PHASING DIAGRAM

Ø2   Ø4+8

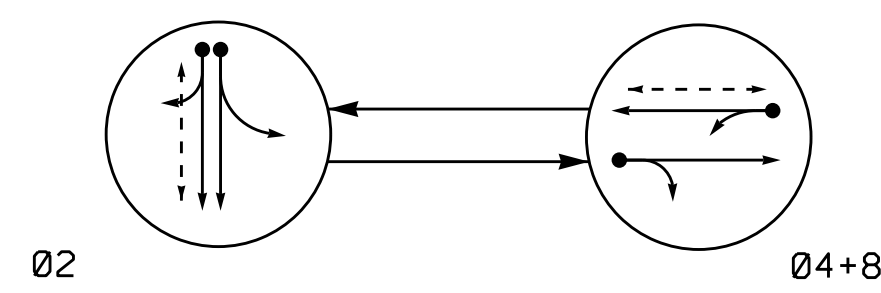### PHASING DIAGRAM DETECTION LEGEND

- ●——— DETECTED MOVEMENT
- ——— UNDETECTED MOVEMENT (OVERLAP)
- ——— UNSIGNALIZED MOVEMENT
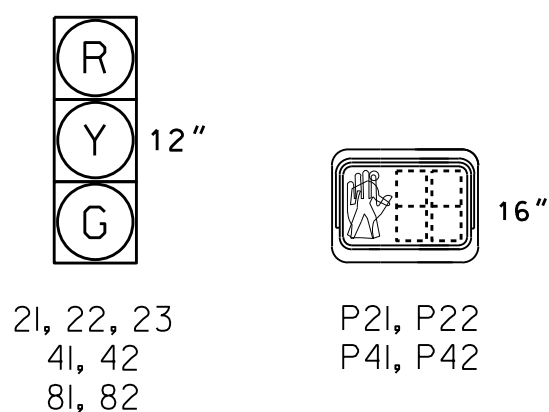- —— PEDESTRIAN MOVEMENT

TABLE OF OPERATION

SIGNAL FACE	PHASE Ø2	Ø4+8	FLASH
21, 22, 23	G	R	Y
41, 42	R	G	R
81, 82	R	G	R
P21, P22	W	DW	DRK
P41, P42	DW	W	DRK

W – Walk
DW – Don't Walk
DRK – Dark

SIGNAL FACE I.D.

All Heads L.E.D.

R
Y
G   12"

21, 22, 23
41, 42
81, 82

P21, P22
P41, P42   16"

2033 SOFTWARE w/ 2070 CONTROLLER
LOOP & DETECTOR UNIT INSTALLATION CHART

INDUCTIVE LOOPS						DETECTOR PROGRAMMING														
							TIMING		ATTRIBUTES								STATUS			
LOOP NO.	SIZE (ft)	TURNS	DIST. FROM STOPBAR (ft)	NEW	EXISTING	NEMA PHASE	DELAY	CARRY (STRETCH)	FULL TIME DELAY	PEDESTRIAN CALL	RESERVED	COUNT	EXTENSION	TYPE 3	CALLING	ALTERNATE	SYSTEM LOOPS	NEW	EXISTING	
2A, 2B	6X6	5	250	X	-	2	- SEC.	1.3 SEC.	-	-	-	-	X	-	X	-	-	X	-	
2C, 2D	6X6	4	80	X	-	2	- SEC.	- SEC.	-	-	-	-	X	-	X	-	-	X	-	
4A	6X40	2-4-2	0	X	-	4	3 SEC.	- SEC.	-	-	-	-	X	-	X	-	-	X	-	
8A	6X40	2-4-2	0	X	-	8	10 SEC.	- SEC.	-	-	-	-	X	-	X	-	-	X	-	
P21, P22	-	-	-	X	-	2	- SEC.	- SEC.	-	X	-	-	-	-	-	-	-	X	-	
P41, P42	-	-	-	X	-	4	- SEC.	- SEC.	-	X	-	-	-	-	-	-	-	X	-	

2 Phase
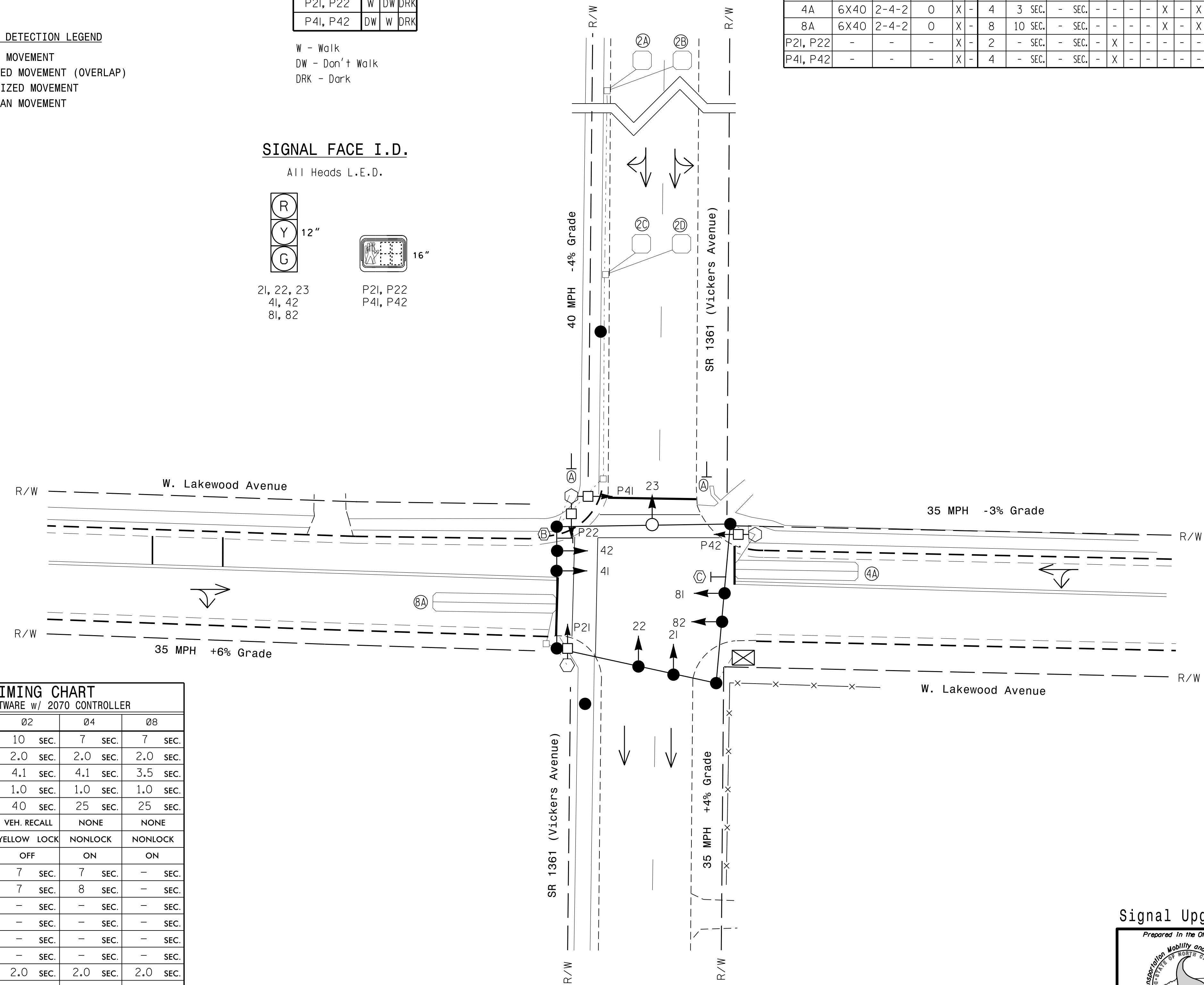## Fully Actuated
(Durham Signal System)

NOTES

1. Refer to "Roadway Standard Drawings NCDOT" dated January 2012 and "Standard Specifications for Roads and Structures" dated January 2012.
2. Do not program signal for late night flashing operation unless otherwise directed by the Engineer.
3. Renumber existing signal heads 43 and 44 as 81 and 82.
4. Set all detector units to presence mode.
5. Locate new cabinet so as not to obstruct sight distance of vehicles turning right on red.
6. Program all timing information into phase banks 1, 2, and 3 unless otherwise noted.
7. Set phase bank 3 maximum limit to 250 seconds for phases used.
8. Omit "WALK" and flashing "DON'T WALK" with no pedestrian calls.
9. Program pedestrian heads to countdown the flashing "Don't Walk" time only.
10. Pedestrian pedestals are conceptual and shown for reference only. See sheets P1-P3 for pushbutton location details.
11. Pavement markings are existing.
12. Maximum times shown in timing chart are for free-run operation only. Coordinated signal system timing values supersede these values.

LEGEND

PROPOSED		EXISTING
○——►	Traffic Signal Head	●——►
●——►	Modified Signal Head	N/A
	Sign	
	Pedestrian Signal Head With Push Button & Sign	
○——	Signal Pole with Guy	
○——	Signal Pole with Sidewalk Guy	
	Inductive Loop Detector	
⊠	Controller & Cabinet	
☐	Junction Box	
— —	2-in Underground Conduit	
	Right of Way	
N/A		N/A
—►	Directional Arrow	—►
○	Type II Signal Pedestal	●
	Fence	—×—
N/A		N/A
Ⓐ	"DO NOT ENTER" Sign (R5-1)	Ⓐ
Ⓑ	No Right Turn Sign (R3-1)	Ⓑ
Ⓒ	No Left Turn Sign (R3-2)	Ⓒ

TIMING CHART
2033 SOFTWARE w/ 2070 CONTROLLER

PHASE	Ø2	Ø4	Ø8
MINIMUM INITIAL *	10 SEC.	7 SEC.	7 SEC.
VEHICLE EXTENSION *	2.0 SEC.	2.0 SEC.	2.0 SEC.
YELLOW CHANGE INT.	4.1 SEC.	4.1 SEC.	3.5 SEC.
RED CLEARANCE	1.0 SEC.	1.0 SEC.	1.0 SEC.
MAXIMUM LIMIT *	40 SEC.	25 SEC.	25 SEC.
RECALL POSITION	VEH. RECALL	NONE	NONE
VEHICLE CALL MEMORY	YELLOW LOCK	NONLOCK	NONLOCK
DOUBLE ENTRY	OFF	ON	ON
WALK *	7 SEC.	7 SEC.	- SEC.
FLASHING DON'T WALK	7 SEC.	8 SEC.	- SEC.
TYPE 3 LIMIT	- SEC.	- SEC.	- SEC.
ALTERNATE EXTENSION	- SEC.	- SEC.	- SEC.
ADD PER VEHICLE *	- SEC.	- SEC.	- SEC.
MAXIMUM INITIAL *	- SEC.	- SEC.	- SEC.
MAXIMUM GAP*	2.0 SEC.	2.0 SEC.	2.0 SEC.
REDUCE 0.1 SEC EVERY *	- SEC.	- SEC.	- SEC.
MINIMUM GAP	2.0 SEC.	2.0 SEC.	2.0 SEC.

* These values may be field adjusted. Do not adjust Min Green and Extension times for phase 2 lower than what is shown. Min Green for all other phases should not be lower than 4 seconds.

(Plan/intersection diagram labels:)
- SR 1361 (Vickers Avenue)
- W. Lakewood Avenue
- 40 MPH -4% Grade
- 35 MPH -3% Grade
- 35 MPH +6% Grade
- 35 MPH +4% Grade
- R/W
- 2A 2B 2C 2D 4A 8A
- P41 23 P22 42 41 P42 81 82 21 22 P21

20-JAN-2017 14:23
S:*ITS&SU*ITS Signals*Signal Design Section*Central Region*Div 5*05-1001*051001_sig_dsn_20170110.dgn
rziemba

EDI MODEL 2010ECL-NC CONFLICT MONITOR PROGRAMMING DETAIL

(remove jumpers and set switches as shown)

ON   OFF
WD ENABLE
SW2

REMOVE DIODE JUMPERS 2-13, 4-8, 4-14 and 8-14.

CONFLICT PROGRAM CARD

COMPONENT SIDE

REMOVE JUMPERS AS SHOWN

ON →
- RF 2010
- RP DISABLE
- WD 1.0 SEC
- GY ENABLE
- SF#1 POLARITY
- LEDguard
- RF SSM
- FYA COMPACT
- FYA 1-9
- FYA 3-10
- FYA 5-11
- FYA 7-12

OPTIONS
FYA

INTERNAL DIP SWITCHES

YELLOW DISABLE
- O 9 O O 1 O
- O 10 O O 2 O
- O 11 O O 3 O
- O 12 O O 4 O
- O 13 O O 5 O
- O 14 O O 6 O
- O 15 O O 7 O
- O 16 O O 8 O

ON →
1
2
3
4
5
6
7
8
SSM

ON →
9
10
11
12
13
14
15
16
SSM

■ = DENOTES POSITION OF SWITCH

NOTES:
1. Card is provided with all diode jumpers in place. Removal of any jumper allows its channels to run concurrently.
2. Make sure jumpers SEL2-SEL5 are present on the monitor board.

NOTES

1. To prevent "flash-conflict" problems, insert red flash program blocks for all unused vehicle load switches in the output file. Verify that signal heads flash in accordance with the signal plans.
2. Ensure that Red Enable is active at all times during normal operation. To prevent Red Failure on unused monitor channels, tie unused red monitor inputs 1,3,5, 6,7,9,10,11,12,13,14,15 and 16 to load switch AC+ per the cabinet manufacturer's instructions.
3. Program phases 4 and 8 for Double Entry.
4. Program controller to Start Up in phases 2 and 6 green.
5. Set flash start time to 0 seconds within the controller programming. The conflict monitor will govern start-up flash time. Ensure STARTUP 'RED START' is set to 0.0 sec.
6. Set the Red Revert interval, on the controller unit, to 1 second.
7. Enable Simultaneous Gap-Out feature for all phases.
8. Program all timing information into phase banks 1, 2, and 3 unless otherwise noted.
9. Set phase bank 3 maximum limit to 250 seconds for phases used.
10. Ensure start up flash phases are coordinated with flash program block assignments.
11. Program Startup Ped Calls for phases 2 and 4.
12. This cabinet and controller are part of the Durham Signal System.

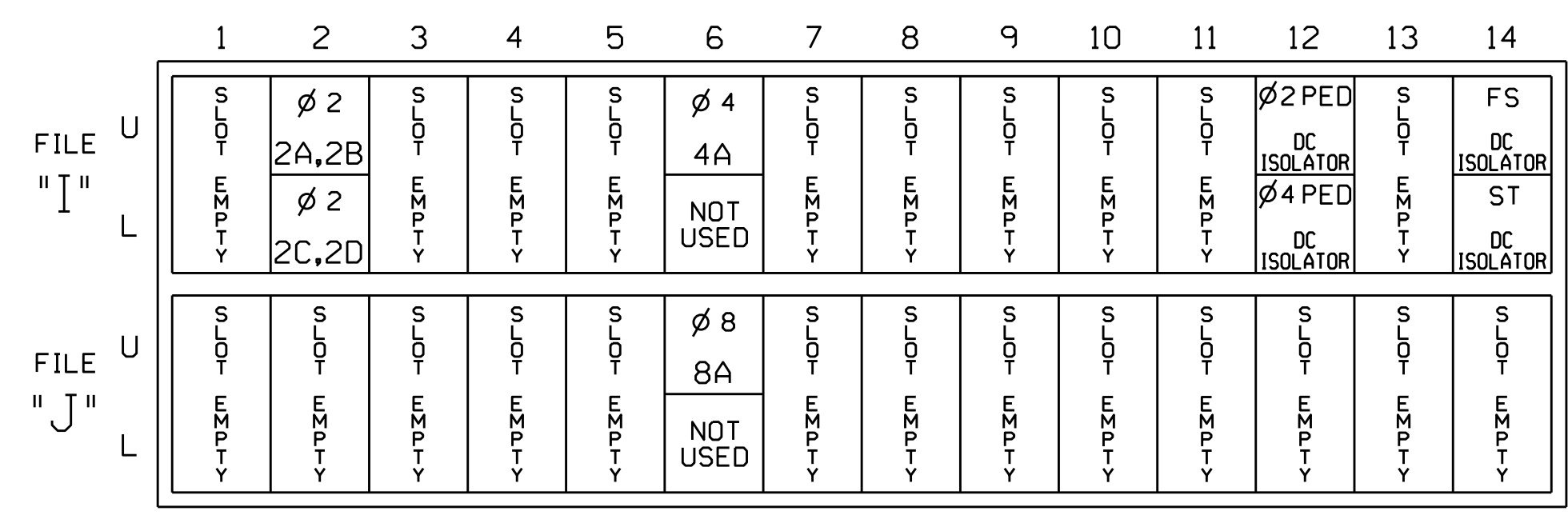## EQUIPMENT INFORMATION

CONTROLLER..............2070E
CABINET.................332 W/ AUX
SOFTWARE................McCAIN 2033
CABINET MOUNT..........BASE
OUTPUT FILE POSITIONS...18 WITH AUX FILE
LOAD SWITCHES USED......S2,S2P,S4,S4P,S8
PHASES USED.............2,4,8
OVERLAPS ....NONE

SIGNAL HEAD HOOK-UP CHART

LOAD SWITCH NO.	S1	S2	S2P	S3	S4	S4P	S5	S6	S6P	S7	S8	S8P	S9	S10	S11	S12	S13	S14
PHASE	1	2	2 PED	3	4	4 PED	5	6	6 PED	7	8	8 PED	OL1	OL2	SPARE	OL3	OL4	SPARE
SIGNAL HEAD NO.	NU	21, 22,23	P21, P22	NU	41,42	P41, P42	NU	NU	NU	NU	81,82	NU	NU	NU	NU	NU	NU	NU
RED		128			101						107							
YELLOW		129			102						108							
GREEN		130			103						109							
RED ARROW																		
YELLOW ARROW																		
GREEN ARROW																		
✋			113			104												
🚶			115			106												

NU = Not Used

COUNTDOWN PEDESTRIAN SIGNAL OPERATION

Countdown Ped Signals are required to display timing only during Ped Clearance Interval. Consult Ped Signal Module user's manual for instructions on selecting this feature.

INPUT FILE POSITION LAYOUT

(front view)

	1	2	3	4	5	6	7	8	9	10	11	12	13	14
FILE "I" U	SLOT EMPTY	Ø2 2A,2B	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	Ø4 4A	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	Ø2PED DC ISOLATOR	SLOT EMPTY	FS DC ISOLATOR
FILE "I" L	EMPTY	Ø2 2C,2D	EMPTY	EMPTY	EMPTY	NOT USED	EMPTY	EMPTY	EMPTY	EMPTY	EMPTY	Ø4 PED DC ISOLATOR	EMPTY	ST DC ISOLATOR
FILE "J" U	SLOT EMPTY	Ø8 8A	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	Ø8 8A	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY
FILE "J" L	EMPTY		EMPTY	EMPTY	EMPTY	NOT USED	EMPTY	EMPTY	EMPTY	EMPTY	EMPTY	EMPTY	EMPTY	EMPTY

EX.: 1A, 2A, ETC. = LOOP NO.'S

FS = FLASH SENSE
ST = STOP TIME

INPUT FILE CONNECTION & PROGRAMMING CHART

| LOOP NO.	LOOP TERMINAL	INPUT FILE POS.	DETECTOR NO.	PIN NO.	ATTRIBUTES		NEMA PHASE
2A,2B	TB2-5,6	I2U	1	39	5	7	2
2C,2D	TB2-7,8	I2L	5	43	5	7	2
4A	TB4-9,10	I6U	3	41	5	7	4
8A	TB5-9,10	J6U	4	42	5	7	8
PED PUSH BUTTONS							
P21,P22	TB8-4,6	I12U	25	67	2		2 PED
P41,P42	TB8-5,6	I12L	27	69	2		4 PED

NOTE:
INSTALL DC ISOLATOR IN INPUT FILE SLOT I12.

NOTE: PROGRAM DETECTOR DELAY AND CARRYOVER TIMES
AS SPECIFIED ON SIGNAL DESIGN PLANS.
DETECTOR ATTRIBUTES LEGEND:

1-FULL TIME DELAY
2-PED CALL
3-RESERVED
4-COUNTING
5-EXTENSION
6-TYPE 3
7-CALLING
8-ALTERNATE

INPUT FILE POSITION LEGEND: J2L
FILE J
SLOT 2
LOWER
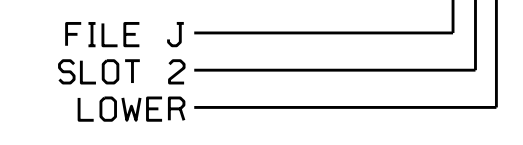
THIS ELECTRICAL DETAIL IS FOR
THE SIGNAL DESIGN: 05-1001
DESIGNED: December 2016
SEALED: 1/10/2017
REVISED:

Electrical Detail

ELECTRICAL AND PROGRAMMING DETAILS FOR:

Prepared In the Offices of:
Transportation Mobility and Safety Division
DEPARTMENT OF TRANSPORTATION
Signals Management Section
750 N.Greenfield Pkwy,Garner,NC 27529

SR 1361 (Vickers Avenue)
at
W. Lakewood Avenue

Division 5	Durham County	Durham
PLAN DATE: December 2016	REVIEWED BY: T. Joyce	
PREPARED BY: C. Strickland	REVIEWED BY:	

SEAL
NORTH CAROLINA
PROFESSIONAL
SEAL
030530
ENGINEER
ZACHARY M. LITTLE

REVISIONS | INIT. | DATE

DocuSigned by:
Zachary M. Little 1/26/2017
0C21EFD04F5341F   DATE
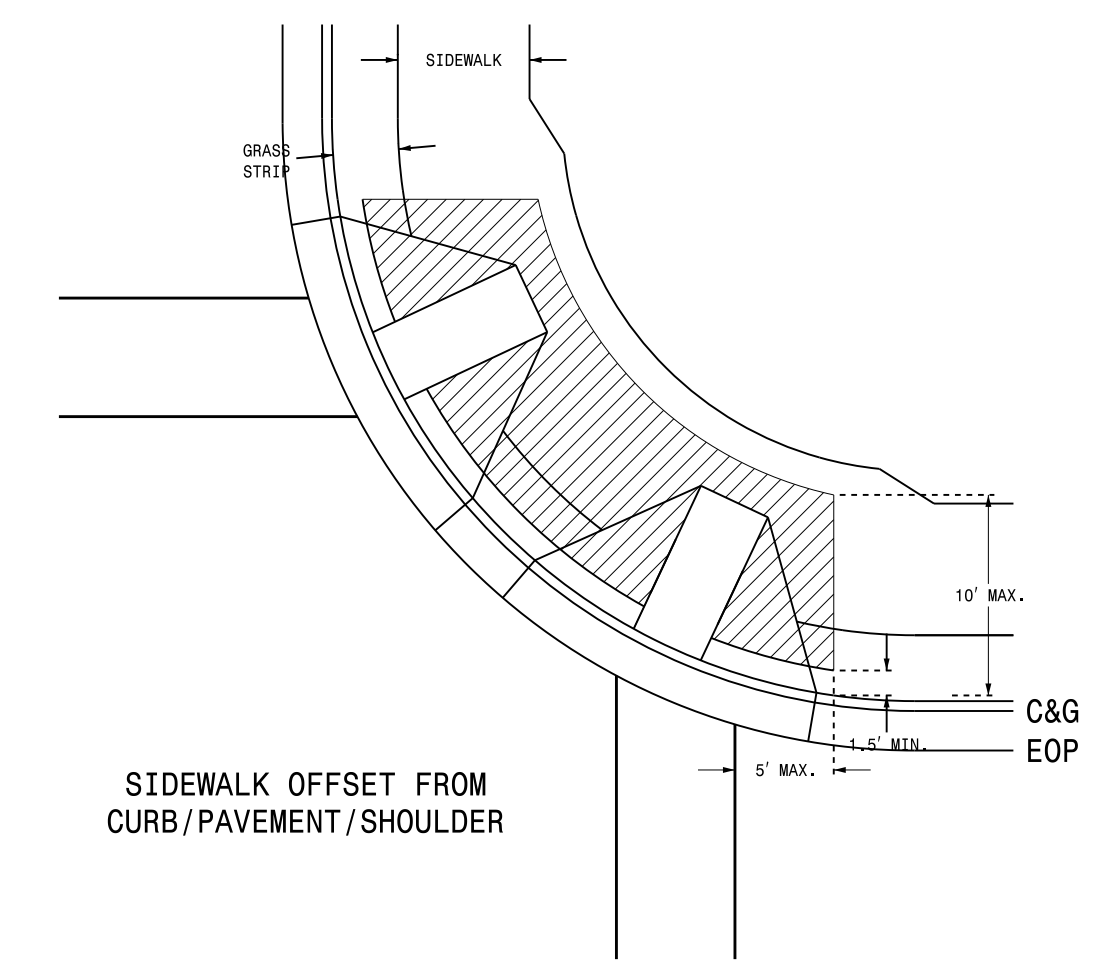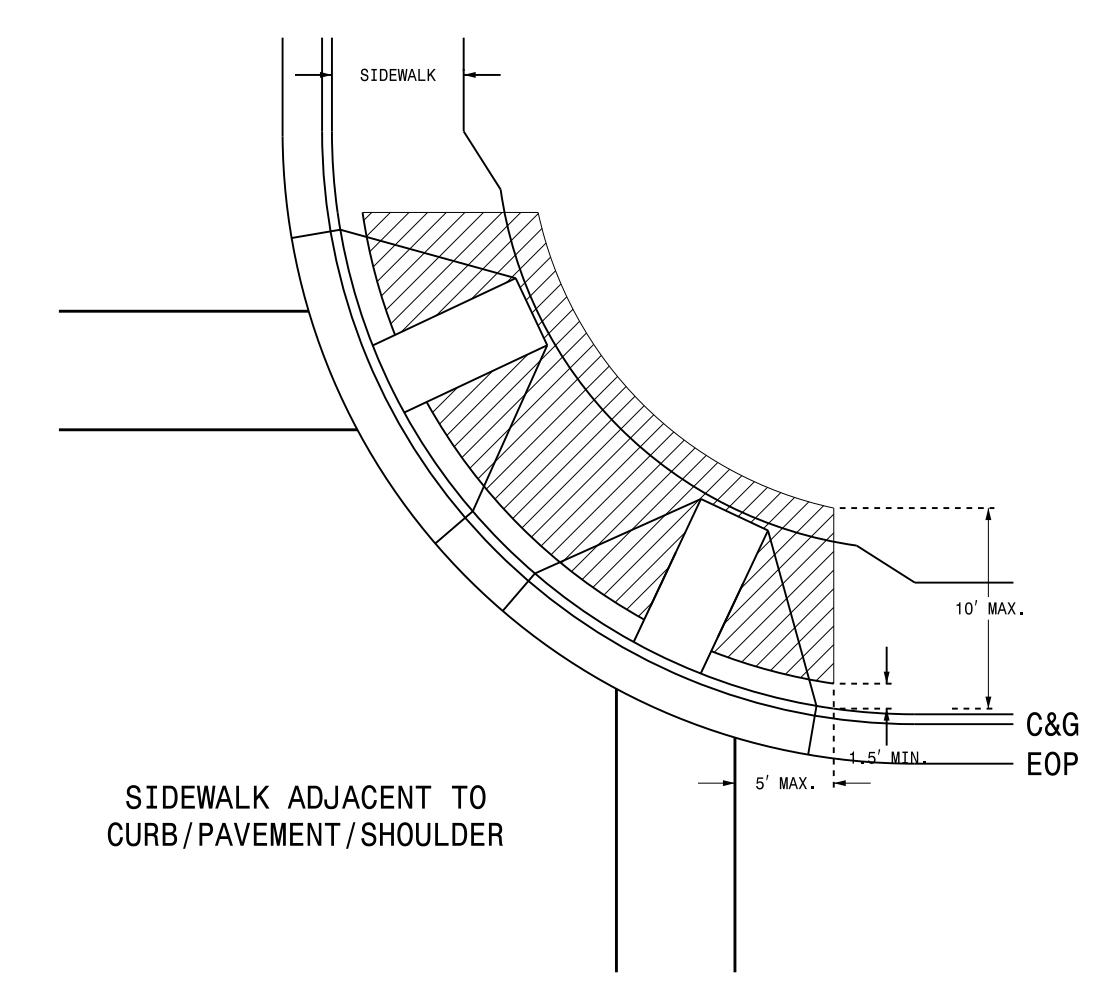
SIG. INVENTORY NO. 05-1001

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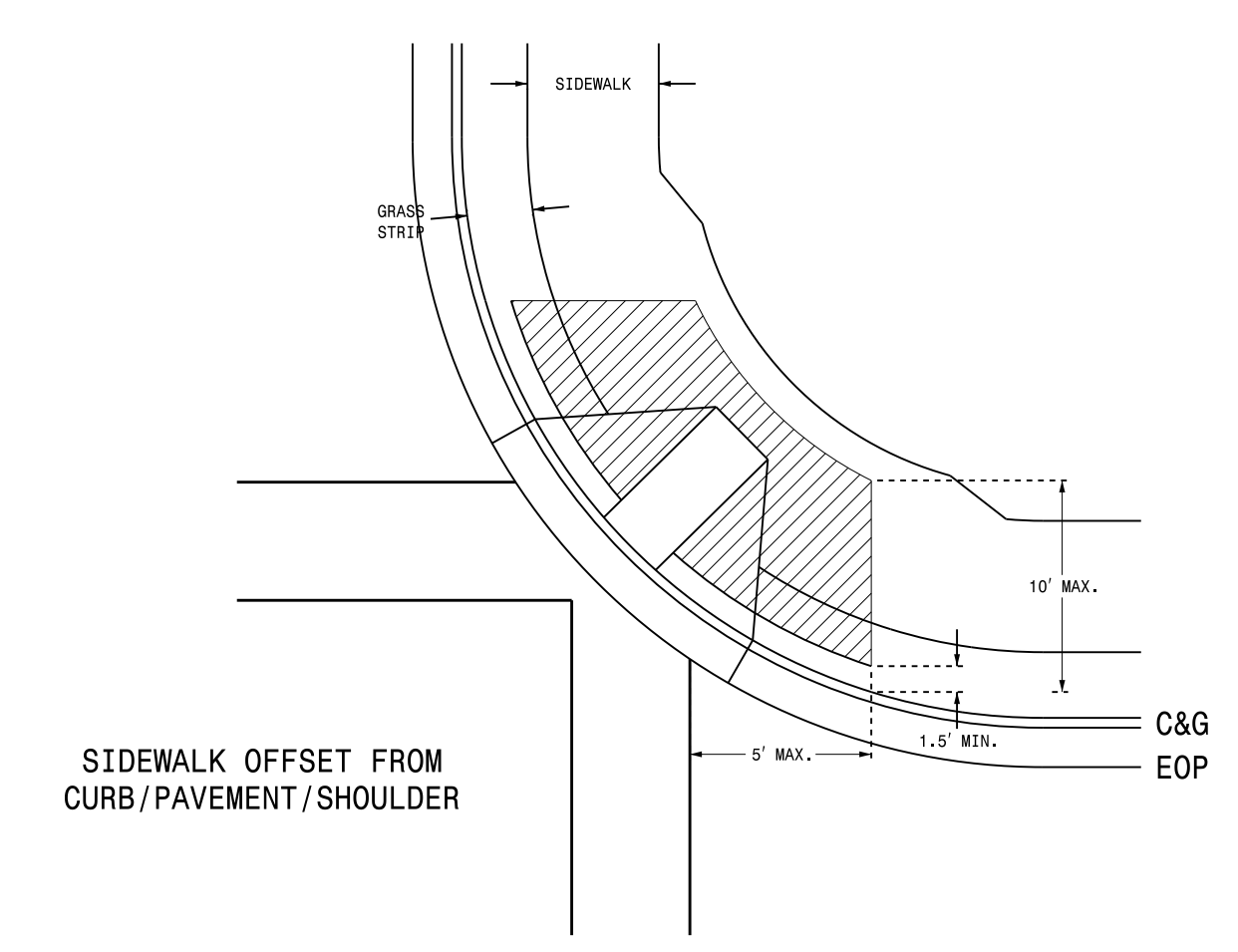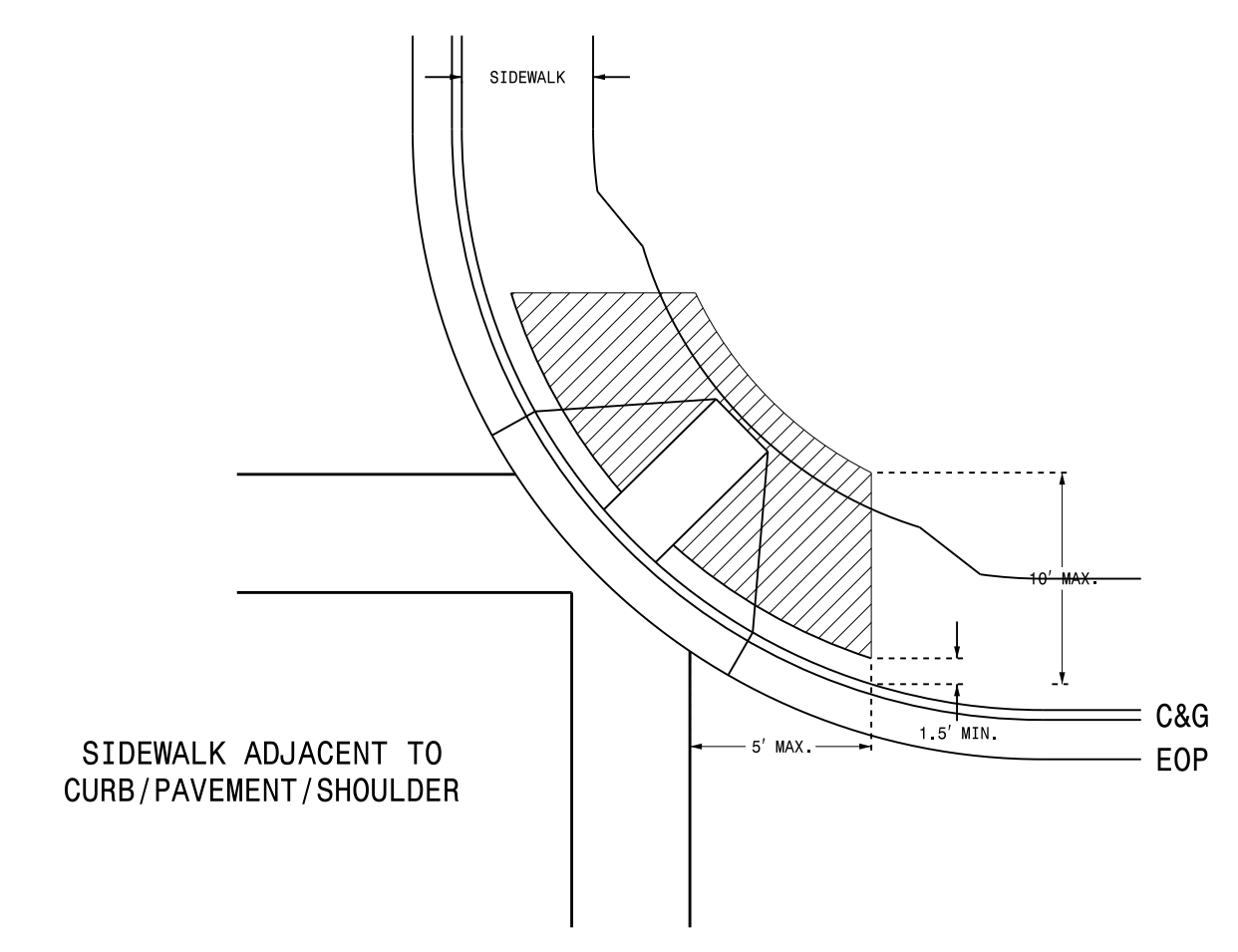DIVISION OF HIGHWAYS
RALEIGH, N.C.

06-14

ENGLISH DETAIL DRAWING FOR
PEDESTRIAN PUSHBUTTON LOCATIONS
PLACEMENT DETAIL

SHEET 1 OF 3

1705D01

PUSHBUTTON PLACEMENT
SEPARATE CURB RAMPS

SIDEWALK

10' MAX.

C&G
EOP

5' MAX.   1.5' MIN.

SIDEWALK ADJACENT TO
CURB/PAVEMENT/SHOULDER

PUSHBUTTON PLACEMENT
SHARED CURB RAMP

SIDEWALK

10' MAX.

C&G
EOP

5' MAX.   1.5' MIN.

SIDEWALK ADJACENT TO
CURB/PAVEMENT/SHOULDER

GRASS
STRIP

SIDEWALK

10' MAX.

C&G
EOP

5' MAX.   1.5' MIN.

SIDEWALK OFFSET FROM
CURB/PAVEMENT/SHOULDER

GRASS
STRIP

SIDEWALK

10' MAX.

C&G
EOP

5' MAX.   1.5' MIN.

SIDEWALK OFFSET FROM
CURB/PAVEMENT/SHOULDER

NOTES

1. Pushbutton pedestals should not be located further than 10 feet from the edge of curb, shoulder, or pavement.
2. The face of the pushbutton should be parallel to the applicable crosswalk.
3. Separate pushbuttons used on the same corner should be separated by a distance of at least 10 feet.
4. Pushbuttons shall be installed adjacent to a level surface with a maximum reach distance of 10 inches.
5. Maintain 4 feet of clearance around pedestal if located in sidewalk.
6. Refer to section 1705 of the 2012 NCDOT Roadway Standard Drawings for Pushbutton Assembly details.
7. Refer to section 1743 of the 2012 NCDOT Roadway Standard Drawings for Pedestal details.
8. Contact Division Traffic Engineer for pushbutton location approval prior to installation.
9. Curb ramps are for symbolic use only and may not reflect actual design or field conditions.

LEGEND

PROPOSED

▢ Signal Pole
⊗ Type I Pushbutton Post
○ Type II Signal Pedestal
⊤ Pushbutton & Sign
⊡ Pedestrian Signal Head
△ Curb Ramp
▨ Pushbutton Location Area

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

06-14

ENGLISH DETAIL DRAWING FOR
PEDESTRIAN PUSHBUTTON LOCATIONS
PLACEMENT DETAIL

SHEET 1 OF 3

1705D01

See Plate for Title

Prepared in the Offices of:

Transportation Mobility and Safety Division
Signal Design Section

750 N. Greenfield Parkway
Garner, NC 27529

SEAL

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026486
ENGINEER
ROBERT J. ZIEMBA

DocuSigned by:
1898486627A4494

SIGNATURE

6/17/2014
DATE

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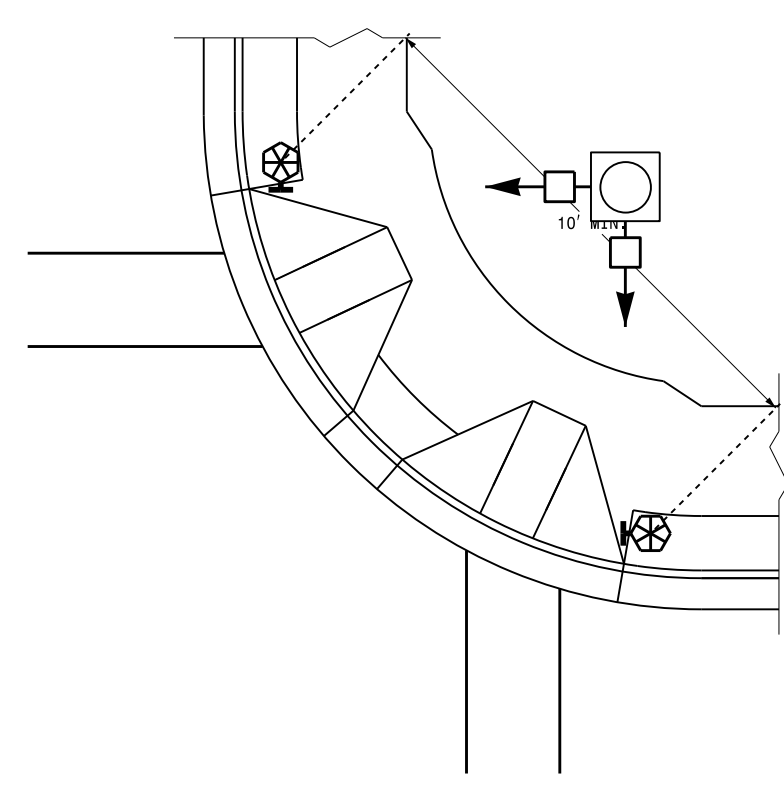DIVISION OF HIGHWAYS
RALEIGH, N.C.

06-14

ENGLISH DETAIL DRAWING FOR
PEDESTRIAN PUSHBUTTON LOCATIONS
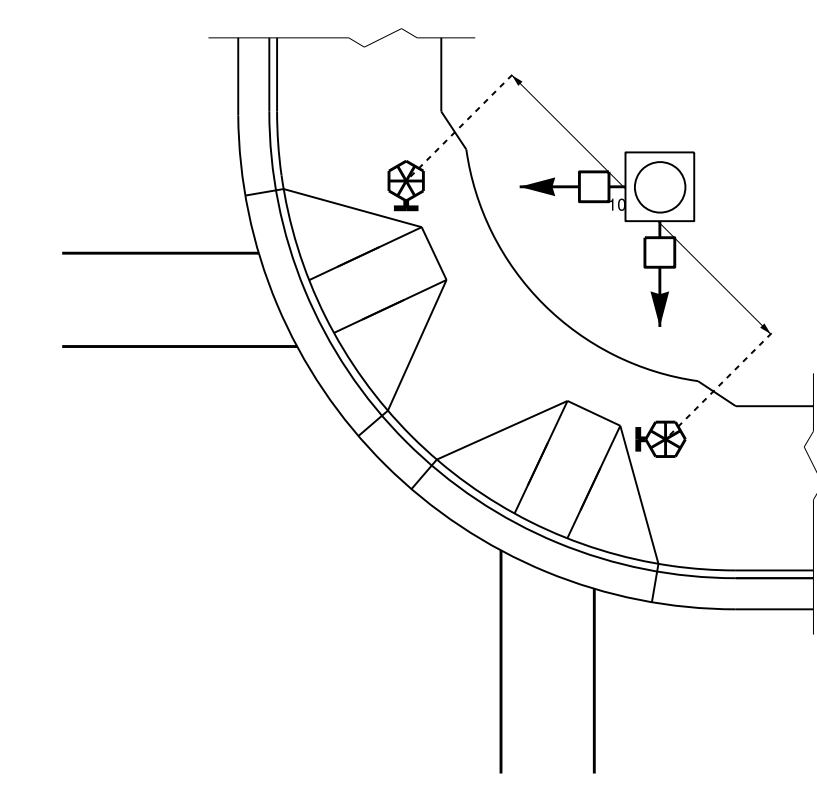PLACEMENT DETAIL

SHEET 2 OF 3
1705D01

TYPICAL PUSHBUTTON LOCATIONS (CASE I)

SEPARATE CURB RAMPS W/ TYPE I PEDESTALS
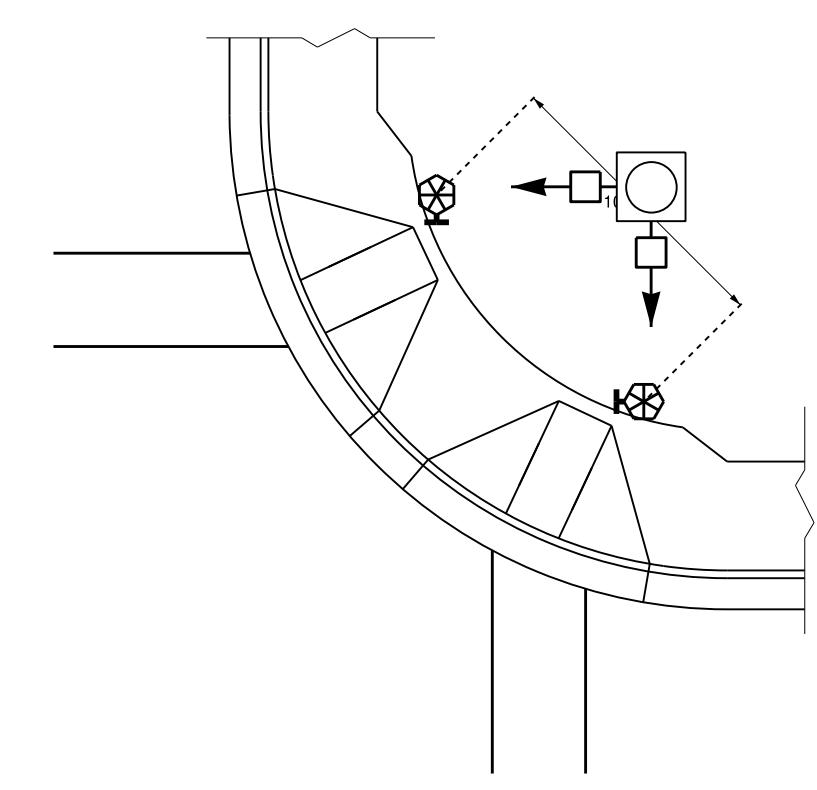
BACK OF SIDEWALK IS WITHIN 10'
OF CURB OR PAVEMENT/SHOULDER

GRASS STRIP PLACEMENT IF BACK
OF SIDEWALK EXCEEDS 10' FROM
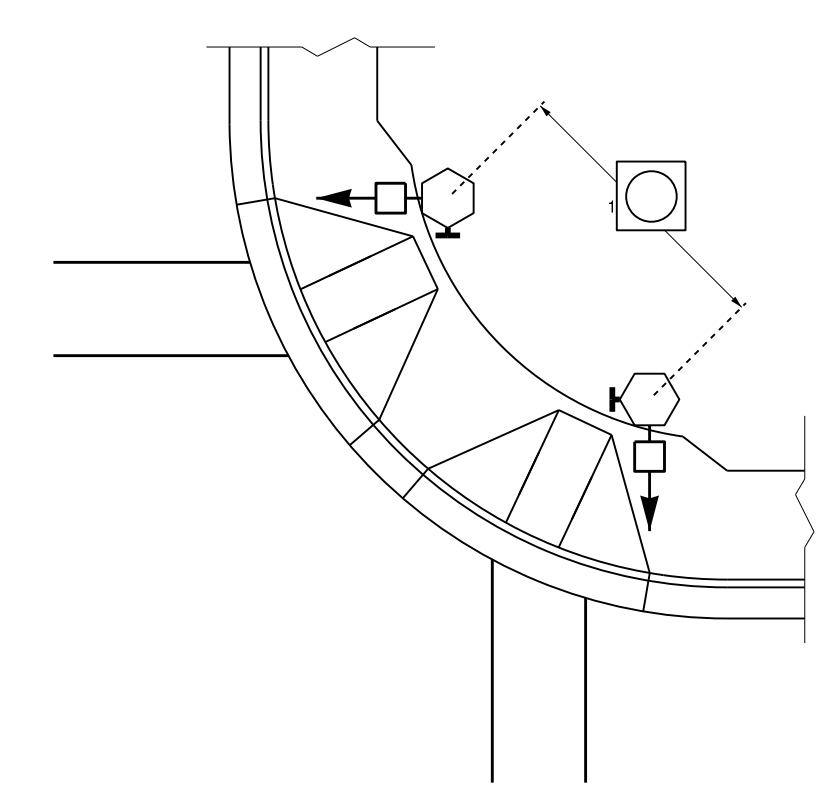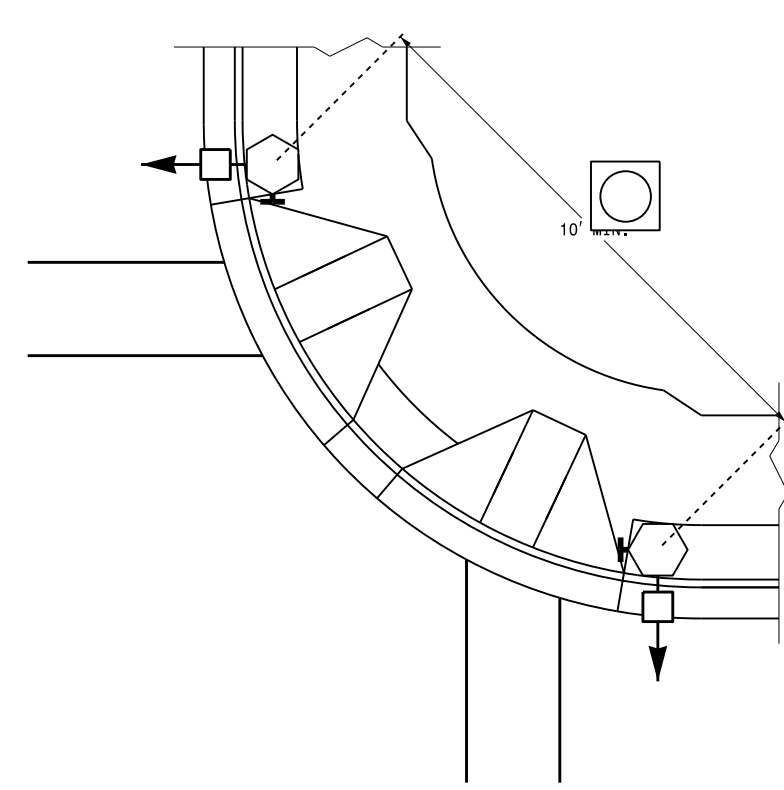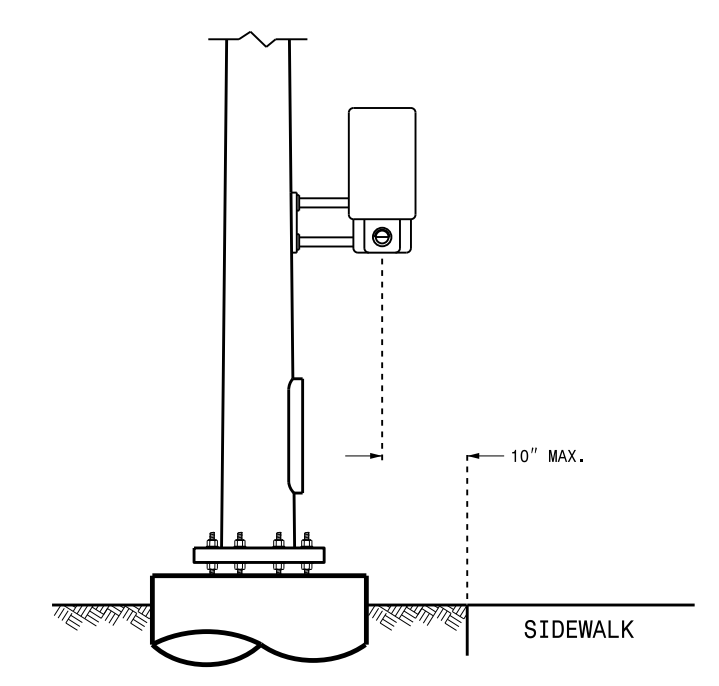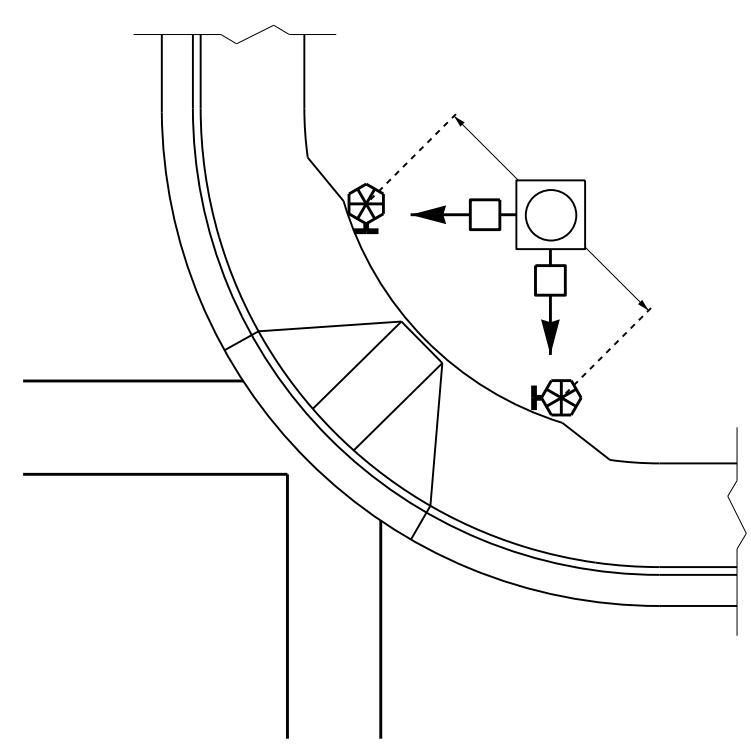CURB OR PAVEMENT/SHOULDER

PUSHBUTTON PLACEMENT
IN WIDE SIDEWALK

LEGEND

PROPOSED

▢	Signal Pole
⊛	Type I Pushbutton Post
○	Type II Signal Pedestal
⊤	Pushbutton & Sign
⊡	Pedestrian Signal Head
△	Curb Ramp
▨	Pushbutton Location Area

TYPICAL PUSHBUTTON LOCATIONS (CASE II)

SEPARATE CURB RAMPS W/ TYPE II PEDESTALS

BACK OF SIDEWALK IS WITHIN 10'
OF CURB OR PAVEMENT/SHOULDER

GRASS STRIP PLACEMENT IF BACK
OF SIDEWALK EXCEEDS 10' FROM
CURB OR PAVEMENT/SHOULDER
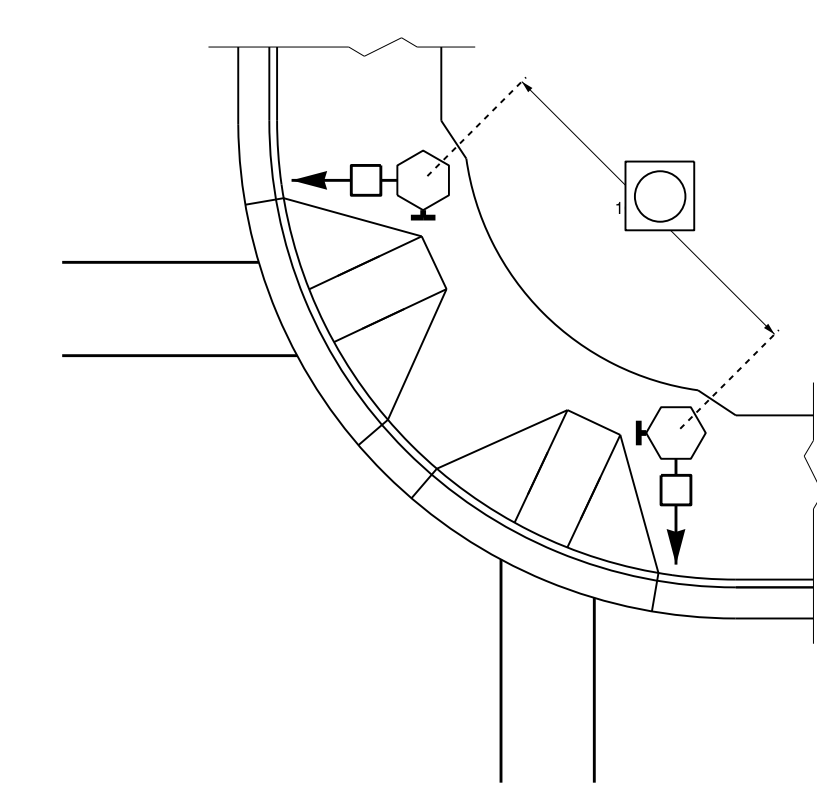
PUSHBUTTON PLACEMENT
IN WIDE SIDEWALK

OPTIONAL PUSHBUTTON EXTENSION

FACE OF PUSHBUTTON PARALLEL TO
APPLICABLE CROSSWALK

10" MAX.

SIDEWALK

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

06-14

ENGLISH DETAIL DRAWING FOR
**PEDESTRIAN PUSHBUTTON LOCATIONS**
PLACEMENT DETAIL

SHEET 2 OF 3
1705D01

See Plate for Title

Prepared in the Offices of:

Transportation Mobility and Safety Division
Signal Design Section

750 N. Greenfield Parkway
Garner, NC 27529

SEAL

NORTH CAROLINA
PROFESSIONAL
SEAL
026486
ENGINEER
ROBERT J. ZIEMBA

DocuSigned by:

SIGNATURE

6/17/2014
DATE

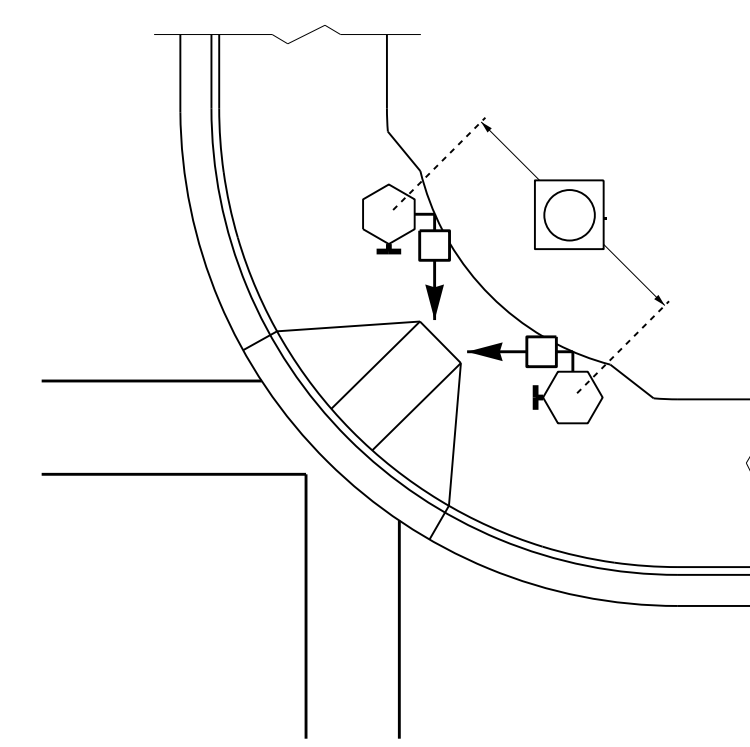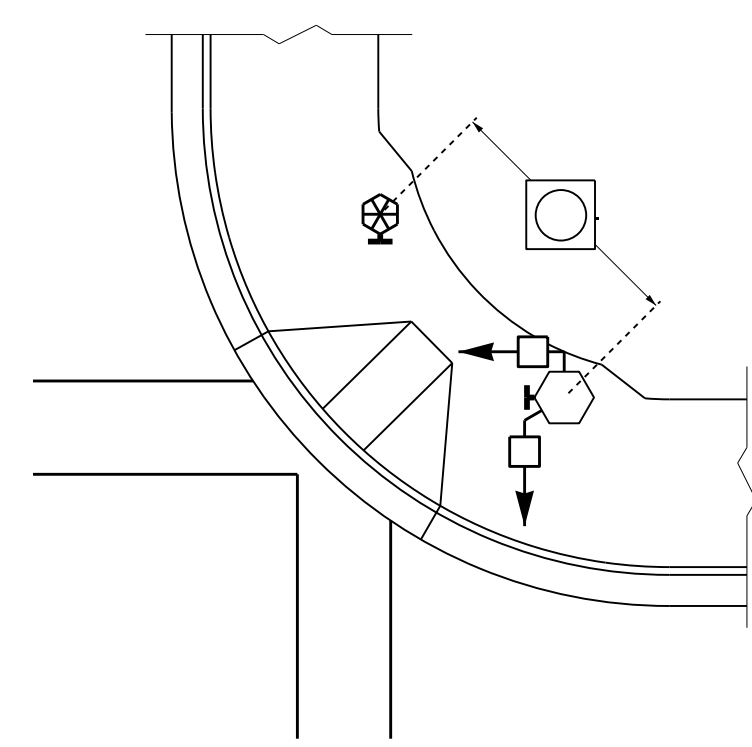## TYPICAL PUSHBUTTON LOCATIONS (CASE III)

SHARED CURB RAMPS

BACK OF SIDEWALK IS WITHIN 10'
OF CURB OR PAVEMENT/SHOULDER
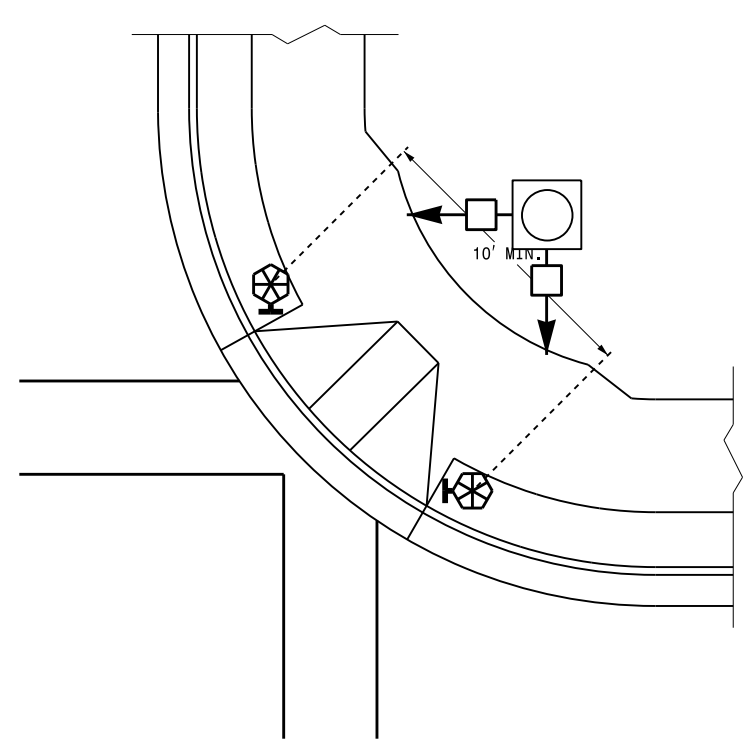
GRASS STRIP PLACEMENT IF BACK
OF SIDEWALK EXCEEDS 10' FROM
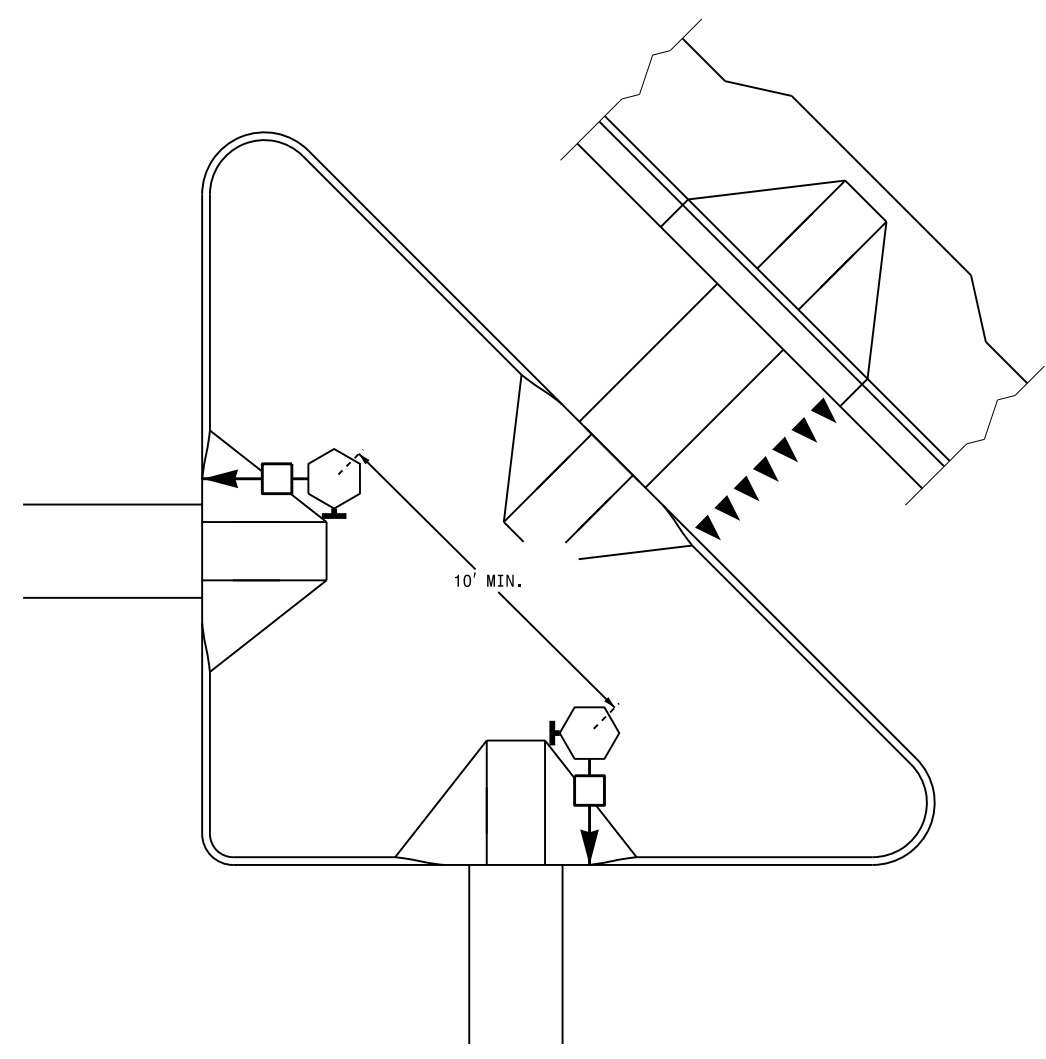CURB OR PAVEMENT/SHOULDER

PUSHBUTTON PLACEMENT IN WIDE SIDEWALK
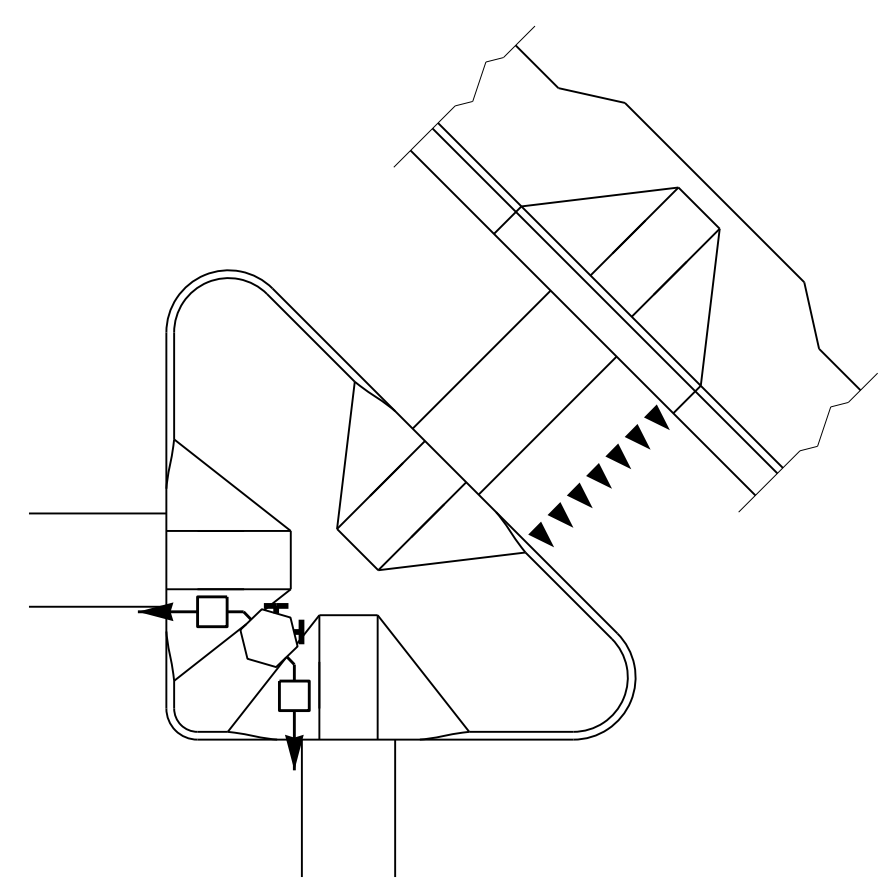(CORRESPONDING PUSHBUTTONS AND SIGNAL
HEADS ON DIFFERENT PEDESTALS)

PUSHBUTTON PLACEMENT WITH SHARED
TYPE II SIGNAL PEDESTAL AND TYPE I
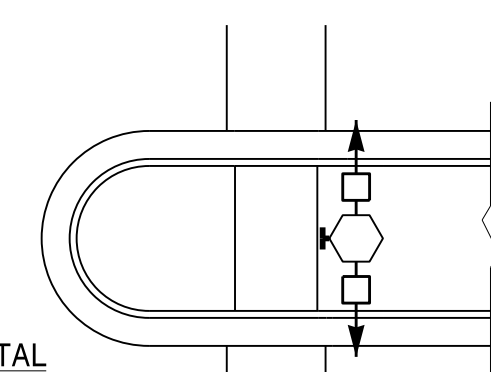PUSHBUTTON POST

TRAFFIC ISLAND PUSHBUTTON LOCATIONS

PUSHBUTTON PLACEMENT IN MEDIAN

10' MIN.

PUSHBUTTON PLACEMENT IN LARGE "PORK
CHOP ISLAND" WITH SEPARATE PEDESTALS

PUSHBUTTON PLACEMENT IN SMALL "PORK
CHOP ISLAND" WITH SHARED PEDESTAL

TYPE II PEDESTAL
(FOR STAGED OR MULTI-
PHASE CROSSING)

TYPE I PEDESTAL
(FOR COMPLETE CROSSING
CURB TO CURB WITH
OPTIONAL REFUGE)
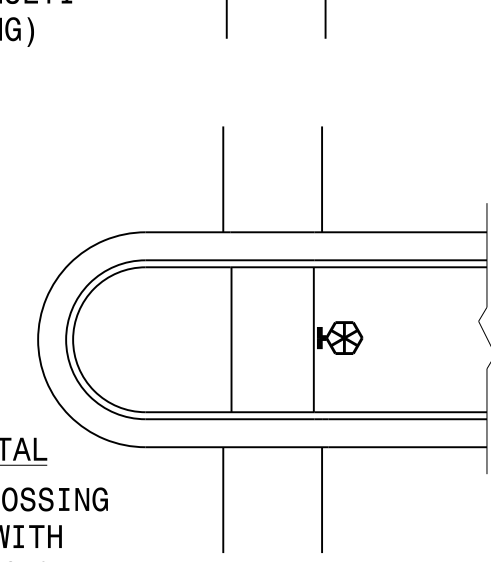
LEGEND

PROPOSED

▣	Signal Pole
⊕	Type I Pushbutton Post
◯	Type II Signal Pedestal
T	Pushbutton & Sign
⊡→	Pedestrian Signal Head
△	Curb Ramp
▨	Pushbutton Location Area

See Plate for Title

△1 INSTALL REA, PE – 22, SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE

△2 INSTALL REA, PE – 38, (FIGURE 8) SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE

△3 INSTALL REA, PE – 39, (UNDERGROUND) SHIELDED, TWISTED PAIR COMMUNICATIONS CABLE

△4 INSTALL SMFO CABLE

△5 INSTALL MMFO CABLE

△6 INSTALL FIBER OPTIC DROP CABLE

△7 INSTALL TRACER WIRE

◯8 TRENCH

◯9 INSTALL PVC CONDUIT

◯10 INSTALL RIGID, GALVANIZED STEEL CONDUIT

◯11 INSTALL RIGID, GALVANIZED STEEL RISER WITH WEATHERHEAD

◯12 INSTALL RIGID, GALVANIZED STEEL RISER WITH FIBER OPTIC CABLE SEAL

◯13 INSTALL OUTER–DUCT POLYETHYLENE CONDUIT

◯14 INSTALL POLYETHYLENE CONDUIT

◯15 DIRECTIONAL DRILL CONDUIT

◯16 BORE AND JACK CONDUIT

◯17 INSTALL CABLE(S) IN EXISTING CONDUIT

◯18 INSTALL CABLE(S) IN NEW CONDUIT

◯19 INSTALL CABLE(S) IN EXISTING RISER

◯20 INSTALL CABLE(S) IN NEW RISER

◯21 INSTALL CABLE(S) IN EXISTING CONDUIT STUB–OUTS

◯22 INSTALL NEW CONDUIT INTO EXISTING CABINET BASE (USE EXISTING CONDUIT STUB–OUTS WHEN AVAILABLE)

◯23 INSTALL NEW RISER INTO EXISTING CABINET BASE (USE EXISTING CONDUIT STUB–OUTS WHEN AVAILABLE)

◯24 INSTALL NEW CONDUIT INTO EXISTING POLE MOUNTED CABINET

◯25 INSTALL NEW RISER INTO EXISTING POLE MOUNTED CABINET

⬡26 TERMINATE COMMUNICATIONS CABLE ON EXISTING TELEMETRY INTERFACE PANEL IN TRAFFIC SIGNAL CONTROLLER CABINET

⬡27 INSTALL NEW TELEMETRY INTERFACE PANEL IN TRAFFIC SIGNAL CONTROLLER CABINET

⬡28 INSTALL INTERCONNECT CENTER, PATCH PANEL, JUMPERS AND FUSION SPLICE CABLE IN CABINET

⬡29 INSTALL UNDERGROUND SPLICE ENCLOSURE

⬡30 INSTALL AERIAL SPLICE ENCLOSURE

⬡31 INSTALL POLE MOUNTED SPLICE CABINET

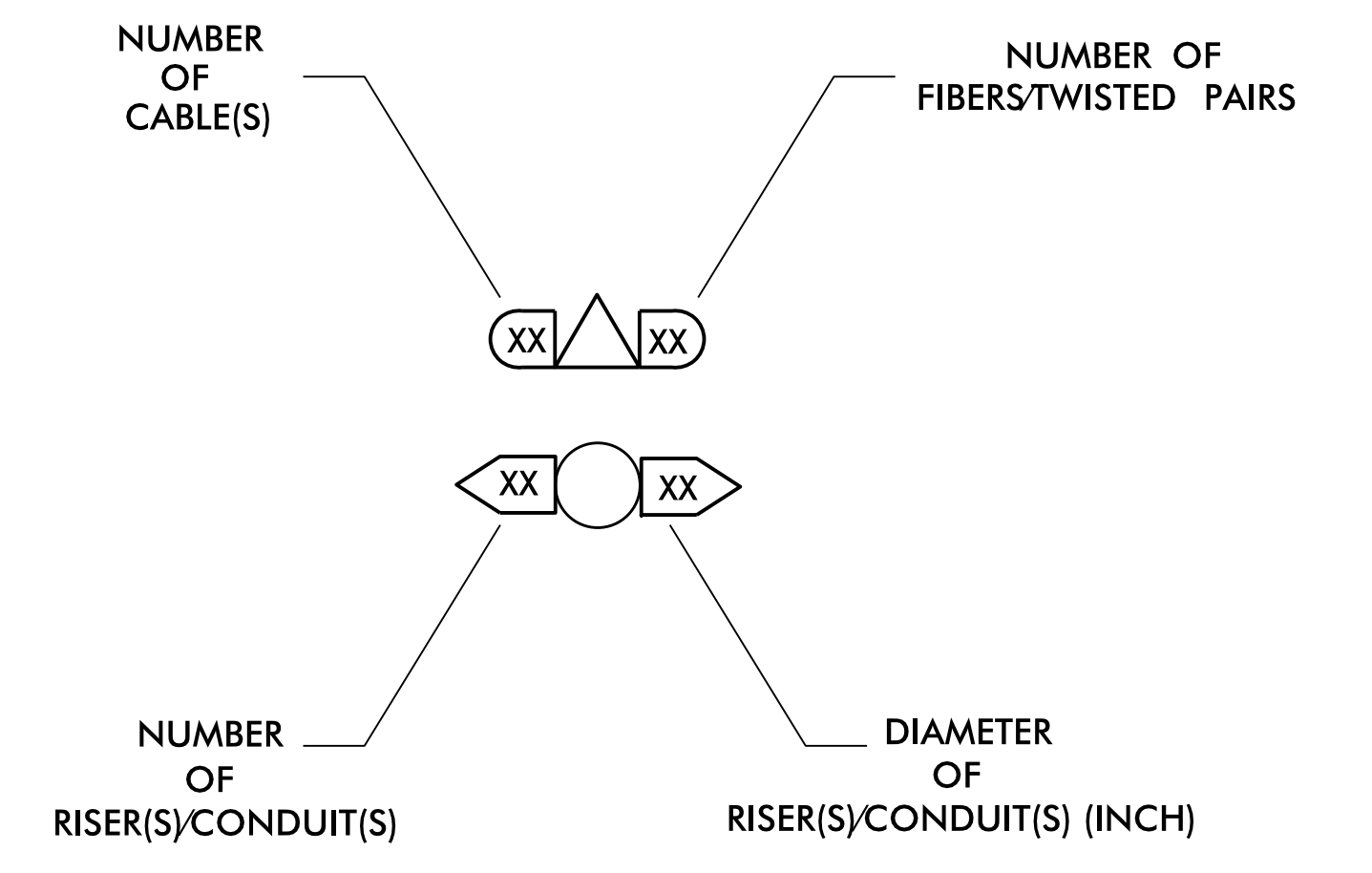⬡32 INSTALL BASE MOUNTED SPLICE CABINET

⬡33 REMOVE EXISTING SPLICE CABINET

▢34 INSTALL CABINET FOUNDATION

▢35 REMOVE EXISTING CABINET FOUNDATION

▢36 INSTALL CCTV CAMERA ASSEMBLY

▢37 INSTALL CCTV CAMERA WOOD POLE

▢38 INSTALL CCTV CAMERA METAL POLE AND FOUNDATION

▢39 INSTALL JUNCTION BOX

▢40 INSTALL OVERSIZED JUNCTION BOX

▢41 REMOVE EXISTING JUNCTION BOX

▢42 INSTALL WOOD POLE

▢43 REMOVE EXISTING WOOD POLE

▢44 INSTALL AERIAL GUY ASSEMBLY

▢45 INSTALL STANDARD GUY ASSEMBLY

▢46 INSTALL SIDEWALK GUY ASSEMBLY

▢47 INSTALL MESSENGER CABLE

▢48 REMOVE EXISTING COMMUNICATIONS AND MESSENGER CABLE

▢49 REMOVE EXISTING MESSENGER CABLE

▢50 INSTALL TELEPHONE SERVICE

▢51 INSTALL CABLE STORAGE RACKS (SNOW SHOES) AND STORE 100 FEET OF CABLE

▢52 INSTALL DELINEATOR MARKER

▢53 STORE 20 FEET OF COMMUNICATIONS CABLE

▢54 LASH CABLE(S) TO EXISTING SIGNAL/COMMUNICATIONS CABLE

▢55 LASH CABLE(S) TO EXISTING MESSENGER CABLE

▢56 LASH CABLE(S) TO NEW MESSENGER CABLE

▢57 MODIFY EXISTING ELECTRICAL SERVICE

▢58 INSTALL NEW ELECTRICAL SERVICE

LEGEND

Symbol	Description
══FO══	NEW FIBER OPTIC COMMUNICATIONS CABLE
═TWIST PR═	NEW TWISTED PAIR COMMUNICATIONS CABLE
══EXI══	EXISTING COMMUNICATIONS CABLE
══REM══	EXISTING COMMUNICATIONS CABLE TO BE REMOVED
──────	NEW AERIAL GUY ASSEMBLY
▬·▬·▬·▬	NEW CONDUIT
▬ ▬ ▬ ▬	EXISTING CONDUIT
═══DD═══	NEW DIRECTIONAL DRILLED CONDUIT
═══B&J═══	NEW BORED AND JACKED CONDUIT
□	NEW JUNCTION BOX
■	EXISTING JUNCTION BOX
○	NEW WOOD POLE
●	EXISTING WOOD POLE
Ⓢ	AERIAL SPLICE ENCLOSURE
▣	NEW METAL POLE
◪	EXISTING METAL POLE
►◧	NEW CCTV ASSEMBLY
⌐	NEW STANDARD GUY ASSEMBLY
⌐	NEW SIDEWALK GUY ASSEMBLY
⋈	NEW CABLE STORAGE RACKS (SNOW SHOES)
⊠	EXISTING CONTROLLER AND CABINET
Ⓢ	EXISTING SPLICE CABINET
Ⓢ	NEW SPLICE CABINET
SP	SIGNAL POLE
XX–XXXX	SIGNAL INVENTORY NUMBER

CONSTRUCTION NOTE SYMBOLOGY KEY

(XX) INDICATES NUMBER OF CABLES, LOOPS, ETC.

[XX] INDICATES NUMBER OF FIBERS PER CABLE, TWISTED PAIRS PER CABLE, ETC.

◁XX INDICATES NUMBER OF RISER(S)/CONDUIT(S)

XX▷ INDICATES DIAMETER OF RISER(S)/CONDUIT(S) (INCH)

NUMBER OF CABLE(S) ⟨XX⟩△⟨XX⟩ NUMBER OF FIBERS/TWISTED PAIRS

NUMBER OF RISER(S)/CONDUIT(S) ◁XX◯XX▷ DIAMETER OF RISER(S)/CONDUIT(S) (INCH)

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

EXISTING
POLE MOUNTED CABINET
TO BE REMOVED

SEE NOTE 1 & 2

SEE NOTE 2

REM

05-1001

W. LAKEWOOD AVE

REM   EXI   EXI   EXI   EXI   EX

TO 05-0324 →

45

SEE NOTE 2 & 3

SR 1361 (VICKERS AVE)

PROPOSED
BASE MOUNTED
CABINET

40
53

1 4 6 BACK PULLED

1 4 6 EXISTING

1 4 6 BACK PULLED

1 12 2

20

1 4 6 BACK PULLED

8

1 9 2

22

28

53

BOND RISER AND MESSENGER
CABLE TO POLE GROUND

GENERAL NOTES:

TRANSCEIVER TERMINATION CONFIGURATIONS ARE GENERIC. CONTRACTOR IS RESPONSIBLE
FOR DETERMINING \ ENSURING PROPER TERMINATIONS.

NOTIFY THE CITY OF DURHAM TRANSPORTATION ENGINEER; PETE NICHOLAS AT 919 560-4366 EXT 36436;
FIVE (5) DAYS PRIOR TO BEGINNING WORK ON SIGNAL SYSTEMS COMMUNICATION CABLE. NOTIFY THE CITY
TRANSPORTATION ENGINEER AFTER ALL WORK IS PERFORMED TO ENSURE THAT ALL FIBER CIRCUITS ARE
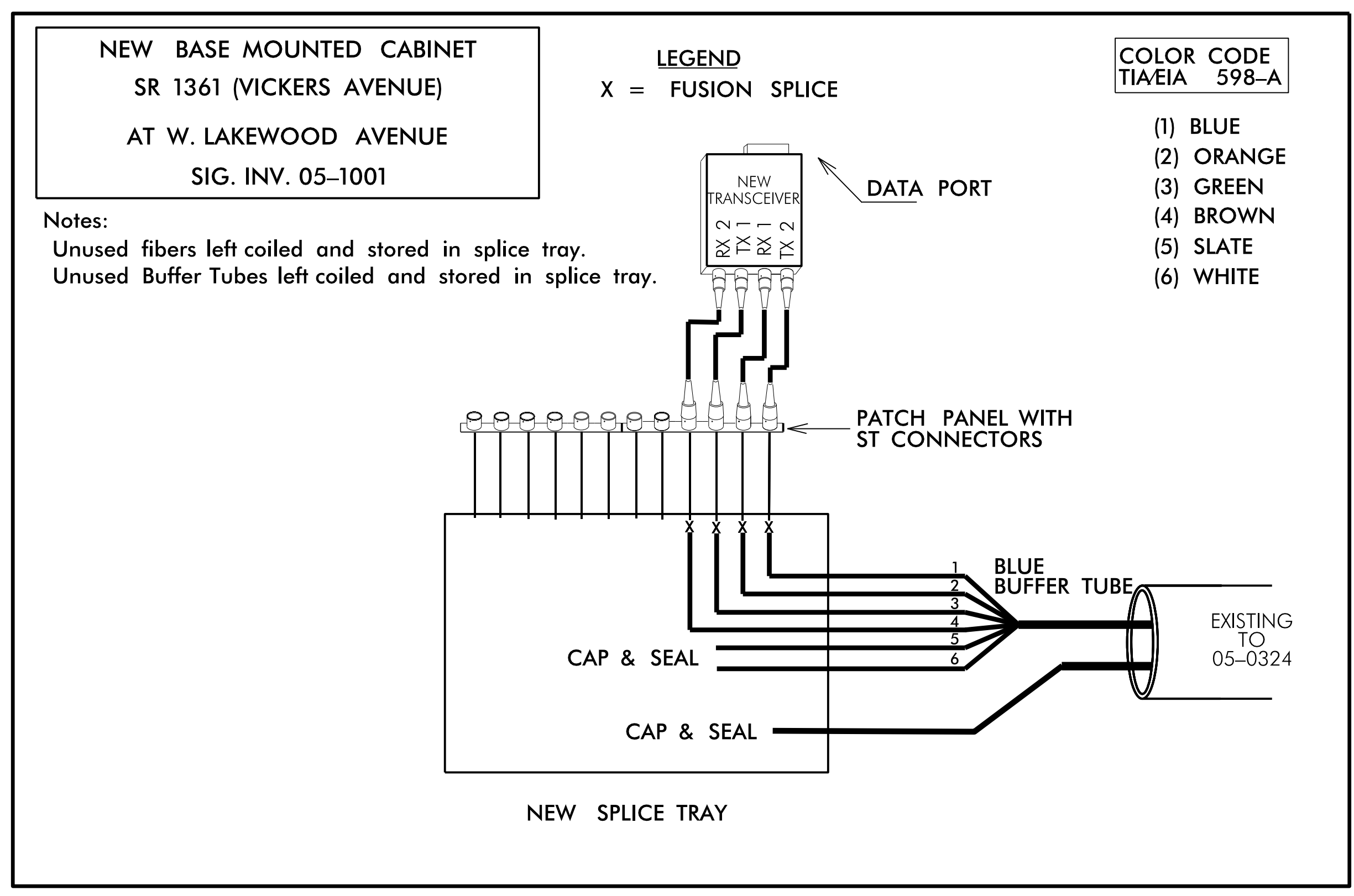FUNCTIONING PROPERLY.

NOTE 1
RECORD EXISTING SPLICE ARRANGEMENT AND COMPARE TO THE SUPPLIED SPLICE PLANS.
IF DISCREPANCIES EXIST CONTACT THE ENGINEER TO DETERMINE HOW TO PROCEED.

NOTE 2
BACKPULL EXISTING FIBER OPTIC CABLE FROM EXISTING POLE MOUNTED CABINET TO PROPOSED
BASE MOUNTED CABINET.

NOTE 3
MAINTAIN MESSENGER CABLE SEGMENT TO SERVE AS THE AERIAL GUY.

Prepared in the Offices of:

COMMUNICATIONS CABLE AND
CONDUIT ROUTING PLANS

DIVISION 05   DURHAM CO.   CITY OF DURHAM

| PLAN DATE: | JANUARY 2017 | REVIEWED BY: |
| PREPARED BY: | I . N. AVERY | REVIEWED BY: |

750 N. Greenfield Pkwy., Garner, NC 27529

REVISIONS

	INIT.	DATE

SEAL
NORTH CAROLINA
PROFESSIONAL
SEAL
023919
ENGINEER
GREGORY A. FULLER

DocuSigned by:
Gregory A. Fuller   2/2/2017

SCALE
0   20'
1" = 20'

CADD Filename:

NEW BASE MOUNTED CABINET
SR 1361 (VICKERS AVENUE)
AT W. LAKEWOOD AVENUE
SIG. INV. 05–1001

LEGEND
X = FUSION SPLICE

COLOR CODE
TIA/EIA 598–A

(1) BLUE
(2) ORANGE
(3) GREEN
(4) BROWN
(5) SLATE
(6) WHITE

Notes:
Unused fibers left coiled and stored in splice tray.
Unused Buffer Tubes left coiled and stored in splice tray.

NEW TRANSCEIVER

RX 2 TX 2 TX 1 RX 1

DATA PORT

PATCH PANEL WITH
ST CONNECTORS

BLUE
BUFFER TUBE

EXISTING
TO
05–0324

CAP & SEAL

CAP & SEAL

NEW SPLICE TRAY

NOTES:

1) NOTIFY THE CITY OF DURHAM TRANSPORTATION ENGINEER; PETE NICHOLAS AT 919 560–4366 EXT 36436; FIVE (5) DAYS PRIOR TO BEGINNING WORK ON SIGNAL SYSTEMS COMMUNICATION CABLE. NOTIFY THE CITY TRANSPORTATION ENGINEER AFTER ALL WORK IS PERFORMED TO ENSURE THAT ALL FIBER CIRCUITS ARE FUNCTIONING PROPERLY. ALL WORK IS NOT COMPLETE UNTIL THE SIGNAL SYSTEM IS BACK UP AND OPERATIONAL.

2) PRIOR TO BACKPULLING THE FIBER OUT OF THE POLE MOUNTED CABINET, RECORD THE EXISTING SPLICE ARRANGEMENT AND COMPARE TO THE SUPPLIED SPLICE PLANS. IF DISCREPANCIES EXIST CONTACT THE ENGINEER TO DETERMINE HOW TO PROCEED.

3) TRANSCEIVER TERMINATION CONFIGURATIONS ARE GENERIC. CONTRACTOR IS RESPONSIBLE FOR DETERMINING\ENSURING PROPER TERMINATIONS.

4) INCLUDE ON THE COVER OF EACH SPLICE TRAY THE FOLLOWING: REFERENCE SECTION 1731 "FIBER OPTIC SPLICE ENCLOSURE"

   1) SPLICE LOCATION
   2) DATE
   3) COMPANY NAME
   4) NAME OF INDIVIDUAL PERFORMING THE SPLICING

   PRIOR TO INSTALLING THE COVER ON THE SPLICE TRAY TAKE A DIGITAL PHOTOGRAPH SHOWING THE SPLICE TRAY AND INFORMATION SHOWN ABOVE (1–4) AND SUBMIT PHOTOGRAPH ALONG WITH OTDR TEST RESULTS.

Prepared in the Offices of:

750 N. Greenfield Pkwy., Garner, NC 27529

SPLICE PLAN

DIVISION 05   DURHAM CO.   CITY OF DURHAM
PLAN DATE: JANUARY 2017   REVIEWED BY:
PREPARED BY: I. N. AVERY   REVIEWED BY:

REVISIONS		INIT.	DATE

SEAL

SEAL
023919

Gregory A. Fuller   2/2/2017

CADD Filename:

SCALE
0   NA