–L4– 3+30	RT	CB3	EXIST. PIPE		949.20	949±	
–L5– 4+75	LT	EXIST. CB		FLUSH W/ SW.	NA		
–L7– 7+07	LT	CB4		957.10±	954.10±		
–L7– 7+07	LT	CB4	OUT		954.10±	953.90±	
–L8– 4+47	LT	CB5		956.60±	953.75±		
–L8– 4+47	LT	CB5	OUT		953.75±	953.50±	

DRAINAGE PIPE (RCP, CSP, CAAP, HDPE, or PVC) — RCP circled

STATION	6"	15"	18"	24"	30"	36"	42"	48"	DO NOT USE RCP	DO NOT USE CSP	DO NOT USE CAAP	DO NOT USE HDPE
–L1– 11+54												
–L1– 11+57				4'								
–L1– 11+60												
–L4– 3+30												
–L4– 3+30				8'								
–L5– 4+75												
–L7– 7+07												
–L7– 7+07			10'									
–L8– 4+47												
–L8– 4+47			10'									

C.S. PIPE (ALUMINIZED)

SIZE	6"	15"	18"	24"	30"	36"	42"	48"
THICKNESS OR GAUGE	.064	.064	.064	.064	.079	.079	.109	.109

R.C. PIPE CLASS III

SIZE	12"	15"	18"	24"	30"	36"	42"	48"

R.C. PIPE CLASS IV

SIZE	12"	15"	18"	24"	30"	36"	42"	48"

STATION	** R.C. PIPE (CLASS V)	*** RC PIPE CULVERTS, CONTRACTOR DESIGN	*** RC PIPE CULVERTS, CONTRACTOR DESIGN	15" SIDE DRAIN PIPE	18" SIDE DRAIN PIPE	ENDWALLS STD. 838.01 OR STD. 838.11 (UNLESS NOTED OTHERWISE) CU. YARDS R.C.P.	C.S.P.	QUANTITIES FOR DRAINAGE STRUCTURES PER EACH (0' THRU 5.0')	*TOTAL L.F. FOR PAY QUANTITY SHALL BE COL. 'A' + (1.3 X COL.'B') LIN. FT. A 5.0' THRU 10.0'	B 10.0' AND ABOVE	C.B. STD. 840.01 OR STD. 840.02
–L1– 11+54								1			
–L1– 11+57											
–L1– 11+60								1			
–L4– 3+30								1			
–L4– 3+30											
–L5– 4+75											
–L7– 7+07								1			
–L7– 7+07											
–L8– 4+47								1			
–L8– 4+47											

STATION	FRAME, GRATES, AND HOOD STANDARD 840.03 TYPE OF GRATE E	F	G	CONCRETE TRANSITIONAL SECTION DROP INLET	CATCH BASIN	D.I. STD. 840.14 OR STD. 840.15	D.I. FRAME AND GRATE STD. 840.16	G.D.I. TYPE "A" STD. 840.17 OR 840.26	G.D.I. TYPE "B" STD. 840.18 OR 840.27	T.B.P.D.S. 840.46
–L1– 11+54			1							1
–L1– 11+57										
–L1– 11+60		1								1
–L4– 3+30							1			1
–L4– 3+30										
–L5– 4+75										
–L7– 7+07	1									1
–L7– 7+07										
–L8– 4+47	1									1
–L8– 4+47										

STATION	ANGLED VANE FRAME WITH TWO GRATES STD. 840.33	G.D.I. FRAME WITH TWO GRATES STD. 840.22	G.D.I. (N.S.) FRAME WITH GRATE STD. 840.24	G.D.I. (N.S.) FRAME WITH TWO GRATES STD. 840.24	T. B. G.D.I. STD. 840.35	PIPE CLEANOUT	PARALLEL PIPE END SECTION STD. 310.04	SPRING BOX STD. 840.41	M. H. FRAME AND COVER STD. 840.54	DRAINAGE PIPE ELBOWS NO. & SIZE	CONC. & BRICK PIPE PLUG, C.Y. STD. 840.71	CONC. COLLARS CL. "B" C.Y. STD. 840.72	PIPE REMOVAL LIN. FT.	REMARKS
–L1– 11+54														TRAFFIC BEARING PRECAST DRAINAGE STRUC.
–L1– 11+57														24" RCP#1
–L1– 11+60														4'X7'X3' BOX (6"THK. WALLS) TRAFFIC BEARING PRECAST DRAINAGE STRUC.
–L4– 3+30														TRAFFIC BEARING PRECAST DRAINAGE STRUC.
–L4– 3+30														24" RCP#2
–L5– 4+75									1					RIM ELEVATION FLUSH WITH PAVEMENT
–L7– 7+07														TRAFFIC BEARING PRECAST DRAINAGE STRUC.
–L7– 7+07														18" RCP#3
–L8– 4+47														TRAFFIC BEARING PRECAST DRAINAGE STRUC.
–L8– 4+47														18" RCP#4

ABBREVIATIONS

C.B.	CATCH BASIN
N.D.I.	NARROW DROP INLET
D.I.	DROP INLET
G.D.I.	GRATED DROP INLET
G.D.I.(N.S.)	(NARROW SLOT)
J.B.	JUNCTION BOX
M.H.	MANHOLE
T.B.D.I.	TRAFFIC BEARING DROP INLET
T.B.J.B.	TRAFFIC BEARING JUNCTION BOX

DRAWN BY: MAW/LGC DATE: 4/16/12
CHECKED BY: R. WRIGHT DATE: 4/17/12

PROJECT NO. ________
GASTON COUNTY
STATION: ________
SHEET 1 OF 3

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

GENERAL DRAWING

CITY OF CHERRYVILLE
PEDESTRIAN IMPROVEMENTS
PROJECT # C-5147

REVISIONS					
NO.	BY:	DATE:	NO.	BY:	DATE:
1			3		
2			4		

SHEET NO. 3
TOTAL SHEETS 22

SURVEY CONTROL SHEET

S. MOUNTAIN ST. (HWY 274)
S. JACOB ST.
N. CHAVIS ST.

BASELINE DATA

BL POINT	DESCRIPTION	NORTH (USFT)	EAST (USFT)	ELEV. (USFT)	L STATION	OFFSET (FT.)
1	NCGS MON. "BALLARD"	599,730.6360	1,291,184.0759	946.86	-0+39 (L10)	10.30 RT
2	1/2" PIPE	599,611.1462	1,291,208.9679	----	0+83 (L10)	16.95 RT
3	PIPE IN ASPHALT	599,326.3584	1,291,294.1591	----	3+80 (L10)	7.90 RT
4	1" IRON	599,027.5836	1,291,364.0239	----	6+87 (L10)	17.20 RT
5	1 1/2" PIPE	598,733.1545	1,291,442.6701	----	9+92 (L10)	16.70 RT
6	NCGS MON. "SWEET"	598,235.2482	1,291,649.1867	956.06	15+23 (L10)	21.50 RT
7	MH. (BALLARD & JACOB ST.)	599,887.1659	1,291,833.7900	940.47	0+24 (L9)	7.55 RT
8	EIP	599,676.8230	1,291,900.4071	936.53	2+40 (L9)	13.45 LT
9	TRAV. NAIL #4807	599,372.6266	1,291,937.3620	925.26	5+44 (L9)	26.70 RT
10	1" PIPE	599,127.0952	1,292,006.6639	925.45	8+00 (L9)	23.00 RT
11	1" SOLID PIPE	599,002.1110	1,292,096.3695	924.17	9+19 (L9)	43.50 RT
12	1" PIPE	598,963.5355	1,291,849.0971	934.12	11+37 (L9)	25.80 RT
13	EIP	598,879.5664	1,291,586.5909	943.97	14+09 (L9)	23.30 LT

DATUM DESCRIPTION

THE LOCALIZED COORDINATE SYSTEM DEVELOPED FOR THIS PROJECT IS BASED ON THE STATE PLANE COORDINATES ESTABLISH BY NCGS FOR MONUMENTS "BALLARD" WITH 1983/2001 STATE PLANE GRID COORDINATES OF NORTHING: 599,730.6360(FT.) EASTING: 1,291,184.0759(FT.) AND "SWEET" WITH 1983/2001 STATE PLANE GRID COORDINATES OF NORTHING: 598,235.2482 EASTING:1,291,649.1867. THE AVERAGE COMBINED GRID FACTOR USED ON THIS PROJECT (GROUND TO GRID) IS: 0.999874805.
HORIZONTAL GROUND DISTANCE FROM "BALLARD" MONUMENT TO L10 STATION 0+00 IS 40.2711' – S29°40'08"E. HORIZONTAL GROUND DISTANCE FROM "BALLARD" MONUMENT TO L9 STATION 0+00 IS 696.3112' – N76°44'21"E.
ALL LINEAR DIMENSIONS ARE LOCALIZED HORIZONTAL DISTANCES VERTICAL DATUM USED IS NAVD 88.

SURVEY BY:	RCT	DATE:	9/19/11
DRAWN BY:	MAW/LGC	DATE:	4/16/12
CHECKED BY:	R. WRIGHT	DATE:	4/17/12

PROJECT NO. _____
GASTON COUNTY
STATION: _____
SHEET OF

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

GENERAL DRAWING

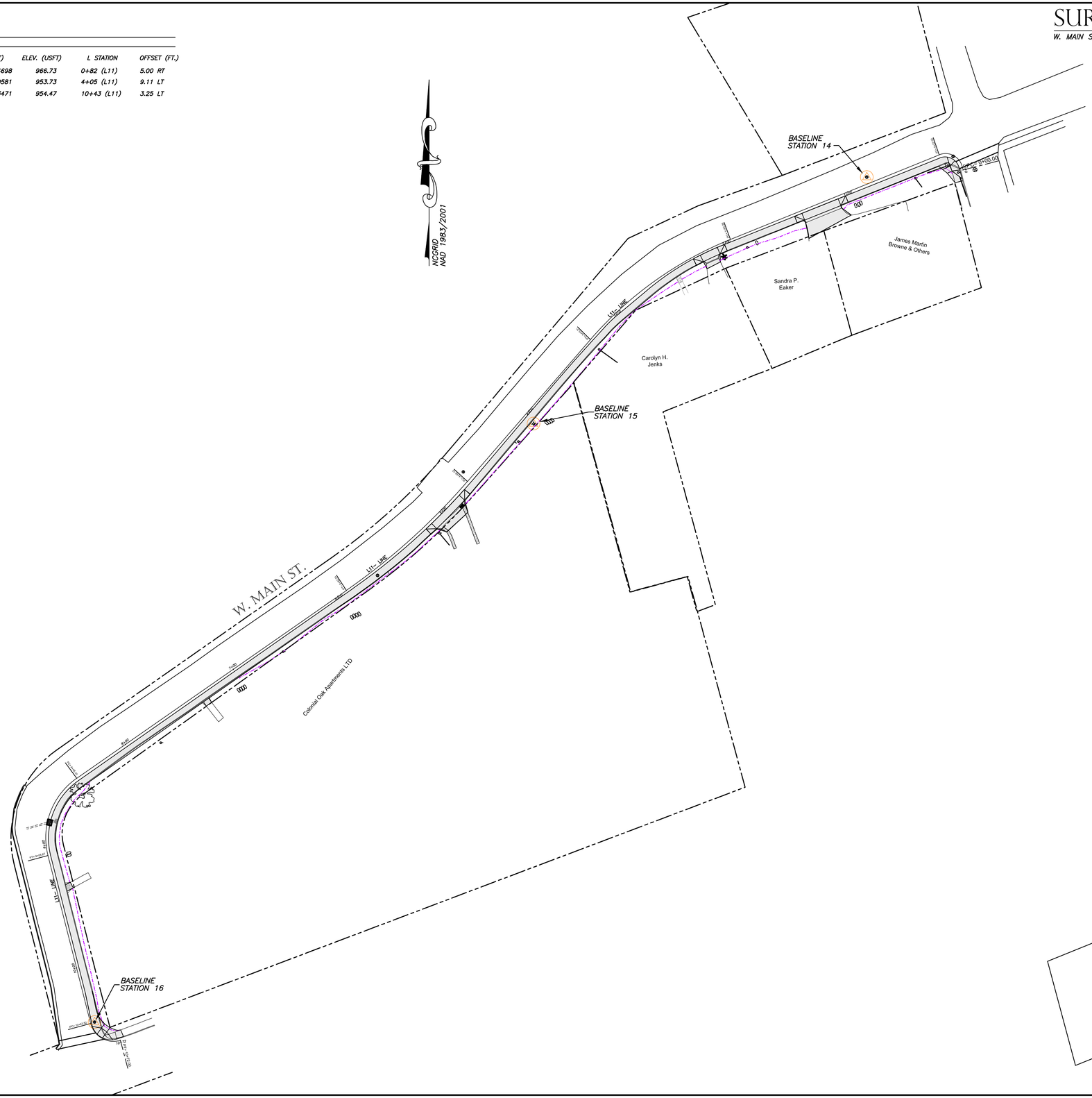
CITY OF CHERRYVILLE
PEDESTRIAN IMPROVEMENTS
PROJECT # C-5148

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	4
1			3			TOTAL SHEETS
2			4			22

SURVEY CONTROL SHEET

W. MAIN ST.

BASELINE DATA						
BL POINT	DESCRIPTION	NORTH (USFT)	EAST (USFT)	ELEV. (USFT)	L STATION	OFFSET (FT.)
14	MH COVER (CENTER)	601,000.3019	1,289,932.4698	966.73	0+82 (L11)	5.00 RT
15	HYDRANT (TOP NUT)	600,812.9146	1,289,679.0581	953.73	4+05 (L11)	9.11 LT
16	MH COVER (CENTER)	600,357.9292	1,289,345.3471	954.47	10+43 (L11)	3.25 LT



DATUM DESCRIPTION

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HORIZONTAL GROUND DISTANCE FROM "BALLARD" MONUMENT TO L10 STATION 0+00 IS 1736.2102' – N42°44'40"W.
ALL LINEAR DIMENSIONS ARE LOCALIZED HORIZONTAL DISTANCES VERTICAL DATUM USED IS NAVD 88.

SURVEY BY:	RCT	DATE:	9/19/11
DRAWN BY:	MAW/LGC	DATE:	4/16/12
CHECKED BY:	R. WRIGHT	DATE:	4/17/12

PROJECT NO. _____

GASTON COUNTY

STATION: _____

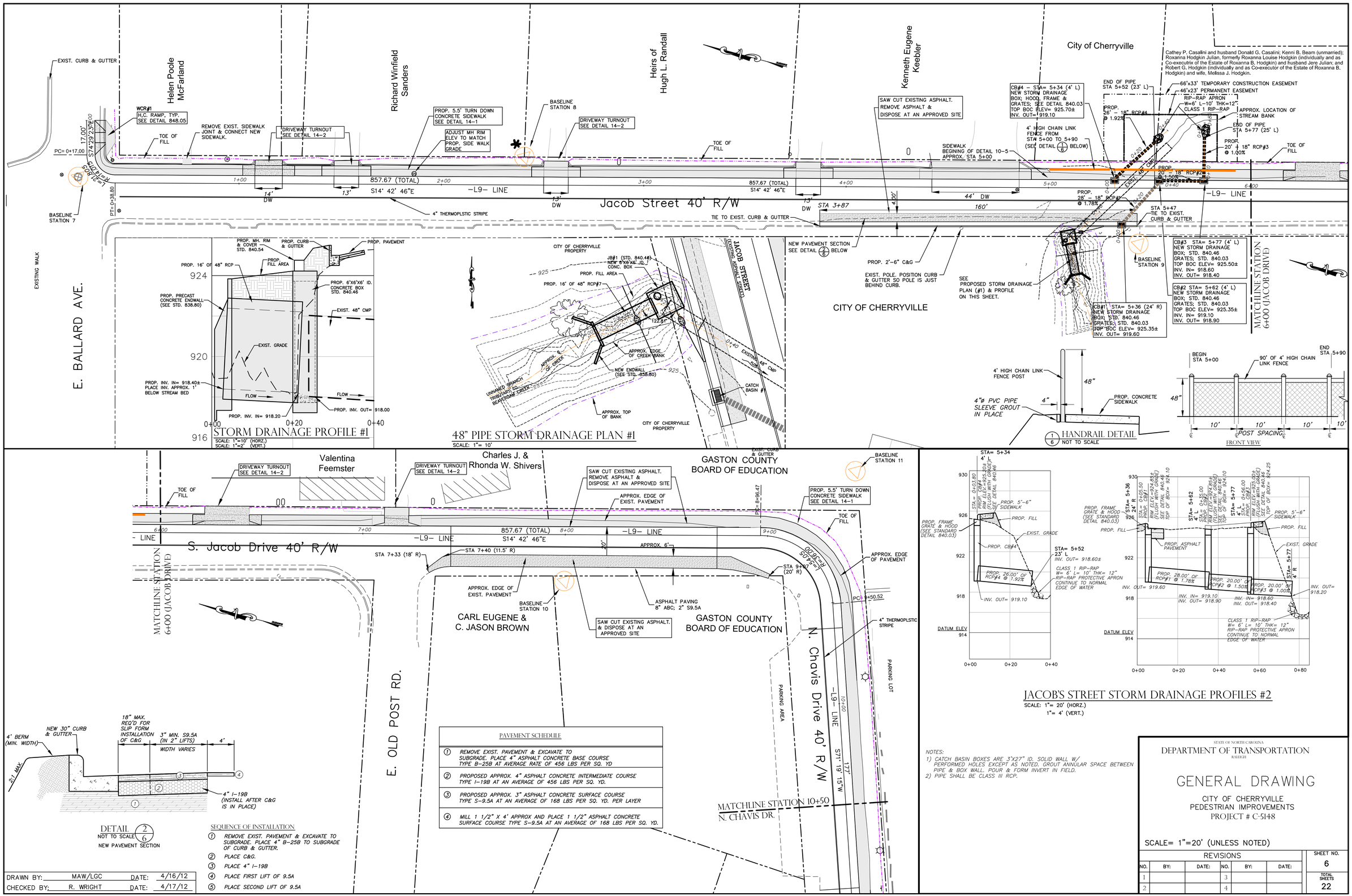
SHEET OF

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

GENERAL DRAWING

CITY OF CHERRYVILLE
PEDESTRIAN IMPROVEMENTS
PROJECT # C-5148

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	5
1			3			TOTAL SHEETS
2			4			22



NOTES:
1) CATCH BASIN BOXES ARE 3'X27" ID. SOLID WALL W/ PERFORMED HOLES EXCEPT AS NOTED. GROUT ANNULAR SPACE BETWEEN PIPE & BOX WALL. POUR & FORM INVERT IN FIELD.
2) PIPE SHALL BE CLASS III RCP.

DRAWN BY:	MAW/LGC	DATE:	4/16/12
CHECKED BY:	R. WRIGHT	DATE:	4/17/12

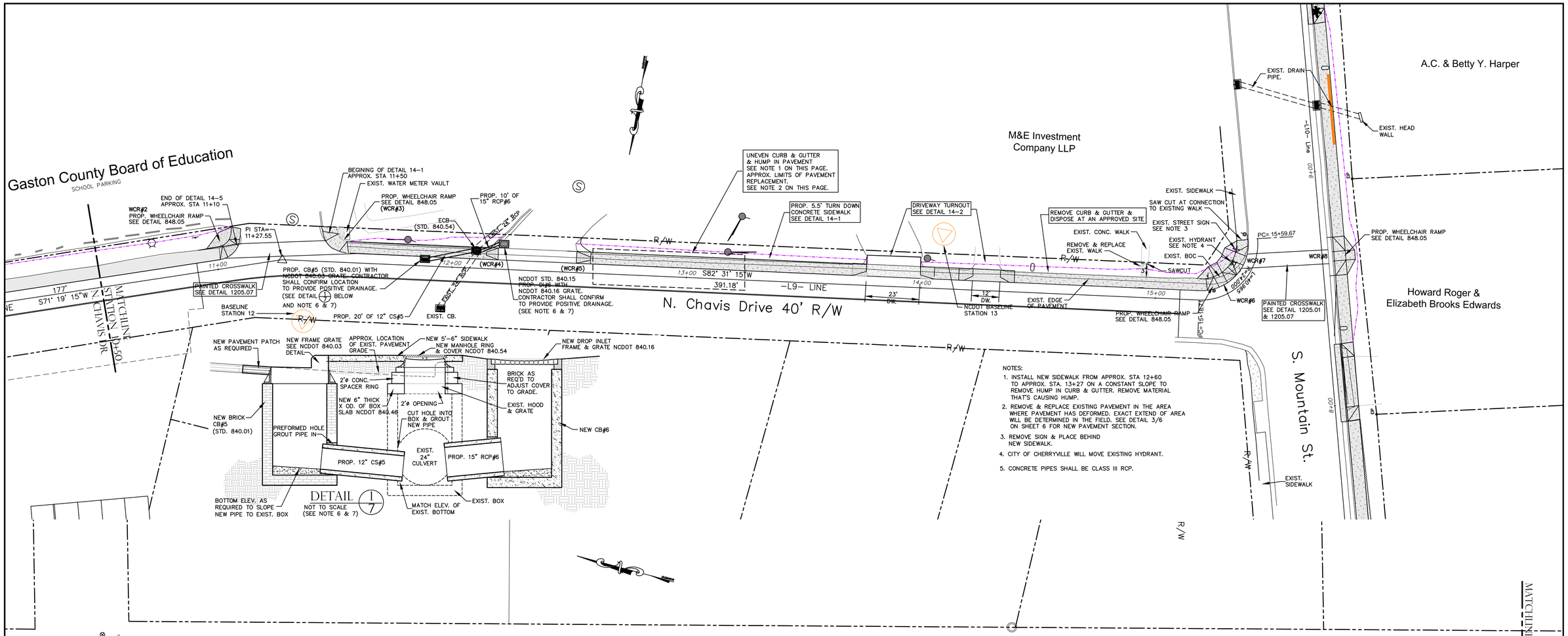
STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

GENERAL DRAWING

CITY OF CHERRYVILLE
PEDESTRIAN IMPROVEMENTS
PROJECT # C-5148

SCALE= 1"=20' (UNLESS NOTED)

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	6
1			3			TOTAL SHEETS
2			4			22



DRAWN BY: MAW/LGC DATE: 4/16/12
CHECKED BY: R. WRIGHT DATE: 4/17/12

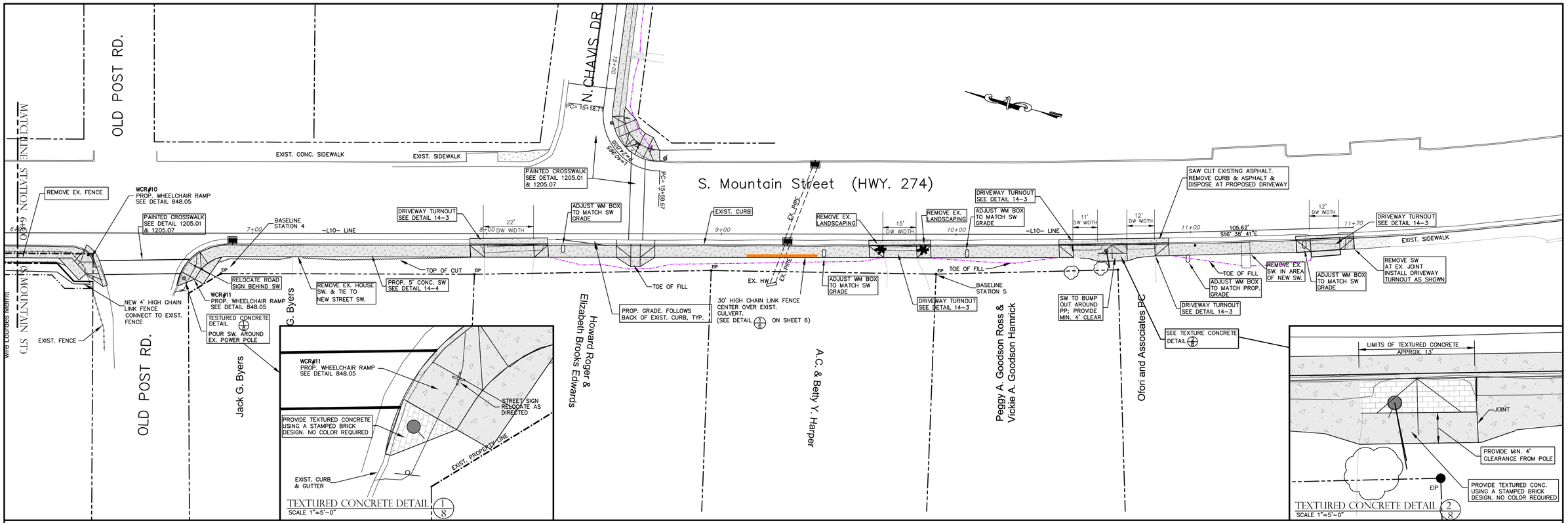
STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

GENERAL DRAWING

CITY OF CHERRYVILLE
PEDESTRIAN IMPROVEMENTS
PROJECT # C-5148

SCALE= 1"=20' (UNLESS NOTED)

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	7
1			3			TOTAL SHEETS
2			4			22



STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

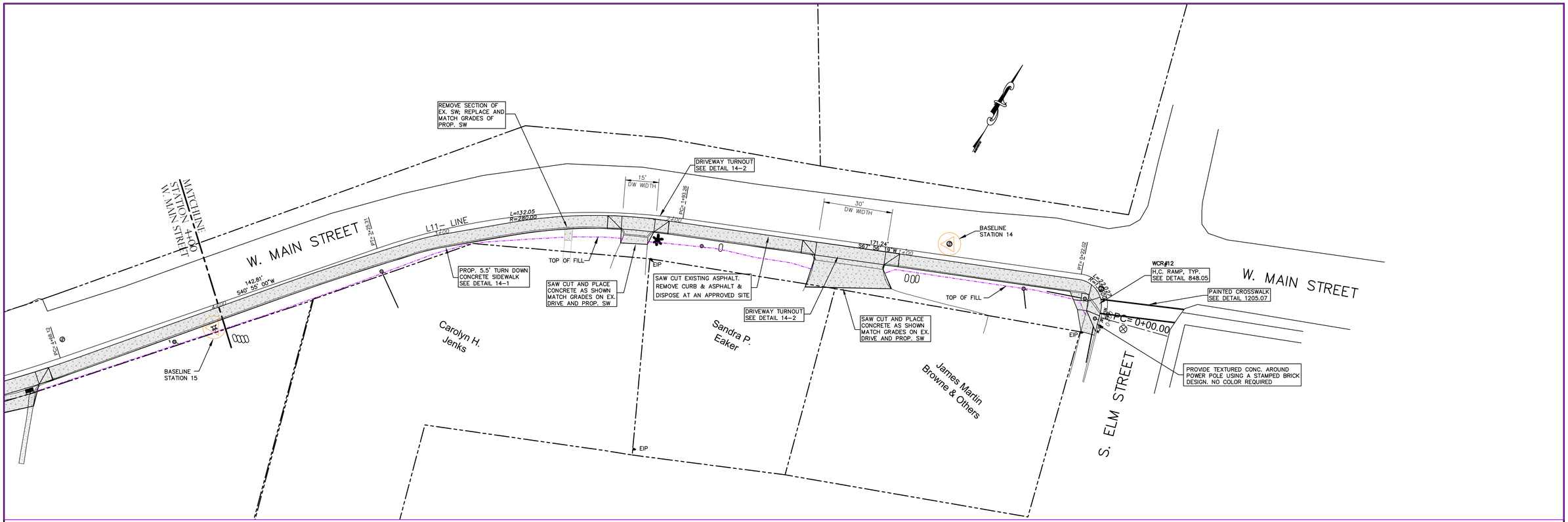
GENERAL DRAWING

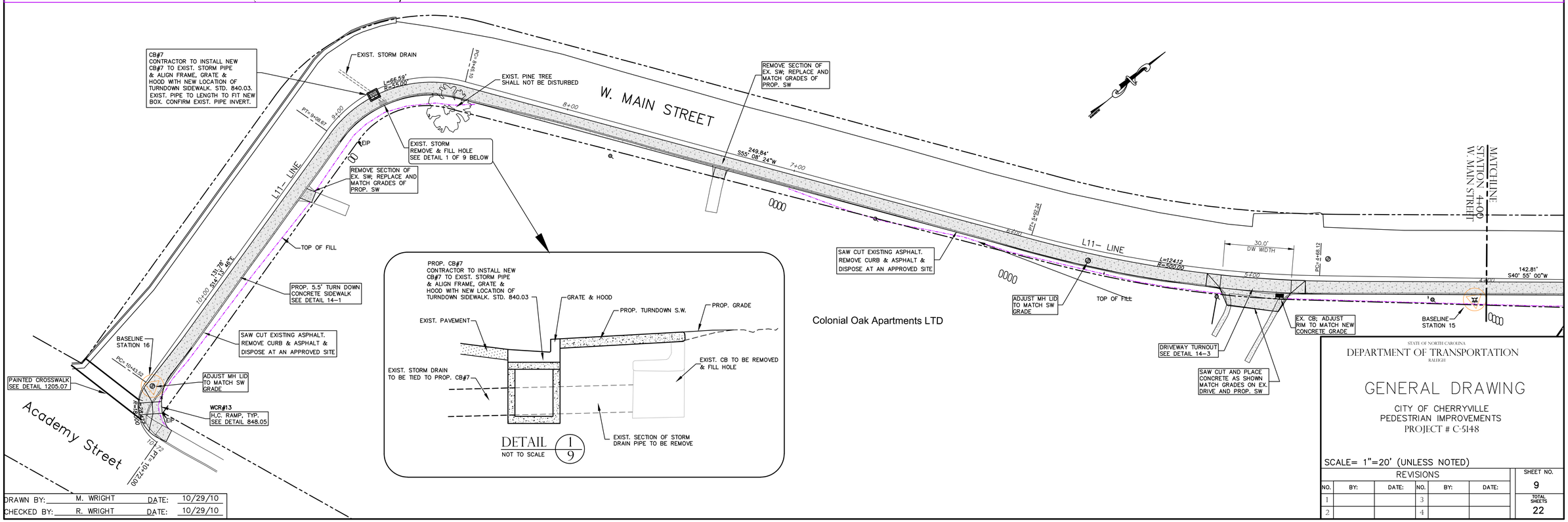
CITY OF CHERRYVILLE
PEDESTRIAN IMPROVEMENTS
PROJECT # C-5148

SCALE= 1"=20' (UNLESS NOTED)

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	8
1			3			TOTAL SHEETS
2			4			20

DRAWN BY:	MAW/LGC	DATE:	4/16/12
CHECKED BY:	R. WRIGHT	DATE:	4/17/12





Colonial Oak Apartments LTD

DRAWN BY: M. WRIGHT DATE: 10/29/10
CHECKED BY: R. WRIGHT DATE: 10/29/10

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

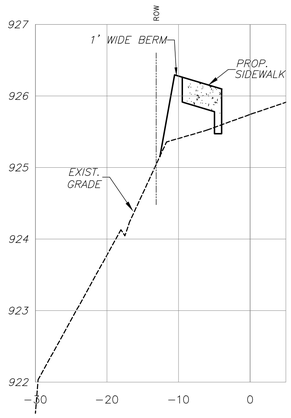
GENERAL DRAWING

CITY OF CHERRYVILLE
PEDESTRIAN IMPROVEMENTS
PROJECT # C-5148

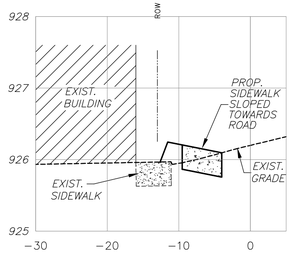
SCALE= 1"=20' (UNLESS NOTED)

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	9
1			3			TOTAL SHEETS
2			4			22

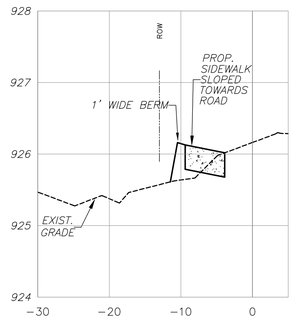
Sta 6+50.00
Section # 14



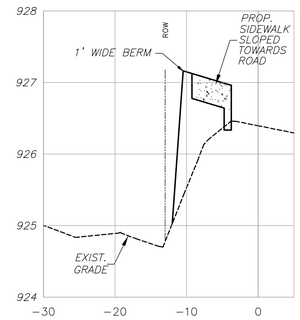
Sta 7+00.00
Section # 15



Sta 7+50.00
Section # 16



Sta 8+00.00
Section # 17



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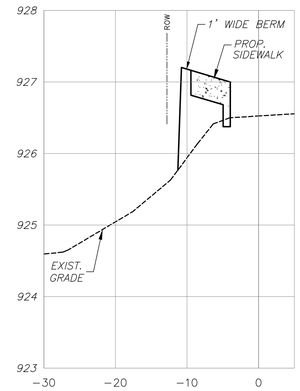

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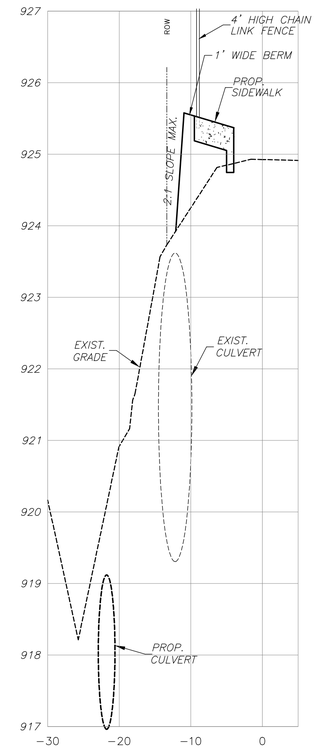

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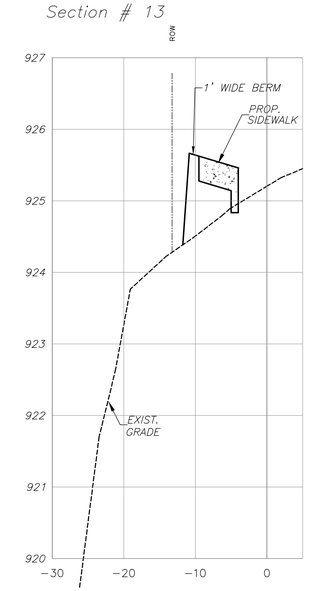

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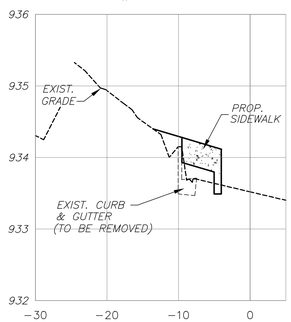

Sta 3+50.00
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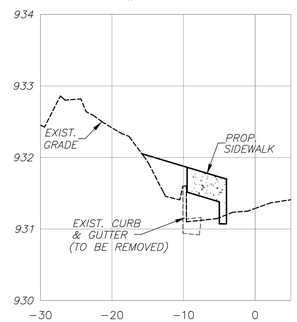

Sta 4+00.00
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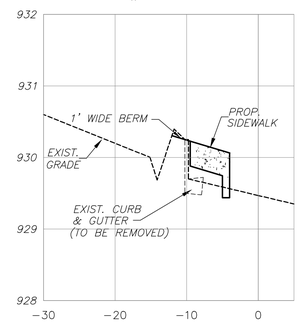

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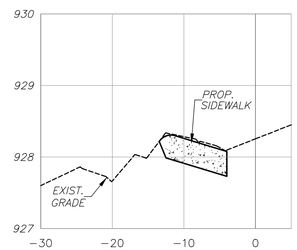

Sta 5+00.00
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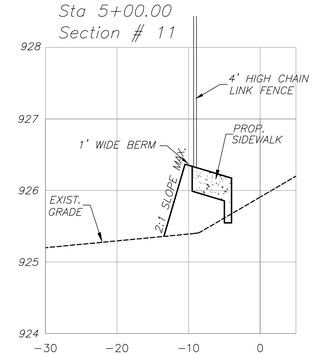

Sta 0+00.00
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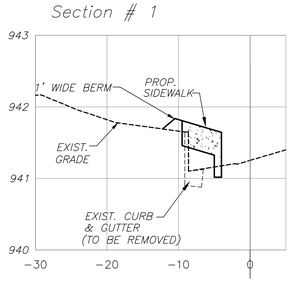

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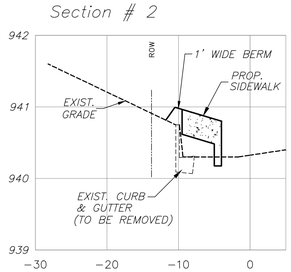

Sta 1+00.00
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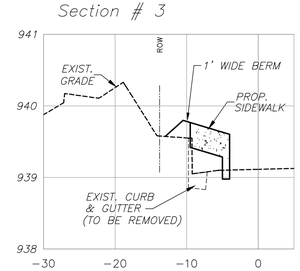

Sta 1+50.00
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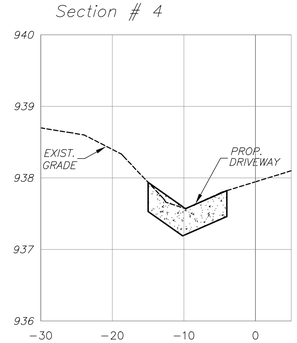
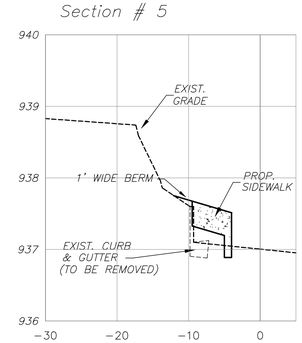


Sta 2+00.00
Section # 5



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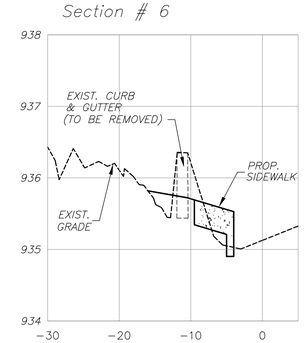


-L9- LINE

S. JACOB ST.
SCALE: 1"=10' (HORZ.)
SCALE: 1"=1' (VERT.)

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

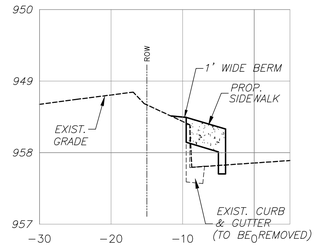
GENERAL DRAWING

CITY OF CHERRYVILLE
PEDESTRIAN IMPROVEMENTS
PROJECT # C-5148

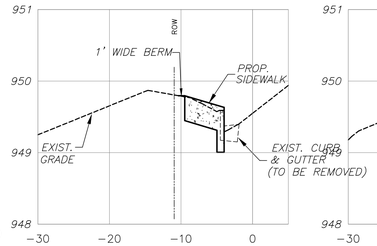
REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	10
1			3			TOTAL SHEETS
2			4			22

DRAWN BY: MAW/LGC DATE: 4/16/12
CHECKED BY: R. WRIGHT DATE: 4/17/12

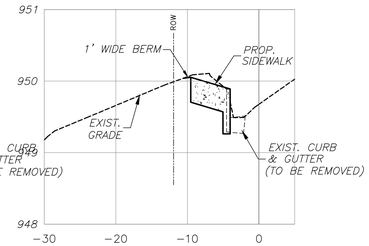
Sta 15+00.00
Section # 31



Sta 15+50.00
Section # 32



Sta 15+59.68
Section # 33



Sta 12+00.00
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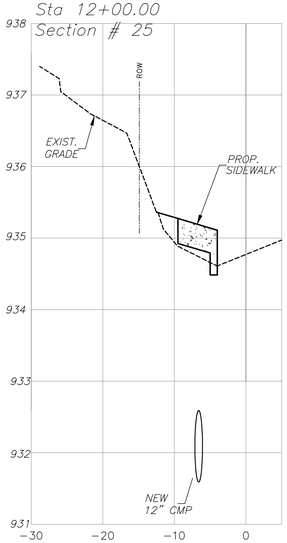

Sta 12+50.00
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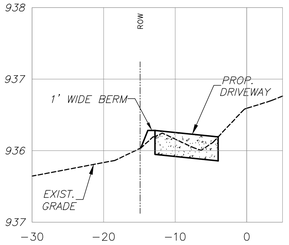

Sta 13+00.00
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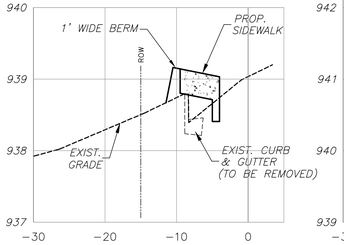

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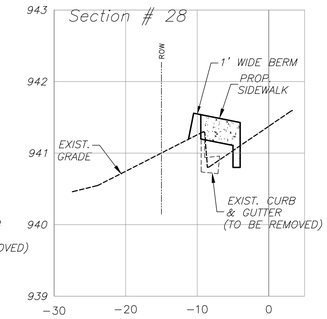

Sta 14+00.00
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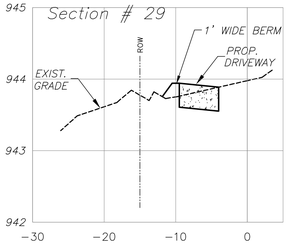

Sta 14+50.00
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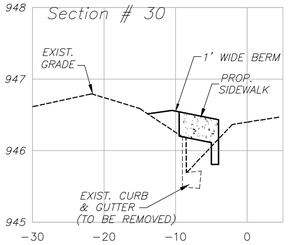

Sta 9+00.00
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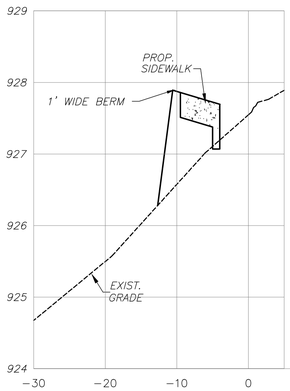

Sta 9+50.00
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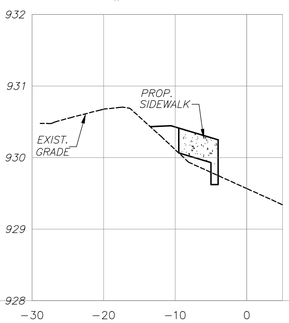

Sta 10+00.00
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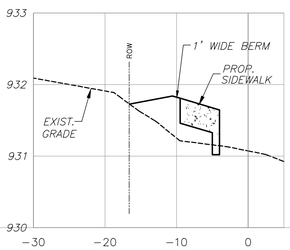

Sta 10+50.00
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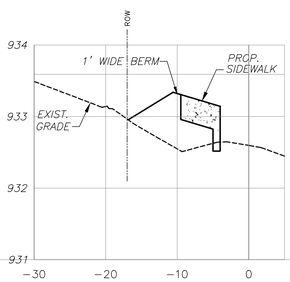

Sta 11+00.00
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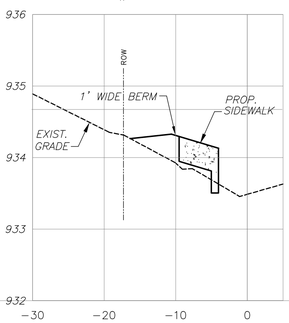

Sta 11+50.00
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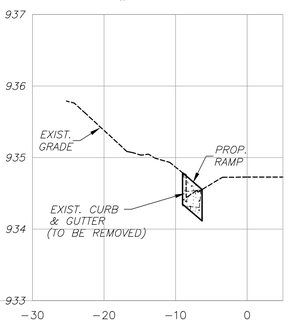


—L9— LINE

N. CHAVIS DR.
SCALE: 1"=10' (HORZ.)
SCALE: 1"=1' (VERT.)

Sta 6+50.00

Sta 8+50.00
Section # 18

DRAWN BY:	MAW/LGC	DATE:	4/16/12
CHECKED BY:	R. WRIGHT	DATE:	4/17/12

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

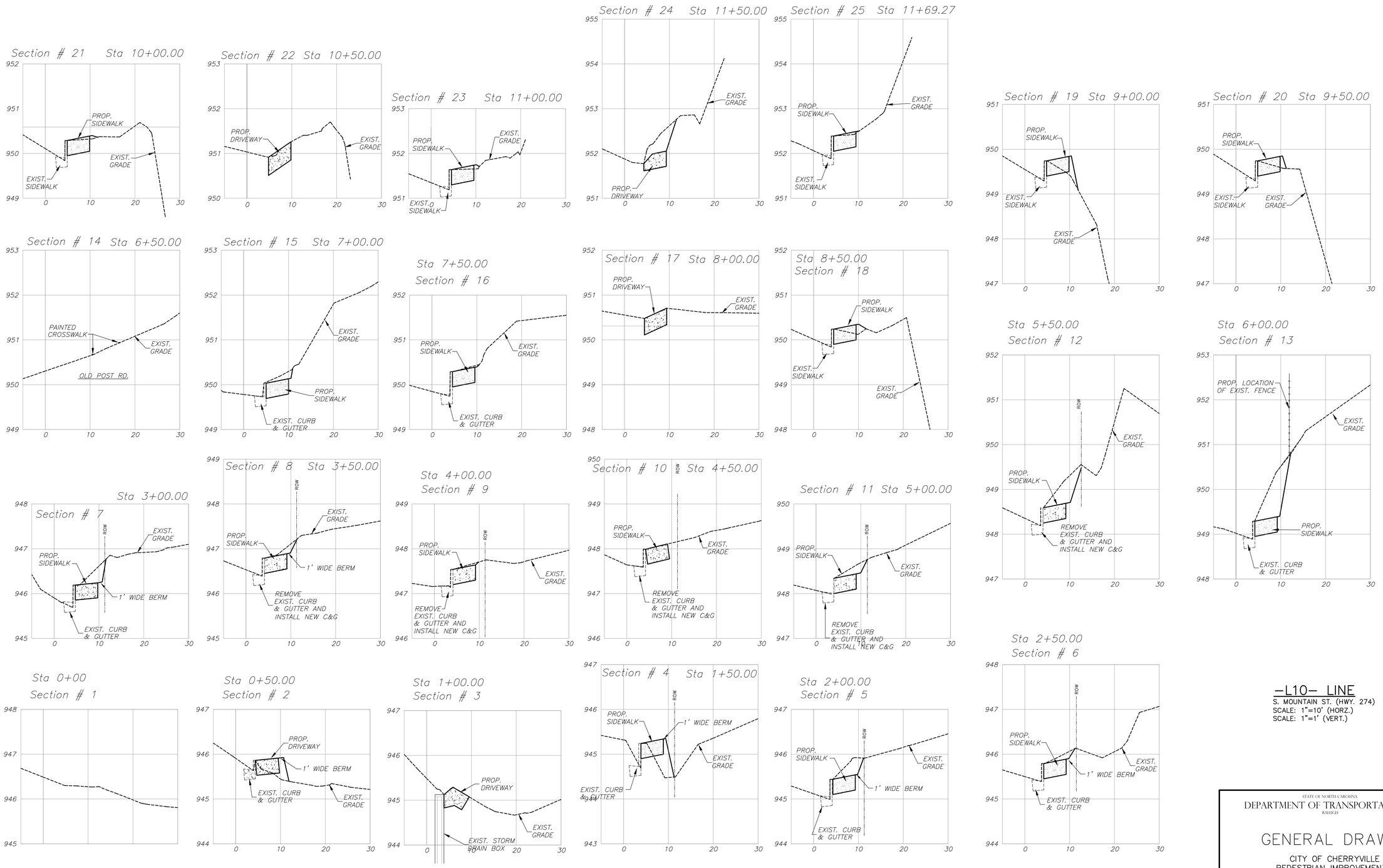
GENERAL DRAWING

CITY OF CHERRYVILLE
PEDESTRIAN IMPROVEMENTS
PROJECT # C-5148

REVISIONS

NO.	BY:	DATE:	NO.	BY:	DATE:
1			3		
2			4		

SHEET NO. 11
TOTAL SHEETS 22



–L10– LINE

S. MOUNTAIN ST. (HWY. 274)
SCALE: 1"=10' (HORZ.)
SCALE: 1"=1' (VERT.)

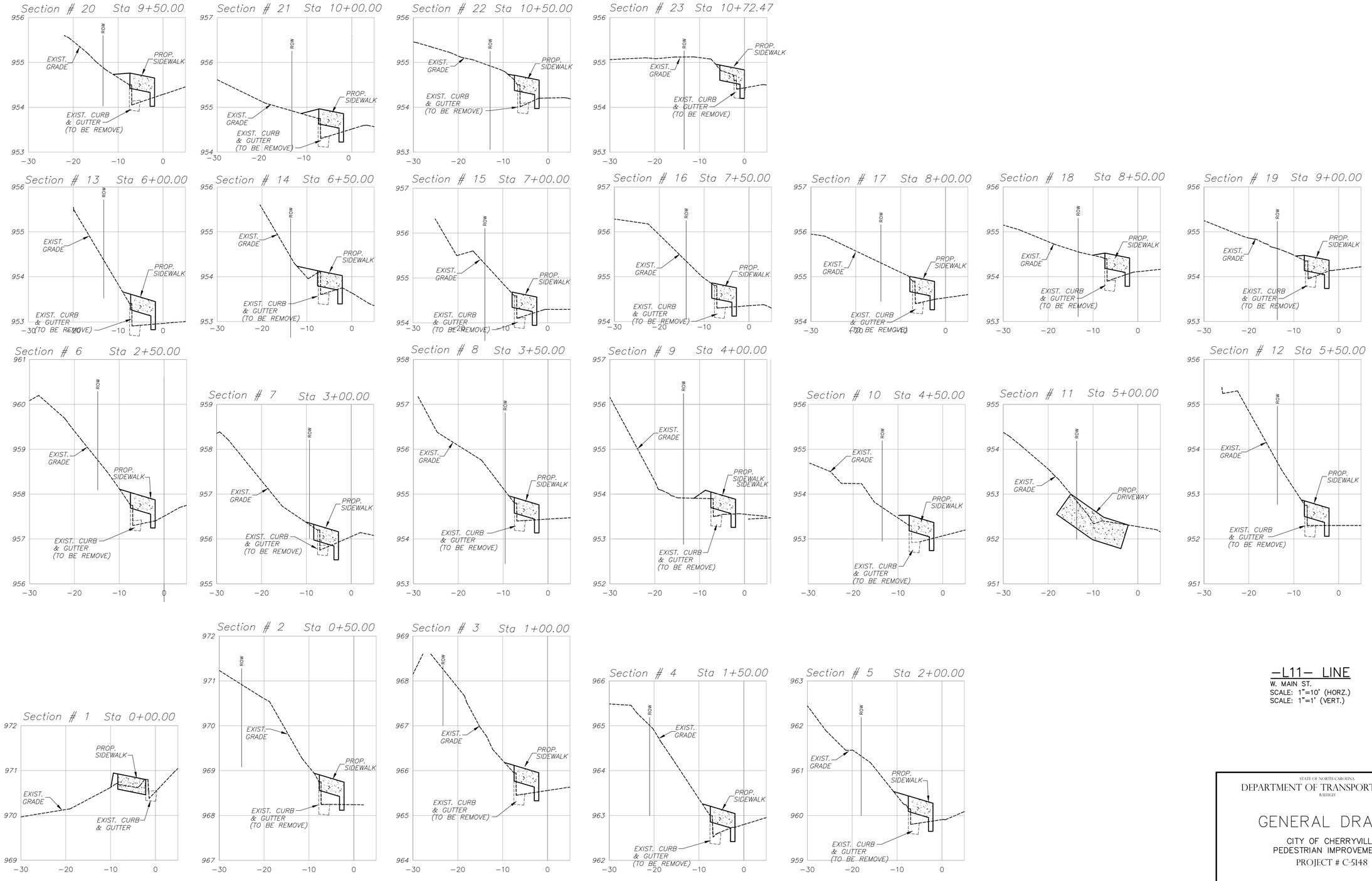
STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

GENERAL DRAWING

CITY OF CHERRYVILLE
PEDESTRIAN IMPROVEMENTS
PROJECT # C-5148

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	12
1			3			TOTAL SHEETS
2			4			22

DRAWN BY:	MAW/LGC	DATE:	4/16/12
CHECKED BY:	R. WRIGHT	DATE:	4/17/12



—L11— LINE

W. MAIN ST.
SCALE: 1"=10' (HORZ.)
SCALE: 1"=1' (VERT.)

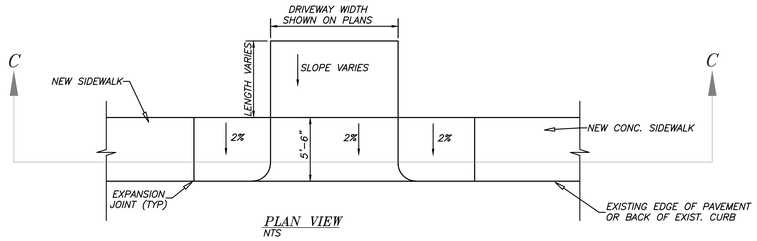
STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

GENERAL DRAWING

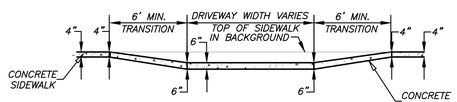
CITY OF CHERRYVILLE
PEDESTRIAN IMPROVEMENTS
PROJECT # C-5148

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	13
1			3			TOTAL SHEETS
2			4			22

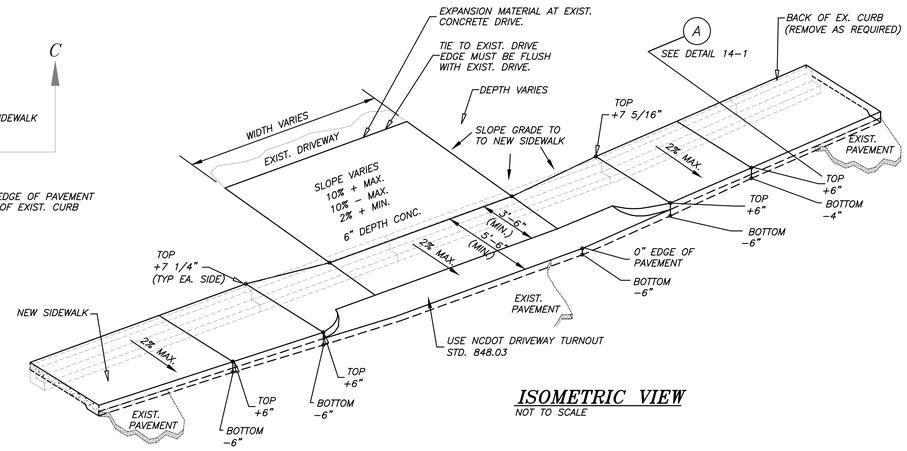
DRAWN BY: MAW/LGC DATE: 4/16/12
CHECKED BY: R. WRIGHT DATE: 4/17/12



PLAN VIEW
NTS



SECTION C–C
NTS

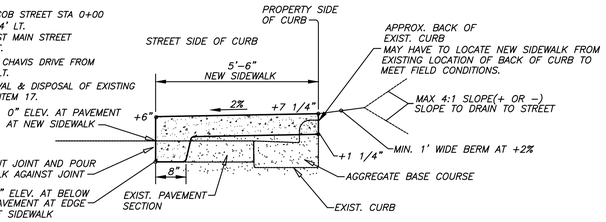


ISOMETRIC VIEW
NOT TO SCALE

DRIVEWAY TURNOUT DETAIL 14–2

NOT TO SCALE * USE WHEN SIDEWALK IS PLACED IN FRONT OF BACK OF EXIST. CURB

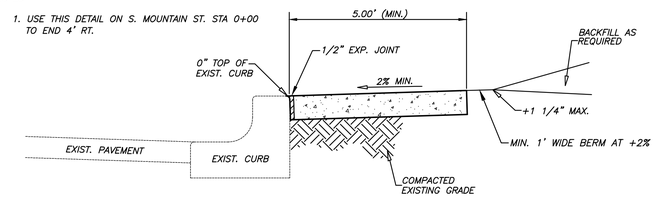
NOTES:
1. USE THIS DETAIL ON JACOB STREET STA 0+00 TO APPROX. STA 5+00, 4' LT.
2. USE THIS DETAIL ON WEST MAIN STREET STA 0+00 TO END. 2' LT.
3. USE THIS DETAIL ON N/ CHAVIS DRIVE FROM STA 11+50 TO END. 4' LT.
4. INCLUDE COST OF REMOVAL & DISPOSAL OF EXISTING CURB & GUTTER IN BID ITEM 17.



TYPICAL NEW SIDEWALK SECTION DETAIL 14–1

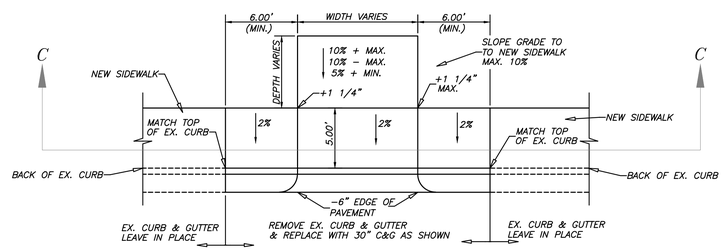
NOT TO SCALE * IN EXIST. PAVEMENT

NOTES:
1. USE THIS DETAIL ON S. MOUNTAIN ST. STA 0+00 TO END 4' RT.



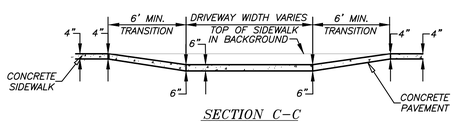
TYPICAL NEW SIDEWALK SECTION DETAIL 14–4

NOT TO SCALE * BEHIND EXIST. CURB

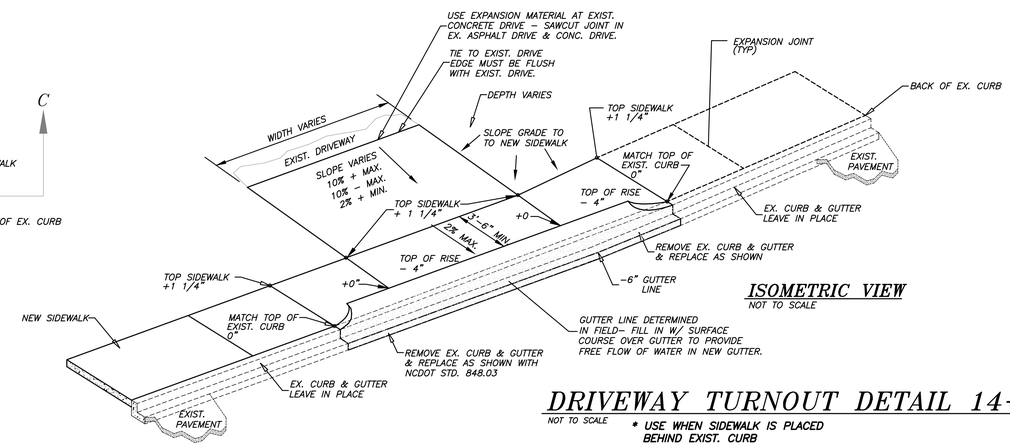


CONCRETE DRIVEWAY ENTRANCE

NOT TO SCALE



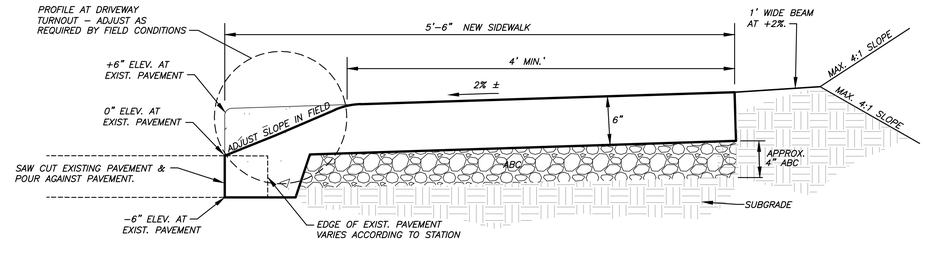
SECTION C–C
NTS



ISOMETRIC VIEW
NOT TO SCALE

DRIVEWAY TURNOUT DETAIL 14–3

NOT TO SCALE * USE WHEN SIDEWALK IS PLACED BEHIND EXIST. CURB



NOTES:
1. USE THIS DETAIL ON JACOB STREET & N. CHAVIS FROM APPROX. STA 5+00 TO APPROX. STA 11+15.
2. FROM APPROX. STA 8+75 TO APPROX. STA 9+20. NEW PAVEMENT WILL BE REQUIRED TO FILL THE AREA BETWEEN THE SAWCUT EDGE OF PAVEMENT TO THE NEW SIDEWALK FRONT.

NEW SIDEWALK SECTION DETAIL 14–5

NOT TO SCALE

PROJECT NO. _____
GASTON COUNTY
STATION: _____

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

GENERAL DRAWING
CITY OF CHERRYVILLE
PEDESTRIAN IMPROVEMENTS
PROJECT # C-5148

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	14
1			3			TOTAL SHEETS
2			4			22

DRAWN BY:	MAW/LGC	DATE:	4/16/12
CHECKED BY:	R. WRIGHT	DATE:	4/17/12

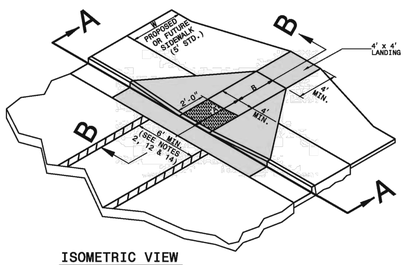
STATE OF NORTH CAROLINA
DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
RALEIGH, N.C.

1-12

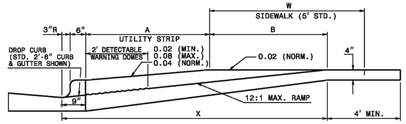
ENGLISH STANDARD DRAWING FOR

CURB RAMP

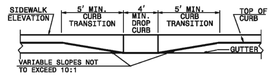
PROPOSED CURB AND GUTTER



ISOMETRIC VIEW



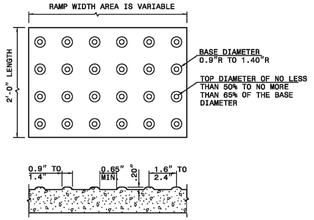
SECTION B-B



SECTION A-A

PAY LIMITS FOR CURB RAMP

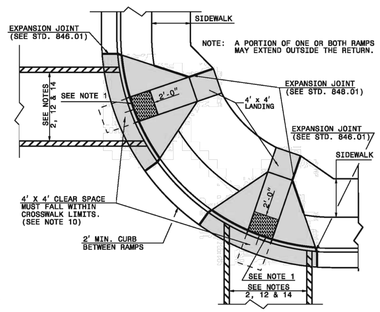
NOTES:
1. DETECTABLE WARNING DOMES WILL COVER 2'-0" LENGTH AND FULL WIDTH OF THE RAMP FLOOR AS SHOWN ON THE DETAILS.
2. DETECTABLE WARNING DOMES WILL CONTRAST VISIBILITY WITH ADJOINING SURFACE, EITHER LIGHT-ON-DARK, OR DARK-ON-LIGHT SEQUENCE COVERING THE ENTIRE RAMP.



DETECTABLE WARNING DOMES

W	A	W+A+9"	X	B
5'	0.0'	5.8'	5.8'	5.0'*
6'	0.0'	6.8'	6.8'	6.0'**
7'	0.0'	7.8'	7.3'	6.5'**
8'	0.0'	8.8'	7.3'	6.5'**
5'	2.0'	7.8'	7.8'	5.0'
5'	2.5'	8.3'	8.1'	4.8'
5'	3.0'	8.8'	8.3'	4.4'
5'	3.5'	9.3'	8.4'	4.1'
5'	4.0'	9.8'	8.6'	3.8'
5'	4.5'	10.3'	8.7'	3.4'
5'	5.0'	10.8'	8.9'	3.1'

B = X-(A+9")
B = DISTANCE FROM FRONT EDGE OF SIDEWALK TO BACK POINT OF 12:1 (8.33%) SLOPE.
* BACK OF SIDEWALK DROP REQUIRED FOR ALL SIDEWALK SLOPES.
** BACK OF SIDEWALK DROP REQUIRED FOR SIDEWALK SLOPES 0.04.



NOTE: A PORTION OF ONE OR BOTH RAMPS MAY EXTEND OUTSIDE THE RETURN.

PLAN VIEW
DUAL RAMPS
ANY RADII
(4' MIN. FLOOR WIDTH)

SHEET 1 OF 3
848.05

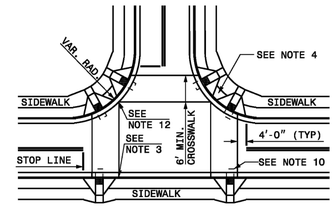
STATE OF NORTH CAROLINA
DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
RALEIGH, N.C.

1-12

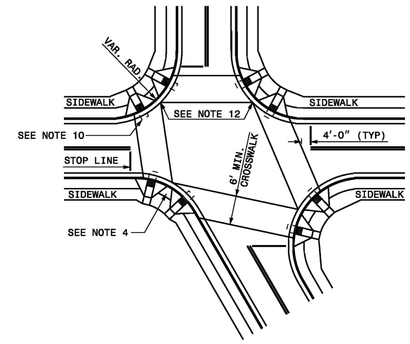
ENGLISH STANDARD DRAWING FOR

CURB RAMP

PROPOSED CURB AND GUTTER



DETAIL SHOWING TYPICAL LOCATION OF CURB RAMPS, PEDESTRIAN CROSSWALKS AND STOP LINES FOR TEE INTERSECTIONS



DETAIL SHOWING TYPICAL LOCATION OF CURB RAMPS, PEDESTRIAN CROSSWALKS AND STOP LINES

ROADWAY PLAN SYMBOL
CR
FOR PROPOSED CURB RAMP

PROPOSED CURB RAMP W/ LANDING
PROPOSED OR FUTURE SIDEWALK

ALLOWABLE LOCATIONS
DUAL RAMP RADII.....ANY

SHEET 2 OF 3
848.05

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

1-12

ENGLISH STANDARD DRAWING FOR

CURB RAMP

PROPOSED CURB AND GUTTER

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

1-12

ENGLISH STANDARD DRAWING FOR

CURB RAMPS

NOTES

NOTES:

1. CONSTRUCT THE RAMP SURFACE TO BE STABLE, FIRM, AND SLIP RESISTANT. CONSTRUCT THE CURB RAMP TYPE AS SHOWN IN THE PAVEMENT MARKING PLANS OR AS DIRECTED BY THE ENGINEER.
2. LOCATE CURB RAMPS AND PLACE PEDESTRIAN CROSSWALK MARKINGS AS SHOWN IN THE PAVEMENT MARKING PLANS. WHEN FIELD ADJUSTMENTS REQUIRE MOVING CURB RAMPS OR MARKINGS AS SHOWN, CONTACT THE SIGNING AND DELINEATION UNIT OR LOCATE AS DIRECTED BY THE ENGINEER.
3. COORDINATE THE CURB RAMP AND THE PEDESTRIAN CROSSWALK MARKINGS SO A 4'x4' CLEAR SPACE AT THE BASE OF THE CURB RAMP WILL FALL WITHIN THE PEDESTRIAN CROSSWALK LINES.
4. SET BACK DISTANCE FROM INSIDE CROSSWALK MARKING TO NEAREST EDGE OF TRAVEL LANE IS 4' MINIMUM.
5. REFER TO THE PAVEMENT MARKING PLANS FOR STOP BAR LOCATIONS AT SIGNALIZED INTERSECTIONS. IF A PAVEMENT MARKING PLAN IS NOT PROVIDED, CONTACT THE SIGNAL DESIGN SECTION FOR THE STOP BAR LOCATIONS OR LOCATE AS DIRECTED BY THE ENGINEER.
6. TERMINATE PARKING A MINIMUM OF 20' BACK OF A PEDESTRIAN CROSSWALK.
7. CONSTRUCT CURB RAMPS A MINIMUM OF 4' WIDE.
8. CONSTRUCT THE RUNNING SLOPE OF THE RAMP 8.33% MAXIMUM.
9. ALLOWABLE CROSS SLOPE ON SIDEWALKS AND CURB RAMPS WILL BE 2% MAXIMUM.
10. CONSTRUCT THE SIDE FLARE SLOPE A MAXIMUM OF 10% MEASURED ALONG THE CURB LINE.
11. CONSTRUCT THE COUNTER SLOPE OF THE GUTTER OR STREET AT THE BASE OF THE CURB RAMP A MAXIMUM OF 5% AND MAINTAIN A SMOOTH TRANSITION.
12. CONSTRUCT LANDINGS FOR SIDEWALK A MINIMUM OF 4'x4' WITH A MAXIMUM SLOPE OF 2% IN ANY DIRECTION. CONSTRUCT LANDINGS FOR MEDIAN ISLANDS A MINIMUM OF 5'x5' WITH A MAXIMUM SLOPE OF 2% IN ANY DIRECTION.
13. TO USE A MEDIAN ISLAND AS A PEDESTRIAN REFUGE AREA, MEDIAN ISLANDS WILL BE A MINIMUM OF 6' WIDE. CONSTRUCT MEDIAN ISLANDS TO PROVIDE PASSAGE OVER OR THROUGHT THE ISLAND.
14. SMALL CHANNELIZATION ISLANDS THAT CAN NOT PROVIDE A 5'X5' LANDING AT THE TOP OF A RAMPS, WILL BE CUT THROUGH LEVEL WITH THE SURFACE STREET.
15. CURB RAMPS WITH RETURNED CURBS MAY BE USED ONLY WHERE PEDESTRIANS WOULD NOT NORMALLY WALK ACROSS THE RAMP. THE ADJACENT SURFACE IS PLANTING OR OTHER NON-WALKING SURFACE OR THE SIDE APPROACH IS SUBSTANTIALLY OBSTRUCTED.
16. PLACE A ½" EXPANSION JOINT WHERE THE CONCRETE CURB RAMP JOINS THE CURB AS SHOWN IN ROADWAY STANDARD DRAWING 848.01
17. PLACE ALL PEDESTRIAN PUSH BUTTON ACTUATORS AND CROSSING SIGNALS AS SHOWN IN THE PLANS OR AS SHOWN IN THE MUTCD.
18. CURB RAMPS THROUGH MEDIAN ISLANDS, SINGLE RAMPS AT DUAL CROSSWALKS OR LIMITED R/W SITUATIONS, WILL BE HANDLED BY SPECIAL DETAILS. CONTACT THE CONTRACT STANDARDS AND DEVELOPMENT UNIT FOR THE DETAILS OR FOR A SPECIAL DESIGN.

SHEET 3 OF 3
848.05

PROJECT NO. _____
GASTON COUNTY
STATION: _____

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

GENERAL DRAWING
CITY OF CHERRYVILLE
PEDESTRIAN IMPROVEMENTS
PROJECT # C-5148

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	15
1			3			TOTAL SHEETS
2			4			22

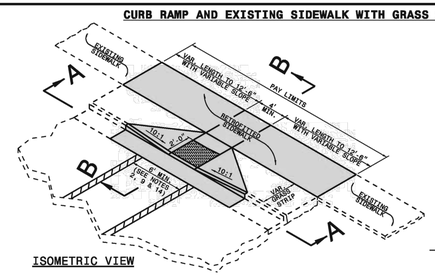
DRAWN BY: MAW/LGC DATE: 4/16/12
CHECKED BY: R. WRIGHT DATE: 4/17/12

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

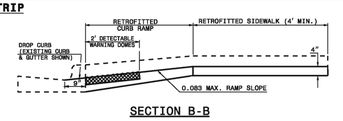
1-12

ENGLISH STANDARD DRAWING FOR
CURB RAMP
EXISTING CURB AND GUTTER

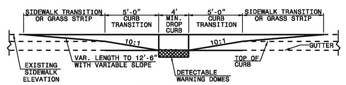
CURB RAMP AND EXISTING SIDEWALK WITH GRASS STRIP



ISOMETRIC VIEW

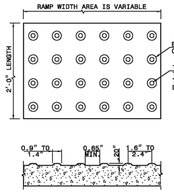


SECTION B-B



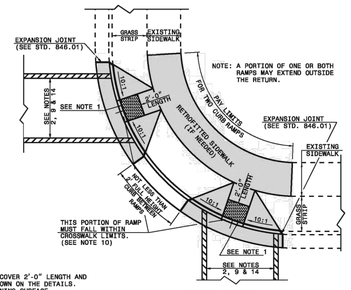
SECTION A-A

PAY LIMITS OF CURB RAMP



DETECTABLE WARNING DOMES

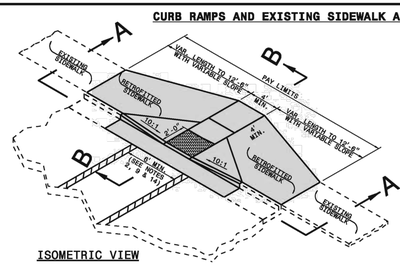
NOTES:
1. PLACE DETECTABLE WARNING DOMES TO COVER 2'-0" LENGTH AND FULL WIDTH OF THE RAMP FLOOR AS SHOWN ON THE DETAILS.
2. OBTAIN VISIBLE CONTRAST WITH ADJOINING SURFACE, EITHER LIGHT-ON-DARK, OR DARK-ON-LIGHT SEQUENCE COVERING THE ENTIRE RAMP.



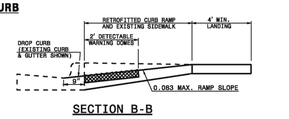
PLAN VIEW
DUAL RAMPS
ANY RADII
(40" MIN. FLOOR WIDTH)

SHEET 1 OF 5
848.06

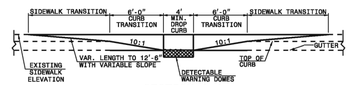
CURB RAMPS AND EXISTING SIDEWALK ADJACENT TO CURB



ISOMETRIC VIEW

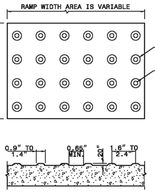


SECTION B-B



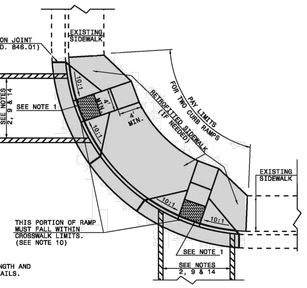
SECTION A-A

PAY LIMITS OF CURB RAMP



DETECTABLE WARNING DOMES

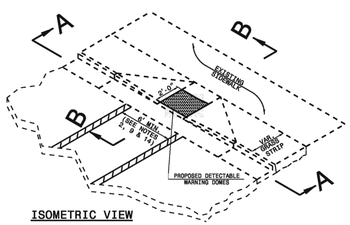
NOTES:
1. PLACE DETECTABLE WARNING DOMES TO COVER 2'-0" LENGTH AND FULL WIDTH OF THE RAMP FLOOR AS SHOWN ON THE DETAILS.
2. OBTAIN VISIBLE CONTRAST WITH ADJOINING SURFACE, EITHER LIGHT-ON-DARK, OR DARK-ON-LIGHT SEQUENCE COVERING THE ENTIRE RAMP.



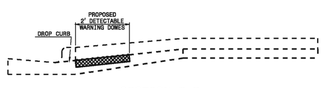
PLAN VIEW
DUAL RAMPS
ANY RADII
(40" MIN. FLOOR WIDTH)

SHEET 2 OF 5
848.06

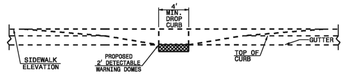
RETROFITTING DETECTABLE WARNING DOMES ONTO EXISTING CURB RAMP



ISOMETRIC VIEW

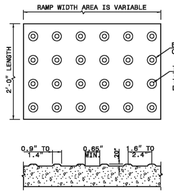


SECTION B-B



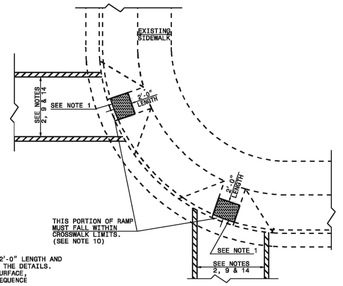
SECTION A-A

PAY LIMITS OF RETROFIT CURB RAMP



DETECTABLE WARNING DOMES

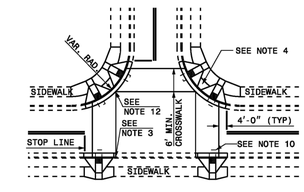
NOTES:
1. PLACE DETECTABLE WARNING DOMES TO COVER 2'-0" LENGTH AND FULL WIDTH OF THE RAMP FLOOR AS SHOWN ON THE DETAILS.
2. OBTAIN VISIBLE CONTRAST WITH ADJOINING SURFACE, EITHER LIGHT-ON-DARK, OR DARK-ON-LIGHT SEQUENCE COVERING THE ENTIRE RAMP.



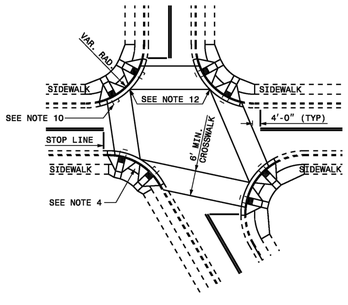
PLAN VIEW
DUAL RAMPS
ANY RADII
(40" MIN. FLOOR WIDTH)

SHEET 3 OF 5
848.06

CURB RAMPS AND EXISTING SIDEWALK



DETAIL SHOWING TYPICAL LOCATION OF CURB RAMPS, PEDESTRIAN CROSSWALKS AND STOP LINES FOR TEE INTERSECTIONS



DETAIL SHOWING TYPICAL LOCATION OF CURB RAMPS, PEDESTRIAN CROSSWALKS AND STOP LINES

RESURFACING PROJECTS

- PROPOSED CURB RAMP W/ LANDING FOR RESURFACING PROJECTS
- EXISTING SIDEWALK

ALLOWABLE LOCATIONS
DUAL RAMP RADII.....ANY

SHEET 4 OF 5
848.06

PROJECT NO. _____
GASTON COUNTY
STATION: _____

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

GENERAL DRAWING

CITY OF CHERRYVILLE
PEDESTRIAN IMPROVEMENTS
PROJECT # C-5148

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	16
1			3			TOTAL SHEETS
2			4			22

DRAWN BY:	MAW/LGC	DATE:	4/16/12
CHECKED BY:	R. WRIGHT	DATE:	4/17/12

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

1-12

ENGLISH STANDARD DRAWING FOR
CURB RAMP
EXISTING CURB AND GUTTER

SHEET 5 OF 5
848.06

CURB RAMP AND EXISTING SIDEWALK

NOTES:

1. CONSTRUCT THE RAMP SURFACE TO BE STABLE, FIRM, AND SLIP RESISTANT. CONSTRUCT THE CURB RAMP TYPE AS SHOWN IN THE PAVEMENT MARKING PLANS OR AS DIRECTED BY THE ENGINEER.
2. LOCATE CURB RAMPS AND PLACE PEDESTRIAN CROSSWALK MARKINGS AS SHOWN IN THE PAVEMENT MARKING PLANS. WHEN FIELD ADJUSTMENTS REQUIRE MOVING CURB RAMPS OR MARKINGS AS SHOWN, CONTACT THE SIGNING AND DELINEATION UNIT OR LOCATE AS DIRECTED BY THE ENGINEER.
3. COORDINATE THE CURB RAMP AND THE PEDESTRIAN CROSSWALK MARKINGS SO A 4'x4' CLEAR SPACE AT THE BASE OF THE CURB RAMP WILL FALL WITHIN THE PEDESTRIAN CROSSWALK LINES.
4. SET BACK DISTANCE FROM INSIDE CROSSWALK MARKING TO NEAREST EDGE OF TRAVEL LANE IS 4' MINIMUM.
5. REFER TO THE PAVEMENT MARKING PLANS FOR STOP BAR LOCATIONS AT SIGNALIZED INTERSECTIONS. IF A PAVEMENT MARKING PLAN IS NOT PROVIDED, CONTACT THE SIGNAL DESIGN SECTION FOR THE STOP BAR LOCATIONS OR LOCATE AS DIRECTED BY THE ENGINEER.
6. TERMINATE PARKING A MINIMUM OF 20' BACK OF A PEDESTRIAN CROSSWALK.
7. CONSTRUCT CURB RAMPS A MINIMUM OF 4' WIDE.
8. CONSTRUCT THE RUNNING SLOPE OF THE RAMP 8.33% MAXIMUM.
9. ALLOWABLE CROSS SLOPE ON SIDEWALKS AND CURB RAMPS WILL BE 2% MAXIMUM.
10. CONSTRUCT THE SIDE FLARE SLOPE A MAXIMUM OF 10% MEASURED ALONG THE CURB LINE.
11. CONSTRUCT THE COUNTER SLOPE OF THE GUTTER OR STREET AT THE BASE OF THE CURB RAMP A MAXIMUM OF 5% AND MAINTAIN A SMOOTH TRANSITION.
12. CONSTRUCT LANDINGS FOR SIDEWALK A MINIMUM OF 4'x4' WITH A MAXIMUM SLOPE OF 2% IN ANY DIRECTION. CONSTRUCT LANDINGS FOR MEDIAN ISLANDS A MINIMUM OF 5'x5' WITH A MAXIMUM SLOPE OF 2% IN ANY DIRECTION.
13. TO USE A MEDIAN ISLAND AS A PEDESTRIAN REFUGE AREA, MEDIAN ISLANDS WILL BE A MINIMUM OF 6' WIDE. CONSTRUCT MEDIAN ISLANDS TO PROVIDE PASSAGE OVER OR THROUGHT THE ISLAND.
14. SMALL CHANNELIZATION ISLANDS THAT CAN NOT PROVIDE A 5'X5' LANDING AT THE TOP OF A RAMPS, WILL BE CUT THROUGH LEVEL WITH THE SURFACE STREET.
15. CURB RAMPS WITH RETURNED CURBS MAY BE USED ONLY WHERE PEDESTRIANS WOULD NOT NORMALLY WALK ACROSS THE RAMP. THE ADJACENT SURFACE IS PLANTING OR OTHER NON-WALKING SURFACE OR THE SIDE APPROACH IS SUBSTANTIALLY OBSTRUCTED.
16. PLACE A ½" EXPANSION JOINT WHERE THE CONCRETE CURB RAMP JOINS THE CURB AS SHOWN IN ROADWAY STANDARD DRAWING 848.01
17. PLACE ALL PEDESTRIAN PUSH BUTTON ACTUATORS AND CROSSING SIGNALS AS SHOWN IN THE PLANS OR AS SHOWN IN THE MUTCD.
18. CURB RAMPS THROUGH MEDIAN ISLANDS, SINGLE RAMPS AT DUAL CROSSWALKS OR LIMITED R/W SITUATIONS, WILL BE HANDLED BY SPECIAL DETAILS. CONTACT THE CONTRACT STANDARDS AND DEVELOPMENT UNIT FOR THE DETAILS OR FOR A SPECIAL DESIGN.

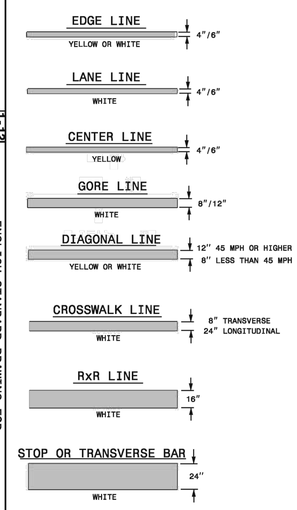
STATE OF NORTH CAROLINA
DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
RALEIGH, N.C.

1-12

ENGLISH STANDARD DRAWING FOR
PAVEMENT MARKINGS
LINE TYPES AND OFFSETS

SHEET 1 OF 2
1205.01

CONTINUOUS LINES

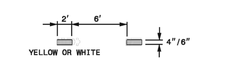


10'-30'/SP SKIP LINE

UNLESS OTHERWISED SHOWN, USE 10'-30'/SP SKIPS FOR SKIP LANE LINES AND SKIP CENTER LINES.

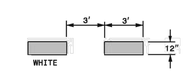
2'-6'/SP MINI-SKIP LINE

UNLESS OTHERWISED SHOWN, USE 2'-6'/SP MINI-SKIPS FOR LANE LINE EXTENSIONS THROUGH INTERSECTIONS, EDGE LINE EXTENSIONS THROUGH INTERSECTIONS AND MINI-SKIPS USED FOR BICYCLE LANE LINES.



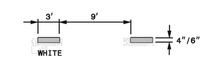
3'-3'/SP MINI-SKIP LINE

UNLESS OTHERWISED SHOWN, USE 3'-3'/SP MINI-SKIPS FOR THE WHITE EDGE LINE EXTENSIONS AT ROUNDABOUTS.



3'-9'/SP MINI-SKIP LINE

UNLESS OTHERWISED SHOWN, USE 3'-9'/SP MINI-SKIPS FOR MINI-SKIP LANE LINES AND LINE EXTENSIONS THROUGH TAPERS.



GENERAL NOTES:

1- USE 6" LANE, EDGE, AND CENTER LINES ON ALL FULL CONTROL OF ACCESS FACILITIES AND OTHER ROUTES AS DIRECTED BY THE ENGINEER.

2- LANE LINES INDICATED AS "WIDE" ON THE ROADWAY STANDARD DRAWINGS SHALL BE AT LEAST TWICE THE WIDTH OF THE NORMAL LINE.

3- GORE LINES SHALL BE TWICE THE WIDTH OF THE NORMAL LINE.

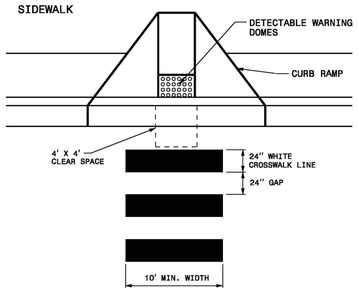
STATE OF NORTH CAROLINA
DEPT. OF TRANSPORTATION
DIVISION OF HIGHWAYS
RALEIGH, N.C.

1-12

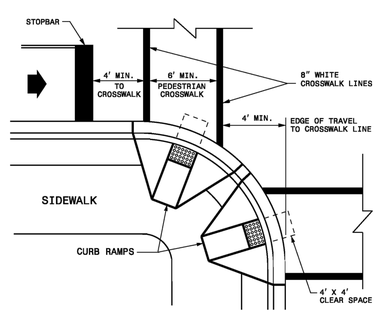
ENGLISH STANDARD DRAWING FOR
PAVEMENT MARKINGS
PEDESTRIAN CROSSWALKS

SHEET 1 OF 1
1205.07

HI-VISIBILITY CROSSWALK



STANDARD CROSSWALK



1- THE MINIMUM WIDTH OF STANDARD CROSSWALKS IS 6 FEET. THE MINIMUM WIDTH OF HI-VISIBILITY CROSSWALKS IS 10 FEET.

2- SET BACK DISTANCE FROM INSIDE CROSSWALK MARKING TO NEAREST EDGE OF TRAVEL IS 4' MIN.

3- BEYOND THE CURB FACE, A CLEAR SPACE OF 4' X 4' FEET MINIMUM SHALL BE PROVIDED WITHIN THE WIDTH OF THE CROSSWALK.

4- PLACE STOP BARS A MINIMUM OF 4 FEET FROM NEAREST CROSSWALK LINE. STOP BARS AT SIGNALIZED INTERSECTIONS SHOULD BE COORDINATED WITH THE SIGNAL DESIGN SECTION OR AS DIRECTED BY THE ENGINEER.

5- CURB RAMPS SHALL BE CONSTRUCTED IN ACCORDANCE TO THE LATEST NCDOT ROADWAY STANDARD DRAWINGS.

LEGEND

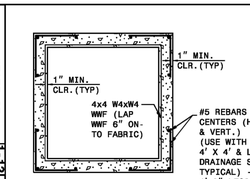
- DIRECTION OF TRAFFIC FLOW
- CURB RAMP WITH DETECTABLE WARNING DOMES

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

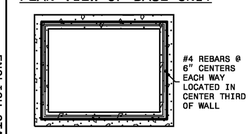
1-12

ENGLISH STANDARD DRAWING FOR
TRAFFIC BEARING PRECAST DRAINAGE STRUCTURE

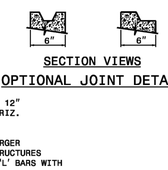
SHEET 1 OF 1
840.46



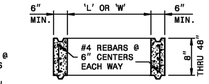
PLAN VIEW OF BASE UNIT



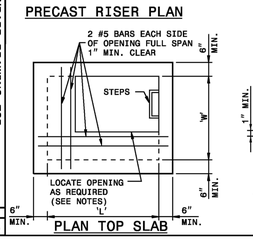
PRECAST RISER PLAN



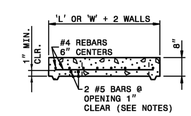
SECTION VIEWS
OPTIONAL JOINT DETAILS



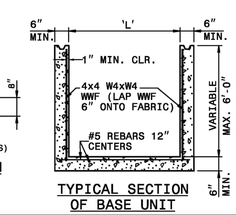
TYPICAL PRECAST RISER SECTION



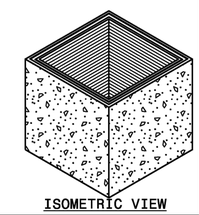
PLAN TOP SLAB



TYPICAL SECTION TOP SLAB



TYPICAL SECTION OF BASE UNIT



ISOMETRIC VIEW

GENERAL NOTES:

* THIS PRECAST BOX MAY BE USED FOR THE FOLLOWING STANDARDS: 840.04, 840.05, 840.14, 840.15, 840.31, 840.32, 840.34, 840.35, 840.36 AND 840.41.
* INSTALL AND PAY FOR PRECAST DRAINAGE STRUCTURES IN ACCORDANCE WITH NCDOT STANDARD SPECIFICATION SECTION 840.
* USE 4000 PSI MINIMUM COMPRESSIVE STRENGTH CONCRETE.
* USE ASTM A615 GRADE 60 REINFORCING STEEL. USE ASTM A185 WELDED WIRE FABRIC (WWF).
* LIMIT MAXIMUM DEPTH TO TOP OF BOTTOM SLAB TO 15'-0".
* PLACE LIFT HOLES OR PINS IN ACCORDANCE WITH OSHA STANDARD 1926.704.
* ORIENT STRUCTURES SO THAT CORNERS WILL NOT BE CUT OR MODIFIED UNLESS ALLOWED BY DETAIL IN PLANS.
* PRECAST ALL ELEMENTS TO MEET ASTM C913.
* FRAME AND GRATE HEIGHT MAY BE ADJUSTED WITH CONCRETE OR BRICK IN ACCORDANCE WITH STANDARD 840.25.
* PROVIDE PRECAST STRUCTURES OVER 4'-0" IN DEPTH WITH STEPS 12" ON CENTERS IN ACCORDANCE WITH STD. NO. 840.66.
* WELDED WIRE FABRIC MAY BE SUBSTITUTED FOR REBAR IF THE SAME MIN. AREA OF STEEL IS PROVIDED.
* SEAL JOINTS WITH AN APPROVED SEALANT (SEE SECTION 840 OF NCDOT STANDARD SPECIFICATIONS.
* LIMIT MAXIMUM STRUCTURE SIZE INSIDE CLEAR DIMENSIONS TO 6'-0" X 6'-0".
* THE OUTSIDE PIPE DIAMETER PLUS 2" IS THE MINIMUM STRUCTURE SIZE OR THE OPENING REQUIRED FOR GRATE AND FRAME WHICHEVER IS GREATER.
* ROUND MANHOLE MAY BE USED IN LIEU OF SQUARE PROVIDED 2 EXTRA #5'S ARE PLACED ON EVERY SIDE NOT ADJACENT TO A WALL. SEE STD. DWG. 840.34 FOR MANHOLE INSTALLATION.

DRAWN BY: MAW/LGC DATE: 4/16/12
CHECKED BY: R. WRIGHT DATE: 4/17/12

PROJECT NO. _____
GASTON COUNTY
STATION: _____

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

GENERAL DRAWING

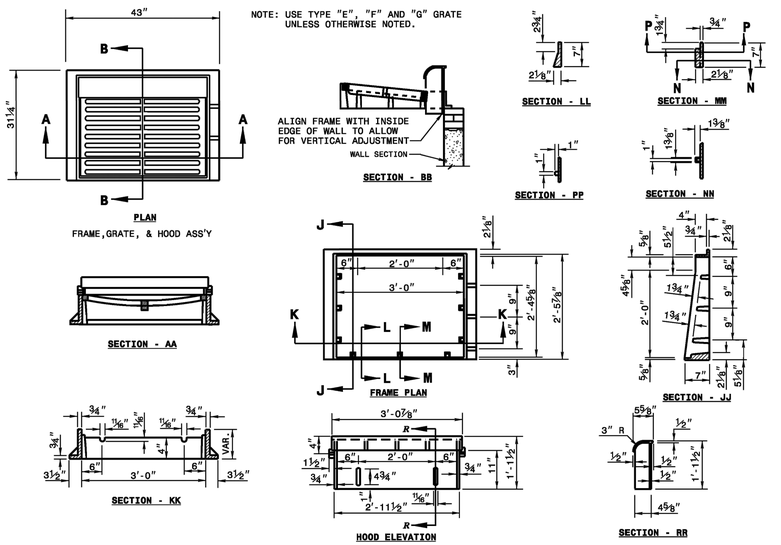
CITY OF CHERRYVILLE
PEDESTRIAN IMPROVEMENTS
PROJECT # C-5148

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	17
1			3			TOTAL SHEETS
2			4			22

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

1-12

ENGLISH STANDARD DRAWING FOR **FRAME, GRATES, AND HOOD** FOR USE ON STANDARD CATCH BASIN



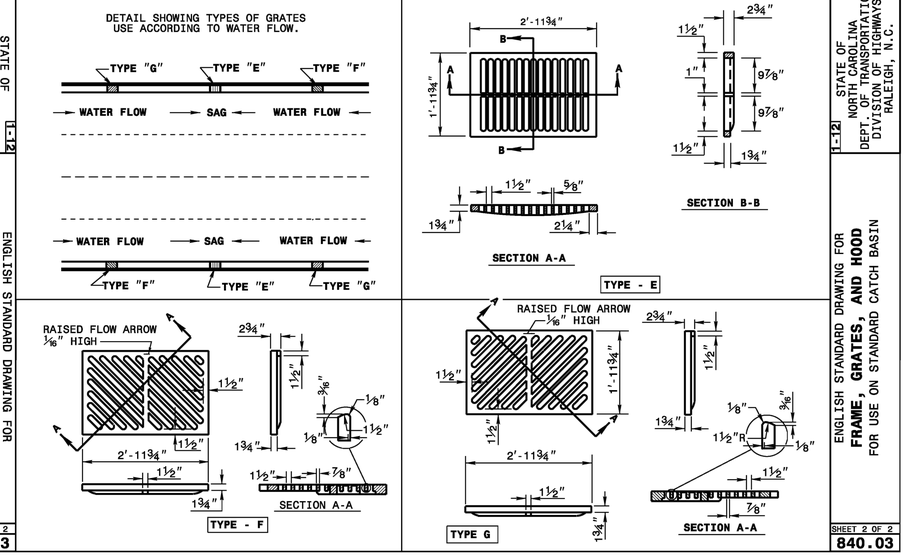
SHEET 1 OF 2

840.03

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

1-12

ENGLISH STANDARD DRAWING FOR **FRAME, GRATES, AND HOOD** FOR USE ON STANDARD CATCH BASIN



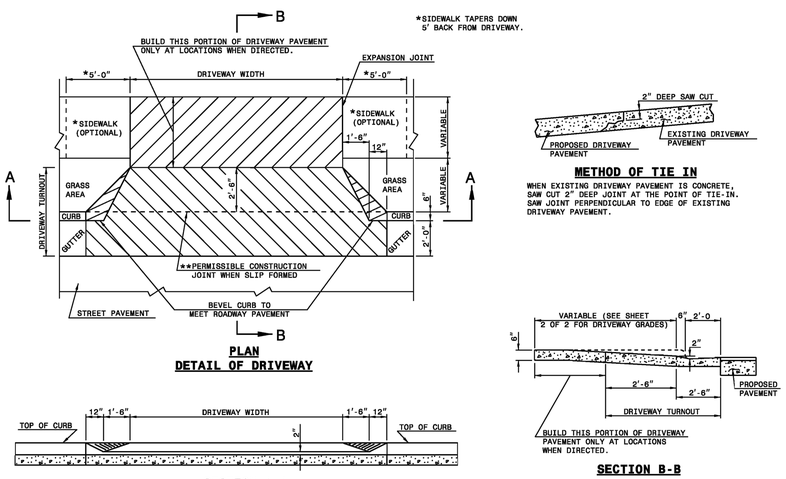
SHEET 2 OF 2

840.03

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

1-12

ENGLISH STANDARD DRAWING FOR **DRIVEWAY TURNOUT** DROP CURB TYPE



GENERAL NOTES:
**NO CONSTRUCTION JOINT WILL BE PERMITTED IF FORMS ARE USED TO CAST DRIVEWAY. SLIP FORMING OF CURB AND GUTTER PERMITS THE USE OF CONSTRUCTION JOINT.

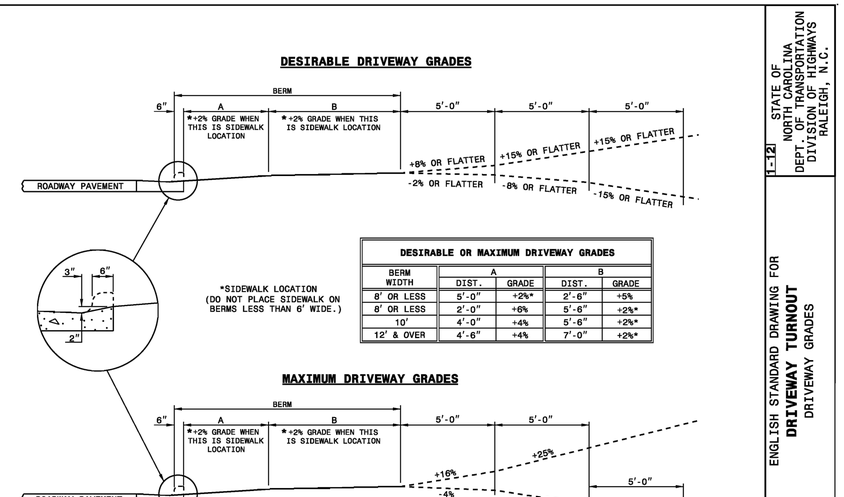
SHEET 1 OF 2

848.03

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

1-12

ENGLISH STANDARD DRAWING FOR **DRIVEWAY TURNOUT** DRIVEWAY GRADES



DESIRABLE OR MAXIMUM DRIVEWAY GRADES				
BERM WIDTH	A		B	
	DIST.	GRADE	DIST.	GRADE
8' OR LESS	5'-0"	+2%*	2'-6"	+5%
8' OR LESS	2'-0"	+6%	5'-6"	+2%*
10'	4'-0"	+4%	5'-6"	+2%*
12' & OVER	4'-6"	+4%	7'-0"	+2%*

SHEET 2 OF 2

848.03

PROJECT NO. _____

GASTON COUNTY

STATION: _____

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

GENERAL DRAWING

CITY OF CHERRYVILLE
PEDESTRIAN IMPROVEMENTS
PROJECT # C-5148

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	18
1			3			TOTAL SHEETS
2			4			22

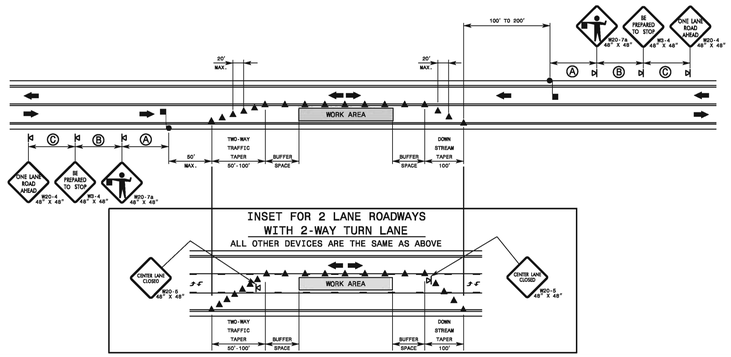
DRAWN BY: MAW/LGC DATE: 4/16/12

CHECKED BY: R. WRIGHT DATE: 4/17/12

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

1-12

ENGLISH STANDARD DRAWING FOR
TEMPORARY LANE CLOSURES
2-LANE, 2-WAY ROADWAY-1 LANE CLOSED



GENERAL NOTES FOR FLAGGER OPERATIONS

1- REFER TO STD. 1101.11 SHEET 4 FOR SIGN SPACING.

2- INSTALL LANE CLOSURES WITH THE TRAFFIC FLOW, BEGINNING WITH DEVICES ON THE UPSTREAM SIDE OF TRAFFIC.

3- REMOVE LANE CLOSURES AGAINST THE TRAFFIC FLOW, BEGINNING WITH DEVICES ON THE DOWNSTREAM SIDE OF TRAFFIC.

4- PLACE CONES THRU THE WORK AREA AT THE MAXIMUM SPACING EQUAL IN FEET TO 2 TIMES THE POSTED SPEED LIMIT.

5- EXTEND LANE CLOSURES AT THE BUFFER SPACE SUCH THAT STOPPING SIGHT DISTANCE IS PROVIDED TO THE FLAGGER (REFER TO STD. 1101.11 SHEET 2).

6- DO NOT STOP TRAFFIC IN ANY ONE DIRECTION FOR MORE THAN 5 MINUTES AT A TIME.

7- DRUMS OR SKINNY-DRUMS MAY BE USED IN LIEU OF CONES. REFER TO ROADWAY STANDARD DRAWING 1180.01 FOR SKINNY-DRUM REQUIREMENTS.

8- USE FLAGGERS TO CONTROL TRAFFIC AT INTERSECTIONS AFFECTED BY THE LANE CLOSURE. SUPPLEMENT FLAGGERS LOCATED AT INTERSECTIONS WITH FLAGGER AHEAD SIGNS (W20-7a) PLACED APPROXIMATELY 250 FT. IN ADVANCE OF THE FLAGGER. FOR SIGNALIZED INTERSECTIONS PLACE SIGNALS IN THE FLASH MODE AND RECOMMEND THE USE OF LAW ENFORCEMENT.

9- REFER TO 2009 MUTCD, CHAPTER 6, FOR FLAGGER CONTROL, REQUIREMENTS, AND PROCEDURES.

10- DO NOT EXCEED A 1 MILE LANE CLOSURE LENGTH UNLESS OTHERWISE SHOWN IN THE TMP OR AS DIRECTED BY THE ENGINEER.

GENERAL NOTES FOR PILOT CAR OPERATIONS

1- USE PILOT CARS WHEN DIRECTED BY THE ENGINEER.

2- IF ROADWAY WIDTH IS LESS THAN 22 FEET (EOP TO EOP), CONES MAY NOT BE REQUIRED ALONG WORK AREA, AND AT THE DISCRETION OF THE ENGINEER, CONES MAY BE OMITTED ALONG THE WORK AREA IF USING A PILOT CAR.

3- CONES ARE ALWAYS REQUIRED IN THE UPSTREAM AND DOWNSTREAM TAPERS.

4- MOUNT SIGN G20-4 "PILOT CAR FOLLOW ME" AT A CONSPICUOUS POSITION ON THE REAR OF THE PILOT VEHICLE.

5- DO NOT INSTALL MORE THAN ONE (1) MILE OF LANE CLOSURE, MEASURED FROM THE BEGINNING OF THE MERGE TAPER TO THE END OF THE LANE CLOSURE.

6- ADVISE RESIDENTS AND BUSINESSES WITHIN THE LANE CLOSURE LIMITS ABOUT METHODS OF SAFE EGRESS AND INGRESS FROM DRIVEWAYS DURING FLAGGING AND PILOT CAR OPERATIONS.

LEGEND

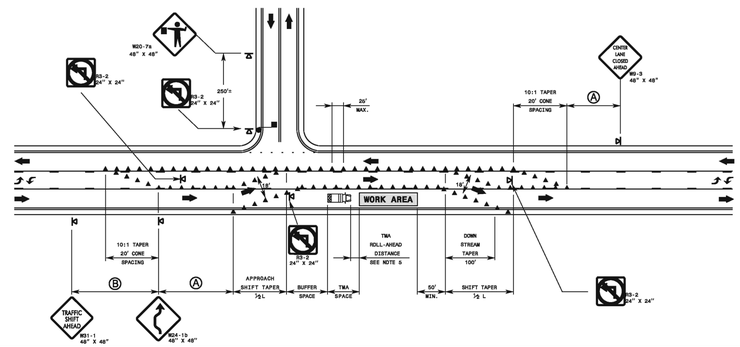
- FLAGGER
- CONE
- PORTABLE SIGN
- DIRECTION OF TRAFFIC FLOW

SHEET 1 OF 15
1101.02

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

1-12

ENGLISH STANDARD DRAWING FOR
TEMPORARY LANE CLOSURES
2-LANE, 2-WAY ROADWAY WITH 2-WAY TURN LANE
1 THRU LANE CLOSED



GENERAL NOTES

1- REFER TO STD. 1101.11, FOR "L" DISTANCE AND SIGN SPACING.

2- INSTALL LANE CLOSURES WITH THE TRAFFIC FLOW, BEGINNING WITH DEVICES ON THE UPSTREAM SIDE OF TRAFFIC. REMOVE LANE CLOSURES AGAINST THE TRAFFIC FLOW, BEGINNING WITH DEVICES ON THE DOWNSTREAM SIDE OF TRAFFIC.

3- PLACE CONES ADJACENT TO THE WORK AREA AT THE MAXIMUM SPACING EQUAL IN FEET TO 2 TIMES THE POSTED SPEED LIMIT. PLACE CONES SEPARATING OPPOSING TRAFFIC AT THE MAXIMUM SPACING OF 25 FEET.

4- EXTEND LANE CLOSURES AT THE BUFFER SPACE SUCH THAT STOPPING SIGHT DISTANCE IS PROVIDED TO THE BEGINNING OF THE APPROACH SHIFT TAPER (REFER TO STD. 1101.11 SHEET 2).

5- TMA'S ARE REQUIRED WHEN A BUFFER SPACE CANNOT BE ATTAINED, OR WHEN DIRECTED BY THE ENGINEER OR AS SHOWN IN THE PLANS. WHEN USED, POSITION TMA'S TO MAINTAIN A ROLL-AHEAD DISTANCE AS RECOMMENDED BY THE MANUFACTURER.

6- DRUMS OR SKINNY-DRUMS MAY BE USED IN LIEU OF CONES. REFER TO ROADWAY STANDARD DRAWING 1180.01 FOR SKINNY-DRUM REQUIREMENTS.

7- DO NOT EXCEED A 1 MILE LANE CLOSURE LENGTH UNLESS OTHERWISE SHOWN IN THE TMP OR AS DIRECTED BY THE ENGINEER.

LEGEND

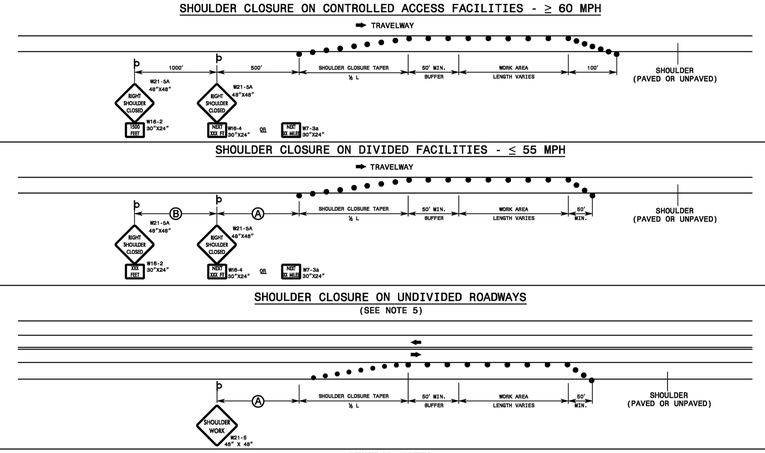
- TMA
- FLAGGER
- CONE
- PORTABLE SIGN
- DIRECTION OF TRAFFIC FLOW

SHEET 2 OF 15
1101.02

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

1-12

ENGLISH STANDARD DRAWING FOR
TEMPORARY SHOULDER CLOSURES



GENERAL NOTES

1- PLACE SHOULDER CLOSURE SIGNS ON THE SAME SIDE AS THE SHOULDER THAT IS CLOSED.

2- PLACE DRUMS IN THE SHOULDER TAPER AT THE MAXIMUM SPACING EQUAL IN FEET TO THE POSTED SPEED LIMIT. THE MAXIMUM SPACING OF DRUMS ALONG THE WORK AREA IS EQUAL IN FEET TO 2 TIMES THE POSTED SPEED LIMIT.

3- USE STATIONARY SIGNS FOR LONG TERM OPERATIONS (LONGER THAN 3 DAYS).

4- REFER TO STD. 1101.11 FOR "L" DISTANCE AND SIGN SPACING.

5- THE TWO-LANE, TWO-WAY DRAWING MAY BE APPLIED TO UNDIVIDED, MULTI-LANE FACILITIES.

LEGEND

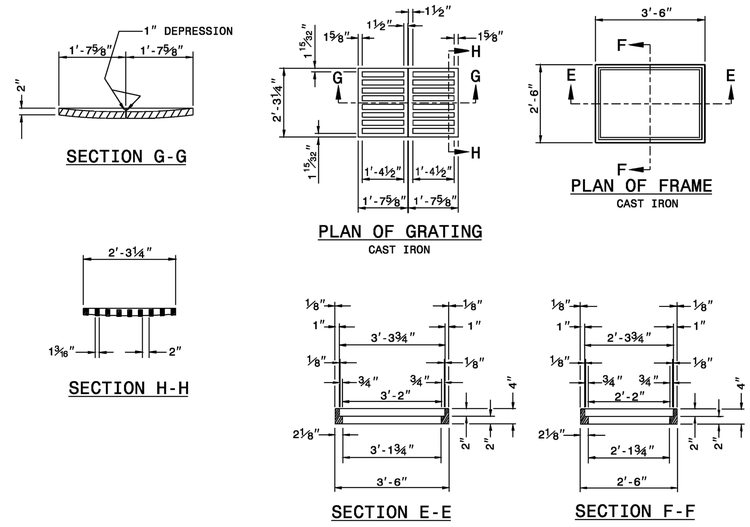
- DRUM
- STATIONARY OR PORTABLE SIGN
- DIRECTION OF TRAFFIC FLOW

SHEET 1 OF 1
1101.04

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

1-12

ENGLISH STANDARD DRAWING FOR
DROP INLET FRAME AND GRATES
FOR USE WITH STD. DWG.S 840.14 AND 840.15



SHEET 1 OF 1
840.16

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

1-12

ENGLISH STANDARD DRAWING FOR
DROP INLET FRAME AND GRATES
FOR USE WITH STD. DWG.S 840.14 AND 840.15

SHEET 1 OF 1
840.16

PROJECT NO. _____

GASTON COUNTY

STATION: _____

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

GENERAL DRAWING

CITY OF CHERRYVILLE
PEDESTRIAN IMPROVEMENTS
PROJECT # C-5148

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	19
1			3			TOTAL SHEETS
2			4			22

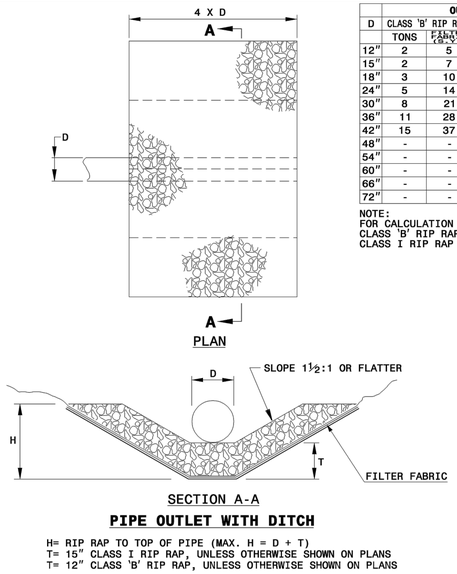
DRAWN BY: MAW/LGC DATE: 4/16/12
CHECKED BY: R. WRIGHT DATE: 4/17/12

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

7-06

ENGLISH STANDARD DRAWING FOR

GUIDE FOR RIP RAP AT PIPE OUTLETS

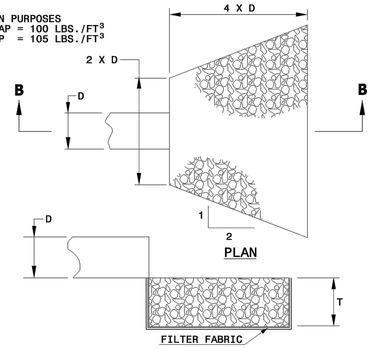


PIPE OUTLET WITH DITCH

H= RIP RAP TO TOP OF PIPE (MAX. H = D + T)
T= 15″ CLASS I RIP RAP, UNLESS OTHERWISE SHOWN ON PLANS
T= 12″ CLASS 'B' RIP RAP, UNLESS OTHERWISE SHOWN ON PLANS

D	OUTLET W/DITCH					OUTLET W/O DITCH				
	CLASS 'B' RIP RAP	CLASS I RIP RAP				CLASS 'B' RIP RAP	CLASS I RIP RAP			
	TONS	FABRIC (SQ.YD.)	S.Y.	TONS	FABRIC (SQ.YD.)	TONS	FABRIC (SQ.YD.)	S.Y.	TONS	FABRIC (SQ.YD.)
12″	2	5	5	2	5	1	4	2	1	4
15″	2	7	7	3	7	1	5	3	2	6
18″	3	10	9	4	10	2	7	4	2	8
24″	5	14	15	7	15	3	11	7	4	12
30″	8	21	21	11	22	5	16	11	7	17
36″	11	28	29	15	30	7	22	16	10	23
42″	15	37	39	20	39	10	28	22	13	30
48″	-	-	49	26	50	-	-	28	17	38
54″	-	-	60	33	62	-	-	36	21	47
60″	-	-	73	40	75	-	-	44	26	56
66″	-	-	87	48	89	-	-	54	32	67
72″	-	-	102	57	104	-	-	64	38	78

NOTE:
FOR CALCULATION PURPOSES
CLASS 'B' RIP RAP = 100 LBS./FT^3
CLASS I RIP RAP = 105 LBS./FT^3



SECTION B-B

PIPE OUTLET WITHOUT DITCH

SHEET 1 OF 1
876.02

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

7-06

ENGLISH STANDARD DRAWING FOR

GUIDE FOR RIP RAP AT PIPE OUTLETS

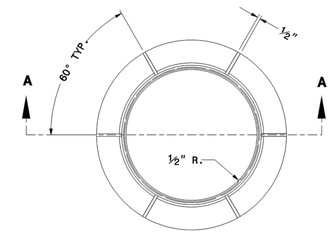
SHEET 1 OF 1
876.02

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

7-06

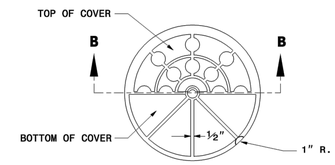
ENGLISH STANDARD DRAWING FOR

MANHOLE FRAME AND COVER

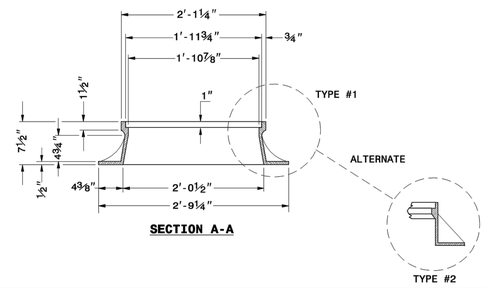


PLAN OF FRAME

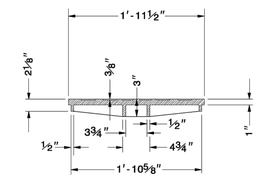
SOLID COVER SHOWN PERFORATED. PERFORATED AVAILABLE IF SPECIFIED.
STATE USE OF SYSTEM ON COVER
(I.E.: SEWER, STORM DRAIN, ELECTRICAL)



PLAN OF COVER



SECTION A-A



SECTION B-B

MINIMUM WEIGHTS - LBS.
FRAME - 180
COVER - 120
TOTAL - 300

SPECIFICATION
CLASS 30 IRON MEETING
ASTM A-48

SHEET 1 OF 1
840.54

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

7-06

ENGLISH STANDARD DRAWING FOR

MANHOLE FRAME AND COVER

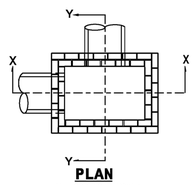
SHEET 1 OF 1
840.54

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

1-12

ENGLISH STANDARD DRAWING FOR

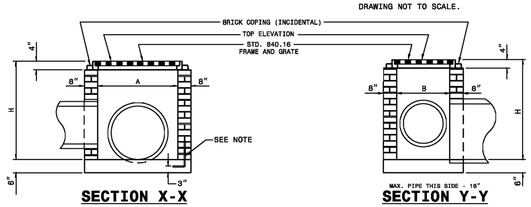
BRICK DROP INLET
12″ THRU 30″ PIPE



PLAN
WITH COPING REMOVED

GENERAL NOTES:

MORTAR JOINTS ½″ +/- ⅛″ THICK.
USE CLASS "B" CONCRETE THROUGHOUT.
USE FORMS FOR CONSTRUCTION OF THE BOTTOM SLAB.
USE #4 BAR DOWELS AT 12″ CENTERS.
DEDUCT FOR PIPE(S) FROM TOTAL CU. YDS. OF BRICK MASONRY.
PROVIDE ALL CATCH BASINS OVER 3′-6″ IN DEPTH WITH STEPS 12″ ON CENTER. USE STEPS WHICH COMPLY WITH STD. DRAWING 840.66.
USE BRICK OR CONCRETE BLOCK WHICH COMPLIES WITH THE REQUIREMENTS OF SECTION 840 OF THE STANDARD SPECIFICATIONS.
IF REINFORCED CONCRETE PIPE IS SET IN BOTTOM SLAB OF BOX, ADD TO SLAB AS SHOWN ON STD. NO. 840.00.
FOR 8′-0″ IN HEIGHT OR LESS, USE 8″ WALL. OVER 8′-0″ IN HEIGHT, USE 12″ WALL TO 8′-0″ FROM TOP OF WALL AND 8″ WALL FOR THE REMAINING 6′-0″. QUANTITES TO BE ADJUSTED ACCORDINGLY.
CONSTRUCT WITH PIPE CROWNS MATCHING.
SEE STANDARD DRAWING 840.25 FOR ATTACHMENT OF FRAMES AND GRATES.
DO NOT USE BRICK MASONRY DROP INLET IN LOCATIONS SUBJECT TO TRAFFIC.
CHAMFER ALL EXPOSED CORNERS 1″.
DRAWING NOT TO SCALE.



SECTION X-X **SECTION Y-Y**

DOWEL

DIMENSIONS AND QUANTITIES FOR DROP INLET(BASED ON MIN. HEIGHT, H)

DIMENSIONS OF BOX & PIPE				CUBIC YARDS CONCRETE	CUBIC YARDS BRICK MASONRY		DEDUCTIONS FOR ONE PIPE	
PIPE	SPAN	WIDTH	MIN. HEIGHT	BOTTOM SLAB	WALL PER FOOT HT.	TOTAL BRICK MASONRY FOR MIN. HEIGHT, H	C.S.	R.C.
D	A	B	H					
12″	3′-0″	2′-0″	2′-0″	0.268	0.313	0.522	0.020	0.032
15″			2′-3″	0.268	0.313	0.600	0.031	0.047
18″			2′-8″	0.268	0.313	0.678	0.044	0.065
24″			3′-0″	0.268	0.313	0.835	0.078	0.113
30″	3′-0″	2′-0″	3′-6″	0.268	0.313	0.991	0.122	0.170

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

1-12

ENGLISH STANDARD DRAWING FOR

BRICK DROP INLET
12″ THRU 30″ PIPE

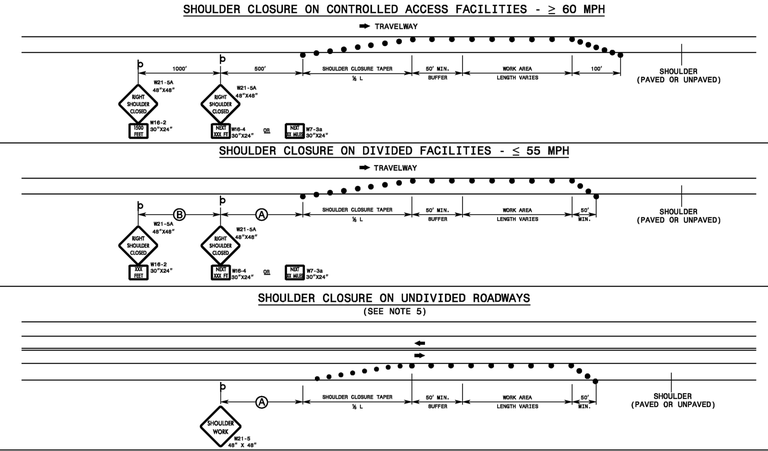
SHEET 1 OF 1
840.15

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

1-12

ENGLISH STANDARD DRAWING FOR

TEMPORARY SHOULDER CLOSURES



GENERAL NOTES

1- PLACE SHOULDER CLOSURE SIGNS ON THE SAME SIDE AS THE SHOULDER THAT IS CLOSED.

2- PLACE DRUMS IN THE SHOULDER TAPER AT THE MAXIMUM SPACING EQUAL IN FEET TO THE POSTED SPEED LIMIT. THE MAXIMUM SPACING OF DRUMS ALONG THE WORK AREA IS EQUAL IN FEET TO 2 TIMES THE POSTED SPEED LIMIT.

3- USE STATIONARY SIGNS FOR LONG TERM OPERATIONS (LONGER THAN 3 DAYS).

4- REFER TO STD. 1101.11 FOR "L" DISTANCE AND SIGN SPACING.

5- THE TWO-LANE, TWO-WAY DRAWING MAY BE APPLIED TO UNDIVIDED, MULTI-LANE FACILITIES.

LEGEND
● DRUM
STATIONARY OR PORTABLE SIGN
➡ DIRECTION OF TRAFFIC FLOW

SHEET 1 OF 1
1101.04

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

1-12

ENGLISH STANDARD DRAWING FOR

TEMPORARY SHOULDER CLOSURES

SHEET 1 OF 1
1101.04

PROJECT NO. _____
GASTON COUNTY
STATION: _____

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

GENERAL DRAWING

CITY OF CHERRYVILLE
PEDESTRIAN IMPROVEMENTS
PROJECT # C-5148

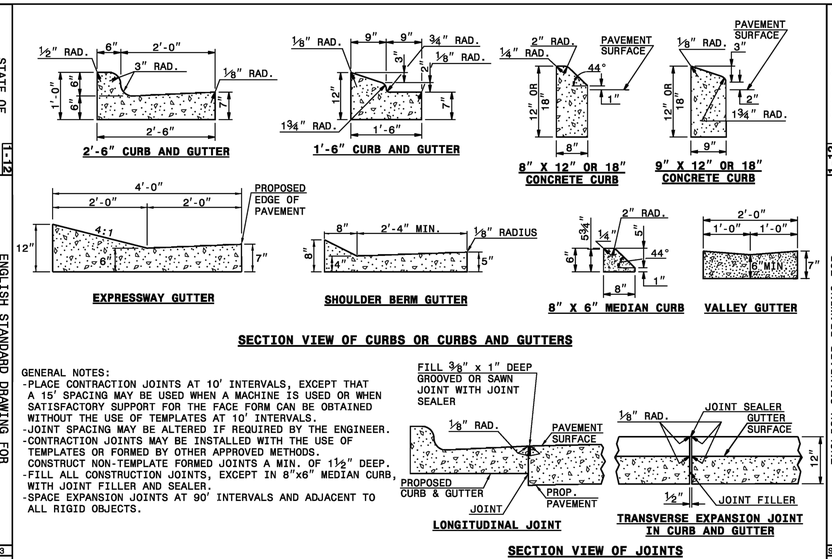
REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	20
1			3			TOTAL SHEETS
2			4			22

DRAWN BY: MAW/LGC DATE: 4/16/12
CHECKED BY: R. WRIGHT DATE: 4/17/12

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

1-12

ENGLISH STANDARD DRAWING FOR
CONCRETE CURB, GUTTER AND CURB & GUTTER



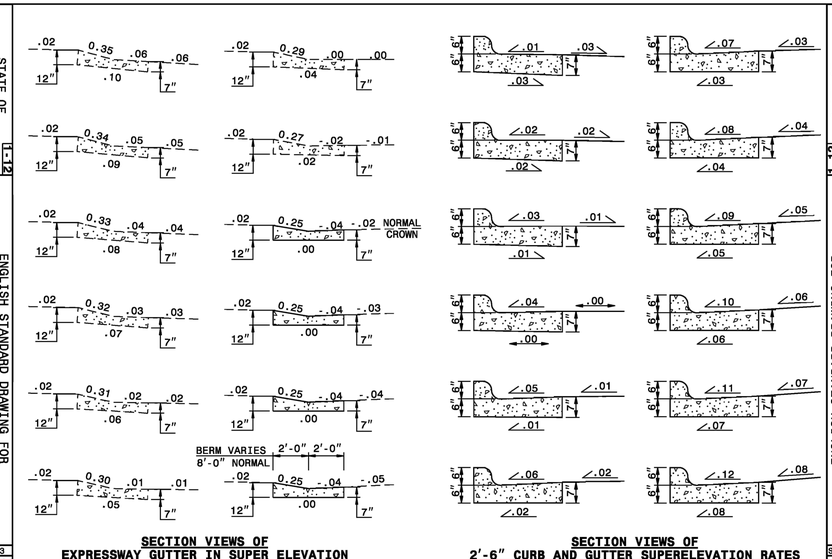
GENERAL NOTES:
- PLACE CONTRACTION JOINTS AT 10' INTERVALS, EXCEPT THAT A 15' SPACING MAY BE USED WHEN A MACHINE IS USED OR WHEN SATISFACTORY SUPPORT FOR THE FACE FORM CAN BE OBTAINED WITHOUT THE USE OF TEMPLATES AT 10' INTERVALS.
- JOINT SPACING MAY BE ALTERED IF REQUIRED BY THE ENGINEER.
- CONTRACTION JOINTS MAY BE INSTALLED WITH THE USE OF TEMPLATES OR FORMED BY OTHER APPROVED METHODS. CONSTRUCT NON-TEMPLATE FORMED JOINTS A MIN. OF 1½" DEEP.
- FILL ALL CONSTRUCTION JOINTS, EXCEPT IN 8"x6" MEDIAN CURB, WITH JOINT FILLER AND SEALER.
- SPACE EXPANSION JOINTS AT 90' INTERVALS AND ADJACENT TO ALL RIGID OBJECTS.

SHEET 1 OF 3
846.01

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

1-12

ENGLISH STANDARD DRAWING FOR
CONCRETE CURB, GUTTER AND CURB & GUTTER

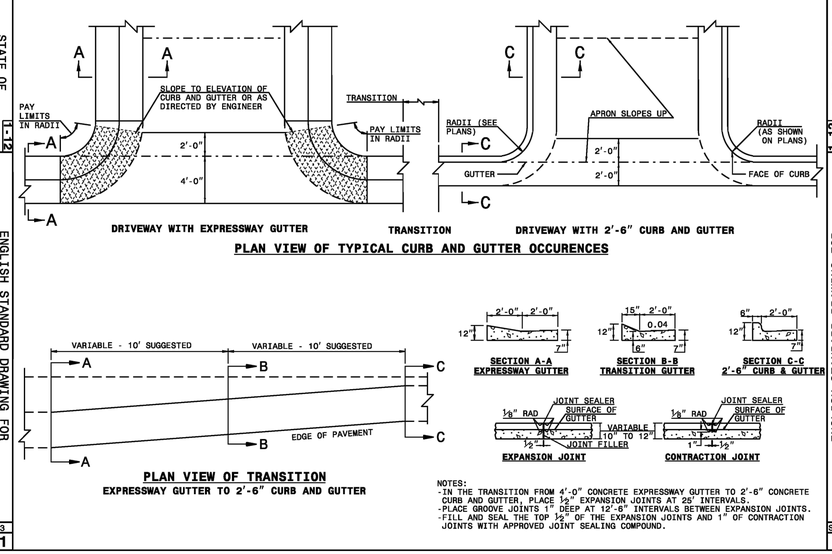


SHEET 2 OF 3
846.01

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

1-12

ENGLISH STANDARD DRAWING FOR
CONCRETE CURB, GUTTER AND CURB & GUTTER



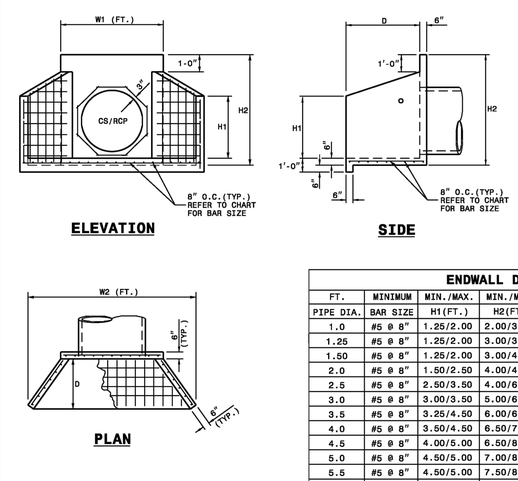
NOTES:
- IN THE TRANSITION FROM 4'-0" CONCRETE EXPRESSWAY GUTTER TO 2'-6" CONCRETE CURB AND GUTTER, PLACE ½" EXPANSION JOINTS AT 25' INTERVALS.
- PLACE GROOVE JOINTS 1" DEEP AT 12'-6" INTERVALS BETWEEN EXPANSION JOINTS.
- FILL AND SEAL THE TOP ½" OF THE EXPANSION JOINTS AND 1" OF CONTRACTION JOINTS WITH APPROVED JOINT SEALING COMPOUND.

SHEET 3 OF 3
846.01

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

1-12

ENGLISH STANDARD DRAWING FOR
PRECAST CONCRETE ENDWALL
FOR SINGLE 12" THRU 72" PIPE - 90° SKEW



NOTES:
- THIS PRECAST ENDWALL MAY BE USED FOR THE FOLLOWING STANDARDS: 838.01, 838.11, 838.21, 838.27, 838.33, 838.39, 838.51, 838.57, 838.63 AND 838.69.
- INSTALL PRECAST ENDWALLS WITH WINGS AND PAY FOR IN ACCORDANCE WITH SPECIFICATION SECTION 838.
- USE 4000 PSI CONCRETE.
- PROVIDE ALL REINFORCING STEEL WHICH MEETS ASTM A615 FOR GRADE 60 AND WELDED WIRE FABRIC CONFORMING TO ASTM A185 WITH 2" MIN. CLEARANCE.
- PLACE LIFT HOLES OR PINS IN ACCORDANCE WITH OSHA STANDARD 1926.704.
- PIPE TO BE GROUTED INTO HEADWALL AT JOB SITE BY CONTRACTOR
- ALL ELEMENTS PRECAST TO MEET ASTM C913.
- WELDED WIRE FABRIC MAY BE SUBSTITUTED FOR REBAR AS LONG AS THE SAME AREA OF STEEL IS PROVIDED.
- CHAMFER ALL CORNERS 1" OR HAVE A RADIUS OF 1".

NOTE: THE MINIMUM BAR SIZE SHALL BE #5 BARS AT 8" CTS.THE CONTRACTOR WILL HAVE THE OPTION TO INCREASE THIS BAR SIZE AS NEEDED.

ENDWALL DIMENSIONS

FT.	MINIMUM	MIN./MAX.	MIN./MAX.	MIN./MAX.	MIN./MAX.	MIN./MAX.
PIPE DIA.	BAR SIZE	H1(FT.)	H2(FT.)	D (FT.)	W1	W2
1.0	#5 @ 8"	1.25/2.00	2.00/3.75	1.25/1.75	3.00/3.75	5.50/6.00
1.25	#5 @ 8"	1.25/2.00	3.00/3.75	1.25/2.00	3.50/3.75	6.50/6.75
1.50	#5 @ 8"	1.25/2.00	3.00/4.25	1.50/2.50	3.50/3.75	6.50/6.75
2.0	#5 @ 8"	1.50/2.50	4.00/4.75	1.75/2.50	4.00/4.25	7.50/8.25
2.5	#5 @ 8"	2.50/3.50	4.00/6.00	2.00/3.00	4.50/5.50	10.00/11.50
3.0	#5 @ 8"	3.00/3.50	5.00/6.00	2.75/3.50	5.25/5.75	11.50/11.75
3.5	#5 @ 8"	3.25/4.50	6.00/6.75	3.25/3.50	6.00/6.75	12.00/13.25
4.0	#5 @ 8"	3.50/4.50	6.50/7.00	3.25/3.50	6.50/6.75	13.00/13.25
4.5	#5 @ 8"	4.00/5.00	6.50/8.50	3.25/4.00	7.00/9.25	13.50/15.75
5.0	#5 @ 8"	4.50/5.00	7.00/8.50	3.25/4.00	7.25/9.25	13.75/15.75
5.5	#5 @ 8"	4.50/5.00	7.50/8.50	3.25/4.00	7.25/9.25	14.00/15.75
6.0	#5 @ 8"	4.50/5.00	7.50/8.50	3.25/4.00	7.75/9.25	14.75/16.75

SHEET 1 OF 1
838.80

PROJECT NO. _____
GASTON COUNTY
STATION: _____

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

GENERAL DRAWING

CITY OF CHERRYVILLE
PEDESTRIAN IMPROVEMENTS
PROJECT # C-5148

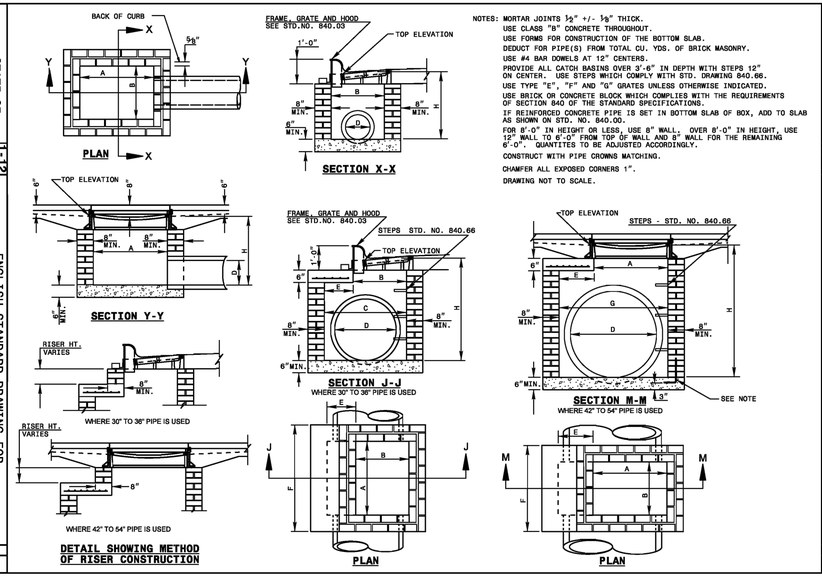
REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	21
1			3			TOTAL SHEETS
2			4			22

DRAWN BY: MAW/LGC DATE: 4/16/12
CHECKED BY: R. WRIGHT DATE: 4/17/12

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

1-12

ENGLISH STANDARD DRAWING FOR
BRICK CATCH BASIN
12" THRU 54" PIPE



DETAIL SHOWING METHOD OF RISER CONSTRUCTION

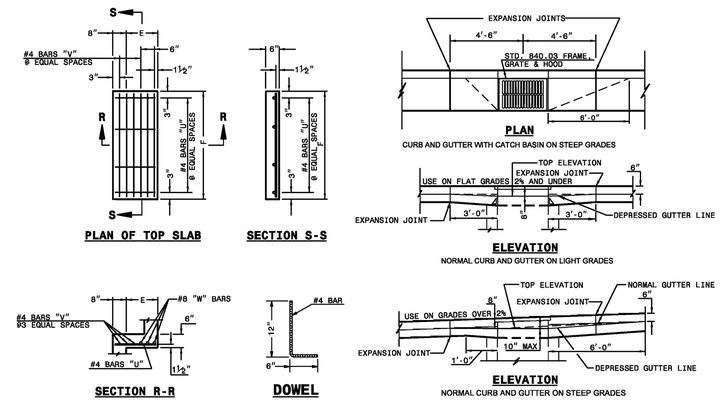
NOTES: MORTAR JOINTS ½" +/- ⅛" THICK.
USE CLASS "B" CONCRETE THROUGHOUT.
USE FORMS FOR CONSTRUCTION OF THE BOTTOM SLAB.
DEDUCT FOR PIPE(S) FROM TOTAL CU. YDS. OF BRICK MASONRY.
USE #4 BAR DOWELS AT 12" CENTERS.
PROVIDE ALL CATCH BASINS OVER 3'-6" IN DEPTH WITH STEPS 12" ON CENTER. USE STEPS WHICH COMPLY WITH STD. DRAWING 840.66.
USE TYPE "E", "F" AND "G" GRATES UNLESS OTHERWISE INDICATED.
USE BRICK OR CONCRETE BLOCK WHICH COMPLIES WITH THE REQUIREMENTS OF SECTION 840 OF THE STANDARD SPECIFICATIONS.
IF REINFORCED CONCRETE PIPE IS SET IN BOTTOM SLAB OF BOX, ADD TO SLAB AS SHOWN ON STD. NO. 840.00.
FOR 8'-0" IN HEIGHT OR LESS, USE 8" WALL. OVER 8'-0" IN HEIGHT, USE 12" WALL TO 6'-0" FROM TOP OF WALL AND 8" WALL FOR THE REMAINING 6'-0". QUANTITIES TO BE ADJUSTED ACCORDINGLY.
CONSTRUCT WITH PIPE CROWNS MATCHING.
CHAMFER ALL EXPOSED CORNERS 1".
DRAWING NOT TO SCALE.

SHEET 1 OF 2
840.01

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

1-12

ENGLISH STANDARD DRAWING FOR
BRICK CATCH BASIN
12" THRU 54" PIPE



MINIMUM DIMENSIONS AND QUANTITIES FOR BRICK CATCH BASIN(BASED ON MIN. HEIGHT, H, WITH NO RISER)*																					
DIMENSIONS OF BOX AND PIPE						TOP SLAB DIMENSIONS		BARS-U		BARS-V		BARS-W			CU.YDS. CONC. IN BOX			BRICK MASONRY		DEDUCTIONS ONE PIPE	
PIPE	SPAN	WIDTH	WIDTH	SPAN	MIN. HEIGHT			NO.	LENGTH	NO.	LENGTH	NO.	LENGTH	TOTAL LBS.	TOP SLAB	BOTTOM SLAB	TOT. CONC. FOR MINIMUM HEIGHT, H	BRICK WORK IN WALLS	TOTAL BRICK AND CONCRETE	C.M.	R.C.
D	A	B	C	G	H	E	F														
12"	3'-0"	2'-2"	--	--	2'-9"	--	--	--	--	--	--	--	--	--	--	0.281	0.281	0.883	1.164	0.020	0.042
15"	3'-0"	2'-2"			3'-0"											0.281	0.281	0.963	1.244	0.031	0.047
18"	3'-0"	2'-2"			3'-3"											0.281	0.281	1.043	1.324	0.044	0.065
24"	3'-0"	2'-2"			3'-9"											0.281	0.281	1.204	1.485	0.078	0.121
30"	3'-0"	2'-2"	3'-4"		4'-3"	1'-2"	4'-4"	4	1'-8"	3	4'-1"	3	4'-1"	45	0.147	0.374	0.521	1.606	2.217	0.122	0.184
36"	3'-0"	2'-2"	3'-10"		4'-9"	1'-8"	4'-4"	4	2'-0"	4	4'-1"	3	4'-1"	49	0.187	0.415	0.602	1.914	2.516	0.176	0.261
42"	3'-0"	2'-2"		4'-5"	5'-3"	1'-5"	3'-6"	4	1'-9"	3	3'-3"	3	3'-3"	38	0.135	0.373	0.508	2.152	2.660	0.240	0.371
48"	3'-0"	2'-2"		5'-0"	5'-9"	2'-0"	3'-6"	4	2'-6"	4	3'-3"	3	3'-3"	41	0.173	0.410	0.583	2.415	2.998	0.313	0.477
54"	3'-0"	2'-2"		5'-7"	6'-3"	2'-7"	3'-8"	4	3'-0"	6	3'-3"	3	3'-3"	47	0.211	0.448	0.659	2.806	3.465	0.396	0.595

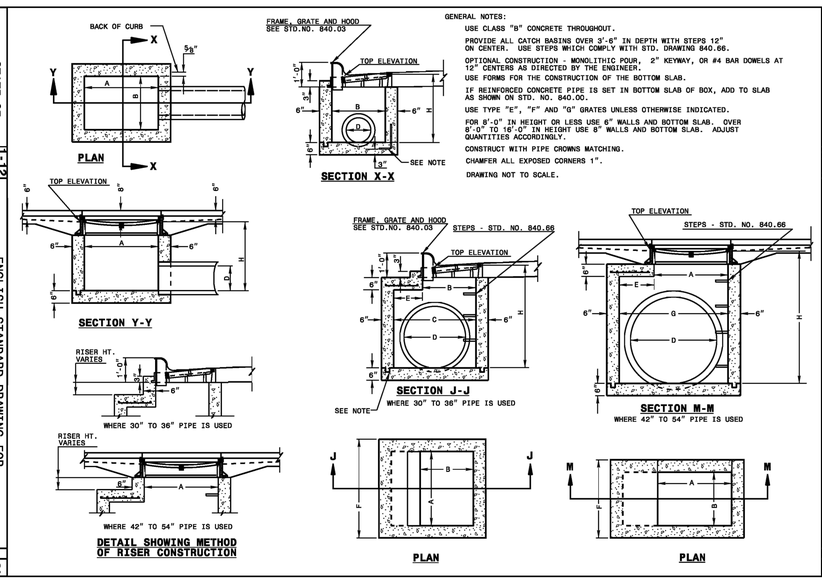
* RISER HAS .321 CUBIC YARDS OF BRICK MASONRY PER FOOT HEIGHT

SHEET 2 OF 2
840.01

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

1-12

ENGLISH STANDARD DRAWING FOR
CONCRETE CATCH BASIN
12" THRU 54" PIPE



DETAIL SHOWING METHOD OF RISER CONSTRUCTION

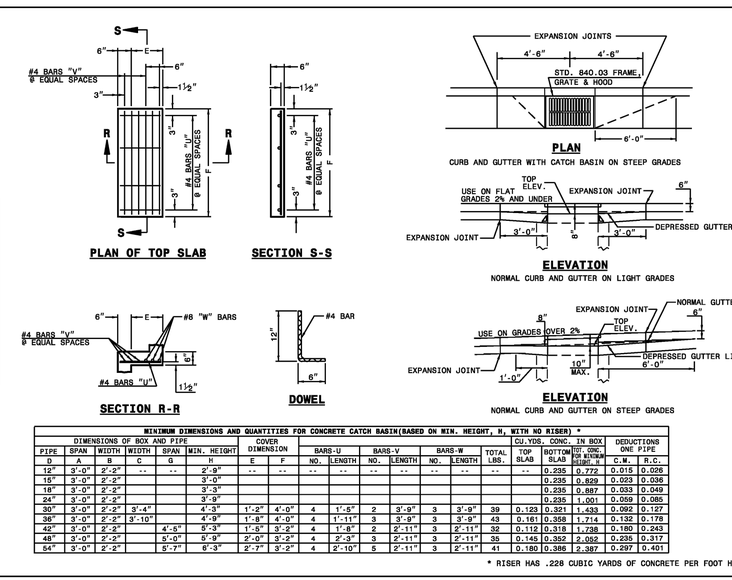
GENERAL NOTES:
USE CLASS "B" CONCRETE THROUGHOUT.
PROVIDE ALL CATCH BASINS OVER 3'-6" IN DEPTH WITH STEPS 12" ON CENTER. USE STEPS WHICH COMPLY WITH STD. DRAWING 840.66.
OPTIONAL CONSTRUCTION - MONOLITHIC POUR. 2" KEYWAY, OR #4 BAR DOWELS AT 12" CENTERS AS DIRECTED BY THE ENGINEER.
USE FORMS FOR THE CONSTRUCTION OF THE BOTTOM SLAB.
IF REINFORCED CONCRETE PIPE IS SET IN BOTTOM SLAB OF BOX, ADD TO SLAB AS SHOWN ON STD. NO. 840.00.
USE TYPE "E", "F" AND "G" GRATES UNLESS OTHERWISE INDICATED.
FOR 8'-0" IN HEIGHT OR LESS USE 6" WALLS AND BOTTOM SLAB. OVER 8'-0" TO 16'-0" IN HEIGHT USE 8" WALLS AND BOTTOM SLAB. ADJUST QUANTITIES ACCORDINGLY.
CONSTRUCT WITH PIPE CROWNS MATCHING.
CHAMFER ALL EXPOSED CORNERS 1".
DRAWING NOT TO SCALE.

SHEET 1 OF 2
840.02

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

1-12

ENGLISH STANDARD DRAWING FOR
CONCRETE CATCH BASIN
12" THRU 54" PIPE



MINIMUM DIMENSIONS AND QUANTITIES FOR CONCRETE CATCH BASIN(BASED ON MIN. HEIGHT, H, WITH NO RISER) *																					
DIMENSIONS OF BOX AND PIPE						COVER DIMENSION		BARS-U		BARS-V		BARS-W			CU.YDS. CONC. IN BOX			DEDUCTIONS ONE PIPE			
PIPE	SPAN	WIDTH	WIDTH	SPAN	MIN. HEIGHT			NO.	LENGTH	NO.	LENGTH	NO.	LENGTH	TOTAL LBS.	TOP SLAB	BOTTOM SLAB	TOT. CONC. FOR MINIMUM HEIGHT, H	C.M.	R.C.		
D	A	B	C	G	H	E	F														
12"	3'-0"	2'-2"	--	--	2'-9"	--	--	--	--	--	--	--	--	--	--	0.235	0.772	0.015	0.026		
15"	3'-0"	2'-2"			3'-0"											0.235	0.829	0.023	0.036		
18"	3'-0"	2'-2"			3'-3"											0.235	0.887	0.033	0.049		
24"	3'-0"	2'-2"			3'-9"											0.235	1.001	0.059	0.085		
30"	3'-0"	2'-2"	3'-4"		4'-3"	1'-2"	4'-0"	4	1'-5"	2	3'-9"	3	3'-9"	39	0.123	0.321	1.433	0.092	0.127		
36"	3'-0"	2'-2"	3'-10"		4'-9"	1'-8"	4'-0"	4	1'-11"	3	3'-9"	3	3'-9"	43	0.161	0.358	1.714	0.132	0.178		
42"	3'-0"	2'-2"		4'-5"	5'-3"	1'-5"	3'-2"	4	1'-8"	2	2'-11"	3	2'-11"	32	0.112	0.318	1.738	0.180	0.243		
48"	3'-0"	2'-2"		5'-0"	5'-9"	2'-0"	3'-2"	4	2'-3"	3	2'-11"	3	2'-11"	35	0.145	0.352	2.052	0.235	0.317		
54"	3'-0"	2'-2"		5'-7"	6'-3"	2'-7"	3'-2"	4	2'-10"	5	2'-11"	3	2'-11"	41	0.180	0.386	2.387	0.297	0.401		

* RISER HAS .228 CUBIC YARDS OF CONCRETE PER FOOT HEIGHT

SHEET 2 OF 2
840.02

PROJECT NO. _____

GASTON COUNTY

STATION: _____

STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION
RALEIGH

GENERAL DRAWING

CITY OF CHERRYVILLE
PEDESTRIAN IMPROVEMENTS
PROJECT # C-5148

REVISIONS						SHEET NO.
NO.	BY:	DATE:	NO.	BY:	DATE:	22
1			3			TOTAL SHEETS
2			4			22

DRAWN BY:	MAW/LGC	DATE:	4/16/12
CHECKED BY:	R. WRIGHT	DATE:	4/17/12