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09/08/99

TIP PROJECT: W-5601EO

CONTRACT: DF00155

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

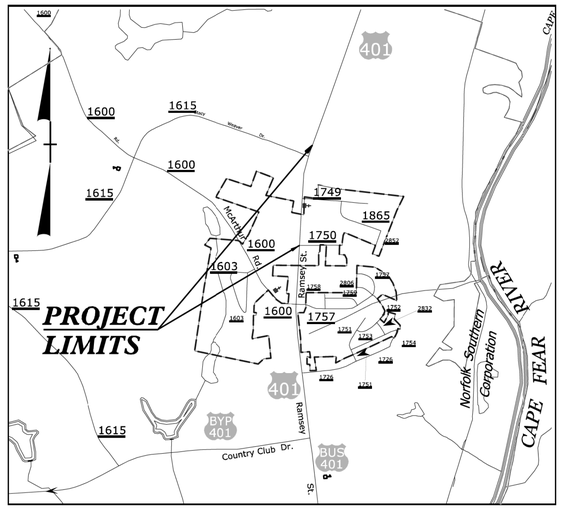
CUMBERLAND COUNTY

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	W-5601EO	1	

STATE PROJ. NO.	F. A. PROJ. NO.	DESCRIPTION
50138.1.146	HSIP-0401(273)	P.E.
50138.2.146	HSIP-0401(273)	ROW/UTIL.
50138.3.146	HSIP-0401(273)	CONST.

LOCATION: ***US 401 (RAMSEY ST.) FROM THE WALMART ENTRANCE TO FERNWOOD DRIVE***

TYPE OF WORK:
MILLING, PAVING, SIGNAL REVISIONS AND PAVEMENT MARKINGS



VICINITY MAP
(N.T.S.)

NAD 83/2001

BEGIN STATE PROJECT W-5601EO
-L- STA 10+00

4

5

6

BEGIN CONSTRUCTION
-BEGIN MILLING
POT Sta. 11+28.00

-L-
US 401 (RAMSEY ST.)

TO NC HWY 87

MEADOWCROFT DRIVE

TREETOP DRIVE

-L-
US 401 (RAMSEY ST.)

POT Sta. 36+50.00
END MILLING

END STATE PROJECT W-5601EO
END MILLING
-L- STA 44+82.00

POT Sta. 42+46.91
BEGIN MILLING

FERNWOOD DRIVE

TO LILLINGTON

LOWDERMILK DRIVE

GRAPHIC SCALES

50 25 0 50 100
PLANS

50 25 0 50 100
PROFILE (HORIZONTAL)

DESIGN DATA

ADT 2012 = 38,000
ADT 2032 = 68,632
V = 45 MPH (POSTED)

PROJECT LENGTH

TOTAL PROJECT LENGTH = 0.659 MILES

Prepared in the Office of:
DIVISION OF HIGHWAYS
431 Transportation Dr., Fayetteville, NC 28301

2012 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE:
OCT. 31, 2016

LETTING DATE:
APRIL 5, 2017

SEAN MATUSZEWSKI
PROJECT ENGINEER

GLENDA SNIVELY
PROJECT DESIGN ENGINEER

HYDRAULICS ENGINEER

STATE OF NORTH CAROLINA • DEPARTMENT OF TRANSPORTATION •

08-MAR-2017 11:19
H:\DOC\Projects\W-5601EO Ramsey Street from Stacy Weaver to Wal-Mart_Cumberland\Roadway\Proj\W-5601E0_Rdy_tsh.dgn
$$$$USERNAME$$$$

04/06/15

PROJECT REFERENCE NO.	SHEET NO.
W-5601EO	1-B

Note: Not to Scale

****S.U.E. = Subsurface Utility Engineering***

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
- Existing Historic Property Boundary — HPB
- Known Soil Contamination: Area or Site
- Potential Soil Contamination: Area or Site

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
- 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 R/W Marker — RW
- Proposed Control of Access Line with Concrete C/A Marker — CA
- Existing Control of Access — CA
- Proposed Control of Access — CA
- Existing Easement Line — E
- Proposed Temporary Construction Easement — E
- Proposed Temporary Drainage Easement — TDE
- Proposed Permanent Drainage Easement — PDE
- Proposed Permanent Drainage / Utility Easement — DUE
- Proposed Permanent Utility Easement — PUE
- Proposed Temporary Utility Easement — TUE
- Proposed Aerial Utility Easement — AUE
- Proposed Permanent Easement with Iron Pin and Cap Marker

ROADS AND RELATED FEATURES:

- Existing Edge of Pavement
- Existing Curb
- Proposed Slope Stakes Cut — C
- Proposed Slope Stakes Fill — F
- Proposed Curb Ramp — CR
- 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 — S
- 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
- H–Frame Pole
- U/G Power Line LOS B (S.U.E.*) — P
- U/G Power Line LOS C (S.U.E.*) — P
- U/G Power Line LOS D (S.U.E.*) — P

TELEPHONE:

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

WATER:

- Water Manhole — W
- Water Meter
- Water Valve
- Water Hydrant
- U/G Water Line LOS B (S.U.E.*) — W
- U/G Water Line LOS C (S.U.E.*) — W
- U/G Water Line LOS D (S.U.E.*) — W
- Above Ground Water Line — A/G Water

TV:

- TV Pedestal — C
- TV Tower
- U/G TV Cable Hand Hole — HH
- U/G TV Cable LOS B (S.U.E.*) — TV
- U/G TV Cable LOS C (S.U.E.*) — TV
- U/G TV Cable LOS D (S.U.E.*) — TV
- U/G Fiber Optic Cable LOS B (S.U.E.*) — TV FO
- U/G Fiber Optic Cable LOS C (S.U.E.*) — TV FO
- U/G Fiber Optic Cable LOS D (S.U.E.*) — TV FO

GAS:

- Gas Valve
- Gas Meter
- U/G Gas Line LOS B (S.U.E.*) — G
- U/G Gas Line LOS C (S.U.E.*) — G
- U/G Gas Line LOS D (S.U.E.*) — G
- Above Ground Gas Line — A/G Gas

SANITARY SEWER:

- Sanitary Sewer Manhole
- Sanitary Sewer Cleanout
- U/G Sanitary Sewer Line — SS
- Above Ground Sanitary Sewer — A/G Sanitary Sewer
- SS Forced Main Line LOS B (S.U.E.*) — FSS
- SS Forced Main Line LOS C (S.U.E.*) — FSS
- SS Forced Main Line LOS D (S.U.E.*) — FSS

MISCELLANEOUS:

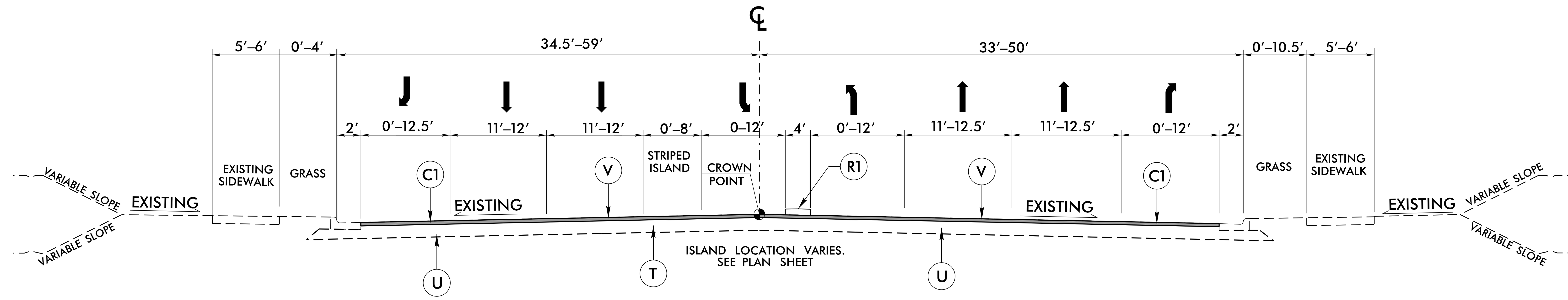
- Utility Pole
- Utility Pole with Base
- Utility Located Object
- Utility Traffic Signal Box — S
- Utility Unknown U/G Line LOS B (S.U.E.*) — ?UTL
- U/G Tank; Water, Gas, Oil
- Underground Storage Tank, Approx. Loc. — UST
- A/G Tank; Water, Gas, Oil
- Geoenvironmental Boring
- U/G Test Hole LOS A (S.U.E.*)
- Abandoned According to Utility Records — AATUR
- End of Information — E.O.I.

PROJECT REFERENCE NO.	SHEET NO.
W-5601EO	2

PAVEMENT SCHEDULE

C1	PROP. APPROX. 1-1/2" ASPHALT CONCRETE SURFACE COURSE, TYPE S9.5B, AT AN AVERAGE RATE OF 168 LBS. PER SQ. YD.
R1	5" MONOLITHIC CONCRETE ISLAND (KEYED IN)
T	EARTH MATERIAL.
U	EXISTING PAVEMENT.
V	MILLING BITUMINOUS PAVEMENT, 1-1/2"

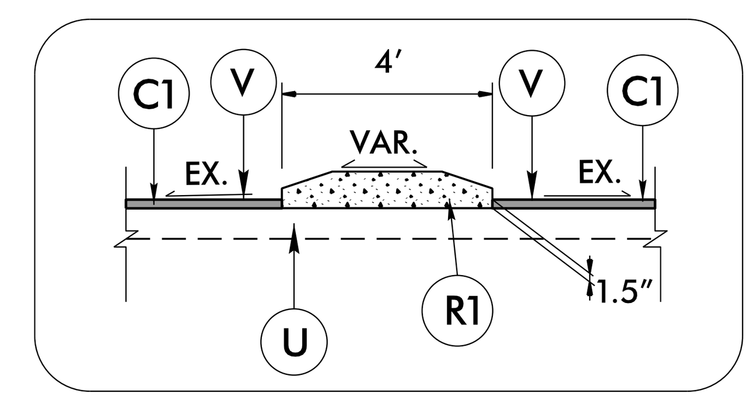
NOTE: PAVEMENT EDGE SLOPES ARE 1:1 UNLESS SHOWN OTHERWISE.



TYPICAL SECTION NO.

–L– STA. 11+28.00 TO STA. 36+50.00
–L– STA. 42+46.91 TO STA. 44+82.00

KEYED IN ISLAND DETAIL
ALL ISLANDS ON –L–



USE IN CONJUNCTION WITH TYP. NO. 1

–L– STA. 11+87.75 TO STA. 11+92.75
–L– STA. 13+35.26 TO STA. 13+40.26
–L– STA. 21+09.35 TO STA. 21+14.35
–L– STA. 22+33.26 TO STA. 22+38.26
–L– STA. 28+41.46 TO STA. 28+46.43
–L– STA. 29+64.77 TO STA. 29+69.78
–L– STA. 34+25.96 TO STA. 34+30.96
–L– STA. 36+04.66 TO STA. 36+09.66
–L– STA. 42+96.75 TO STA. 43+01.75
–L– STA. 44+25.70 TO STA. 44+30.70

** DUE TO A MINIMAL AMOUNT OF EARTHWORK, NO CROSS SECTIONS WILL BE PROVIDED.

PROJECT NOTES

1. The contractor shall not work on both sides of the road simultaneously within the same area.
2. Ingress and egress shall be maintained to all businesses and dwellings on the project.
3. At the end of each workday, the contractor shall be required to backfill any area adjacent to existing travelway that has been graded, leaving no more than a 1" drop–off.
4. A minimum of two–way, two–lane traffic (plus all existing left and right turn lanes) shall be maintained during periods of construction inactivity.
5. The Contractor shall not be allowed to stop traffic for more than 5 minutes at a time in any one direction.
6. During periods of construction inactivity, the difference in elevation between lanes shall not exceed 1–1/2 inch.
7. Access to police and fire stations, fire hydrants, and hospitals shall be maintained at all times.
8. During periods of construction inactivity, place cones/drums 3' from existing edge of pavement (travelway) as directed by the Engineer.
9. Channelizing devices in work areas shall be spaced not greater than 50' on center in tangent areas, 45' on center in tapers, and 10' on center in radii, and shall be set 3' off the edge of travelway, unless otherwise indicated on plans.
10. Contractor to install Erosion Control devices as directed by the Engineer.
11. Contractor shall coordinate with the Division Six Traffic Services Unit (910–486–1452) for placement of all pavement markings and signs.
12. Provide blockouts in concrete islands as well as coring asphalt for sign installation. Core asphalt at a minimum of 42" or per 904.50 sht 2 of 2.
13. Pedestrian signs on RRFB's will be paid for under Signs for Signals.
14. The contractor shall be responsible for the permanent staking of all Proposed Right of Way, Control of Access and Drainage Easements Per NCDOT Division 6 Special Provision in the contract.

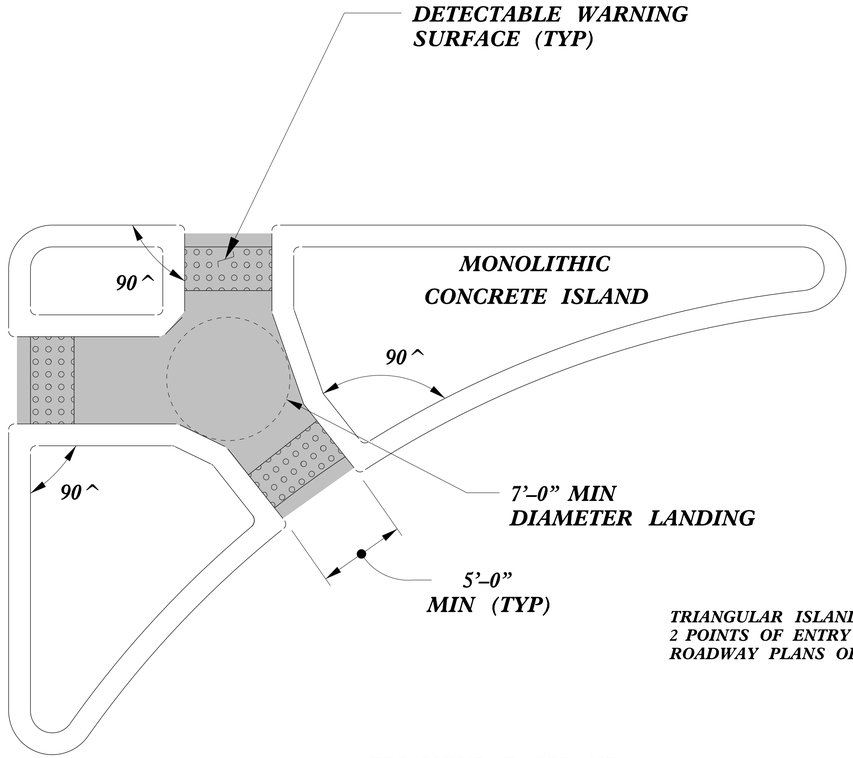
CONTRACTOR SHALL COORDINATE WITH LOCAL TRAFFIC SERVICES UNIT FOR PROPOSED SIGNAL DESIGN AND PLACEMENT OF ALL PAVEMENT MARKINGS.

FOR SIGNAL WORK,CONTACT TRAFFIC SERVICES 910-486-1452,28 DAYS PRIOR TO PLACEMENT.

FOR PAVEMENT MARKING,CONTACT TRAFFIC SERVICES 910-486-1452,14 DAYS PRIOR TO FINAL PLACEMENT.

5/14/99

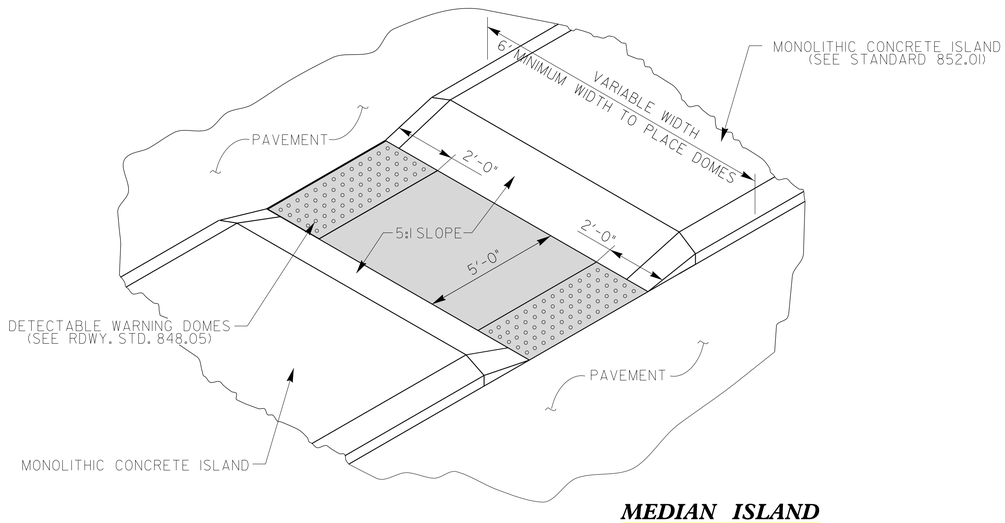
PROJECT REFERENCE NO.	SHEET NO.
W-5601EO	2B-1



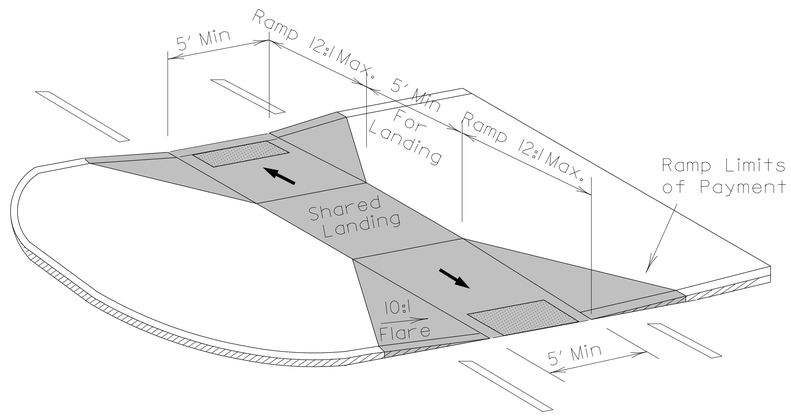
PAY LIMITS FOR 2 OR 3 CURB RAMPS (CALCULATE BASED ON NUMBER OF SETS OF TRUNCATED DOMES)

TRIANGULAR ISLANDS MAY BE CONSTRUCTED WITH ONLY 2 POINTS OF ENTRY AND EXIT AS SHOWN IN THE ROADWAY PLANS OR AS DIRECTED BY THE ENGINEER.

TRIANGULAR ISLAND WITH CUT THROUGH



MEDIAN ISLAND WITH CUT THROUGH



MEDIAN ISLAND CURB RAMPS

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

NORTH CAROLINA PROFESSIONAL SEAL 022966 ENGINEER Joel S. Howerton

CONTRACT STANDARDS AND DEVELOPMENT UNIT
Office 919-707-6950 FAX 919-250-4119

CURB RAMPS

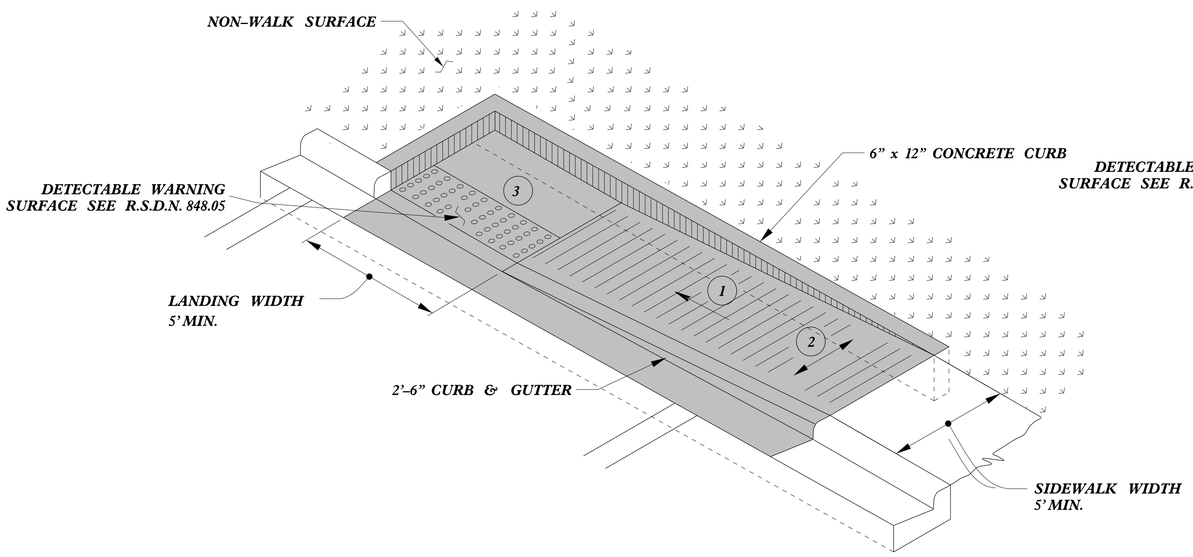
Median or Turn Lane Islands

ORIGINAL BY: J.S. HOWERTON DATE: 7/7/11
MODIFIED BY: _____ DATE: _____
CHECKED BY: _____ DATE: _____
FILE SPEC. stds/2012CurbRamp/CurbRampDetails.dgn

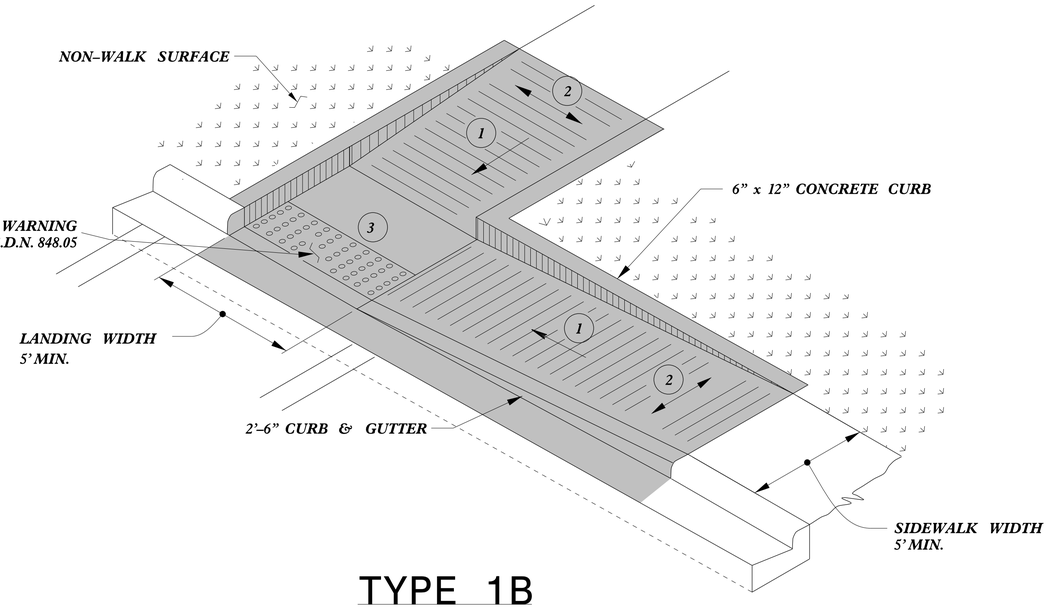
$$$$USERNAME$$$$ $$$$USERNAME$$$$ $$$$SYSTIME$$$$ $$$$SYSTIME$$$$

5/14/99

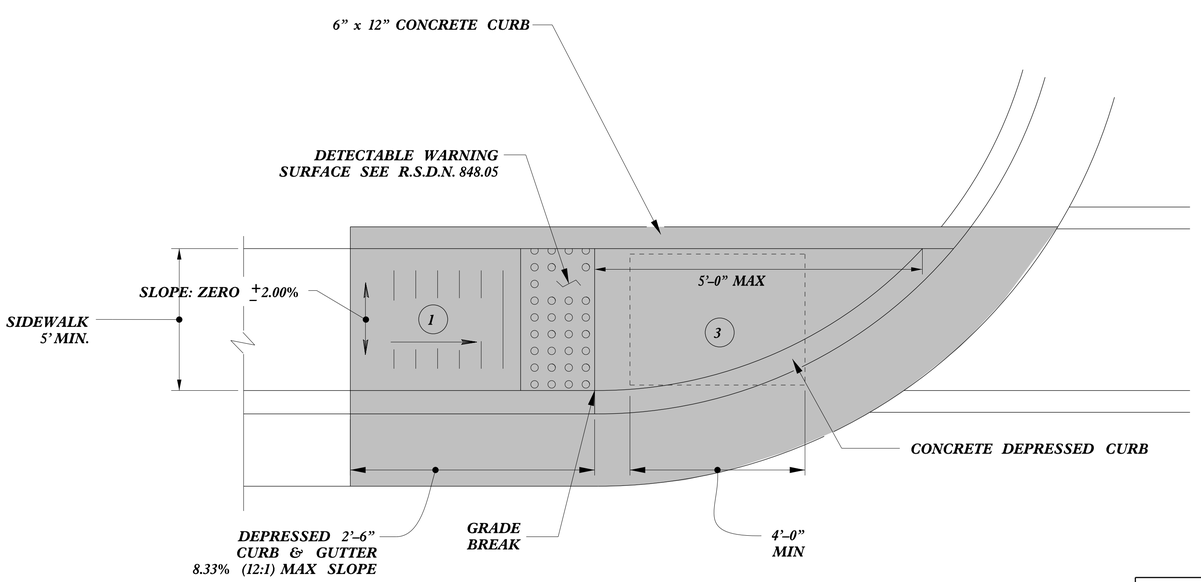
PROJECT REFERENCE NO.	SHEET NO.
W-5601EO	2B-2



TYPE 1A



TYPE 1B



TYPE 1

PAY LIMITS FOR 1 CURB RAMP

(1) 8.33% (12:1) MAX RAMP SLOPE

(2) CROSS SLOPE: 2.00%

(3) CURB RAMPS REQUIRE A (4'–0") MINIMUM LANDING WITH A MAXIMUM CROSS SLOPE AND LONGITUDINAL SLOPE OF 2.00% WHERE PEDESTRIANS PERFORM TURNING MANEUVERS. SLOPE TO DRAIN TO CURB.

REFER TO ROADWAY STANDARD DRAWING NUMBER 848.05 SHEET 3 OF 3 FOR ALL RAMP NOTES

NORTH CAROLINA PROFESSIONAL SEAL 022966 ENGINEER Joel S. Howerton

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

CONTRACT STANDARDS AND DEVELOPMENT UNIT
Office 919-707-6950 FAX 919-250-4119

CURB RAMPS

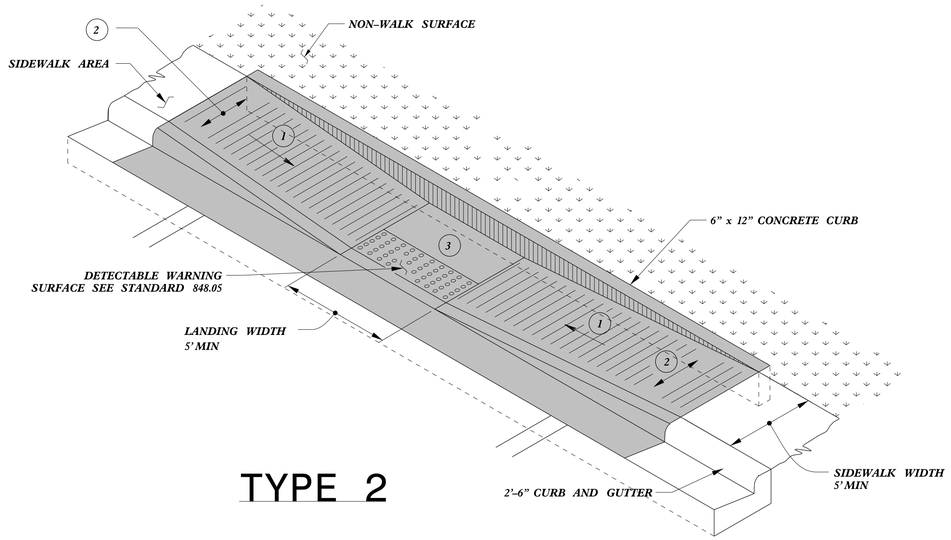
Directional Ramps

ORIGINAL BY: J.S. HOWERTON DATE: 7/7/11
MODIFIED BY: _____ DATE: _____
CHECKED BY: _____ DATE: _____
FILE SPEC.: stds/2012CurbRamp/CurbRampDetails.dgn

$$$$USERNAME$$$$
$$$$SYSTIME$$$$
$$$$USERNAME$$$$

5/14/99

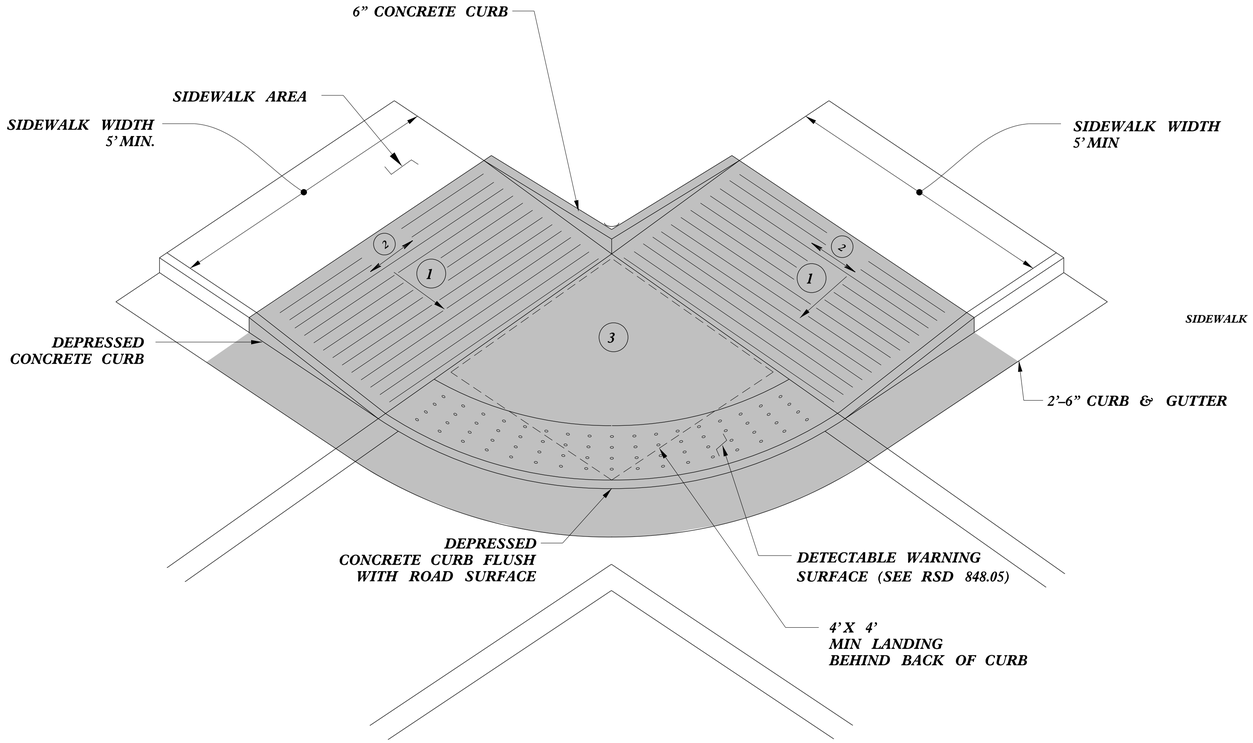
PROJECT REFERENCE NO.	SHEET NO.
W-5601EO	2B-3



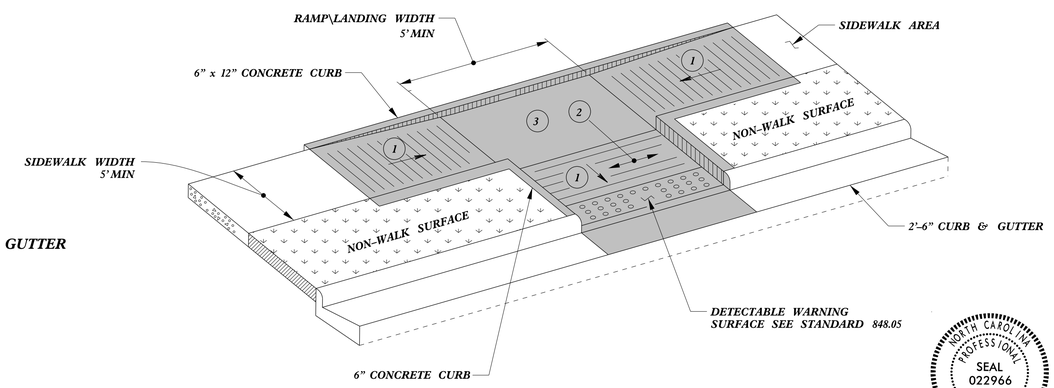
TYPE 2

PAY LIMITS FOR 1 CURB RAMP

1. *8.33% (12:1) MAX RAMP SLOPE*
2. *CROSS SLOPE: 2.00%*
3. *CURB RAMPS REQUIRE A (4'-0") MINIMUM LANDING WITH A MAXIMUM CROSS SLOPE AND LONGITUDINAL SLOPE OF 2.00% WHERE PEDESTRIANS PERFORM TURNING MANEUVERS. SLOPE TO DRAIN TO CURB.*



TYPE 2A



TYPE 3

NORTH CAROLINA PROFESSIONAL SEAL 022966 ENGINEER Joel S. Howerton

REFER TO ROADWAY STANDARD DRAWING NUMBER 848.05 SHEET 3 OF 3 FOR ALL RAMP NOTES

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

CONTRACT STANDARDS AND DEVELOPMENT UNIT
Office 919-707-6950 FAX 919-250-4119

CURB RAMPS

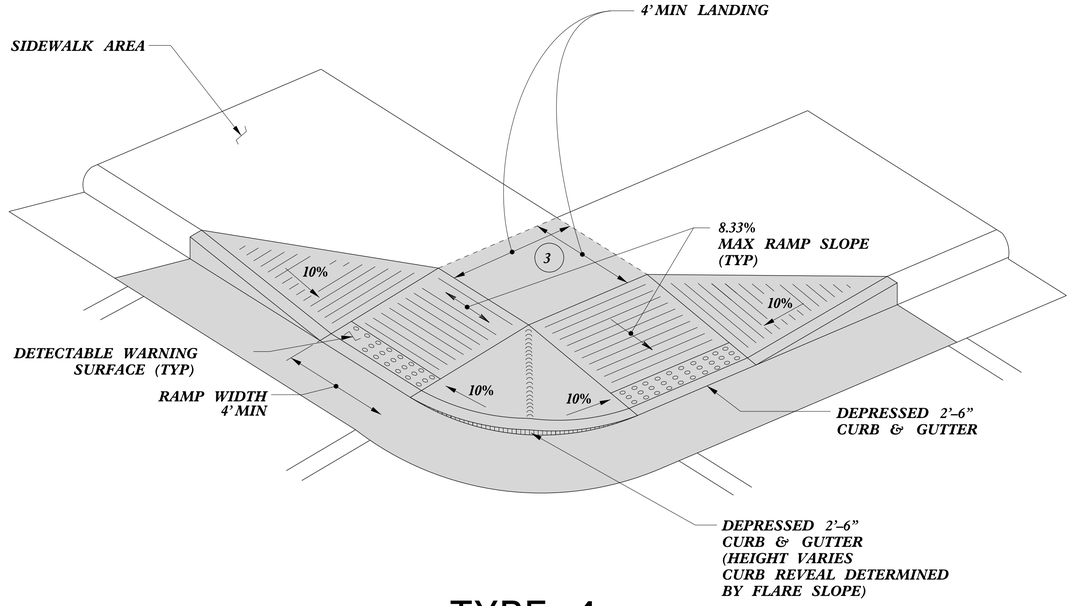
Parallel Ramps

ORIGINAL BY: J.S. HOWERTON DATE: 7/7/11
MODIFIED BY: _____ DATE: _____
CHECKED BY: _____ DATE: _____
FILE SPEC.: stds/2012CurbRamp/CurbRampDetails.dgn

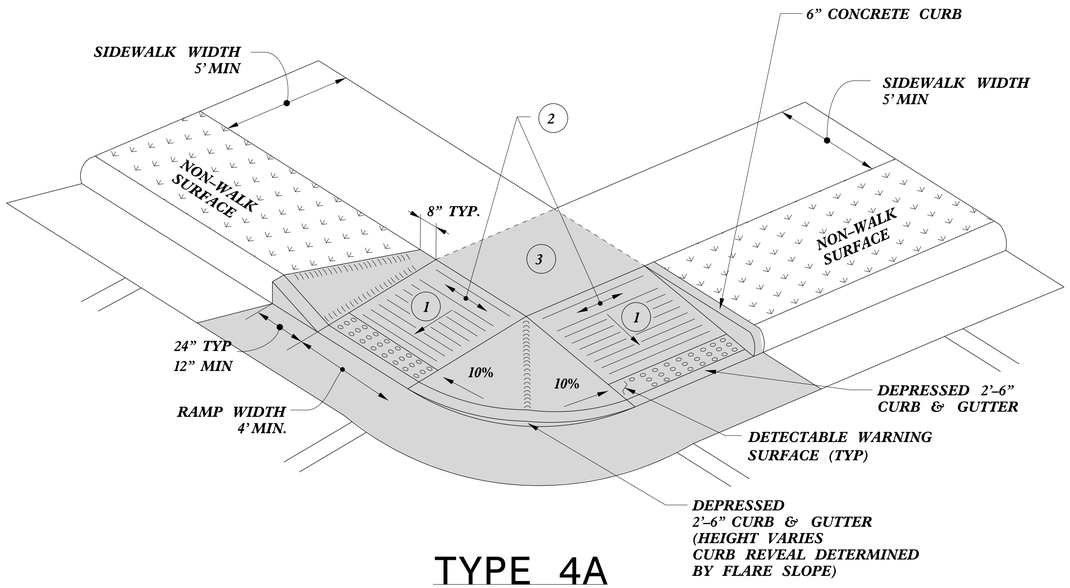
$$$$USERNAME$$$$ $$$$SCONS$$$$ $$$$SYMB$$$$ $$$$SYSTIME$$$$

5/14/99

PROJECT REFERENCE NO.	SHEET NO.
W-5601EO	2B-4

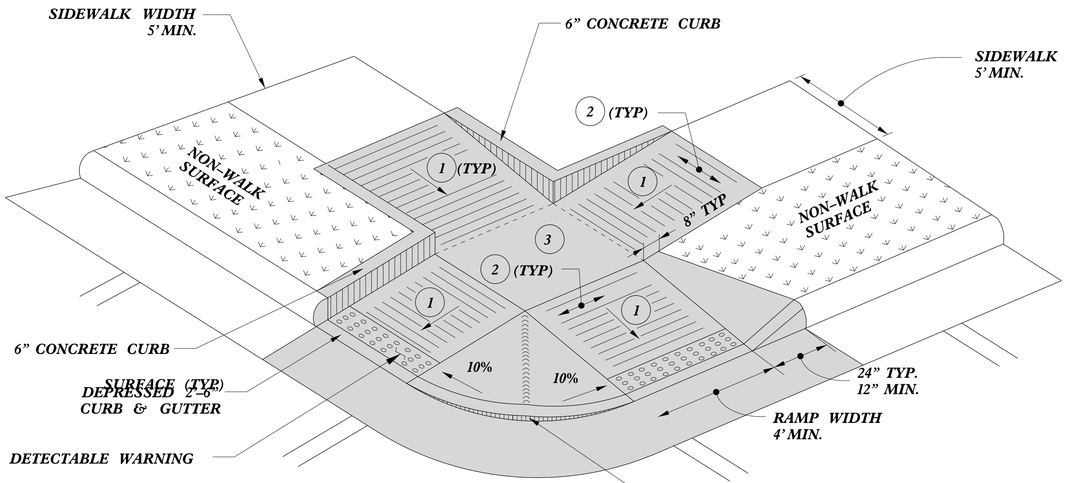


TYPE 4



TYPE 4A

PAY LIMITS FOR 2 CURB RAMPS



TYPE 5

NORTH CAROLINA PROFESSIONAL SEAL 022966 ENGINEER Joel S. Howerton

1. 8.33% (12:1) MAX RAMP SLOPE
2. CROSS SLOPE: 2.00%
3. CURB RAMPS REQUIRE A (4'–0") MINIMUM LANDING WITH A MAXIMUM CROSS SLOPE AND LONGITUDINAL SLOPE OF 2.00% WHERE PEDESTRIANS PERFORM TURNING MANEUVERS. SLOPE TO DRAIN TO CURB.

REFER TO ROADWAY STANDARD DRAWING NUMBER 848.05 SHEET 3 OF 3 FOR ALL RAMP NOTES

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

CONTRACT STANDARDS AND DEVELOPMENT UNIT
Office 919-707-6950 FAX 919-250-4119

CURB RAMPS

Shared Landing

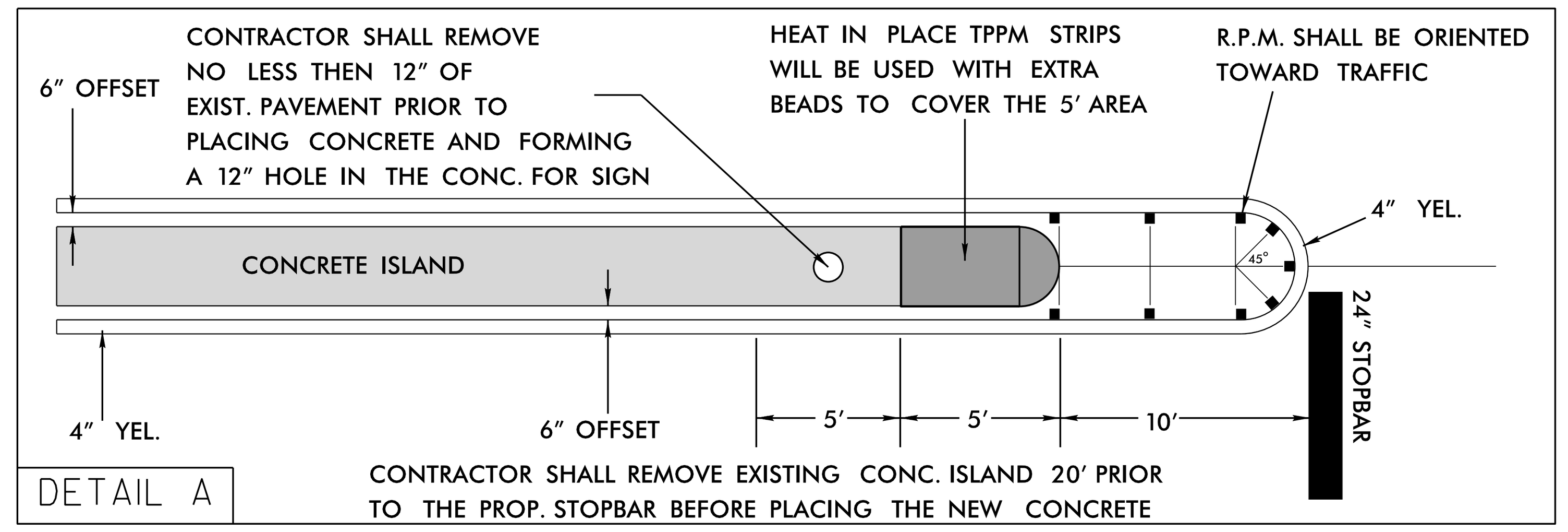
ORIGINAL BY: J.S. HOWERTON DATE: 7/7/11
MODIFIED BY: _____ DATE: _____
CHECKED BY: _____ DATE: _____
FILE SPEC.: stds/2012CurbRamp/CurbRampDetails.dgn

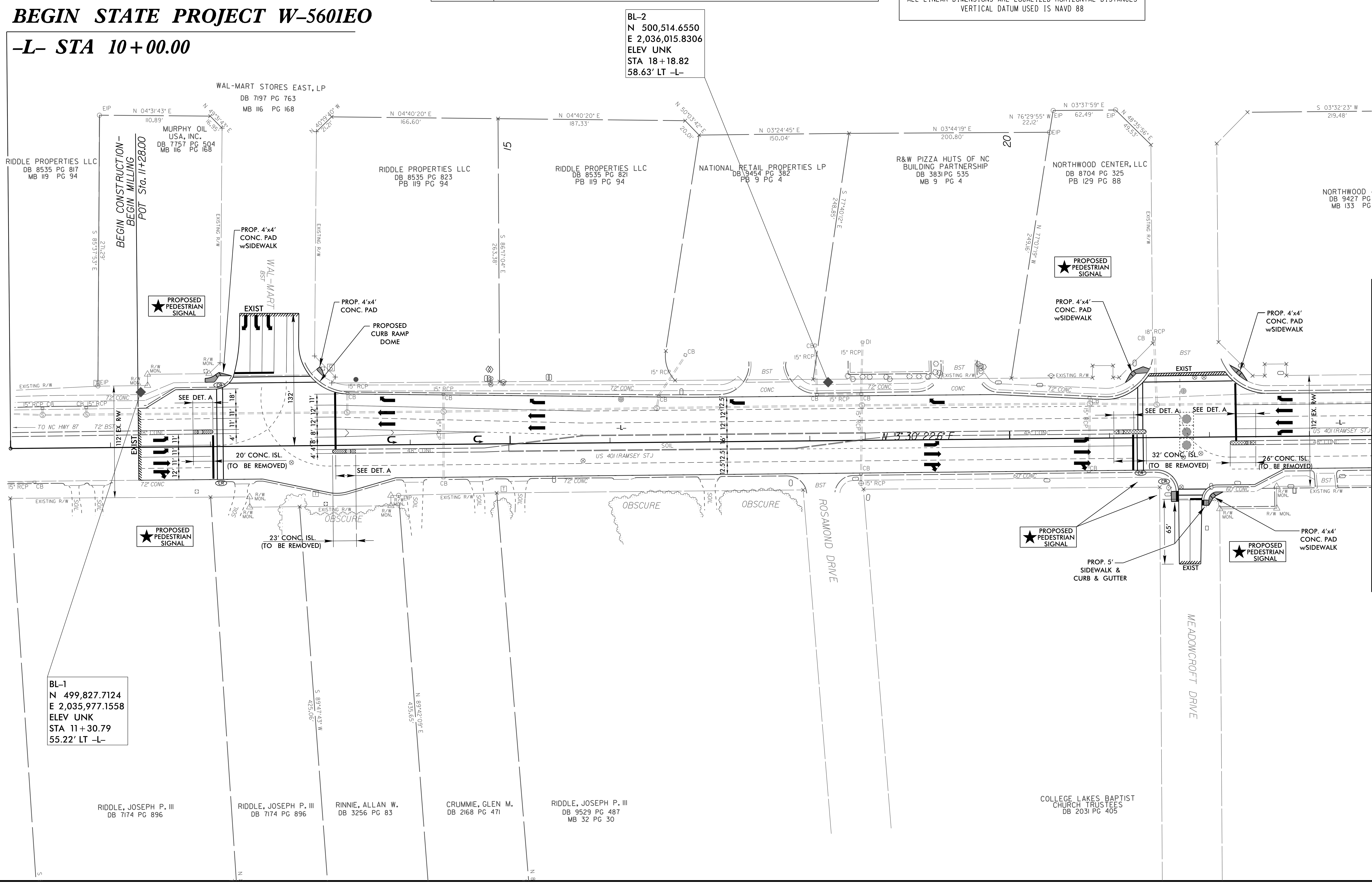
$$$$USERNAME$$$$ $$$$SYSTIME$$$$ $$$$DGN$$$$

PROJECT REFERENCE NO.	SHEET NO.
W-5601EO	4

DATUM DESCRIPTION

THE LOCALIZED COORDINATE SYSTEM DEVELOPED FOR THIS PROJECT IS BASED ON THE STATE PLANE COORDINATES ESTABLISHED BY OTHERS FOR MONUMENT "GPS 102"
WITH NAD 83/2001 STATE PLANE GRID COORDINATES OF
NORTHING: 500998.3582(ft) EASTING: 2035729.5900(ft)
ELEVATION: 237.69(ft)
THE AVERAGE COMBINED GRID FACTOR USED ON THIS PROJECT (GROUND TO GRID) IS: 1.00013642
THE N.C. LAMBERT GRID BEARING AND LOCALIZED HORIZONTAL GROUND DISTANCE FROM "GPS 102" TO -L- STATION 10+00.00 IS N 11°15'23" E 440.28 (ft)
ALL LINEAR DIMENSIONS ARE LOCALIZED HORIZONTAL DISTANCES
VERTICAL DATUM USED IS NAVD 88





REVISIONS

8/17/99

06-MAR-2017 15:38
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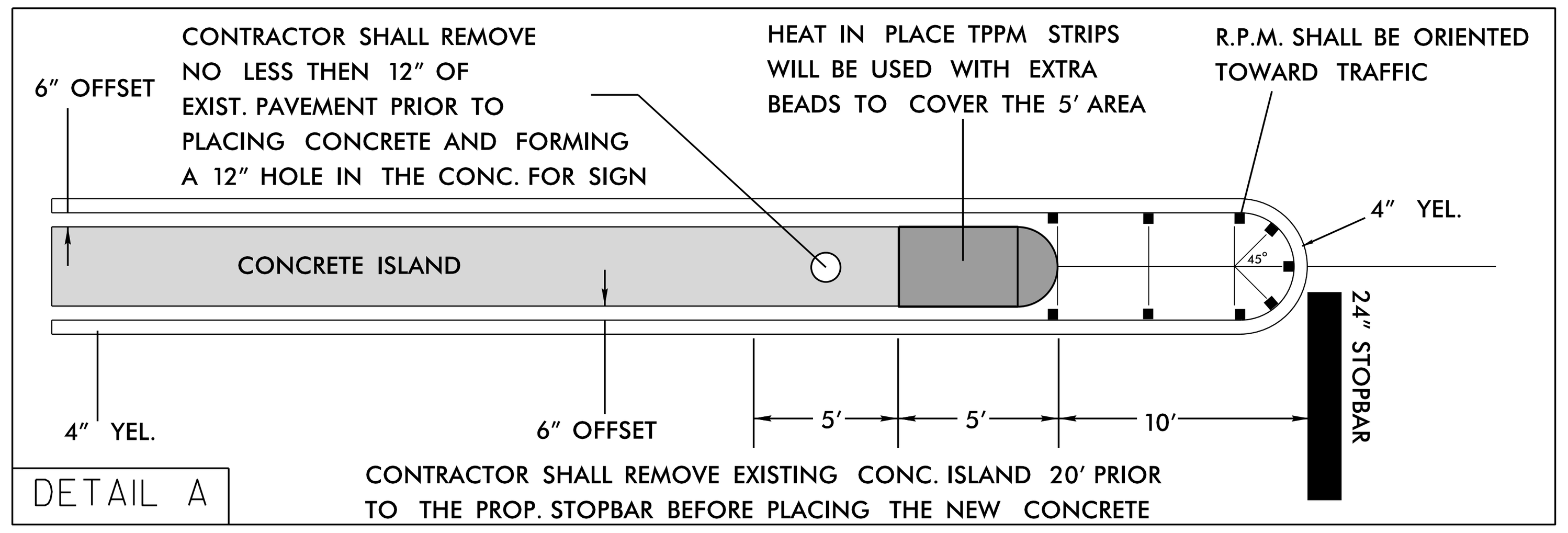
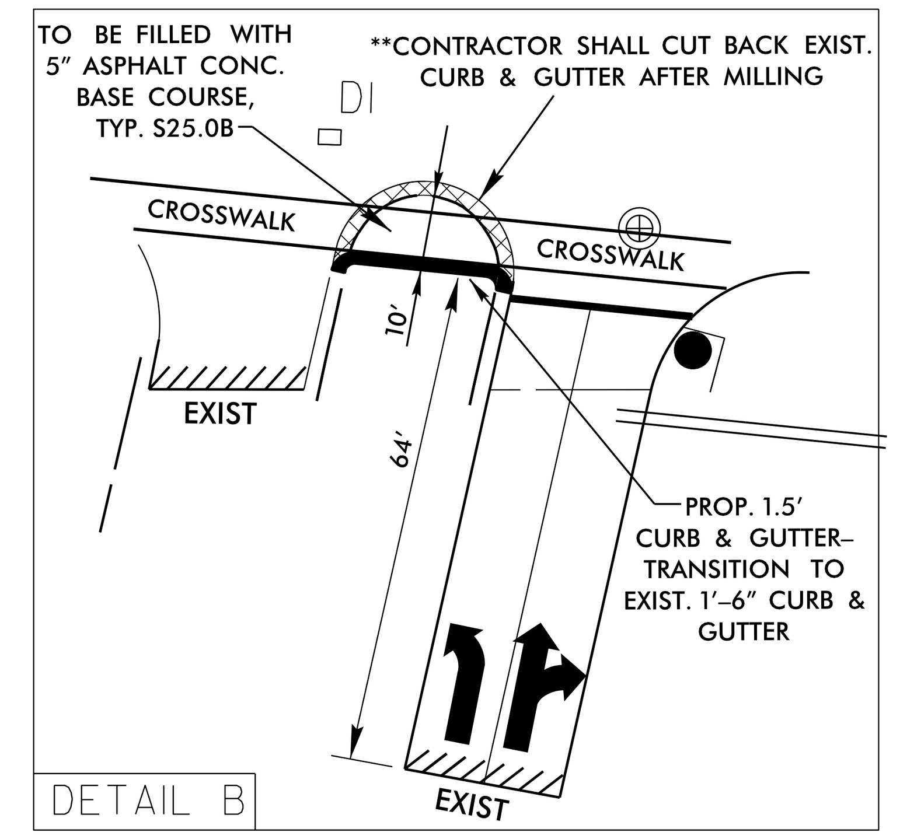
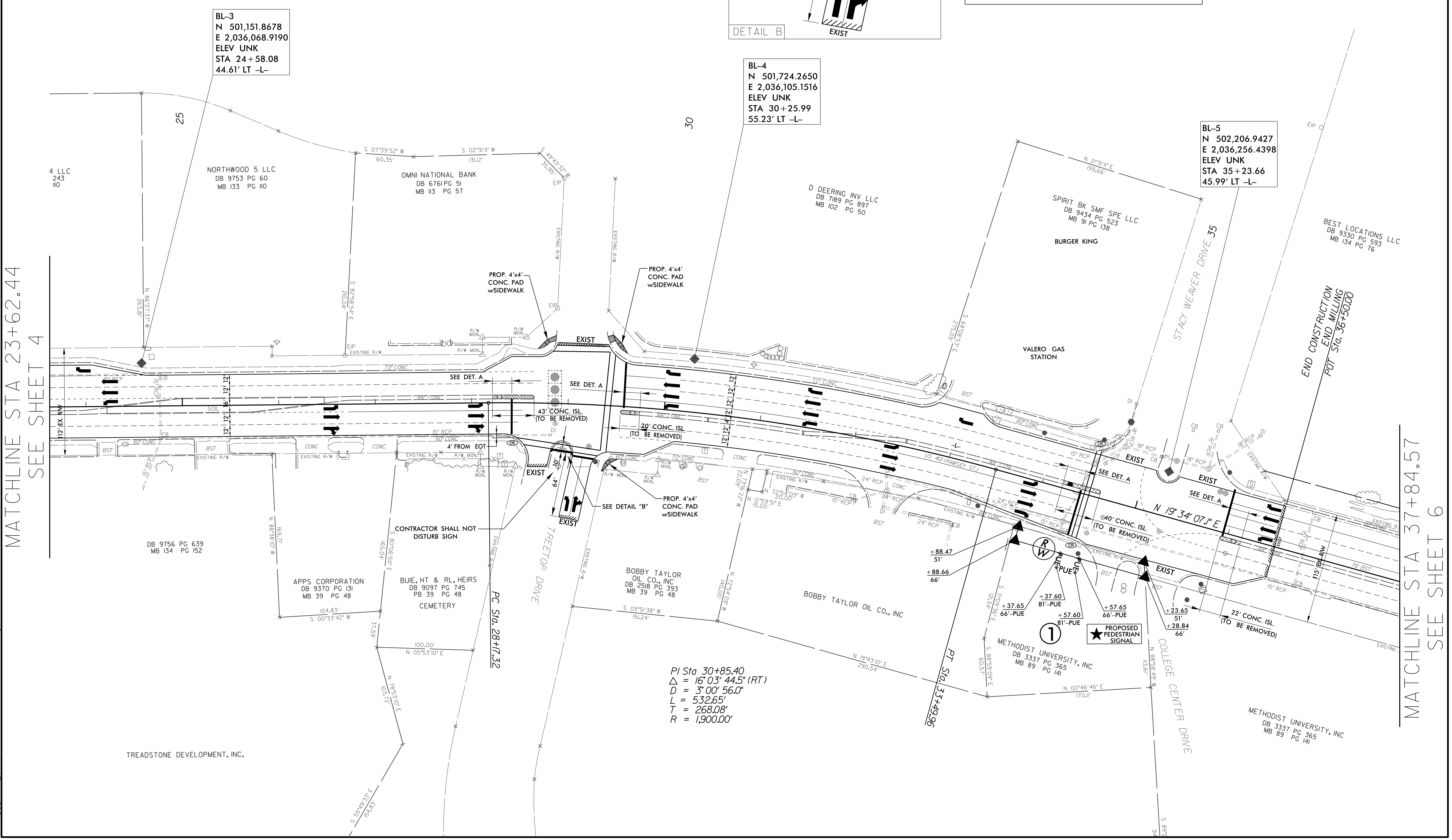
PROJECT REFERENCE NO.	SHEET NO.
W-5601EO	5





DATUM DESCRIPTION

THE LOCALIZED COORDINATE SYSTEM DEVELOPED FOR THIS PROJECT IS BASED ON THE STATE PLANE COORDINATES ESTABLISHED BY OTHERS FOR MONUMENT "GPS 102"
WITH NAD 83/2001 STATE PLANE GRID COORDINATES OF
NORTHING: 500998.3582(ft) EASTING: 2035729.5900(ft)
ELEVATION: 237.69(ft)
THE AVERAGE COMBINED GRID FACTOR USED ON THIS PROJECT (GROUND TO GRID) IS: 1.00013642
THE N.C. LAMBERT GRID BEARING AND LOCALIZED HORIZONTAL GROUND DISTANCE FROM "GPS 102" TO -L- STATION 10+00.00 IS
N 11°15'23" E 440.28 (ft)
ALL LINEAR DIMENSIONS ARE LOCALIZED HORIZONTAL DISTANCES
VERTICAL DATUM USED IS NAVD 88



REVISIONS

8/17/99

H:\DOT\Projects\W-5601EO Ramsey Street from Stacy Weaver to Wal-Mart,Cumberland\Roadway\Proj\W-5601EO_Rdy_psh5.dgn
06-MAR-2017 15:39
$$$$USERNAME$$$$

PROJECT REFERENCE NO.	SHEET NO.
W-5601EO	6

DATUM DESCRIPTION

THE LOCALIZED COORDINATE SYSTEM DEVELOPED FOR THIS PROJECT IS BASED ON THE STATE PLANE COORDINATES ESTABLISHED BY OTHERS FOR MONUMENT "GPS 102"
WITH NAD 83/2001 STATE PLANE GRID COORDINATES OF
NORTHING: 500998.3582(ft) EASTING: 2035729.5900(ft)
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THE N.C. LAMBERT GRID BEARING AND
LOCALIZED HORIZONTAL GROUND DISTANCE FROM
"GPS 102" TO -L- STATION 10+00.00 IS
N 11°15'23" E 440.28 (ft)
ALL LINEAR DIMENSIONS ARE LOCALIZED HORIZONTAL DISTANCES
VERTICAL DATUM USED IS NAVD 88

NAD 83/2001

MATCHLINE STA 37+84.57
SEE SHEET 5

POT Sta. 38+97.00

40

BEGIN CONSTRUCTION
BEGIN MILLING
POT Sta. 42+46.91

PAUL THOMPSON DEVELOPMENT CORP.
DB 5174 PG 338

END MILLING
STA. 44+82.00

FERNWOOD DRIVE

END STATE PROJECT W-5601EO

-L- STA. 44+82.00

EXISTING PROP. LINE

115' R/W

15' RCP

US 401 (RAMSEY ST.)

-L-

N 19° 34' 07.1" E

PAUL THOMPSON DEVELOPMENT CORP.

EXISTING R/W

SEE DET. A

SEE DET. A

EXIST

12' 12' 12' 4' 12' 12'

22' CONC. ISL. (TO BE REMOVED)

EXIST

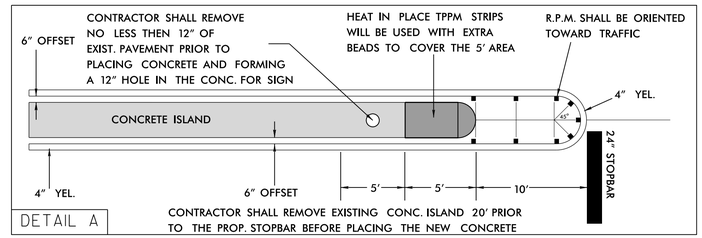
100' EXIST. R/W

TO ULLINGTON

EXISTING R/W

LONDERMILK DRIVE

23' CONC. ISL. (TO BE REMOVED)



DETAIL A

CONTRACTOR SHALL REMOVE EXISTING CONC. ISLAND 20' PRIOR TO THE PROP. STOPBAR BEFORE PLACING THE NEW CONCRETE

REVISIONS

8/17/99

06-MAR-2017 15:39
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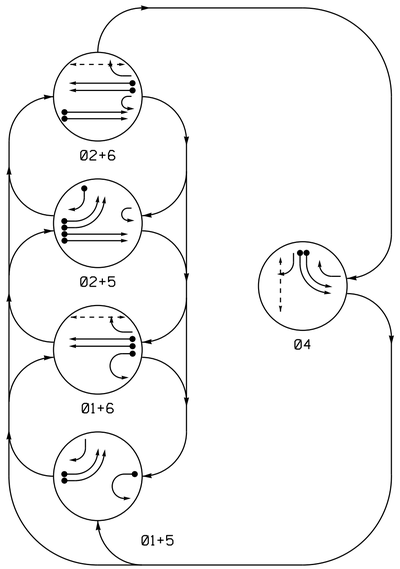
$$$$USERNAME$$$$

PROJECT REFERENCE NO.	SHEET NO.
W-5601EO	Sig. 1.0

PHASING DIAGRAM



PHASING DIAGRAM DETECTION LEGEND

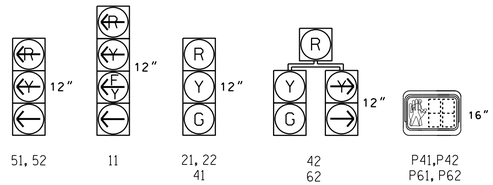
- DETECTED MOVEMENT
- UNDETECTED MOVEMENT (OVERLAP)
- UNSIGNALIZED MOVEMENT
- PEDESTRIAN MOVEMENT

TABLE OF OPERATION

SIGNAL FACE	PHASE 01+5	01+6	02+5	02+6	04	FLASH
11	←	←	↑ Y	↑ Y	~~R~~	~~Y~~
21, 22	R	R	G	G	R	Y
41	R	R	R	R	G	R
42	R ⁄ —	R	R ⁄ —	R	G	R
51, 52	~~←~~	~~R~~	~~←~~	~~R~~	~~R~~	~~R~~
61	R	G	R	G	R	Y
62	R	G	R	G	R ⁄ —	Y
P41, P42	DW	DW	DW	DW	W	DRK
P61, P62	DW	W	DW	W	DW	DRK

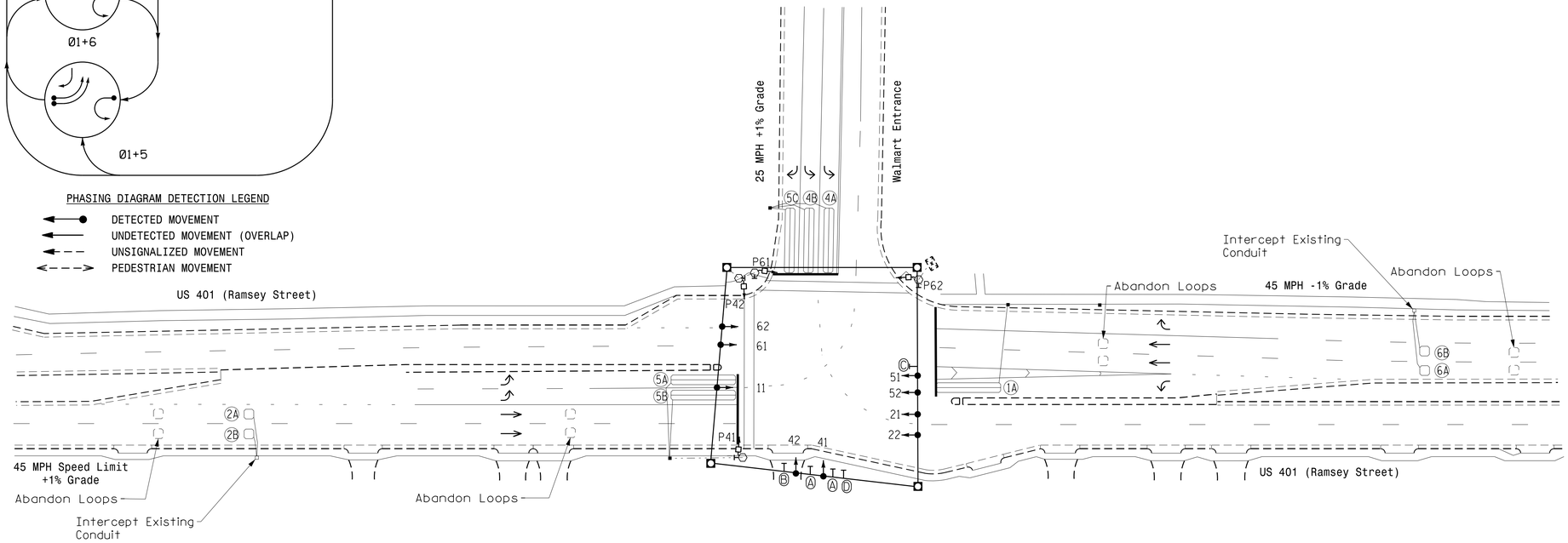
SIGNAL FACE I.D.

All Heads L.E.D.



OASIS 2070 LOOP & DETECTOR INSTALLATION CHART

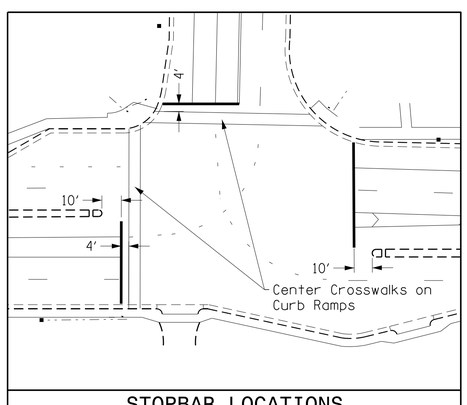
INDUCTIVE LOOPS					DETECTOR PROGRAMMING							
LOOP	SIZE (FT)	DISTANCE FROM STOPBAR (FT)	TURNS	NEW LOOP	PHASE	CALLING	EXTENSION	FULL TIME DELAY	STRETCH TIME	DELAY TIME	SYSTEM LOOP	NEW CARD
1A	6X40	0	2-4-2	Y	1	Y	Y	-	-	15	-	-
					6	Y	Y	Y	-	3	-	-
2A	6X6	300	6	Y	2	Y	Y	-	-	-	-	-
2B	6X6	300	6	Y	2	Y	Y	-	-	-	-	Y
4A	6X40	0	2-4-2	Y	4	Y	Y	-	-	-	-	-
4B	6X40	0	2-4-2	Y	4	Y	Y	-	-	-	-	-
5A	6X40	0	2-4-2	Y	5	Y	Y	-	-	-	-	-
5B	6X40	0	2-4-2	Y	5	Y	Y	-	-	-	-	-
5C	6X40	0	2-4-2	Y	5	Y	Y	-	-	15	-	-
6A	6X6	300	5	Y	6	Y	Y	-	-	-	-	-
6B	6X6	300	5	Y	6	Y	Y	-	-	-	-	Y



OASIS 2070 TIMING CHART

FEATURE	PHASE 1	2	4	5	6
Min Green 1 *	7	12	7	7	12
Extension 1 *	2.0	6.0	2.0	2.0	6.0
Max Green 1 *	20	75	30	20	75
Yellow Clearance	3.0	4.6	3.0	3.0	4.6
Red Clearance	3.6	2.0	3.4	3.3	2.0
Walk 1 *	-	-	7	-	7
Don't Walk 1	-	-	25	-	22
Seconds Per Actuation *	-	1.5	-	-	1.5
Max Variable Initial *	-	34	-	-	34
Time Before Reduction *	-	15	-	-	15
Time To Reduce *	-	30	-	-	30
Minimum Gap	-	3.0	-	-	3.0
Recall Mode	-	MIN RECALL	-	-	MIN RECALL
Vehicle Call Memory	-	YELLOW	-	-	YELLOW
Dual Entry	-	-	-	-	-
Simultaneous Gap	ON	ON	ON	ON	ON

* These values may be field adjusted. Do not adjust Min Green and Extension times for phases 2 and 6 lower than what is shown. Min Green for all other phases should not be lower than 4 seconds.



STOPBAR LOCATIONS

5 Phase
Fully Actuated
Fayetteville 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. Phase 1 and/or phase 5 may be lagged.
4. Set all detector units to presence mode.
5. Omit "WALK" and flashing "DON'T WALK" with no pedestrian calls.
6. Program pedestrian heads to countdown the flashing "Don't Walk" time only.
7. Pedestrian pedestals are conceptual and shown for reference only. See sheets P1-P3 for pushbutton location details.
8. Pavement markings are existing.
9. 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	----
N/A	Right of Way	----
→	Directional Arrow	→
N/A	Wheelchair Ramp	♿
Ⓐ	Left Arrow "ONLY" Sign (R3-5L)	Ⓐ
Ⓑ	Right Arrow "ONLY" Sign (R3-5R)	Ⓑ
Ⓒ	"U-TURN YIELD TO RIGHT TURN" Sign (R10-16)	Ⓒ
Ⓓ	Street Name Sign	Ⓓ
⬡	Type II Signal Pedestal	⬢

Signal Upgrade

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

Prepared In the Offices of:
Transportation Mobility and Safety Division
Signal Design Section
750 N.Greenfield Pkwy.Garner,NC 27529

US 401 (Ramsey Street) at Walmart Entrance

Division 6 Cumberland County Fayetteville

PLAN DATE: August 2016 REVIEWED BY: JPG

PREPARED BY: KGP, Jr. REVIEWED BY:

SCALE 0 40 1"=40'

REVISIONS	INIT.	DATE

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 029904 ENGINEER JASON P. GALLOWAY

DocuSigned by: Jason P. Galloway 10/6/2016
F70DEA7D4B1841D... DATE

SIG. INVENTORY NO. 06-1281

06-OCT-2016 11:04
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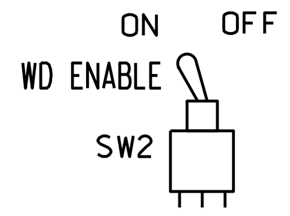
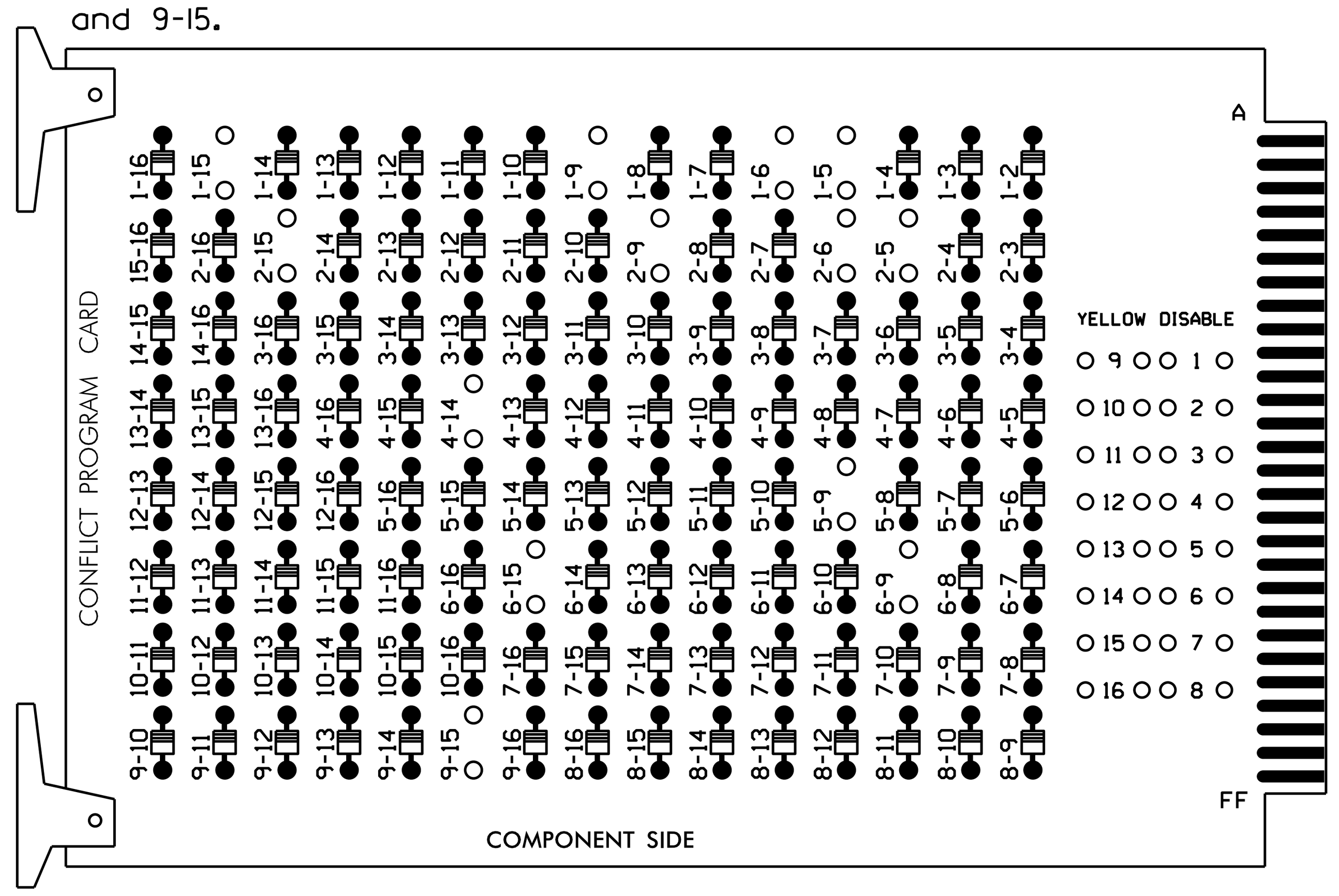
jgalloway

EDI MODEL 2010ECL-NC CONFLICT MONITOR PROGRAMMING DETAIL

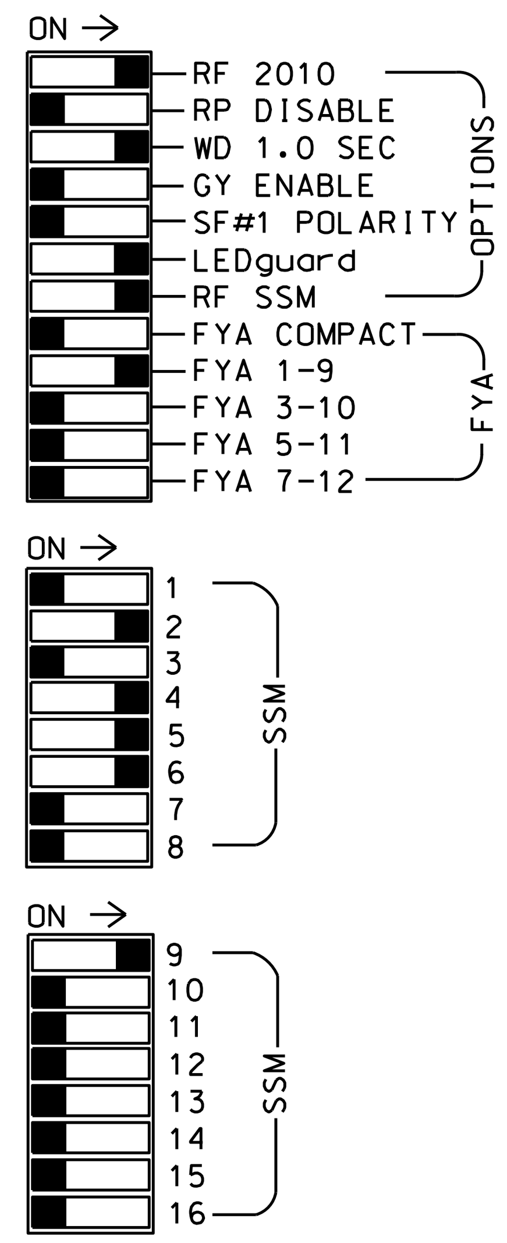
(remove jumpers and set switches as shown)



REMOVE DIODE JUMPERS 1-5, 1-6, 1-9, 1-15, 2-5, 2-6, 2-9, 2-15, 4-14, 5-9, 6-9, 6-15 and 9-15.



REMOVE JUMPERS AS SHOWN



■ = 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. The installer shall 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 Failures on unused monitor channels, tie unused red monitor inputs 1,3,7, 8,10,11,12,13,14,15 & 16 to load switch AC+ per the cabinet manufacturer's instructions.
3. Enable Simultaneous Gap-Out for all phases.
4. Program phases 2 and 6 for Variable Initial and Gap Reduction.
5. Program phases 2 and 6 for Start Up In Green.
6. Program phases 4 and 6 for 'STARTUP PED CALL'.
7. Program phases 2 and 6 for Yellow Flash, and overlap 1 as Wag Overlaps.
8. The cabinet and controller are part of the Fayetteville Signal System.

EQUIPMENT INFORMATION

CONTROLLER..............2070
CABINET.................332 W/ AUX
SOFTWARE................ECONOLITE OASIS
CABINET MOUNT...........BASE
OUTPUT FILE POSITIONS...18 WITH AUX. OUTPUT FILE
LOAD SWITCHES USED......S1,S2,S4,S4P,S5,S6,S6P,S9
PHASES USED.............1,2,4,4 PED,5,6,6 PED
OVERLAP "A".............1+2
OVERLAP "B".............NOT USED
OVERLAP "C".............NOT USED
OVERLAP "D".............NOT USED

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	OLA	OLB	SPARE	OLC	OLD	SPARE
SIGNAL HEAD NO.	11★	21,22	NU	NU	41,42	62	P41, P42	42	51,52	61,62	P61, P62	NU	NU	NU	11★	NU	NU	NU	NU	NU
RED		128			101					134										
YELLOW	✳	129			102					135										
GREEN		130			103					136										
RED ARROW									131						A121					
YELLOW ARROW						102		132	132						A122					
FLASHING YELLOW ARROW															A123					
GREEN ARROW	127					103		133	133											
(hand)							104				119									
(walking person)							106				121									

NU = Not Used

✳ Denotes install load resistor. See load resistor installation detail this sheet.

★ See pictorial of head wiring in detail below.

INPUT FILE POSITION LAYOUT

(front view)

		1	2	3	4	5	6	7	8	9	10	11	12	13	14
FILE "I"	U	Ø 1 1A	Ø 2 2A	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	Ø 4 4A	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	NOT USED	Ø6 PED DC ISOLATOR	FS DC ISOLATOR
	L	NOT USED	Ø 2 2B				Ø 4 4B						Ø4 PED DC ISOLATOR	NOT USED	ST DC ISOLATOR
FILE "J"	U	Ø 5 5C	Ø 5 5A	Ø 6 6A	WIRED INPUT ⊗	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY
	L	NOT USED	Ø 5 5B	Ø 6 6B											

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

FS = FLASH SENSE
ST = STOP TIME

⊗ Wired Input - Do not populate slot with detector card

INPUT FILE CONNECTION & PROGRAMMING CHART

LOOP NO.	LOOP TERMINAL	INPUT FILE POS.	PIN NO.	INPUT ASSIGNMENT NO.	DETECTOR NO.	NEMA PHASE	CALL	EXTEND	FULL TIME DELAY	STRETCH TIME	DELAY TIME
1A[1]	TB2-1,2	I1U	56	18	1	1	Y	Y			15
	-	J4U	48	10	26	6	Y	Y	Y		3
2A	TB2-5,6	I2U	39	1	2	2	Y	Y			
2B	TB2-7,8	I2L	43	5	12	2	Y	Y			
4A	TB4-9,10	I6U	41	3	4	4	Y	Y			
4B	TB4-11,12	I6L	45	7	14	4	Y	Y			
5A	TB3-5,6	J2U	40	2	6	5	Y	Y			
5B	TB3-7,8	J2L	44	6	16	5	Y	Y			
5C	TB3-1,2	J1U	55	17	5	5	Y	Y			15
6A	TB3-9,10	J3U	64	26	36	6	Y	Y			
6B	TB3-11,12	J3L	77	39	46	6	Y	Y			
PED PUSH BUTTONS											
P41,P42	TB8-5,6	I12L	69	31	PED 4	4 PED					
P61,P62	TB8-7,9	I13U	68	30	PED 6	6 PED					

NOTE:
INSTALL DC ISOLATORS IN INPUT FILE SLOTS I12 AND I13.

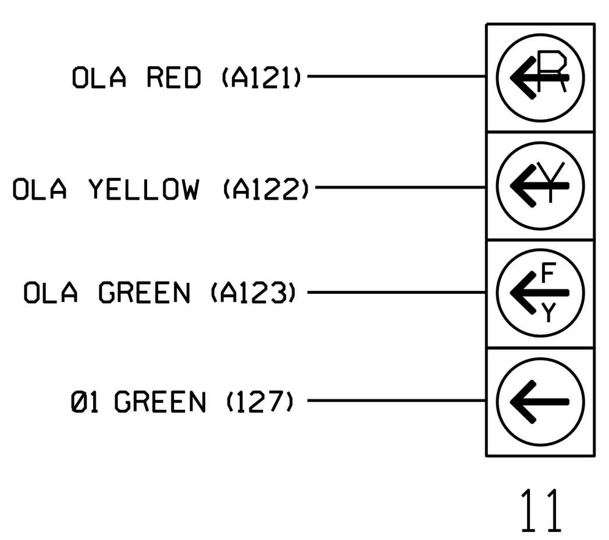
[1] Add jumper from I1-W to J4-W, on rear of input file.

INPUT FILE POSITION LEGEND: J2L

FILE J
SLOT 2
LOWER

4 SECTION FYA PPLT SIGNAL WIRING DETAIL

(wire signal heads as shown)



NOTE

1. The sequence display for this signal requires special logic programming. See sheet 2 of 2 for programming instructions.

COUNTDOWN PEDESTRIAN SIGNAL OPERATION

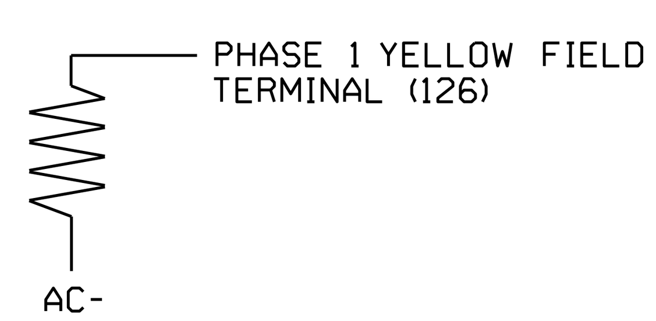
Countdown Ped Signals are required to display timing only during Ped Clearance Interval. Consult Ped Signal Module user's manual for instructions on selecting this feature.

LOAD RESISTOR INSTALLATION DETAIL

(install resistor as shown below)

ACCEPTABLE VALUES

VALUE (ohms)	WATTAGE
1.5K - 1.9K	25W (min)
2.0K - 3.0K	10W (min)



THIS ELECTRICAL DETAIL IS FOR
THE SIGNAL DESIGN: 06-1281
DESIGNED: August 2016
SEALED: 10/6/2016
REVISED:

Electrical Detail - Sheet 1 of 2

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

ELECTRICAL AND PROGRAMMING DETAILS FOR:

Prepared in the Offices of: Transportation Mobility and Safety Division, Signals Management Section, State of North Carolina Department of Transportation

750 N.Greenfield Pkwy,Garner,NC 27529

US 401 (Ramsey Street)
at
Wal-Mart Entrance

Division 6 Cumberland County Fayetteville

PLAN DATE: October 2016 REVIEWED BY: T. Joyce
PREPARED BY: C. Strickland REVIEWED BY:

REVISIONS	INIT.	DATE

SEAL
NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 030530 ZACHARY M. LITTLE

DocuSigned by: Zachary M. Little 10/12/2016
0C21EFD94F5341F...
DATE

SIG. INVENTORY NO. 06-1281

07-OCT-2016 09:45
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cestrickland

LOGICAL I/O PROCESSOR PROGRAMMING DETAIL TO PRODUCE SPECIAL FYA-PPLT SIGNAL SEQUENCE

(program controller as shown below)

1. FROM MAIN MENU PRESS '2' (PHASE CONTROL), THEN '1' (PHASE CONTROL FUNCTIONS). SCROLL TO THE BOTTOM OF THE MENU AND ENABLE ACT LOGIC COMMANDS 1, 2 AND 3.

2. FROM MAIN MENU PRESS '6' (OUTPUTS), THEN '3' (LOGICAL I/O PROCESSOR).

```
  LOGICAL I/O COMMAND #1  (+/-COMMAND#)
IF  ACTIVE PHASE        #1  IS ON
AND RED CLEAR ON PHASE #1  IS ON

            SCROLL DOWN
THEN:
SET OUTPUT  ASSIGNMENT #50 ON
SET OUTPUT  ASSIGNMENT #51 OFF
```

NOTE: LOGIC FOR PHASE 1 RED CLEAR WHEN TRANSITIONING FROM PHASE 1 TO PHASE 2 (HEAD 11).

PRESS '+'

```
  LOGICAL I/O COMMAND #2  (+/-COMMAND#)
IF  ACTIVE PHASE        #1  IS ON

            SCROLL DOWN
THEN:
SET OUTPUT  ASSIGNMENT #52 OFF
```

NOTE: LOGIC FOR SWITCHING FLASHING YELLOW ARROW "OFF" DURING PHASE 1 (HEAD 11).

PRESS '+'

```
  LOGICAL I/O COMMAND #3  (+/-COMMAND#)
IF  YELLOW ON PHASE     #1  IS ON

            SCROLL DOWN
THEN:
SET OUTPUT  ASSIGNMENT #51 ON
```

NOTE: LOGIC FOR YELLOW ARROW CLEARANCE FROM PHASE 1 (HEAD 11).

LOGIC I/O PROCESSOR PROGRAMMING COMPLETE

OUTPUT REFERENCE SCHEDULE

OUTPUT 50 = Overlap A Red
OUTPUT 51 = Overlap A Yellow
OUTPUT 52 = Overlap A Green

OVERLAP PROGRAMMING DETAIL

(program controller as shown below)

FROM MAIN MENU PRESS '8' (OVERLAPS), THEN '1' (VEHICLE OVERLAP SETTINGS).

```
 PAGE 1: VEHICLE OVERLAP 'A' SETTINGS
 PHASE:          ¦12345678910111213141516
VEH OVL PARENTS:¦XX
VEH OVL NOT VEH:¦
VEH OVL NOT PED:¦
VEH OVL GRN EXT:¦
STARTUP COLOR: _ RED   _ YELLOW   _ GREEN
FLASH COLORS:  _ RED   _ YELLOW   X GREEN
SELECT VEHICLE OVERLAP OPTIONS:    (Y/N)
FLASH YELLOW IN CONTROLLER FLASH?...Y
GREEN EXTENSION (0-255 SEC).........0
YELLOW CLEAR (0=PARENT,3-25.5 SEC)..0.0
RED CLEAR (0=PARENT,0.1-25.5 SEC)...0.0
OUTPUT AS PHASE # (0=NONE, 1-16)....0
```

NOTICE GREEN FLASH

OVERLAP PROGRAMMING COMPLETE

THIS ELECTRICAL DETAIL IS FOR
THE SIGNAL DESIGN: 06-1281
DESIGNED: August 2016
SEALED: 10/6/2016
REVISED:

Electrical Detail - Sheet 2 of 2

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

ELECTRICAL AND PROGRAMMING DETAILS FOR:

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

US 401 (Ramsey Street) at Wal-Mart Entrance

Division 6 Cumberland County Fayetteville

PLAN DATE: October 2016	REVIEWED BY: T. Joyce
PREPARED BY: C. Strickland	REVIEWED BY:

REVISIONS	INIT.	DATE

SEAL: NORTH CAROLINA PROFESSIONAL SEAL 030530 ENGINEER ZACHARY M. LITTLE

DocuSigned by: Zachary M. Little 0C21EFD94F5341F... DATE 10/12/2016

SIG. INVENTORY NO. 06-1281

07-OCT-2016 09:46
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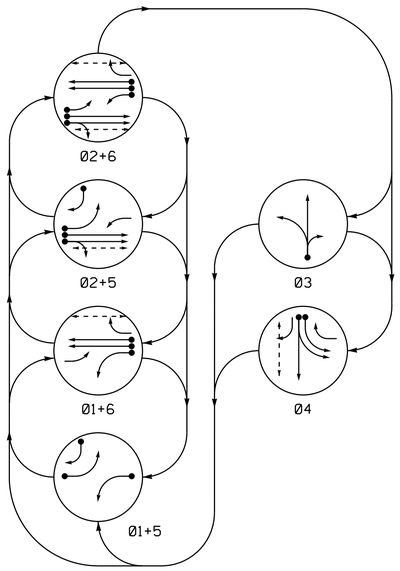
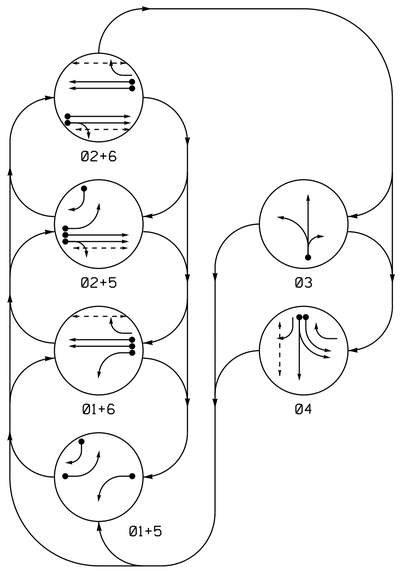
cestrickland

PROJECT REFERENCE NO.	SHEET NO.
W-5601E0	Sig. 2.0

DEFAULT PHASING DIAGRAM



ALTERNATE PHASING DIAGRAM



PHASING DIAGRAM DETECTION LEGEND

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

DEFAULT PHASING TABLE OF OPERATION

SIGNAL FACE	PHASE 01+5	01+6	02+5	02+6	03	04	FLASH
11	←	←	F Y	F Y	R	R	Y
21, 22	R	R	G	G	R	R	Y
31	R	R	R	R	G	R	R
32	R	R	R	R	G	R	R
41	R	R	R	R	R	G	R
42	R	R	R	R	R	G	R
51	←	F Y	←	F Y	R	R	Y
61	R	G	R	G	R	R	Y
62	R	G	R	G	R	R	Y
P21, P22	DW	DW	W	W	DW	DW	DRK
P41, P42	DW	DW	DW	DW	DW	W	DRK
P61, P62	DW	W	DW	W	DW	DW	DRK

ALTERNATIVE PHASING TABLE OF OPERATION

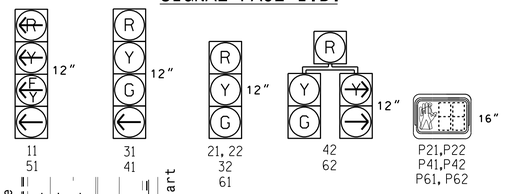
SIGNAL FACE	PHASE 01+5	01+6	02+5	02+6	03	04	FLASH
11	←	←	R	R	R	R	Y
21, 22	R	R	G	G	R	R	Y
31	R	R	R	R	G	R	R
32	R	R	R	R	G	R	R
41	R	R	R	R	R	G	R
42	R	R	R	R	R	G	R
51	←	R	←	R	R	R	Y
61	R	G	R	G	R	R	Y
62	R	G	R	G	R	R	Y
P21, P22	DW	DW	W	W	DW	DW	DRK
P41, P42	DW	DW	DW	DW	DW	W	DRK
P61, P62	DW	W	DW	W	DW	DW	DRK

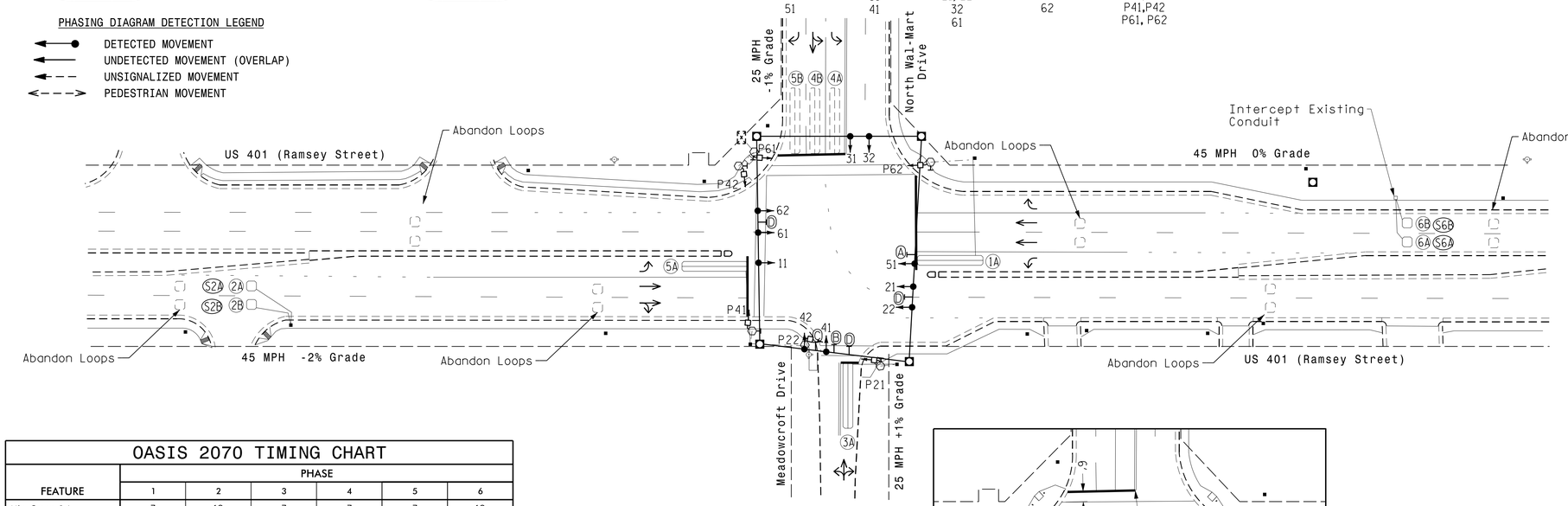
OASIS 2070 LOOP & DETECTOR INSTALLATION CHART

LOOP	SIZE (FT)	DISTANCE FROM STOPBAR (FT)	TURNS	NEW LOOP	DETECTOR PROGRAMMING: PHASE	CALLING	EXTENSION	FULL TIME DELAY	STRETCH TIME	DELAY TIME	SYSTEM LOOP	NEW CARD
1A	6X40	0	2-4-2	Y	1	Y	Y	-	-	15*	-	-
					6**	Y	Y	Y	-	3	-	-
2A/S2A	6X6	300	5	Y	2	Y	Y	-	-	-	Y	-
2B/S2B	6X6	300	5	Y	2	Y	Y	-	-	-	Y	-
3A	6X40	0	2-4-2	Y	3	Y	Y	-	-	-	-	-
4A	6X40	0	2-4-2	-	4	Y	Y	-	-	-	-	-
4B	6X40	0	2-4-2	-	4	Y	Y	-	-	-	-	-
5A	6X40	0	2-4-2	Y	5	Y	Y	-	-	15*	-	-
					2**	Y	Y	Y	-	3	-	-
5B	6X40	0	2-4-2	-	5	Y	Y	-	-	15	-	-
6A/S6A	6X6	300	5	Y	6	Y	Y	-	-	-	Y	-
6B/S6B	6X6	300	5	Y	6	Y	Y	-	-	-	Y	-

* Disable Delay During Alternate Phasing Operation.
** Disable Phase 2/6 Call For Loops 1A and 5A During Alternate Phasing Operation.

SIGNAL FACE I.D.

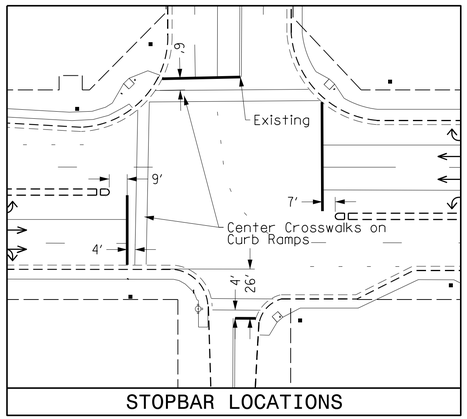




OASIS 2070 TIMING CHART

FEATURE	PHASE 1	2	3	4	5	6
Min Green 1 *	7	12	7	7	7	12
Extension 1 *	2.0	6.0	2.0	2.0	2.0	6.0
Max Green 1 *	20	70	30	30	20	70
Yellow Clearance	3.0	4.7	3.1	3.2	3.0	4.7
Red Clearance	2.6	1.4	3.1	3.1	3.1	1.4
Walk 1 *	-	7	-	7	-	7
Don't Walk 1	-	7	-	23	-	21
Seconds Per Actuation *	-	1.5	-	-	-	1.5
Max Variable Initial *	-	34	-	-	-	34
Time Before Reduction *	-	15	-	-	-	15
Time To Reduce *	-	30	-	-	-	30
Minimum Gap	-	3.0	-	-	-	3.0
Recall Mode	-	MIN RECALL	-	-	-	MIN RECALL
Vehicle Call Memory	-	YELLOW	-	-	-	YELLOW
Dual Entry	-	-	-	-	-	-
Simultaneous Gap	ON	ON	ON	ON	ON	ON

* These values may be field adjusted. Do not adjust Min Green and Extension times for phases 2 and 6 lower than what is shown. Min Green for all other phases should not be lower than 4 seconds.



STOPBAR LOCATIONS

6 Phase Fully Actuated Fayetteville 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. Phase 1 and/or phase 5 may be lagged.
4. The order of phase 3 and phase 4 may be reversed.
5. Set all detector units to presence mode.
6. Omit "WALK" and flashing "DON'T WALK" with no pedestrian calls.
7. Program pedestrian heads to countdown the flashing "Don't Walk" time only.
8. Pedestrian pedestals are conceptual and shown for reference only. See sheets P1-P3 for pushbutton location details.
9. The Division Traffic Engineer will determine the hours of use for each phasing plan.
10. 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	
N/A	Right of Way	
	Directional Arrow	
N/A	Wheelchair Ramp	
N/A	Fire Hydrant	
A	"U-TURN YIELD TO RIGHT TURN" Sign (R10-16)	A
B	Left Arrow "ONLY" Sign (R3-5L)	B
C	Combined Through and Left Arrow Sign (R3-6L)	C
D	Street Name Sign	D
	Type II Signal Pedestal	

Signal Upgrade

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

Prepared in the Offices of:
Transportation Mobility and Safety Division
Signal Design Section
750 N.Greenfield Pkwy.Garner,NC 27529

US 401 (Ramsey Street) at Meadowcroft Drive/ North Walmart Entrance

Division 6 Cumberland County Fayetteville

PLAN DATE: August 2016 REVIEWED BY: JPG

PREPARED BY: KGP, Jr. REVIEWED BY:

SCALE 0 40 1"=40'

REVISIONS	INIT.	DATE

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 029904 ENGINEER JASON P. GALLOWAY

DocuSigned by: Jason P. Galloway 10/14/2016
F700EA704B1841D DATE

SIG. INVENTORY NO. 06-1280

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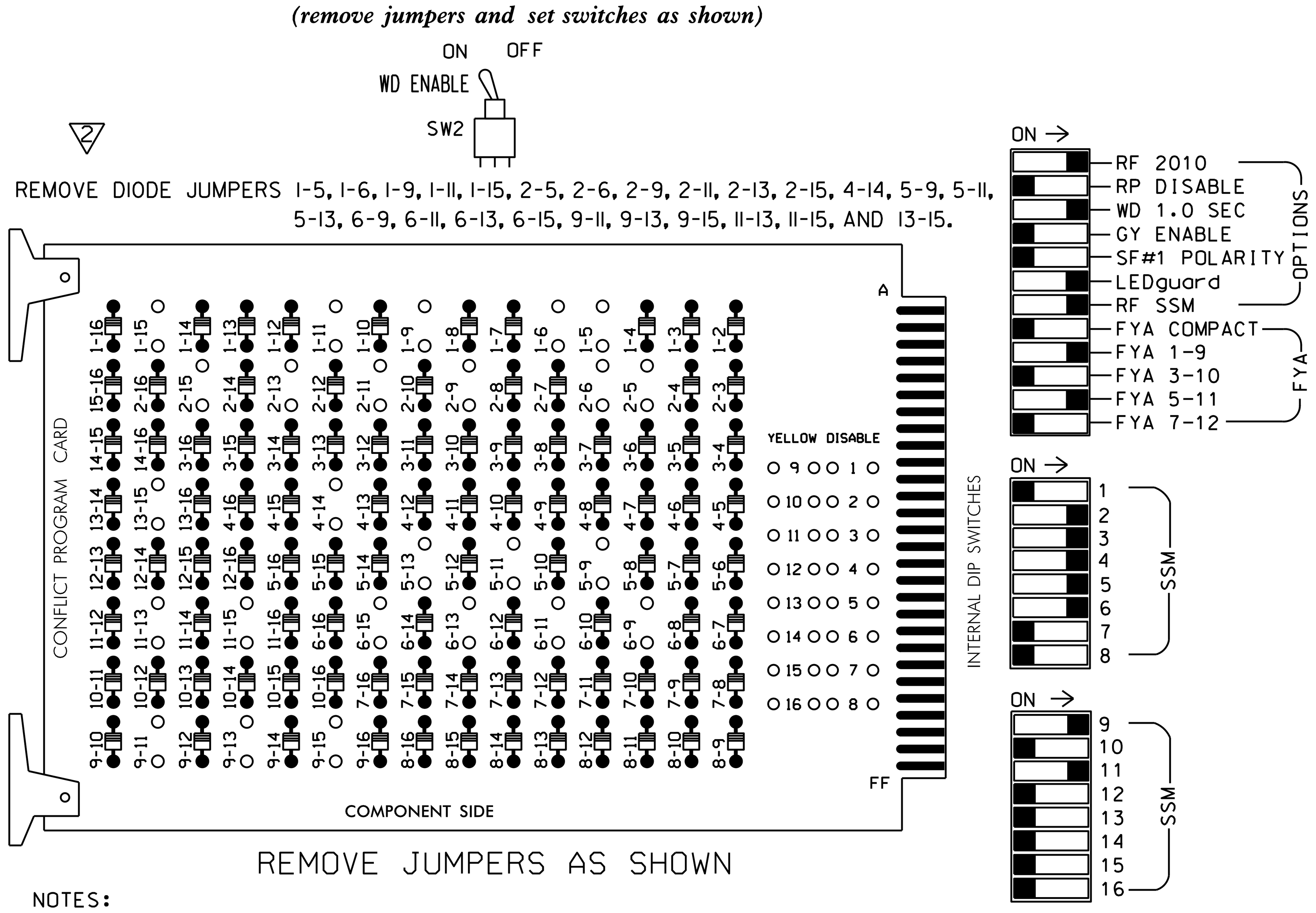
jgalloway

PROJECT REFERENCE NO.	SHEET NO.
W-5601EO	Sig. 2.1

EDI MODEL 2010ECL-NC CONFLICT MONITOR PROGRAMMING DETAIL

(remove jumpers and set switches as shown)



REMOVE JUMPERS AS SHOWN

■ = 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. The installer shall 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 Failures on unused monitor channels, tie unused red monitor inputs 1,7,8, 10,12,13,14,15 & 16 to load switch AC+ per the cabinet manufacturer's instructions.
3. Enable Simultaneous Gap-Out for all phases.
4. Program phases 2 and 6 for Variable Initial and Gap Reduction.
5. Program phases 2 and 6 for Start Up In Green.
6. Program phases 2, 4, and 6 for 'STARTUP PED CALL'.
7. Program phases 2 and 6 for Yellow Flash, and overlap 1 as Wag Overlaps.
8. The cabinet and controller are part of the Fayetteville Signal System.

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	OLA	OLB	SPARE	OLC	OLD	SPARE
SIGNAL HEAD NO.	11 ★	21,22	P21, P22	31	32	41	42	62	P41, P42	51 ★	42	61,62	P61, P62	NU	NU	NU	11 ★	NU	NU	51 ★	NU	NU
RED		128		116	116	101	101				✱	134										
YELLOW	✱	129		117	117	102	102					135										
GREEN		130		118	118	103	103					136										
RED ARROW																	A121			A114		
YELLOW ARROW								102			132						A122			A115		
FLASHING YELLOW ARROW																	A123			A116		
GREEN ARROW	127			118		103		103		133	133											
(hand)			113						104				119									
(walking person)			115						106				121									

NU = Not Used

✱ Denotes install load resistor. See load resistor installation detail this sheet.

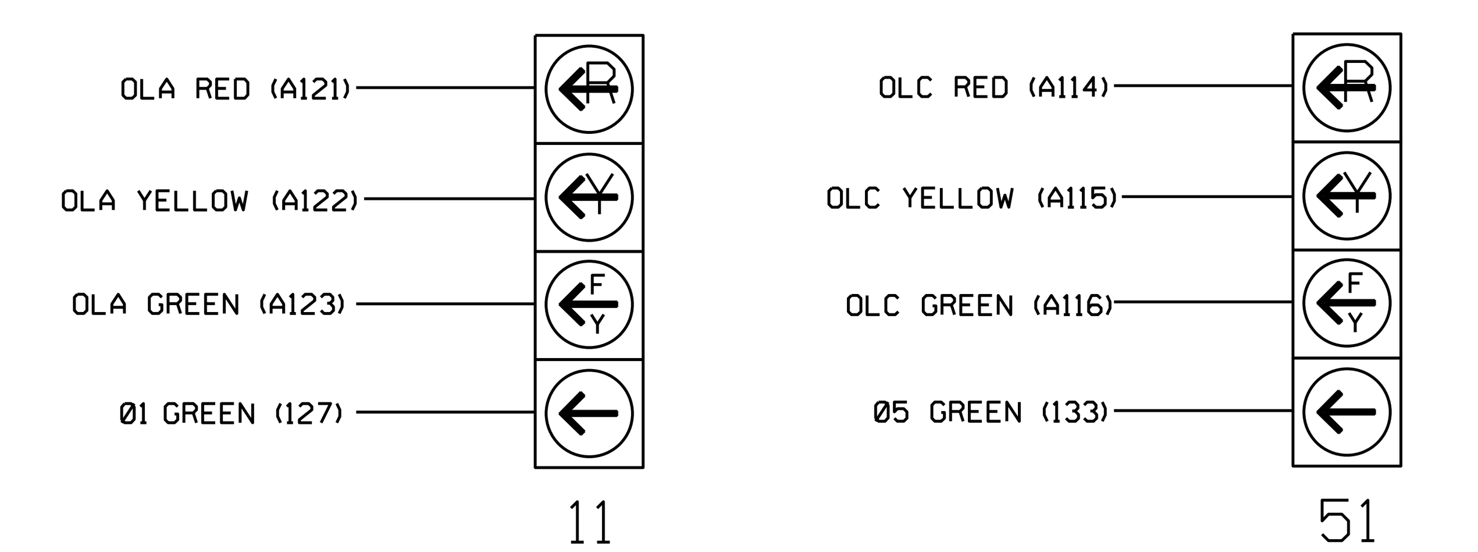
★ See pictorial of head wiring in detail below.

EQUIPMENT INFORMATION

CONTROLLER..............2070L
CABINET.................332 W/ AUX
SOFTWARE................ECONOLITE OASIS
CABINET MOUNT...........BASE
OUTPUT FILE POSITIONS...18 WITH AUX. OUTPUT FILE
LOAD SWITCHES USED......S1,S2,S2P,S3,S4,S4P,S5,S6,S6P,S9,S12
PHASES USED.............1,2,2PED,3,4,4PED,5,6,6PED
OVERLAP "A".............1+2
OVERLAP "B".............NOT USED
OVERLAP "C".............5+6
OVERLAP "D".............NOT USED

4 SECTION FYA PPLT SIGNAL WIRING DETAIL

(wire signal heads as shown)



NOTE

1. The sequence display for this signal requires special logic programming. See sheet 2 for programming instructions.

INPUT FILE POSITION LAYOUT

(front view)

FILE		1	2	3	4	5	6	7	8	9	10	11	12	13	14
FILE "I"	U	Ø 1 1A	SLOT EMPTY	Ø2/SYS 2A/S2A	WIRED INPUT ⊗	SLOT EMPTY	Ø 4 4A	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	Ø2 PED DC ISOLATOR	Ø6 PED DC ISOLATOR	FS DC ISOLATOR
	L	NOT USED		Ø2/SYS 2B/S2B			Ø 4 4B						Ø4 PED DC ISOLATOR	NOT USED	ST DC ISOLATOR
FILE "J"	U	Ø 5 5A	SLOT EMPTY	Ø6/SYS 6A/S6A	WIRED INPUT ⊗	SLOT EMPTY	Ø 3 3A	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY
	L	NOT USED		Ø6/SYS 6B/S6B			Ø 5 5B								

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

FS = FLASH SENSE
ST = STOP TIME

⊗ Wired Input - Do not populate slot with detector card

INPUT FILE CONNECTION & PROGRAMMING CHART

LOOP NO.	LOOP TERMINAL	INPUT FILE POS.	PIN NO.	INPUT ASSIGNMENT NO.	DETECTOR NO.	NEMA PHASE	CALL	EXTEND	FULL TIME DELAY	STRETCH TIME	DELAY TIME
1A[1]	TB2-1,2	I1U	56	18	1	1	Y	Y			15
	-	J4U	48	10	26	6	Y	Y	Y		3
2A/S2A	TB2-9,10	I3U	63	25	32	2/SYS	Y	Y			
2B/S2B	TB2-11,12	I3L	76	38	42	2/SYS	Y	Y			
3A	TB5-9,10	J6U	42	4	8	3	Y	Y			
4A	TB4-9,10	I6U	41	3	4	4	Y	Y			
4B	TB4-11,12	I6L	45	7	14	4	Y	Y			
5A[2]	TB3-1,2	J1U	55	17	5	5	Y	Y			15
	-	I4U	47	9	22	2	Y	Y	Y		3
5B	TB5-11,12	J6L	46	8	18	5	Y	Y			15
6A/S6A	TB3-9,10	J3U	64	26	36	6/SYS	Y	Y			
6B/S6B	TB3-11,12	J3L	77	39	46	6/SYS	Y	Y			
PED PUSH BUTTONS											
P21,P22	TB8-4,6	I12U	67	29	PED 2	2 PED					
P41,P42	TB8-5,6	I12L	69	31	PED 4	4 PED					
P61,P62	TB8-7,9	I13U	68	30	PED 6	6 PED					

NOTE:
INSTALL DC ISOLATORS IN INPUT FILE SLOTS I12 AND I13.

[1] Add jumper from I1-W to J4-W, on rear of input file.
[2] Add jumper from J1-W to I4-W, on rear of input file.

INPUT FILE POSITION LEGEND: J2L
FILE J
SLOT 2
LOWER

COUNTDOWN PEDESTRIAN SIGNAL OPERATION

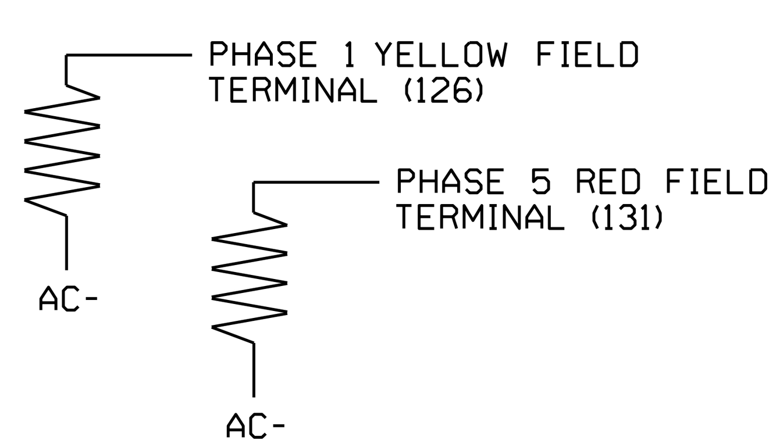
Countdown Ped Signals are required to display timing only during Ped Clearance Interval. Consult Ped Signal Module user's manual for instructions on selecting this feature.

LOAD RESISTOR INSTALLATION DETAIL

(install resistors as shown below)

ACCEPTABLE VALUES

VALUE (ohms)	WATTAGE
1.5K - 1.9K	25W (min)
2.0K - 3.0K	10W (min)



THIS ELECTRICAL DETAIL IS FOR
THE SIGNAL DESIGN: 06-1280
DESIGNED: August 2016
SEALED: 10/14/2016
REVISED: N/A

ELECTRICAL DETAIL SHEET 1 OF 4

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

REVISION 2 SEAL

NORTH CAROLINA PROFESSIONAL SEAL 036880 ENGINEER KEITH M. MIMS

DocuSigned by: Keith M. Mims 2F80786E8CD34A5... 10/28/2016 DATE

ELECTRICAL AND PROGRAMMING DETAILS FOR:

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

US 401 (Ramsey Street) at Meadowcroft Drive / North Walmart Entrance

Division 06 Cumberland County Fayetteville

PLAN DATE: 10-09-12	REVIEWED BY: BAS
PREPARED BY: D.H. Spaulding	REVIEWED BY:

REVISIONS	INIT.	DATE
1 Made changes to loops, TOD Scheduling Programming Detail. Signal revised for split sidestreet phasing.	DHS	
2 Added Ped 2 & 4, revised loops, revised monitor. (WSA)	KMM	10/28/2016

SEAL

Not a certified document as to the Original Document but Only as to the Revisions - This document originally issued and sealed by Daren E. Marceau, #024910, on 09/12/06. This document is only certified as to the revisions.

SIGNATURE DATE

SIG. INVENTORY NO. 06-1280

17-OCT-2016 09:46
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sarmstrong

PROJECT REFERENCE NO.	SHEET NO.
W-5601EO	Sig. 2.2

LOGICAL I/O PROCESSOR PROGRAMMING DETAIL
TO PRODUCE SPECIAL FYA-PPLT SIGNAL SEQUENCE

(program controller as shown below)

1. FROM MAIN MENU PRESS '2' (PHASE CONTROL), THEN '1' (PHASE CONTROL FUNCTIONS). SCROLL TO THE BOTTOM OF THE MENU AND ENABLE ACT LOGIC COMMANDS 1, 2, 3, 4, 5 AND 6.

2. FROM MAIN MENU PRESS '6' (OUTPUTS), THEN '3' (LOGICAL I/O PROCESSOR).

```
  LOGICAL I/O COMMAND #1  (+/-COMMAND#)
IF  ACTIVE PHASE       #1  IS ON
AND RED CLEAR ON PHASE #1  IS ON

          SCROLL DOWN

THEN:
SET OUTPUT  ASSIGNMENT #50 ON
SET OUTPUT  ASSIGNMENT #51 OFF
                          PRESS '+'
```

NOTE: LOGIC FOR PHASE 1 RED CLEAR WHEN TRANSITIONING FROM PHASE 1 TO PHASE 2 (HEAD 11).

```
  LOGICAL I/O COMMAND #2  (+/-COMMAND#)
IF  ACTIVE PHASE       #1  IS ON

          SCROLL DOWN

THEN:
SET OUTPUT  ASSIGNMENT #52 OFF
                          PRESS '+'
```

NOTE: LOGIC FOR SWITCHING FLASHING YELLOW ARROW "OFF" DURING PHASE 1 (HEAD 11).

```
  LOGICAL I/O COMMAND #3  (+/-COMMAND#)
IF  YELLOW ON PHASE    #1  IS ON

          SCROLL DOWN

THEN:
SET OUTPUT  ASSIGNMENT #51 ON
                          PRESS '+'
```

NOTE: LOGIC FOR YELLOW ARROW CLEARANCE FROM PHASE 1 (HEAD 11).

```
  LOGICAL I/O COMMAND #4  (+/-COMMAND#)
IF  ACTIVE PHASE       #5  IS ON
AND RED CLEAR ON PHASE #5  IS ON

          SCROLL DOWN

THEN:
SET OUTPUT  ASSIGNMENT #42 ON
SET OUTPUT  ASSIGNMENT #43 OFF
                          PRESS '+'
```

NOTE: LOGIC FOR PHASE 5 RED CLEAR WHEN TRANSITIONING FROM PHASE 5 TO PHASE 6 (HEAD 51).

```
  LOGICAL I/O COMMAND #5  (+/-COMMAND#)
IF  ACTIVE PHASE       #5  IS ON

          SCROLL DOWN

THEN:
SET OUTPUT  ASSIGNMENT #44 OFF
                          PRESS '+'
```

NOTE: LOGIC FOR SWITCHING FLASHING YELLOW ARROW "OFF" DURING PHASE 5 (HEAD 51).

```
  LOGICAL I/O COMMAND #6  (+/-COMMAND#)
IF  YELLOW ON PHASE    #5  IS ON

          SCROLL DOWN

THEN:
SET OUTPUT  ASSIGNMENT #43 ON
```

NOTE: LOGIC FOR YELLOW ARROW CLEARANCE FROM PHASE 5 (HEAD 51).

LOGIC I/O PROCESSOR PROGRAMMING COMPLETE

OUTPUT REFERENCE SCHEDULE

OUTPUT 42 = Overlap C Red
OUTPUT 43 = Overlap C Yellow
OUTPUT 44 = Overlap C Green
OUTPUT 50 = Overlap A Red
OUTPUT 51 = Overlap A Yellow
OUTPUT 52 = Overlap A Green

OVERLAP PROGRAMMING DETAIL

(program controller as shown below)

FROM MAIN MENU PRESS '8' (OVERLAPS), THEN '1' (VEHICLE OVERLAP SETTINGS).

```
 PAGE 1: VEHICLE OVERLAP 'A' SETTINGS
 PHASE:          |12345678910111213141516
VEH OVL PARENTS: |XX
VEH OVL NOT VEH: |
VEH OVL NOT PED: |
VEH OVL GRN EXT: |
STARTUP COLOR: _ RED  _ YELLOW  _ GREEN
FLASH COLORS:  _ RED  _ YELLOW  X GREEN   <- NOTICE GREEN FLASH
SELECT VEHICLE OVERLAP OPTIONS:   (Y/N)
FLASH YELLOW IN CONTROLLER FLASH?...Y
GREEN EXTENSION (0-255 SEC).........0
YELLOW CLEAR (0=PARENT,3-25.5 SEC)..0.0
RED CLEAR (0=PARENT,0.1-25.5 SEC)...0.0
OUTPUT AS PHASE # (0=NONE, 1-16)....0
```

PRESS '+' TWICE

```
 PAGE 1: VEHICLE OVERLAP 'C' SETTINGS
 PHASE:          |12345678910111213141516
VEH OVL PARENTS: |   XX
VEH OVL NOT VEH: |
VEH OVL NOT PED: |
VEH OVL GRN EXT: |
STARTUP COLOR: _ RED  _ YELLOW  _ GREEN
FLASH COLORS:  _ RED  _ YELLOW  X GREEN   <- NOTICE GREEN FLASH
SELECT VEHICLE OVERLAP OPTIONS:   (Y/N)
FLASH YELLOW IN CONTROLLER FLASH?...Y
GREEN EXTENSION (0-255 SEC).........0
YELLOW CLEAR (0=PARENT,3-25.5 SEC)..0.0
RED CLEAR (0=PARENT,0.1-25.5 SEC)...0.0
OUTPUT AS PHASE # (0=NONE, 1-16)....0
```

OVERLAP PROGRAMMING COMPLETE

▽2 THIS ELECTRICAL DETAIL IS FOR
THE SIGNAL DESIGN: 06-1280
DESIGNED: August 2016
SEALED: 10/14/2016
REVISED: N/A

ELECTRICAL DETAIL SHEET 2 OF 4

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

REVISION ▽ SEAL

NORTH CAROLINA PROFESSIONAL SEAL 036880 ENGINEER KEITH M. MIMS

DocuSigned by: Keith M. Mims 2F80786EBCD34A5... 10/28/2016 DATE

ELECTRICAL AND PROGRAMMING DETAILS FOR:

Prepared in the Offices of:

Transportation Mobility and Safety Division — North Carolina Department of Transportation — Signals Management Section

750 N.Greenfield Pkwy.,Garner,NC 27529

US 401 (Ramsey Street)
at
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Division 06	Cumberland County	Fayetteville
PLAN DATE: 10-09-12	REVIEWED BY:	BAS
PREPARED BY: D.H. Spaulding	REVIEWED BY:	

REVISIONS	INIT.	DATE
▽ Made changes to loops, TOD Scheduling Programming Details, Signal revised for split sidestreet phasing. DH	DS	
▽ Added Ped 2,6,4, revised loops, revised monitor. DH	EMM	10/28/2016

SEAL

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This document is only certified as to the revisions.

SIGNATURE DATE

SIG. INVENTORY NO. 06-1280

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armstrong

PPLT SIGNAL OUTPUT PAGE 2 ASSIGNMENT PROGRAMMING DETAIL

(program controller as shown below)

NOTE: THIS PROGRAMMING APPLIES FOR OUTPUT PAGE 2 ONLY.
OUTPUT PAGE 1 WILL USE STANDARD DEFAULT SETTINGS.
THIS PROGRAMMING IS NECESSARY FOR ALTERNATE PHASING OPERATION.

OUTPUT ASSIGNMENTS FOR SIGNAL HEAD 51

STEP 1

FROM MAIN MENU PRESS '6' (OUTPUTS), THEN
'1' (OUTPUT ASSIGNMENTS). PRESS 'NEXT' FOR PAGE 2.
WITH CURSOR IN "OUTPUT ASSIGNMENT#" POSITION ENTER "42"

```
PAGE:2  C1 PIN:88  VEHICLE OVERLAP
OUTPUT ASSIGNMENT #.................42
FREQUENCY (0=DEFAULT) (0-25.5 HZ)...0.0
DUTY CYCLE (0=DEFAULT) (0 - 100%)...0
MODE (0=SOLID,1=FLASH).............0
SELECT ASSIGNMENT:
NOT ENABLED........................_
VEHICLE PHASE......................Y
PEDESTRIAN PHASE...................._
VEHICLE OVERLAP....................Y
PEDESTRIAN OVERLAP.................._
WATCHDOG............................_
DETECTOR RESET......................_
ADVANCE BEACON......................_
OUT OF PHASE FLASHER................_
CONTROLLER FLASH...................._
RUN FREE............................_
RESERVED............................_
PREEMPT............................._
SOFT PREEMPT........................_
ANY PREEMPT........................._
COORDINATION PLAN..................._
OFFSET.............................._
PHASE CHECK........................._
PHASE ON............................_
PHASE NEXT.........................._
```

ENTER A "Y" FOR VEHICLE PHASE.

THE OUPUT IS SET AS AN OVERLAP BY DEFAULT, THIS "Y" WILL REMAIN UNTIL THE OUTPUT IS CHANGED.

```
PAGE:2  C1 PIN:88  VEHICLE OVERLAP
SELECT VEHICLE PHASE (1-16).........5
SELECT COLOR(0=RED,1=YEL,2=GRN).....0
```

WHEN A 'Y' IS ENTERED FOR 'VEHICLE PHASE' THE SCREEN SHOWN ABOVE WILL APPEAR. ENTER DATA AS SHOWN.

PRESS THE 'ENT' KEY AFTER INPUTTING DATA. THEN 'ESC'.

DISPLAY WILL NOW SHOW THE SPECIFIED OUTPUT ASSIGNED AS 'VEHICLE PHASE' AS SHOWN BELOW.

```
PAGE:2  C1 PIN:88  VEHICLE PHASE
OUTPUT ASSIGNMENT #.................42
FREQUENCY (0=DEFAULT) (0-25.5 HZ)...0.0
DUTY CYCLE (0=DEFAULT) (0 - 100%)...0
MODE (0=SOLID,1=FLASH).............0
SELECT ASSIGNMENT:
NOT ENABLED........................_
VEHICLE PHASE......................Y
PEDESTRIAN PHASE...................._
VEHICLE OVERLAP....................._
PEDESTRIAN OVERLAP.................._
WATCHDOG............................_
DETECTOR RESET......................_
ADVANCE BEACON......................_
OUT OF PHASE FLASHER................_
CONTROLLER FLASH...................._
RUN FREE............................_
RESERVED............................_
PREEMPT............................._
SOFT PREEMPT........................_
ANY PREEMPT........................._
COORDINATION PLAN..................._
OFFSET.............................._
PHASE CHECK........................._
PHASE ON............................_
PHASE NEXT.........................._
```

PRESS "+" KEY FOR OUTPUT 43

STEP 2

```
PAGE:2  C1 PIN:89  VEHICLE OVERLAP
OUTPUT ASSIGNMENT #.................43
FREQUENCY (0=DEFAULT) (0-25.5 HZ)...0.0
DUTY CYCLE (0=DEFAULT) (0 - 100%)...0
MODE (0=SOLID,1=FLASH).............0
SELECT ASSIGNMENT:
NOT ENABLED........................_
VEHICLE PHASE......................Y
PEDESTRIAN PHASE...................._
VEHICLE OVERLAP....................Y
PEDESTRIAN OVERLAP.................._
WATCHDOG............................_
DETECTOR RESET......................_
ADVANCE BEACON......................_
OUT OF PHASE FLASHER................_
CONTROLLER FLASH...................._
RUN FREE............................_
RESERVED............................_
PREEMPT............................._
SOFT PREEMPT........................_
ANY PREEMPT........................._
COORDINATION PLAN..................._
OFFSET.............................._
PHASE CHECK........................._
PHASE ON............................_
PHASE NEXT.........................._
```

ENTER A "Y" FOR VEHICLE PHASE.

THE OUPUT IS SET AS AN OVERLAP BY DEFAULT, THIS "Y" WILL REMAIN UNTIL THE OUTPUT IS CHANGED.

```
PAGE:2  C1 PIN:89  VEHICLE OVERLAP
SELECT VEHICLE PHASE (1-16).........5
SELECT COLOR(0=RED,1=YEL,2=GRN).....1
```

WHEN A 'Y' IS ENTERED FOR 'VEHICLE PHASE' THE SCREEN SHOWN ABOVE WILL APPEAR. ENTER DATA AS SHOWN.

PRESS THE 'ENT' KEY AFTER INPUTTING DATA. THEN 'ESC'.

DISPLAY WILL NOW SHOW THE SPECIFIED OUTPUT ASSIGNED AS 'VEHICLE PHASE' AS SHOWN BELOW.

```
PAGE:2  C1 PIN:89  VEHICLE PHASE
OUTPUT ASSIGNMENT #.................43
FREQUENCY (0=DEFAULT) (0-25.5 HZ)...0.0
DUTY CYCLE (0=DEFAULT) (0 - 100%)...0
MODE (0=SOLID,1=FLASH).............0
SELECT ASSIGNMENT:
NOT ENABLED........................_
VEHICLE PHASE......................Y
PEDESTRIAN PHASE...................._
VEHICLE OVERLAP....................._
PEDESTRIAN OVERLAP.................._
WATCHDOG............................_
DETECTOR RESET......................_
ADVANCE BEACON......................_
OUT OF PHASE FLASHER................_
CONTROLLER FLASH...................._
RUN FREE............................_
RESERVED............................_
PREEMPT............................._
SOFT PREEMPT........................_
ANY PREEMPT........................._
COORDINATION PLAN..................._
OFFSET.............................._
PHASE CHECK........................._
PHASE ON............................_
PHASE NEXT.........................._
```

PRESS "+" KEY FOR OUTPUT 44

STEP 3

```
PAGE:2  C1 PIN:90  VEHICLE OVERLAP
OUTPUT ASSIGNMENT #.................44
FREQUENCY (0=DEFAULT) (0-25.5 HZ)...0.0
DUTY CYCLE (0=DEFAULT) (0 - 100%)...0
MODE (0=SOLID,1=FLASH).............0
SELECT ASSIGNMENT:
NOT ENABLED........................Y
VEHICLE PHASE......................_
PEDESTRIAN PHASE...................._
VEHICLE OVERLAP....................Y
PEDESTRIAN OVERLAP.................._
WATCHDOG............................_
DETECTOR RESET......................_
ADVANCE BEACON......................_
OUT OF PHASE FLASHER................_
CONTROLLER FLASH...................._
RUN FREE............................_
RESERVED............................_
PREEMPT............................._
SOFT PREEMPT........................_
ANY PREEMPT........................._
COORDINATION PLAN..................._
OFFSET.............................._
PHASE CHECK........................._
PHASE ON............................_
PHASE NEXT.........................._
```

ENTER A "Y" FOR NOT ENABLED (THIS WILL DISABLE THE OUTPUT)

THE OUPUT IS SET AS AN OVERLAP BY DEFAULT, THIS "Y" WILL REMAIN UNTIL THE OUTPUT IS CHANGED.

DISPLAY WILL NOW SHOW THE SPECIFIED OUTPUT ASSIGNED AS 'NOT ENABLED' AS SHOWN BELOW.

```
PAGE:2  C1 PIN:90  NOT ENABLED
OUTPUT ASSIGNMENT #.................44
FREQUENCY (0=DEFAULT) (0-25.5 HZ)...0.0
DUTY CYCLE (0=DEFAULT) (0 - 100%)...0
MODE (0=SOLID,1=FLASH).............0
SELECT ASSIGNMENT:
NOT ENABLED........................Y
VEHICLE PHASE......................_
PEDESTRIAN PHASE...................._
VEHICLE OVERLAP....................._
PEDESTRIAN OVERLAP.................._
WATCHDOG............................_
DETECTOR RESET......................_
ADVANCE BEACON......................_
OUT OF PHASE FLASHER................_
CONTROLLER FLASH...................._
RUN FREE............................_
RESERVED............................_
PREEMPT............................._
SOFT PREEMPT........................_
ANY PREEMPT........................._
COORDINATION PLAN..................._
OFFSET.............................._
PHASE CHECK........................._
PHASE ON............................_
PHASE NEXT.........................._
```

OUTPUT ASSIGNMENTS FOR SIGNAL HEAD 11

STEP 4

FROM MAIN MENU PRESS '6' (OUTPUTS), THEN
'1' (OUTPUT ASSIGNMENTS). PRESS 'NEXT' FOR PAGE 2.
WITH CURSOR IN "OUTPUT ASSIGNMENT#" POSITION ENTER "50"

```
PAGE:2  C1 PIN:97  VEHICLE OVERLAP
OUTPUT ASSIGNMENT #.................50
FREQUENCY (0=DEFAULT) (0-25.5 HZ)...0.0
DUTY CYCLE (0=DEFAULT) (0 - 100%)...0
MODE (0=SOLID,1=FLASH).............0
SELECT ASSIGNMENT:
NOT ENABLED........................_
VEHICLE PHASE......................Y
PEDESTRIAN PHASE...................._
VEHICLE OVERLAP....................Y
PEDESTRIAN OVERLAP.................._
WATCHDOG............................_
DETECTOR RESET......................_
ADVANCE BEACON......................_
OUT OF PHASE FLASHER................_
CONTROLLER FLASH...................._
RUN FREE............................_
RESERVED............................_
PREEMPT............................._
SOFT PREEMPT........................_
ANY PREEMPT........................._
COORDINATION PLAN..................._
OFFSET.............................._
PHASE CHECK........................._
PHASE ON............................_
PHASE NEXT.........................._
```

ENTER A "Y" FOR VEHICLE PHASE.

THE OUPUT IS SET AS AN OVERLAP BY DEFAULT, THIS "Y" WILL REMAIN UNTIL THE OUTPUT IS CHANGED.

```
PAGE:2  C1 PIN:97  VEHICLE OVERLAP
SELECT VEHICLE PHASE (1-16).........1
SELECT COLOR(0=RED,1=YEL,2=GRN).....0
```

WHEN A 'Y' IS ENTERED FOR 'VEHICLE PHASE' THE SCREEN SHOWN ABOVE WILL APPEAR. ENTER DATA AS SHOWN.

PRESS THE 'ENT' KEY AFTER INPUTTING DATA. THEN 'ESC'.

DISPLAY WILL NOW SHOW THE SPECIFIED OUTPUT ASSIGNED AS 'VEHICLE PHASE' AS SHOWN BELOW.

```
PAGE:2  C1 PIN:97  VEHICLE PHASE
OUTPUT ASSIGNMENT #.................50
FREQUENCY (0=DEFAULT) (0-25.5 HZ)...0.0
DUTY CYCLE (0=DEFAULT) (0 - 100%)...0
MODE (0=SOLID,1=FLASH).............0
SELECT ASSIGNMENT:
NOT ENABLED........................_
VEHICLE PHASE......................Y
PEDESTRIAN PHASE...................._
VEHICLE OVERLAP....................._
PEDESTRIAN OVERLAP.................._
WATCHDOG............................_
DETECTOR RESET......................_
ADVANCE BEACON......................_
OUT OF PHASE FLASHER................_
CONTROLLER FLASH...................._
RUN FREE............................_
RESERVED............................_
PREEMPT............................._
SOFT PREEMPT........................_
ANY PREEMPT........................._
COORDINATION PLAN..................._
OFFSET.............................._
PHASE CHECK........................._
PHASE ON............................_
PHASE NEXT.........................._
```

PRESS "+" KEY FOR OUTPUT 51

STEP 5

```
PAGE:2  C1 PIN:98  VEHICLE OVERLAP
OUTPUT ASSIGNMENT #.................51
FREQUENCY (0=DEFAULT) (0-25.5 HZ)...0.0
DUTY CYCLE (0=DEFAULT) (0 - 100%)...0
MODE (0=SOLID,1=FLASH).............0
SELECT ASSIGNMENT:
NOT ENABLED........................_
VEHICLE PHASE......................Y
PEDESTRIAN PHASE...................._
VEHICLE OVERLAP....................Y
PEDESTRIAN OVERLAP.................._
WATCHDOG............................_
DETECTOR RESET......................_
ADVANCE BEACON......................_
OUT OF PHASE FLASHER................_
CONTROLLER FLASH...................._
RUN FREE............................_
RESERVED............................_
PREEMPT............................._
SOFT PREEMPT........................_
ANY PREEMPT........................._
COORDINATION PLAN..................._
OFFSET.............................._
PHASE CHECK........................._
PHASE ON............................_
PHASE NEXT.........................._
```

ENTER A "Y" FOR VEHICLE PHASE.

THE OUPUT IS SET AS AN OVERLAP BY DEFAULT, THIS "Y" WILL REMAIN UNTIL THE OUTPUT IS CHANGED.

```
PAGE:2  C1 PIN:98  VEHICLE OVERLAP
SELECT VEHICLE PHASE (1-16).........1
SELECT COLOR(0=RED,1=YEL,2=GRN).....1
```

WHEN A 'Y' IS ENTERED FOR 'VEHICLE PHASE' THE SCREEN SHOWN ABOVE WILL APPEAR. ENTER DATA AS SHOWN.

PRESS THE 'ENT' KEY AFTER INPUTTING DATA. THEN 'ESC'.

DISPLAY WILL NOW SHOW THE SPECIFIED OUTPUT ASSIGNED AS 'VEHICLE PHASE' AS SHOWN BELOW.

```
PAGE:2  C1 PIN:98  VEHICLE PHASE
OUTPUT ASSIGNMENT #.................51
FREQUENCY (0=DEFAULT) (0-25.5 HZ)...0.0
DUTY CYCLE (0=DEFAULT) (0 - 100%)...0
MODE (0=SOLID,1=FLASH).............0
SELECT ASSIGNMENT:
NOT ENABLED........................_
VEHICLE PHASE......................Y
PEDESTRIAN PHASE...................._
VEHICLE OVERLAP....................._
PEDESTRIAN OVERLAP.................._
WATCHDOG............................_
DETECTOR RESET......................_
ADVANCE BEACON......................_
OUT OF PHASE FLASHER................_
CONTROLLER FLASH...................._
RUN FREE............................_
RESERVED............................_
PREEMPT............................._
SOFT PREEMPT........................_
ANY PREEMPT........................._
COORDINATION PLAN..................._
OFFSET.............................._
PHASE CHECK........................._
PHASE ON............................_
PHASE NEXT.........................._
```

PRESS "+" KEY FOR OUTPUT 52

STEP 6

```
PAGE:2  C1 PIN:99  VEHICLE OVERLAP
OUTPUT ASSIGNMENT #.................52
FREQUENCY (0=DEFAULT) (0-25.5 HZ)...0.0
DUTY CYCLE (0=DEFAULT) (0 - 100%)...0
MODE (0=SOLID,1=FLASH).............0
SELECT ASSIGNMENT:
NOT ENABLED........................Y
VEHICLE PHASE......................_
PEDESTRIAN PHASE...................._
VEHICLE OVERLAP....................Y
PEDESTRIAN OVERLAP.................._
WATCHDOG............................_
DETECTOR RESET......................_
ADVANCE BEACON......................_
OUT OF PHASE FLASHER................_
CONTROLLER FLASH...................._
RUN FREE............................_
RESERVED............................_
PREEMPT............................._
SOFT PREEMPT........................_
ANY PREEMPT........................._
COORDINATION PLAN..................._
OFFSET.............................._
PHASE CHECK........................._
PHASE ON............................_
PHASE NEXT.........................._
```

ENTER A "Y" FOR NOT ENABLED (THIS WILL DISABLE THE OUTPUT)

THE OUPUT IS SET AS AN OVERLAP BY DEFAULT, THIS "Y" WILL REMAIN UNTIL THE OUTPUT IS CHANGED.

DISPLAY WILL NOW SHOW THE SPECIFIED OUTPUT ASSIGNED AS 'NOT ENABLED' AS SHOWN BELOW.

```
PAGE:2  C1 PIN:99  NOT ENABLED
OUTPUT ASSIGNMENT #.................52
FREQUENCY (0=DEFAULT) (0-25.5 HZ)...0.0
DUTY CYCLE (0=DEFAULT) (0 - 100%)...0
MODE (0=SOLID,1=FLASH).............0
SELECT ASSIGNMENT:
NOT ENABLED........................Y
VEHICLE PHASE......................_
PEDESTRIAN PHASE...................._
VEHICLE OVERLAP....................._
PEDESTRIAN OVERLAP.................._
WATCHDOG............................_
DETECTOR RESET......................_
ADVANCE BEACON......................_
OUT OF PHASE FLASHER................_
CONTROLLER FLASH...................._
RUN FREE............................_
RESERVED............................_
PREEMPT............................._
SOFT PREEMPT........................_
ANY PREEMPT........................._
COORDINATION PLAN..................._
OFFSET.............................._
PHASE CHECK........................._
PHASE ON............................_
PHASE NEXT.........................._
```

OUTPUT PROGRAMMING COMPLETE

ELECTRICAL DETAIL SHEET 3 OF 4

NOTE: THE OUTPUT ASSIGNMENT CHANGES, SHOWN ABOVE, ARE NECESSARY FOR THE ALT. PHASING OPERATION OF SIGNAL HEADS 11 AND 51. IN ALTERNATE PHASING (PROTECTED ONLY) OPERATION, THE RED ARROW CONTROL IS SWITCHED TO THE LEFT TURN PHASE RED. THE SOLID YELLOW ARROW CONTROL IS SWITCHED TO THE LEFT TURN PHASE YELLOW. IN ADDITION, THE FLASHING YELLOW ARROW IS SWITCHED OFF BY DISABLING THE OVERLAP GREEN OUTPUT.

ALL OF THESE OUTPUT CHANGES ARE ACCOMPLISHED ON OUTPUT PAGE 2. THEREFORE IN ALTERNATE PHASING (PROTECTED ONLY) MODE, THE PAGE IS SWITCHED TO "2" WITHIN A COORD PLAN OR, IN THE CASE OF FREE RUN, TOD EVENT SCHEDULING.

IN NORMAL PHASING (PPLT) MODE THE STANDARD, DEFAULT, OUTPUT ASSIGNMENTS ARE USED WHICH ARE DESIGNATED ON OUTPUT PAGE 1.

THIS ELECTRICAL DETAIL IS FOR THE SIGNAL DESIGN: 06-1280
DESIGNED: August 2016
SEALED: 10/14/2016
REVISED: N/A

REVISION 2 SEAL

NORTH CAROLINA PROFESSIONAL SEAL 036880 ENGINEER KEITH M. MIMS

DocuSigned by: Keith M. Mims 10/28/2016 DATE
2F80786E8CD34A5...

ELECTRICAL AND PROGRAMMING DETAILS FOR:

Prepared in the Offices of:
Transportation Mobility and Safety Division — State of North Carolina Department of Transportation — Signals Management Section
750 N.Greenfield Pkwy,Garner,NC 27529

US 401 (Ramsey Street) at Meadowcroft Drive / North Walmart Entrance

Division 06 | Cumberland County | Fayetteville

PLAN DATE: 10-09-12	REVIEWED BY: BAS
PREPARED BY: D.H. Spaulding	REVIEWED BY:

REVISIONS	INIT.	DATE
1 Made changes to loops, TOD Scheduling Programming Detail, Signal revised for split sidestreet phasing. DHS		
2 Added Ped 2 & 4, revised loops, revised monitor. (WSA)	KMM	10/28/2016

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

SEAL

Not a certified document as to the Original Document but Only as to the Revisions - This document originally issued and sealed by Daren E. Marceau, #024910, on 09/12/06. This document is only certified as to the revisions.

SIGNATURE | DATE

SIG. INVENTORY NO. 06-1280

PROJECT REFERENCE NO.	SHEET NO.
W-5601EO	Sig. 2.4

TOD EVENT SCHEDULING PROGRAMMING DETAIL

TO CALL ALTERNATE PHASING OPERATION

(program controller as shown below)

✱ DENOTES TO BE DETERMINED BY THE DIVISION TRAFFIC ENGINEER.

ALL EVENTS SHOWN BELOW SHALL BE PROGRAMMED TO START AND STOP ON THE SAME TIMES AND DATES.

FROM MAIN MENU PRESS 'B' (SCHEDULING).

NOTE THAT THE TOP LINE WILL CHANGE FROM "NOT ASSIGNED" TO SPECIFIED FUNCTION WHEN EVENT IS ASSIGNED AS SHOWN.

```
SCHEDULED EVENT #1  OUTPUT PAGE CHANGE
START DATE (MM/DD)..............**/**
END DATE (MM/DD)................**/**
START TIME (HH:MM)..............**:**
STOP TIME (HH:MM)...............**:**
DOW      |SUN MON TUE WED THR FRI SAT
ENABLED | *   *   *   *   *   *   *
EVENT GROUPS     |12345678910111213141516
ASSIGNED         |

DELETE EVENT WHEN COMPLETED?........N
CONTINUOUS EVENT?...................N
INVERT EVENT?.......................N
SELECT 1 EVENT TYPE:
EVENT GROUP (1-16).................._
PLAN (65=FLSH,66=FREE)..._  OFFSET#.._
PLAN PRIORTY:  LOW.._ MED_..  HIGH.._
CAHNGE PHASE SEQUENCE PAGE (1-12)..._
CHANGE PHASE TIMING PAGE (1-4)......_
CHANGE PHASE CONTROL PAGE (1-4)....._
CHANGE OVERLAP CONTROL PAGE (1-4)..._
CHANGE INPUT PAGE (1-4)............._
CHANGE OUTPUT PAGE (1-4)............2   <--
SET OUTPUT ON  (1-64)..............._
SET OUTPUT OFF (1-64)..............._
SET INPUT ON   (1-64)..............._
SET INPUT OFF  (1-64)..............._
ENABLE FAILURES LOG?................_
ENABLE EVENTS LOG?.................._
ENABLE DATA ENTRIES LOG?............_
ENABLE COORDINATION PLANS LOG?......_
ENABLE SPECIAL FUNCTIONS LOG?......._
ENABLE SLIT MONITOR LOG?............_
ENABLE DETECTOR DATA LOG?..........._
ENABLE DETECTOR (1-64)..............._
ENABLE DETECTOR DIAGNOSTICS (1-64).._
DISABLE DET STRETCH / DELAY (1-64).._
DISABLE DET STOP BAR MODE (1-64)...._
SET LOGIC FLAG ON (1-16)............_
SET LOGIC FLAG OFF (1-64)..........._
OVERIDE PHASE CONTROL FUNCTIONS?...._
```

PRESS "+" FOR NEXT EVENT

```
SCHEDULED EVENT #2  INPUT OVERRIDE
START DATE (MM/DD)..............**/**
END DATE (MM/DD)................**/**
START TIME (HH:MM)..............**:**
STOP TIME (HH:MM)...............**:**
DOW      |SUN MON TUE WED THR FRI SAT
ENABLED | *   *   *   *   *   *   *
EVENT GROUPS     |12345678910111213141516
ASSIGNED         |

DELETE EVENT WHEN COMPLETED?........N
CONTINUOUS EVENT?...................N
INVERT EVENT?.......................N
SELECT 1 EVENT TYPE:
EVENT GROUP (1-16).................._
PLAN (65=FLSH,66=FREE)..._  OFFSET#.._
PLAN PRIORTY:  LOW.._ MED_..  HIGH.._
CAHNGE PHASE SEQUENCE PAGE (1-12)..._
CHANGE PHASE TIMING PAGE (1-4)......_
CHANGE PHASE CONTROL PAGE (1-4)....._
CHANGE OVERLAP CONTROL PAGE (1-4)..._
CHANGE INPUT PAGE (1-4)............._
CHANGE OUTPUT PAGE (1-4)............_
SET OUTPUT ON  (1-64)..............._
SET OUTPUT OFF (1-64)..............._
SET INPUT ON   (1-64)..............._
SET INPUT OFF  (1-64)...............10   <--
ENABLE FAILURES LOG?................_
ENABLE EVENTS LOG?.................._
ENABLE DATA ENTRIES LOG?............_
ENABLE COORDINATION PLANS LOG?......_
ENABLE SPECIAL FUNCTIONS LOG?......._
ENABLE SLIT MONITOR LOG?............_
ENABLE DETECTOR DATA LOG?..........._
ENABLE DETECTOR (1-64)..............._
ENABLE DETECTOR DIAGNOSTICS (1-64).._
DISABLE DET STRETCH / DELAY (1-64).._
DISABLE DET STOP BAR MODE (1-64)...._
SET LOGIC FLAG ON (1-16)............_
SET LOGIC FLAG OFF (1-64)..........._
OVERIDE PHASE CONTROL FUNCTIONS?...._
```

PRESS "+" FOR NEXT EVENT

```
SCHEDULED EVENT #3  INPUT OVERRIDE
START DATE (MM/DD)..............**/**
END DATE (MM/DD)................**/**
START TIME (HH:MM)..............**:**
STOP TIME (HH:MM)...............**:**
DOW      |SUN MON TUE WED THR FRI SAT
ENABLED | *   *   *   *   *   *   *
EVENT GROUPS     |12345678910111213141516
ASSIGNED         |

DELETE EVENT WHEN COMPLETED?........N
CONTINUOUS EVENT?...................N
INVERT EVENT?.......................N
SELECT 1 EVENT TYPE:
EVENT GROUP (1-16).................._
PLAN (65=FLSH,66=FREE)..._  OFFSET#.._
PLAN PRIORTY:  LOW.._ MED_..  HIGH.._
CAHNGE PHASE SEQUENCE PAGE (1-12)..._
CHANGE PHASE TIMING PAGE (1-4)......_
CHANGE PHASE CONTROL PAGE (1-4)....._
CHANGE OVERLAP CONTROL PAGE (1-4)..._
CHANGE INPUT PAGE (1-4)............._
CHANGE OUTPUT PAGE (1-4)............_
SET OUTPUT ON  (1-64)..............._
SET OUTPUT OFF (1-64)..............._
SET INPUT ON   (1-64)..............._
SET INPUT OFF  (1-64)...............9   <--
ENABLE FAILURES LOG?................_
ENABLE EVENTS LOG?.................._
ENABLE DATA ENTRIES LOG?............_
ENABLE COORDINATION PLANS LOG?......_
ENABLE SPECIAL FUNCTIONS LOG?......._
ENABLE SLIT MONITOR LOG?............_
ENABLE DETECTOR DATA LOG?..........._
ENABLE DETECTOR (1-64)..............._
ENABLE DETECTOR DIAGNOSTICS (1-64).._
DISABLE DET STRETCH / DELAY (1-64).._
DISABLE DET STOP BAR MODE (1-64)...._
SET LOGIC FLAG ON (1-16)............_
SET LOGIC FLAG OFF (1-64)..........._
OVERIDE PHASE CONTROL FUNCTIONS?...._
```

PRESS "+" FOR NEXT EVENT

```
SCHEDULED EVENT #4  DETECTOR CONTROL
START DATE (MM/DD)..............**/**
END DATE (MM/DD)................**/**
START TIME (HH:MM)..............**:**
STOP TIME (HH:MM)...............**:**
DOW      |SUN MON TUE WED THR FRI SAT
ENABLED | *   *   *   *   *   *   *
EVENT GROUPS     |12345678910111213141516
ASSIGNED         |

DELETE EVENT WHEN COMPLETED?........N
CONTINUOUS EVENT?...................N
INVERT EVENT?.......................N
SELECT 1 EVENT TYPE:
EVENT GROUP (1-16).................._
PLAN (65=FLSH,66=FREE)..._  OFFSET#.._
PLAN PRIORTY:  LOW.._ MED_..  HIGH.._
CAHNGE PHASE SEQUENCE PAGE (1-12)..._
CHANGE PHASE TIMING PAGE (1-4)......_
CHANGE PHASE CONTROL PAGE (1-4)....._
CHANGE OVERLAP CONTROL PAGE (1-4)..._
CHANGE INPUT PAGE (1-4)............._
CHANGE OUTPUT PAGE (1-4)............_
SET OUTPUT ON  (1-64)..............._
SET OUTPUT OFF (1-64)..............._
SET INPUT ON   (1-64)..............._
SET INPUT OFF  (1-64)..............._
ENABLE FAILURES LOG?................_
ENABLE EVENTS LOG?.................._
ENABLE DATA ENTRIES LOG?............_
ENABLE COORDINATION PLANS LOG?......_
ENABLE SPECIAL FUNCTIONS LOG?......._
ENABLE SLIT MONITOR LOG?............_
ENABLE DETECTOR DATA LOG?..........._
ENABLE DETECTOR (1-64)..............._
ENABLE DETECTOR DIAGNOSTICS (1-64).._
DISABLE DET STRETCH / DELAY (1-64)..1   <--
DISABLE DET STOP BAR MODE (1-64)...._
SET LOGIC FLAG ON (1-16)............_
SET LOGIC FLAG OFF (1-64)..........._
OVERIDE PHASE CONTROL FUNCTIONS?...._
```

PRESS "+" FOR NEXT EVENT

```
SCHEDULED EVENT #5  DETECTOR CONTROL
START DATE (MM/DD)..............**/**
END DATE (MM/DD)................**/**
START TIME (HH:MM)..............**:**
STOP TIME (HH:MM)...............**:**
DOW      |SUN MON TUE WED THR FRI SAT
ENABLED | *   *   *   *   *   *   *
EVENT GROUPS     |12345678910111213141516
ASSIGNED         |

DELETE EVENT WHEN COMPLETED?........N
CONTINUOUS EVENT?...................N
INVERT EVENT?.......................N
SELECT 1 EVENT TYPE:
EVENT GROUP (1-16).................._
PLAN (65=FLSH,66=FREE)..._  OFFSET#.._
PLAN PRIORTY:  LOW.._ MED_..  HIGH.._
CAHNGE PHASE SEQUENCE PAGE (1-12)..._
CHANGE PHASE TIMING PAGE (1-4)......_
CHANGE PHASE CONTROL PAGE (1-4)....._
CHANGE OVERLAP CONTROL PAGE (1-4)..._
CHANGE INPUT PAGE (1-4)............._
CHANGE OUTPUT PAGE (1-4)............_
SET OUTPUT ON  (1-64)..............._
SET OUTPUT OFF (1-64)..............._
SET INPUT ON   (1-64)..............._
SET INPUT OFF  (1-64)..............._
ENABLE FAILURES LOG?................_
ENABLE EVENTS LOG?.................._
ENABLE DATA ENTRIES LOG?............_
ENABLE COORDINATION PLANS LOG?......_
ENABLE SPECIAL FUNCTIONS LOG?......._
ENABLE SLIT MONITOR LOG?............_
ENABLE DETECTOR DATA LOG?..........._
ENABLE DETECTOR (1-64)..............._
ENABLE DETECTOR DIAGNOSTICS (1-64).._
DISABLE DET STRETCH / DELAY (1-64)..5   <--
DISABLE DET STOP BAR MODE (1-64)...._
SET LOGIC FLAG ON (1-16)............_
SET LOGIC FLAG OFF (1-64)..........._
OVERIDE PHASE CONTROL FUNCTIONS?...._
```

TOD PROGRAMMING COMPLETE

ALTERNATE PHASING NOTES

THIS EVENT SCHEDULING DETAIL SHOWS THE TOD PROGRAMMING STEPS NECESSARY FOR THE CONTROLLER TO OPERATE THE "ALTERNATE PHASING" AS SHOWN ON THE SIGNAL PLANS.

THE FOLLOWING IS A SUMMARY OF WHAT TAKES PLACE WHEN THESE TOD EVENTS ACTIVATE TO CALL THE "ALTERNATE PHASING":

EVENT NO.

1. OUTPUT PAGE 2 IS CALLED: Modifies control circuits for signal heads 11 and 51.
2. INPUT 10 IS SWITCHED OFF: Disables phase 6 call on loop 1A.
3. INPUT 9 IS SWITCHED OFF: Disables phase 2 call on loop 5A.
4. DELAY IS DISABLED FOR DETECTOR 1 (Phase 1, Loop 1A).
5. DELAY IS DISABLED FOR DETECTOR 5 (Phase 5, Loop 5A).

(2) THIS ELECTRICAL DETAIL IS FOR THE SIGNAL DESIGN: 06-1280
DESIGNED: August 2016
SEALED: 10/14/2016
REVISED: N/A

ELECTRICAL DETAIL SHEET 4 OF 4

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

REVISION (2) SEAL

NORTH CAROLINA PROFESSIONAL SEAL 036880 ENGINEER KEITH M. MIMS

DocuSigned by: Keith M. Mims 10/28/2016 DATE
2F80786E8CD34A5...

ELECTRICAL AND PROGRAMMING DETAILS FOR:

Prepared In the Offices of: Transportation Mobility and Safety Division, State of North Carolina Department of Transportation, Signals Management Section

750 N.Greenfield Pkwy,Garner,NC 27529

US 401 (Ramsey Street)
at
Meadowcroft Drive /
North Walmart Entrance

Division 06	Cumberland County		Fayetteville
PLAN DATE:	10-09-12	REVIEWED BY:	BAS
PREPARED BY:	D.H. Spaulding	REVIEWED BY:	

REVISIONS	INIT.	DATE
(1) Made changes to loops, TOD Scheduling Programming Detail. Signal revised for split sidestreet phasing. DHS		
(2) Added Ped 2 & 4, revised loops, revised monitor. (WSA)	KMM	10/28/2016

SEAL

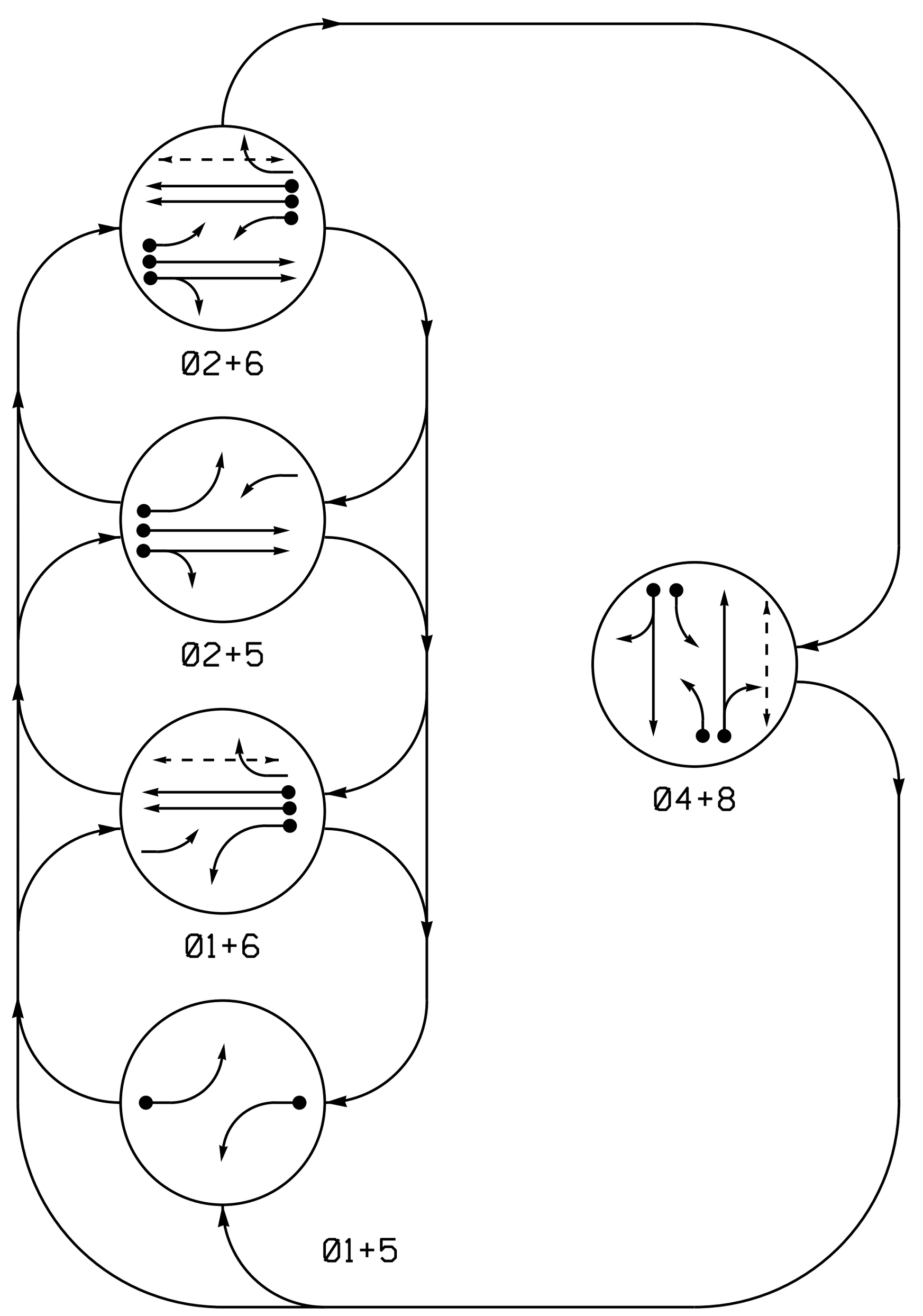
Not a certified document as to the Original Document but Only as to the Revisions - This document originally issued and sealed by Daren E. Marceau, #024910, on 09/12/06. This document is only certified as to the revisions.

SIGNATURE DATE

SIG. INVENTORY NO. 06-1280

17-OCT-2016 09:48
S:\ITS&SUM\ITS Signals\Workgroups\Sig Man\Armstrong\061280_sm_ele_xxx_oasis.dgn
sarmstrong

PHASING DIAGRAM



PHASING DIAGRAM DETECTION LEGEND

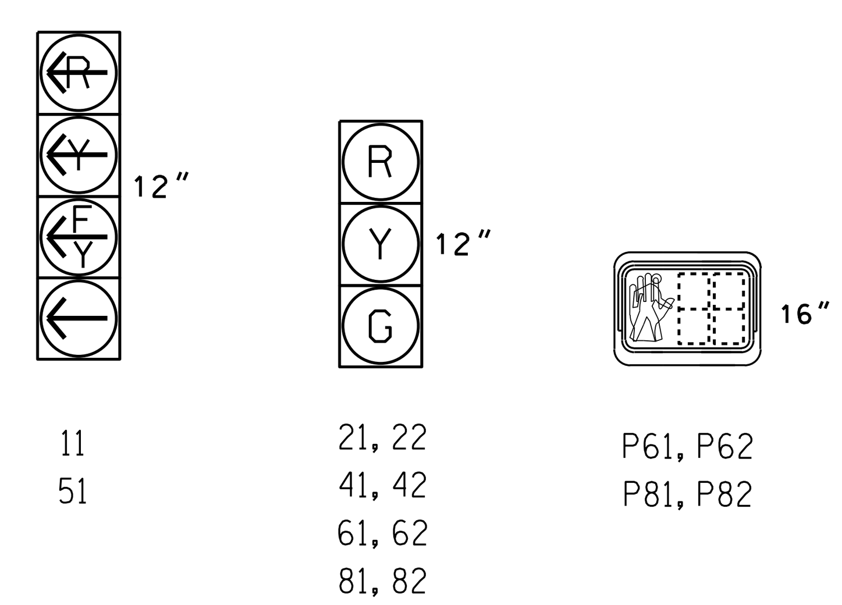
- DETECTED MOVEMENT
- UNDETECTED MOVEMENT (OVERLAP)
- UNSIGNALIZED MOVEMENT
- PEDESTRIAN MOVEMENT

TABLE OF OPERATION

SIGNAL FACE	PHASE Ø1+5	Ø1+6	Ø2+5	Ø2+6	Ø4+8	FLASH
11	←	←	←F/Y	←F/Y	←R	←Y
21,22	R	R	G	G	R	Y
41,42	R	R	R	R	G	R
51	←	←F/Y	←	←F/Y	←R	←Y
61,62	R	G	R	G	R	Y
81,82	R	R	R	R	G	R
P61,P62	DW	W	DW	W	DW	DRK
P81,P82	DW	DW	DW	DW	W	DRK

SIGNAL FACE I.D.

All Heads L.E.D.



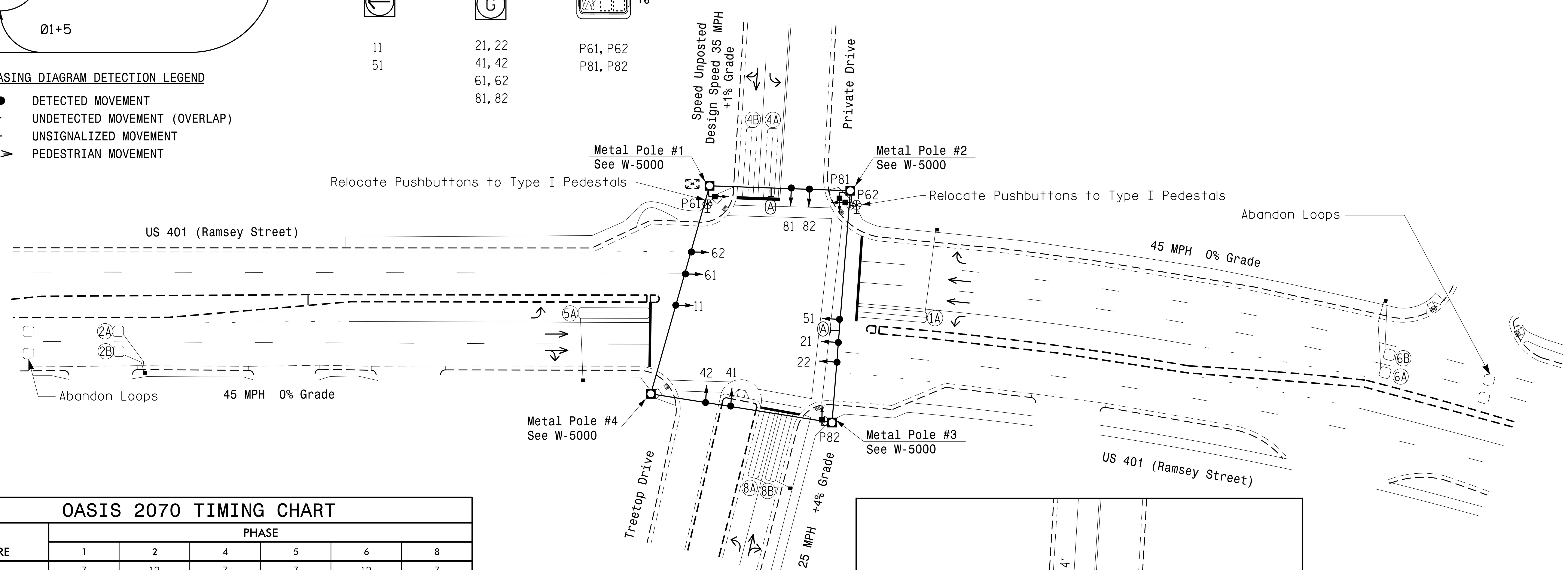
OASIS 2070 LOOP & DETECTOR INSTALLATION CHART

LOOP	SIZE (FT)	DISTANCE FROM STOPBAR (FT)	TURNS	NEW LOOP	PHASE	CALLING	EXTENSION	FULL TIME DELAY	STRETCH TIME	DELAY TIME	SYSTEM LOOP	NEW CARD
INDUCTIVE LOOPS					DETECTOR PROGRAMMING							
1A	6X40	0	2-4-2	Y	1	Y	Y	-	-	15	-	-
					6	Y	Y	Y	-	3	-	-
2A	6X6	300	5	Y	2	Y	Y	-	-	-	-	-
2B	6X6	300	5	Y	2	Y	Y	-	-	-	-	-
4A	6X40	0	2-4-2	-	4	Y	Y	-	-	3	-	-
4B	6X40	0	2-4-2	-	4	Y	Y	-	-	10	-	-
5A	6X40	0	2-4-2	Y	5	Y	Y	-	-	15	-	-
					2	Y	Y	Y	-	3	-	-
6A	6X6	300	5	Y	6	Y	Y	-	-	-	-	-
6B	6X6	300	5	Y	6	Y	Y	-	-	-	-	-
8A	6X40	+5	2-4-2	Y	8	Y	Y	-	-	3	-	-
8B	6X40	+5	2-4-2	Y	8	Y	Y	-	-	10	-	-

5 Phase
Fully Actuated
Fayetteville 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. Phase 1 and/or phase 5 may be lagged.
4. Set all detector units to presence mode.
5. Omit "WALK" and flashing "DON'T WALK" with no pedestrian calls.
6. Program pedestrian heads to countdown the flashing "Don't Walk" time only.
7. Pedestrian pedestals are conceptual and shown for reference only. See sheets P1-P3 for pushbutton location details.
8. Pavement markings are existing.
9. Maximum times shown in timing chart are for free-run operation only. Coordinated signal system timing values supersede these values.



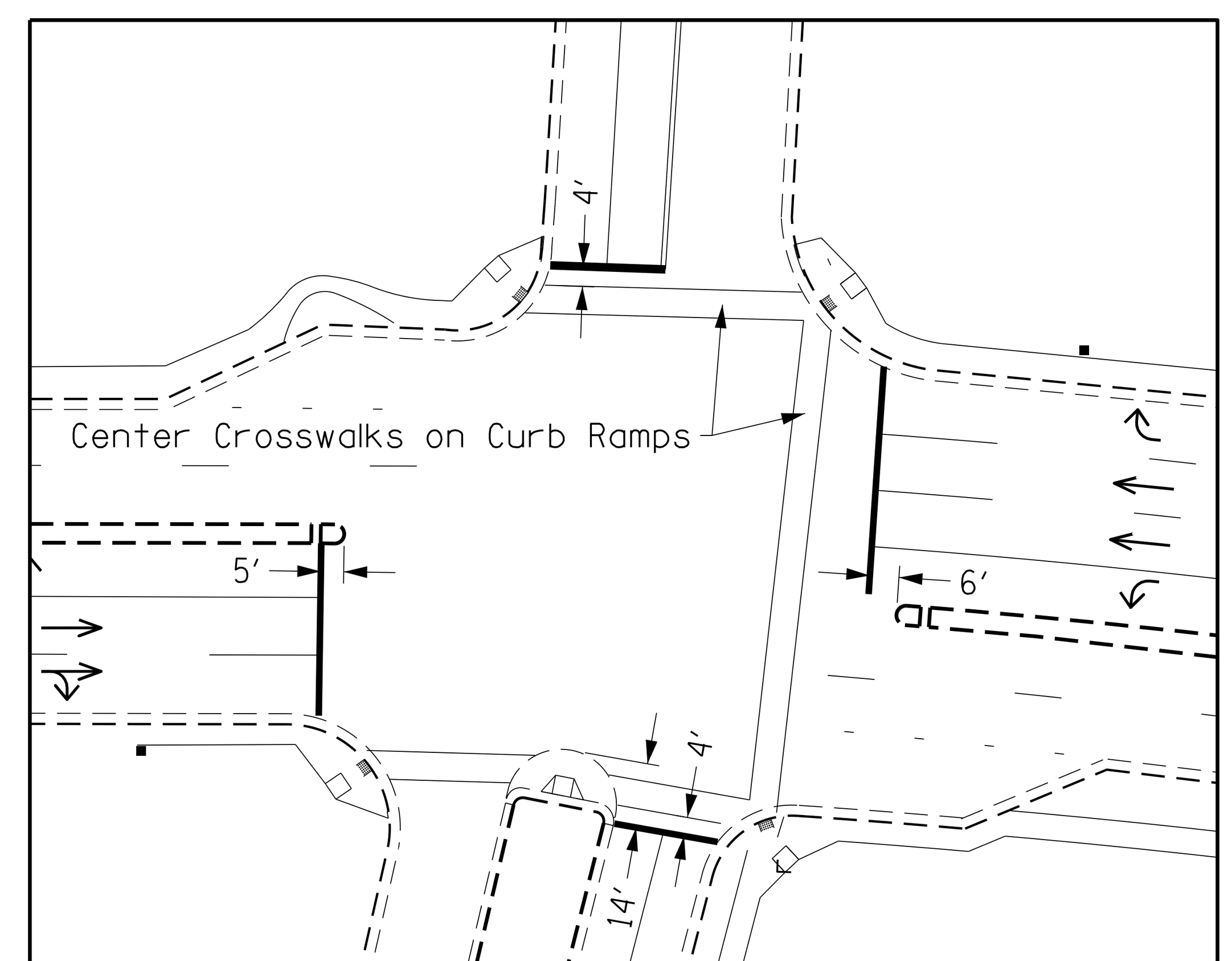
LEGEND

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	
	Metal Strain Pole	
	Inductive Loop Detector	
	Controller & Cabinet	
	Junction Box	
	2-in Underground Conduit	
N/A	Right of Way	
	Directional Arrow	
N/A	Wheelchair Ramp	
	"Street Name" Sign	
	Type I Pushbutton Post	
	Type II Signal Pedestal	

OASIS 2070 TIMING CHART

FEATURE	PHASE 1	2	4	5	6	8
Min Green 1 *	7	12	7	7	12	7
Extension 1 *	2.0	6.0	2.0	2.0	6.0	2.0
Max Green 1 *	20	90	20	20	90	20
Yellow Clearance	3.0	4.5	3.8	3.0	4.5	3.8
Red Clearance	3.1	1.7	3.0	3.1	1.7	3.0
Walk 1 *	-	-	-	-	7	7
Don't Walk 1	-	-	-	-	15	29
Seconds Per Actuation *	-	1.5	-	-	1.5	-
Max Variable Initial *	-	34	-	-	34	-
Time Before Reduction *	-	15	-	-	15	-
Time To Reduce *	-	30	-	-	30	-
Minimum Gap	-	3.0	-	-	3.0	-
Recall Mode	-	MIN RECALL	-	-	MIN RECALL	-
Vehicle Call Memory	-	YELLOW	-	-	YELLOW	-
Dual Entry	-	-	ON	-	-	ON
Simultaneous Gap	ON	ON	ON	ON	ON	ON

* These values may be field adjusted. Do not adjust Min Green and Extension times for phases 2 and 6 lower than what is shown. Min Green for all other phases should not be lower than 4 seconds.



STOPBAR LOCATIONS

Signal Upgrade

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

Prepared in the Offices of: Transportation Mobility and Safety Division, Signal Design Section
750 N.Greenfield Pkwy,Garner,NC 27529

US 401 (Ramsey Street)
at
Treetop Drive/Private Drive

Division 6 Cumberland County Fayetteville

PLAN DATE:	August 2016	REVIEWED BY:	JPG
PREPARED BY:	KGP, Jr.	REVIEWED BY:	

REVISIONS	INIT.	DATE

SCALE 0 40 1"=40'

SEAL: NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 029904 JASON P. GALLOWAY

DocuSigned by: Jason P. Galloway F700EA70481841D... 10/6/2016 DATE

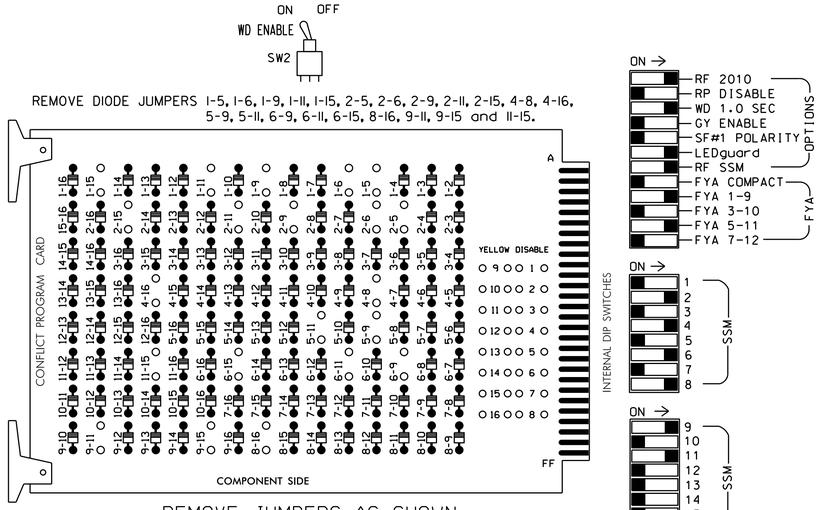
SIG. INVENTORY NO. 06-1200

06-OCT-2016 10:52
S:*ITS&SU*ITS Signals*Signal Design Section*Eastern Region*Div-06*W-5601EO*06-1200*061200_sig_2070_dsn_2016mmdd.dgn
jgalloway

PROJECT REFERENCE NO.	SHEET NO.
W-5601E0	Sig. 3.1

EDI MODEL 2010ECL-NC CONFLICT MONITOR PROGRAMMING DETAIL

(remove jumpers and set switches as shown)



REMOVE JUMPERS AS SHOWN

■ = 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. The installer shall 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 Failures on unused monitor channels, tie unused red monitor inputs 1,3,5,7, 10,12,13,14,15 & 16 to load switch AC+ per the cabinet manufacturer's instructions.
3. Program phases 4 and 8 for Dual Entry.
4. Enable Simultaneous Gap-Out for all phases.
5. Program phases 2 and 6 for Variable Initial and Gap Reduction.
6. Program phases 2 and 6 for Start Up In Green.
7. Program phases 6 and 8 for 'STARTUP PED CALL'.
8. Program phases 2 and 6 for Yellow Flash, and overlap 1 as Wag Overlaps.
9. The cabinet and controller are part of the Fayetteville Signal System.

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	OLA★	OLB	SPARE	OLC★	OLD	SPARE
SIGNAL HEAD NO.	11	21,22	NU	NU	41,42	NU	51	61,62	P61, P62	NU	81,82	P81, P82	11	NU	NU	51	NU	NU
RED		128			101			134			107							
YELLOW	✳	129			102		✳	135			108							
GREEN		130			103			136			109							
RED ARROW													A121			A114		
YELLOW ARROW													A122			A115		
FLASHING YELLOW ARROW													A123			A116		
GREEN ARROW	127						133											
✋								119				110						
🚶								121				112						

NU = Not Used

✳ Denotes install load resistor. See load resistor installation detail this sheet.

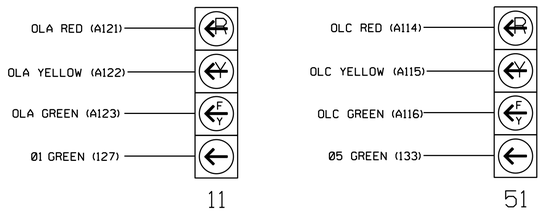
★ See pictorial of head wiring in detail below.

EQUIPMENT INFORMATION

CONTROLLER.....2070
CABINET.....332 /W/ AUX
SOFTWARE.....ECONOLITE OASIS
CABINET MOUNT.....BASE
OUTPUT FILE POSITIONS...18 WITH AUX. OUTPUT FILE
LOAD SWITCHES USED.....S1,S2,S4,S5,S6,S6P,S8,S8P,S9,S12.
PHASES USED.....1,2,4,5,6,8,6 PED,8 PED.
OVERLAP "A".....1+2
OVERLAP "B".....NOT USED
OVERLAP "C".....5+6
OVERLAP "D".....NOT USED

4 SECTION FYA PPLT SIGNAL WIRING DETAIL

(wire signal heads as shown)



NOTE

1. The sequence display for these signals require special logic programming. See sheet 2 of 2 for programming instructions.

INPUT FILE POSITION LAYOUT

(front view)

		1	2	3	4	5	6	7	8	9	10	11	12	13	14
FILE "I"	U	Ø1 1A	Ø2 2A	SLOT EMPTY	WIRED INPUT ⊗	SLOT EMPTY	Ø4 4A	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	Ø6 PED DC ISOLATOR	FS DC ISOLATOR
	L	NOT USED	Ø2 2B				Ø4 4B							Ø8 PED DC ISOLATOR	ST DC ISOLATOR
FILE "J"	U	Ø5 5A	Ø6 6A	SLOT EMPTY	WIRED INPUT ⊗	SLOT EMPTY	Ø8 8A	Ø8 8B	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY
	L	NOT USED	Ø6 6B				NOT USED	NOT USED							

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

FS = FLASH SENSE
ST = STOP TIME

⊗ Wired Input - Do not populate slot with detector card

INPUT FILE CONNECTION & PROGRAMMING CHART

LOOP NO.	LOOP TERMINAL	INPUT FILE POS.	PIN NO.	INPUT ASSIGNMENT NO.	DETECTOR NO.	NEMA PHASE	CALL	EXTEND	FULL TIME DELAY	STRETCH TIME	DELAY TIME	
1A[1]	TB2-1,2	I1U	56	18	1	1	Y	Y			15	
	-	J4U	48	10	26	6	Y	Y	Y		3	▽2
2A	TB2-5,6	I2U	39	1	2	2	Y	Y				
2B	TB2-7,8	I2L	43	5	12	2	Y	Y				
4A	TB4-9,10	I6U	41	3	4	4	Y	Y			3	
4B	TB4-11,12	I6L	45	7	14	4	Y	Y			10	
5A[2]	TB3-1,2	J1U	55	17	5	5	Y	Y			15	
	-	I4U	47	9	22	2	Y	Y	Y		3	▽2
6A	TB3-5,6	J2U	40	2	6	6	Y	Y				
6B	TB3-7,8	J2L	44	6	16	6	Y	Y				
8A	TB5-9,10	J6U	42	4	8	8	Y	Y			3	
8B	TB7-1,2	J7U	66	28	38	8	Y	Y			10	
PED PUSH BUTTONS												
P61,P62	TB8-7,9	I13U	68	30	PED 6	6 PED						
P81,P82	TB8-8,9	I13L	70	32	PED 8	8 PED						

[1] Add jumper from I1-W to J4-W, on rear of input file.

[2] Add jumper from J1-W to I4-W, on rear of input file.

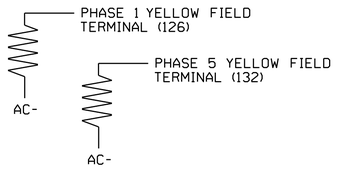
NOTE:
INSTALL A DC ISOLATOR IN INPUT FILE SLOT I13.

INPUT FILE POSITION LEGEND: J2L
FILE J
SLOT 2
LOWER

LOAD RESISTOR INSTALLATION DETAIL

(install resistors as shown below)

ACCEPTABLE VALUES	
VALUE (ohms)	WATTAGE
1.5K - 1.9K	25W (min)
2.0K - 3.0K	10W (min)



▽2 THIS ELECTRICAL DETAIL IS FOR THE SIGNAL DESIGN: 06-1200
DESIGNED: August 2016
SEALED: 10-06-16
REVISED: N/A

ELECTRICAL DETAIL SHEET 1 OF 2

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

REVISION ▽ SEAL

NORTH CAROLINA PROFESSIONAL SEAL 036880 ENGINEER KEITH M. MINS

DocuSigned by: Keith M. Mins 10/28/2016 DATE
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ELECTRICAL AND PROGRAMMING DETAILS FOR:

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

US 401 (Ramsey Street) at Treetop Drive/Private Drive

Division 6 | Cumberland County | Fayetteville

PLAN DATE: January 2010	REVIEWED BY:
PREPARED BY: A. Archer	REVIEWED BY:

REVISIONS	INIT.	DATE
▽1 Revised design speed, no change to electrical detail.(JP)	STR	8-13-13
▽2 Changed detector delay. (JP)	KMM	10/28/2016

SEAL

Not a certified document as to the Original Document but Only as to the Revisions - This document originally issued and sealed by John L. Watters, Jr., PE #15491 on 3-10-10.
This document is only certified as to the revisions.

SIGNATURE DATE

SIG. INVENTORY NO. 06-1200

11-OCT-2016 08:19
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jpeterson

LOGICAL I/O PROCESSOR PROGRAMMING DETAIL
TO PRODUCE SPECIAL FYA-PPLT SIGNAL SEQUENCE

(program controller as shown below)

1. FROM MAIN MENU PRESS '2' (PHASE CONTROL), THEN '1' (PHASE CONTROL FUNCTIONS). SCROLL TO THE BOTTOM OF THE MENU AND ENABLE ACT LOGIC COMMANDS 1, 2, 3, 4, 5 AND 6.

2. FROM MAIN MENU PRESS '6' (OUTPUTS), THEN '3' (LOGICAL I/O PROCESSOR).

```
LOGICAL I/O COMMAND #1  (+/-COMMAND#)
IF  ACTIVE PHASE        #1  IS ON
AND RED CLEAR ON PHASE #1  IS ON
          SCROLL DOWN
THEN:
SET OUTPUT  ASSIGNMENT #50 ON
SET OUTPUT  ASSIGNMENT #51 OFF
```

NOTE: LOGIC FOR PHASE 1 RED CLEAR WHEN TRANSITIONING FROM PHASE 1 TO PHASE 2 (HEAD 11).

PRESS '+'

```
LOGICAL I/O COMMAND #2  (+/-COMMAND#)
IF  ACTIVE PHASE        #1  IS ON
          SCROLL DOWN
THEN:
SET OUTPUT  ASSIGNMENT #52 OFF
```

NOTE: LOGIC FOR SWITCHING FLASHING YELLOW ARROW "OFF" DURING PHASE 1 (HEAD 11).

PRESS '+'

```
LOGICAL I/O COMMAND #3  (+/-COMMAND#)
IF  YELLOW ON PHASE     #1  IS ON
          SCROLL DOWN
THEN:
SET OUTPUT  ASSIGNMENT #51 ON
```

NOTE: LOGIC FOR YELLOW ARROW CLEARANCE FROM PHASE 1 (HEAD 11).

PRESS '+'

```
LOGICAL I/O COMMAND #4  (+/-COMMAND#)
IF  ACTIVE PHASE        #5  IS ON
AND RED CLEAR ON PHASE #5  IS ON
          SCROLL DOWN
THEN:
SET OUTPUT  ASSIGNMENT #42 ON
SET OUTPUT  ASSIGNMENT #43 OFF
```

NOTE: LOGIC FOR PHASE 5 RED CLEAR WHEN TRANSITIONING FROM PHASE 5 TO PHASE 6 (HEAD 51).

PRESS '+'

```
LOGICAL I/O COMMAND #5  (+/-COMMAND#)
IF  ACTIVE PHASE        #5  IS ON
          SCROLL DOWN
THEN:
SET OUTPUT  ASSIGNMENT #44 OFF
```

NOTE: LOGIC FOR SWITCHING FLASHING YELLOW ARROW "OFF" DURING PHASE 5 (HEAD 51).

PRESS '+'

```
LOGICAL I/O COMMAND #6  (+/-COMMAND#)
IF  YELLOW ON PHASE     #5  IS ON
          SCROLL DOWN
THEN:
SET OUTPUT  ASSIGNMENT #43 ON
```

NOTE: LOGIC FOR YELLOW ARROW CLEARANCE FROM PHASE 5 (HEAD 51).

LOGIC I/O PROCESSOR PROGRAMMING COMPLETE

OUTPUT REFERENCE SCHEDULE

OUTPUT 42 = Overlap C Red
OUTPUT 43 = Overlap C Yellow
OUTPUT 44 = Overlap C Green
OUTPUT 50 = Overlap A Red
OUTPUT 51 = Overlap A Yellow
OUTPUT 52 = Overlap A Green

OVERLAP PROGRAMMING DETAIL

(program controller as shown below)

FROM MAIN MENU PRESS '8' (OVERLAPS), THEN '1' (VEHICLE OVERLAP SETTINGS).

```
PAGE 1: VEHICLE OVERLAP 'A' SETTINGS
PHASE:          ¦12345678910111213141516
VEH OVL PARENTS:¦XX
VEH OVL NOT VEH:¦
VEH OVL NOT PED:¦
VEH OVL GRN EXT:¦
STARTUP COLOR: _ RED  _ YELLOW  _ GREEN
FLASH COLORS:  _ RED  _ YELLOW  X GREEN
SELECT VEHICLE OVERLAP OPTIONS:   (Y/N)
FLASH YELLOW IN CONTROLLER FLASH?...Y
GREEN EXTENSION (0-255 SEC).........0
YELLOW CLEAR (0=PARENT,3-25.5 SEC)..0.0
RED CLEAR (0=PARENT,0.1-25.5 SEC)...0.0
OUTPUT AS PHASE # (0=NONE, 1-16)....0
```

NOTICE GREEN FLASH

PRESS '+' TWICE

```
PAGE 1: VEHICLE OVERLAP 'C' SETTINGS
PHASE:          ¦12345678910111213141516
VEH OVL PARENTS:¦    XX
VEH OVL NOT VEH:¦
VEH OVL NOT PED:¦
VEH OVL GRN EXT:¦
STARTUP COLOR: _ RED  _ YELLOW  _ GREEN
FLASH COLORS:  _ RED  _ YELLOW  X GREEN
SELECT VEHICLE OVERLAP OPTIONS:   (Y/N)
FLASH YELLOW IN CONTROLLER FLASH?...Y
GREEN EXTENSION (0-255 SEC).........0
YELLOW CLEAR (0=PARENT,3-25.5 SEC)..0.0
RED CLEAR (0=PARENT,0.1-25.5 SEC)...0.0
OUTPUT AS PHASE # (0=NONE, 1-16)....0
```

NOTICE GREEN FLASH

OVERLAP PROGRAMMING COMPLETE

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.

2 THIS ELECTRICAL DETAIL IS FOR
THE SIGNAL DESIGN: 06-1200
DESIGNED: August 2016
SEALED: 10-06-16
REVISED: N/A

ELECTRICAL DETAIL SHEET 2 OF 2

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

REVISION 1 SEAL

NORTH CAROLINA PROFESSIONAL SEAL 036880 ENGINEER KEITH M. MIMS

DocuSigned by: Keith M. Mims 10/28/2016 DATE
2F80786E8CD34A5...

ELECTRICAL AND PROGRAMMING DETAILS FOR:

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

US 401 (Ramsey Street)
at
Treetop Drive/Private Drive

Division 6 Cumberland County Fayetteville

PLAN DATE: January 2010	REVIEWED BY:
PREPARED BY: A. Archer	REVIEWED BY:

REVISIONS	INIT.	DATE
1 Revised design speed, no change to electrical detail.(JP)	JTR	8-13-13
2 Changed detector delay. (JP)	KMM	10/28/2016

SEAL

Not a certified document as to the Original Document but Only as to the Revisions - This document originally issued and sealed by John L. Watters, Jr., PE #15491 on 3-10-10. This document is only certified as to the revisions.

SIGNATURE DATE

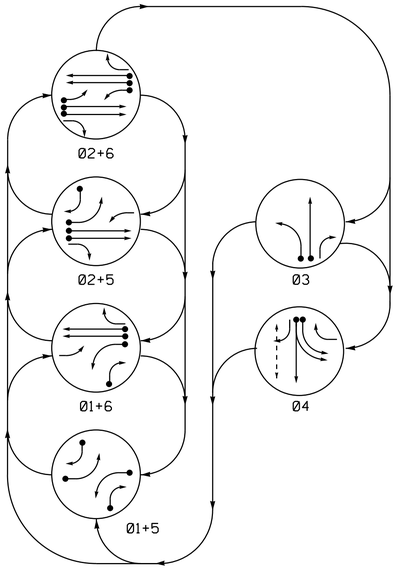
SIG. INVENTORY NO. 06-1200

11-OCT-2016 08:16
S:*ITS&SU*ITS Signals*Workgroups*Sig Man*Peterson*061200_sm_ele_20130813.dgn
jtpeterson

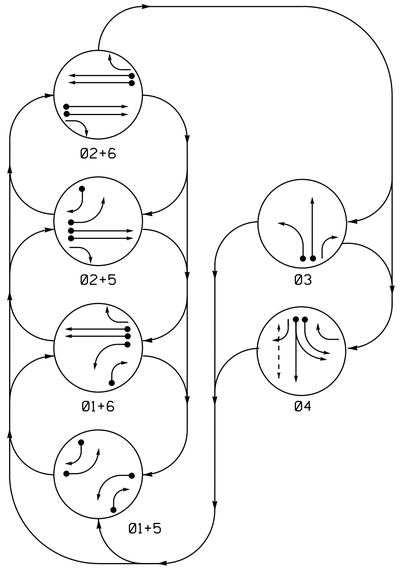
PROJECT REFERENCE NO.	SHEET NO.
W-5601EO	Sig.4.0

6 Phase Fully Actuated Fayetteville Signal System

DEFAULT PHASING DIAGRAM



ALTERNATE PHASING DIAGRAM



PHASING DIAGRAM DETECTION LEGEND

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

DEFAULT TABLE OF OPERATION

SIGNAL FACE	PHASE 01+05	01+06	02+05	02+06	03	04	FLASH
11	←	←	←F/Y	←F/Y	←R	←R	←Y
22,23	R	R	G	G	R	R	Y
31	R	R	R	R	G←	R	R
32	R/→	R/→	R	R	G	R	R
41	R	R	R	R	G←	R	R
42	R/→	R	R/→	R	R	G	R
51	←	F/Y ←	←	F/Y ←	←R	←R	←Y
62	R	G	R	G	R	R	Y
63	R	G	R	G	R	R/→	Y
P41, P42	DW	DW	DW	DW	DW	W	DRK

ALTERNATE TABLE OF OPERATION

SIGNAL FACE	PHASE 01+05	01+06	02+05	02+06	03	04	FLASH
11	←	←	←R	←R	←R	←R	←Y
22,23	R	R	G	G	R	R	Y
31	R	R	R	R	G←	R	R
32	R/→	R/→	R	R	G	R	R
41	R	R	R	R	G←	R	R
42	R/→	R	R/→	R	R	G	R
51	←	←R	←	←R	←R	←R	←Y
62	R	G	R	G	R	R	Y
63	R	G	R	G	R	R/→	Y
P41,P42	DW	DW	DW	DW	DW	W	DRK

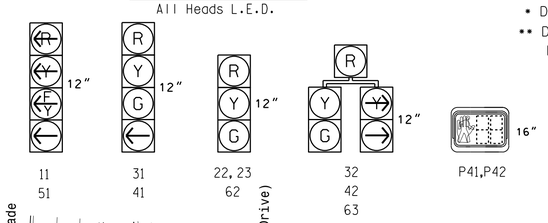
OASIS 2070 LOOP & DETECTOR INSTALLATION CHART

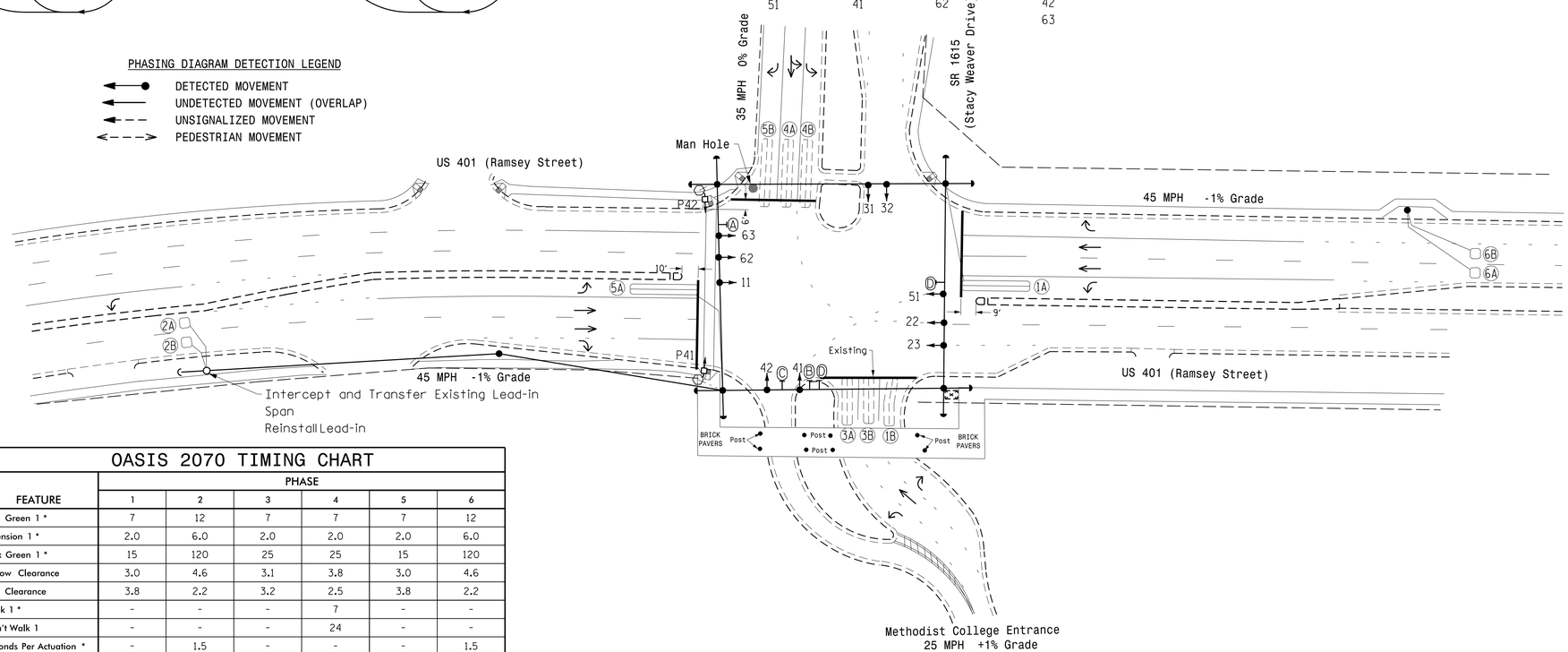
INDUCTIVE LOOPS					DETECTOR PROGRAMMING							
LOOP	SIZE (FT)	DISTANCE FROM STOPBAR (FT)	TURNS	NEW LOOP	PHASE	CALLING	EXTENSION	FULL TIME DELAY	STRETCH TIME	DELAY TIME	SYSTEM LOOP	NEW CARD
1A	6X40	0	2-4-2	Y	1	Y	Y	-	-	*15	-	-
					6**	Y	Y	Y	-	3	-	-
1B	6X27	0	2-4-2	-	1	Y	Y	-	-	15	-	-
2A	6X6	300	6	Y	2	Y	Y	-	-	-	-	-
2B	6X6	300	6	Y	2	Y	Y	-	-	-	-	-
3A	6X28	0	2-4-2	-	3	Y	Y	-	-	-	-	-
3B	6X27	0	2-4-2	-	3	Y	Y	-	-	-	-	-
4A	6X40	0	2-4-2	Y	4	Y	Y	-	-	-	-	-
4B	6X40	0	2-4-2	Y	4	Y	Y	-	-	-	-	-
5A	6X40	+5	2-4-2	Y	5	Y	Y	-	-	*15	-	-
					2**	Y	Y	Y	-	3	-	-
5B	6X40	20	2-4-2	Y	5	Y	Y	-	-	15	-	-
6A	6X6	300	6	Y	6	Y	Y	-	-	-	-	-
6B	6X6	300	6	Y	6	Y	Y	-	-	-	-	-

* Disable Delay During Alternate Phasing Operation.
** Disable Phase 2/6 Call For Loops 1A and 5A During Alternate Phasing Operation.

SIGNAL FACE I.D.

All Heads L.E.D.





OASIS 2070 TIMING CHART

FEATURE	PHASE 1	2	3	4	5	6
Min Green 1 *	7	12	7	7	7	12
Extension 1 *	2.0	6.0	2.0	2.0	2.0	6.0
Max Green 1 *	15	120	25	25	15	120
Yellow Clearance	3.0	4.6	3.1	3.8	3.0	4.6
Red Clearance	3.8	2.2	3.2	2.5	3.8	2.2
Walk 1 *	-	-	-	7	-	-
Don't Walk 1	-	-	-	24	-	-
Seconds Per Actuation *	-	1.5	-	-	-	1.5
Max Variable Initial *	-	40	-	-	-	40
Time Before Reduction *	-	15	-	-	-	15
Time To Reduce *	-	30	-	-	-	30
Minimum Gap	-	3.0	-	-	-	3.0
Recall Mode	-	MIN RECALL	-	-	-	MIN RECALL
Vehicle Call Memory	-	YELLOW	-	-	-	YELLOW
Dual Entry	-	-	-	-	-	-
Simultaneous Gap	ON	ON	ON	ON	ON	ON

* These values may be field adjusted. Do not adjust Min Green and Extension times for phases 2 and 6 lower than what is shown. Min Green for all other phases should not be lower than 4 seconds.

NOTES

1. Refer to "Roadway Standard Drawings NCDOT" dated January2012 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. Phase 1 and/or phase 5 may be lagged.
4. The order of phase 3 and phase 4 may be reversed.
5. Set all detector units to presence mode.
6. Omit "WALK" and flashing "DON'T WALK" with no pedestrian calls.
7. Program pedestrian heads to countdown the flashing "Don't Walk" time only.
8. Pedestrian pedestals are conceptual and shown for reference only. See sheets P1-P3 for pushbutton location details.
9. 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	·-·-·
N/A	Right of Way	– – –
→	Directional Arrow	→
N/A	Wheel Chair Ramp	◢
Ⓐ	Right Arrow "ONLY" Sign (R3-5R)	Ⓐ
Ⓑ	Left Arrow "ONLY" Sign (R3-5L)	Ⓑ
Ⓒ	Combined Through and Left Arrow Sign (R3-6L)	Ⓒ
Ⓓ	"U-TURN YIELD TO RIGHT TURN" Sign (R10-16)	Ⓓ
⬡	Type II Signal Pedestal	⬢

Signal Upgrade

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

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

US 401 (Ramsey Street) at SR 1615 (Stacy Weaver Drive)/ Entrance to Methodist College

Division 6 Cumberland County Fayetteville

PLAN DATE: August 2016 REVIEWED BY:

PREPARED BY: EMM/KGP/JPG REVIEWED BY:

SCALE 0 40 1"=40'

REVISIONS	INIT.	DATE

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 029904 ENGINEER JASON P. GALLOWAY

DocuSigned by: Jason P. Galloway 10/7/2016
F700EA704841841D... DATE

SIG. INVENTORY NO. 06-0448

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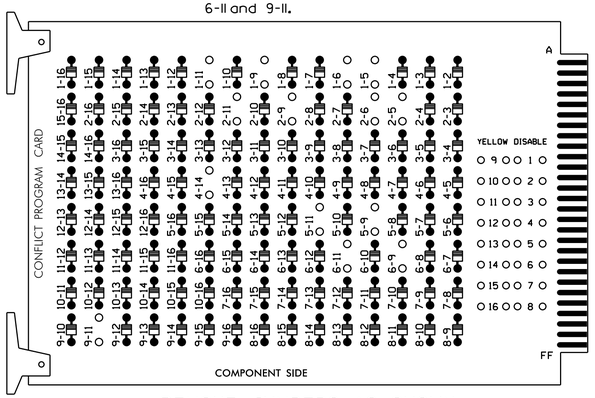
jgalloway

PROJECT REFERENCE NO.	SHEET NO.
W-5601EO	Sig. 4.1

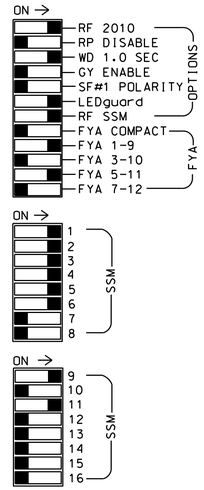
▽EDI MODEL 2010ECL-NC CONFLICT MONITOR PROGRAMMING DETAIL

(remove jumpers and set switches as shown)

REMOVE DIODE JUMPERS I-5, I-6, I-9, I-11, 2-5, 2-6, 2-9, 2-11, 4-14, 5-9, 5-11, 6-9, 6-11 and 9-11.



REMOVE JUMPERS AS SHOWN



■ = 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. The installer shall 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 Failures on unused monitor channels, tie unused red monitor inputs 7,8,10, 12,13,14,15 & 16 to load switch AC+ per the cabinet manufacturer's instructions.
3. Program phases 2 and 6, on the controller unit, for Start Up In Green.
4. Enable Simultaneous Gap-Out, on the controller unit, for all phases.
5. Program phases 2 and 6, on the controller unit, for Variable Initial and Gap Reduction.
6. ▽1 Program phase 4 for 'STARTUP PED CALL'.
7. ▽1 Program phases 2 and 6 for Yellow Flash and overlap 1 as Wag Overlaps.
8. The cabinet and controller are part of the Fayetteville City Signal System.

EQUIPMENT INFORMATION

CONTROLLER.....2070
CABINET.....332 /w/ aux
SOFTWARE.....ECONOLITE OASIS
CABINET MOUNT.....BASE
OUTPUT FILE POSITIONS...18 WITH AUX. OUTPUT FILE
▽1 LOAD SWITCHES USED.....S1,S2,S3,S4,S4P,S5,S6,S9,S12
PHASES USED.....1,2,3,4,5,6,4 PED
OVERLAP "A".....1+2
OVERLAP "B".....NOT USED
OVERLAP "C".....5+6
OVERLAP "D".....NOT USED

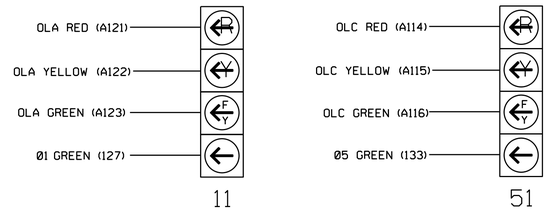
▽SIGNAL HEAD HOOK-UP CHART

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	OLA★	OLB	SPARE	OLC★	OLD	SPARE
SIGNAL HEAD NO.	11	32	22,23	NU	31	32	41	42	63	P41, P42	42	51	62,63	NU	NU	NU	NU	11	NU	NU	51	NU	NU
RED		✱	128		116	116	101	101			✱		134										
YELLOW			129		117	117	102	102					135										
GREEN			130		118	118	103	103					136										
RED ARROW																		A121			A114		
YELLOW ARROW		126							102		132							A122			A115		
FLASHING YELLOW ARROW																		A123			A116		
GREEN ARROW	127	127			118		103		103		133	133											
✋										104													
🚶										106													

NU = Not Used
✱ Denotes install load resistor. See load resistor installation detail this sheet.
★ See pictorial of head wiring in detail below.

4 SECTION FYA PPLT SIGNAL WIRING DETAIL

(wire signal heads as shown)



NOTE

1. The sequence display for these signals require special logic programming. See sheet 2 of 4 for programming instructions.

INPUT FILE POSITION LAYOUT

(front view)

		1	2	3	4	5	6	7	8	9	10	11	▽1 12	13	14
FILE "I"	U	Ø1 1B	Ø2 2A	SLOT EMPTY	SLOT EMPTY	Ø3 3A	Ø4 4A	SLOT EMPTY	SLOT EMPTY	Ø1 1A	SLOT EMPTY	SLOT EMPTY	NOT USED	SLOT EMPTY	FS DC ISOLATOR
	L	NOT USED	Ø2 2B			Ø3 3B	Ø4 4B			Ø6 1A			Ø4 PED DC ISOLATOR		ST DC ISOLATOR
FILE "J"	U	Ø5 5B	Ø6 6A	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	Ø5 5A	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY
	L	NOT USED	Ø6 6B							Ø2 5A					

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.	PIN NO.	INPUT ASSIGNMENT NO.	DETECTOR NO.	NEMA PHASE	CALL	EXTEND	FULL TIME DELAY	STRETCH TIME	DELAY TIME
1B	TB2-1,2	I1U	56	18	1	1	Y	Y			15
2A	TB2-5,6	I2U	39	1	2	2	Y	Y			
2B	TB2-7,8	I2L	43	5	12	2	Y	Y			
3A	TB4-5,6	I5U	58	20	3	3	Y	Y			
3B	TB4-7,8	I5L	58	20	3	3	Y	Y			
4A	TB4-9,10	I6U	41	3	4	4	Y	Y			
4B	TB4-11,12	I6L	45	7	14	4	Y	Y			
1A[1]	TB6-9,10	I9U	60	22	11	1	Y	Y			15
	TB6-11,12	I9L	62	24	13	6	Y	Y	Y		3
5B	TB3-1,2	J1U	55	17	5	5	Y	Y			15
6A	TB3-5,6	J2U	40	2	6	6	Y	Y			
6B	TB3-7,8	J2L	44	6	16	6	Y	Y			
5A[2]	TB7-9,10	J9U	59	21	15	5	Y	Y			15
	TB7-11,12	J9L	61	23	17	2	Y	Y	Y		3
PED PUSH BUTTONS											
▽1 P41,P42	TB8-5,6	I12L	69	31	PED 4	4 PED					

NOTE: INSTALL DC ISOLATOR IN INPUT FILE SLOT I12.

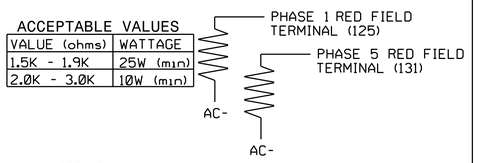
[1] Add jumpers from TB6-9 to TB6-11, and from TB6-10 to TB6-12.

[2] Add jumpers from TB7-9 to TB7-11, and from TB7-10 to TB7-12.

INPUT FILE POSITION LEGEND: J2L
FILE J
SLOT 2
LOWER

LOAD RESISTOR INSTALLATION DETAIL

ACCEPTABLE VALUES	
VALUE (ohms)	WATTAGE
1.5K - 1.9K	25W (min)
2.0K - 3.0K	10W (min)



NOTE: The purpose of these resistors is to load the channel red monitor inputs in order for the Signal Sequence Monitor to use the full signal sequence monitoring capability on channels that do not use the red display in the field.

▽1 THIS ELECTRICAL DETAIL IS FOR
THE SIGNAL DESIGN: 06-0448
DESIGNED: August 2016
SEALED: 10-07-16
REVISED: N/A

Electrical Detail - Sheet 1 of 4

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

REVISION ▽ SEAL

NORTH CAROLINA PROFESSIONAL SEAL 036880 ENGINEER KEITH M. MIMS

DocuSigned by: Keith M. Mims 2F8070BEBCD34A5... 10/31/2016 DATE

ELECTRICAL AND PROGRAMMING DETAILS FOR:

Prepared in the Offices of:

Traffic Engineering and Safety Systems Branch, NCDEPARTMENT OF TRANSPORTATION, Signal Management Section

750 N. Greenfield Pwky, Garner, NC 27529

US 401 (Ramsey Street)
at
SR 1615 (Stacy Weaver Drive) / Entrance to Methodist College

Division 06 Cumberland County Fayetteville

PLAN DATE:	August 2006	REVIEWED BY:	JTR
PREPARED BY:	James Peterson	REVIEWED BY:	

REVISIONS	INIT.	DATE
▽1 Added 4 PED and updated notes. (JP)	KMM	10/31/2016

SEAL

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SIGNATURE DATE

SIG. INVENTORY NO. 06-0448

PROJECT REFERENCE NO.	SHEET NO.
W-5601EO	Sig. 4.2

LOGICAL I/O PROCESSOR PROGRAMMING DETAIL
TO PRODUCE SPECIAL FYA-PPLT SIGNAL SEQUENCE

(program controller as shown below)

1. FROM MAIN MENU PRESS '2' (PHASE CONTROL), THEN '1' (PHASE CONTROL FUNCTIONS). SCROLL TO THE BOTTOM OF THE MENU AND ENABLE ACT LOGIC COMMANDS 1, 2, 3, 4, 5 AND 6.

2. FROM MAIN MENU PRESS '6' (OUTPUTS), THEN '3' (LOGICAL I/O PROCESSOR).

```
  LOGICAL I/O COMMAND #1  (+/-COMMAND#)
IF  ACTIVE PHASE       #1  IS ON
AND RED CLEAR ON PHASE #1  IS ON

          SCROLL DOWN

THEN:
SET OUTPUT  ASSIGNMENT #50 ON
SET OUTPUT  ASSIGNMENT #51 OFF
                    PRESS '+'
```

NOTE: LOGIC FOR PHASE 1 RED CLEAR WHEN TRANSITIONING FROM PHASE 1 TO PHASE 2 (HEAD 11).

```
  LOGICAL I/O COMMAND #2  (+/-COMMAND#)
IF  ACTIVE PHASE       #1  IS ON

          SCROLL DOWN

THEN:
SET OUTPUT  ASSIGNMENT #52 OFF
                    PRESS '+'
```

NOTE: LOGIC FOR SWITCHING FLASHING YELLOW ARROW "OFF" DURING PHASE 1 (HEAD 11).

```
  LOGICAL I/O COMMAND #3  (+/-COMMAND#)
IF  YELLOW ON PHASE    #1  IS ON

          SCROLL DOWN

THEN:
SET OUTPUT  ASSIGNMENT #51 ON
                    PRESS '+'
```

NOTE: LOGIC FOR YELLOW ARROW CLEARANCE FROM PHASE 1 (HEAD 11).

```
  LOGICAL I/O COMMAND #4  (+/-COMMAND#)
IF  ACTIVE PHASE       #5  IS ON
AND RED CLEAR ON PHASE #5  IS ON

          SCROLL DOWN

THEN:
SET OUTPUT  ASSIGNMENT #42 ON
SET OUTPUT  ASSIGNMENT #43 OFF
                    PRESS '+'
```

NOTE: LOGIC FOR PHASE 5 RED CLEAR WHEN TRANSITIONING FROM PHASE 5 TO PHASE 6 (HEAD 51).

```
  LOGICAL I/O COMMAND #5  (+/-COMMAND#)
IF  ACTIVE PHASE       #5  IS ON

          SCROLL DOWN

THEN:
SET OUTPUT  ASSIGNMENT #44 OFF
                    PRESS '+'
```

NOTE: LOGIC FOR SWITCHING FLASHING YELLOW ARROW "OFF" DURING PHASE 5 (HEAD 51).

```
  LOGICAL I/O COMMAND #6  (+/-COMMAND#)
IF  YELLOW ON PHASE    #5  IS ON

          SCROLL DOWN

THEN:
SET OUTPUT  ASSIGNMENT #43 ON
```

NOTE: LOGIC FOR YELLOW ARROW CLEARANCE FROM PHASE 5 (HEAD 51).

LOGIC I/O PROCESSOR PROGRAMMING COMPLETE

OUTPUT REFERENCE SCHEDULE

OUTPUT 42 = Overlap C Red
OUTPUT 43 = Overlap C Yellow
OUTPUT 44 = Overlap C Green
OUTPUT 50 = Overlap A Red
OUTPUT 51 = Overlap A Yellow
OUTPUT 52 = Overlap A Green

OVERLAP PROGRAMMING DETAIL

(program controller as shown below)

FROM MAIN MENU PRESS '8' (OVERLAPS), THEN '1' (VEHICLE OVERLAP SETTINGS).

```
 PAGE 1: VEHICLE OVERLAP 'A' SETTINGS
 PHASE:              ¦123456789101112131415 16
VEH OVL PARENTS:     ¦XX
VEH OVL NOT VEH:     ¦
VEH OVL NOT PED:     ¦
VEH OVL GRN EXT:     ¦
STARTUP COLOR: _ RED  _ YELLOW  _ GREEN
FLASH COLORS:  _ RED  _ YELLOW  X GREEN   <- NOTICE GREEN FLASH
SELECT VEHICLE OVERLAP OPTIONS:    (Y/N)
FLASH YELLOW IN CONTROLLER FLASH?...Y
GREEN EXTENSION (0-255 SEC).........0
YELLOW CLEAR (0=PARENT,3-25.5 SEC)..0.0
RED CLEAR (0=PARENT,0.1-25.5 SEC)...0.0
OUTPUT AS PHASE # (0=NONE, 1-16)....0
```

PRESS '+' TWICE

```
 PAGE 1: VEHICLE OVERLAP 'C' SETTINGS
 PHASE:              ¦123456789101112131415 16
VEH OVL PARENTS:     ¦    XX
VEH OVL NOT VEH:     ¦
VEH OVL NOT PED:     ¦
VEH OVL GRN EXT:     ¦
STARTUP COLOR: _ RED  _ YELLOW  _ GREEN
FLASH COLORS:  _ RED  _ YELLOW  X GREEN   <- NOTICE GREEN FLASH
SELECT VEHICLE OVERLAP OPTIONS:    (Y/N)
FLASH YELLOW IN CONTROLLER FLASH?...Y
GREEN EXTENSION (0-255 SEC).........0
YELLOW CLEAR (0=PARENT,3-25.5 SEC)..0.0
RED CLEAR (0=PARENT,0.1-25.5 SEC)...0.0
OUTPUT AS PHASE # (0=NONE, 1-16)....0
```

OVERLAP PROGRAMMING COMPLETE

▽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.

▽ THIS ELECTRICAL DETAIL IS FOR
THE SIGNAL DESIGN: 06-0448
DESIGNED: August 2016
SEALED: 10-07-16
REVISED: N/A

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

REVISION ▽ SEAL

NORTH CAROLINA PROFESSIONAL SEAL 036880 ENGINEER KEITH M. MIMS

DocuSigned by: Keith M. Mims 2F80786E8CD34A5... 10/31/2016 DATE

ELECTRICAL AND PROGRAMMING DETAILS FOR:

Prepared in the Offices of:

Traffic Engineering and Safety Systems Branch, Traffic Engineering Unit, Signal Management Section, NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

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Division 6 | Cumberland County | Fayetteville

PLAN DATE: July 2006 | REVIEWED BY: JTR

PREPARED BY: James Peterson | REVIEWED BY:

REVISIONS	INIT.	DATE
▽Added 4 PED and updated notes. (JP)	EMM	10/31/2016

SEAL

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This document is only certified as to the revisions.

SIGNATURE DATE

SIG. INVENTORY NO. 06-0448

12-OCT-2016 07:00
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jtpeterson

PROJECT REFERENCE NO.	SHEET NO.
W-5601E0	Sig. 4.3

PPLT SIGNAL OUTPUT PAGE 2 ASSIGNMENT PROGRAMMING DETAIL

(program controller as shown below)

NOTE: THIS PROGRAMMING APPLIES FOR OUTPUT PAGE 2 ONLY.
OUTPUT PAGE 1 WILL USE STANDARD DEFAULT SETTINGS.
THIS PROGRAMMING IS NECESSARY FOR ALTERNATE PHASING OPERATION.

OUTPUT ASSIGNMENTS FOR SIGNAL HEAD 51

STEP 1

FROM MAIN MENU PRESS '6' (OUTPUTS), THEN
'1' (OUTPUT ASSIGNMENTS). PRESS 'NEXT' FOR PAGE 2.
WITH CURSOR IN "OUTPUT ASSIGNMENT#" POSITION ENTER "42"

```
PAGE:2  C1 PIN:88  VEHICLE OVERLAP
OUTPUT ASSIGNMENT #.................42
FREQUENCY (0=DEFAULT) (0-25.5 HZ)...0.0
DUTY CYCLE (0=DEFAULT) (0 - 100%)...0
MODE (0=SOLID,1=FLASH)..............0
SELECT ASSIGNMENT:
NOT ENABLED........................._
VEHICLE PHASE.......................Y
PEDESTRIAN PHASE...................._
VEHICLE OVERLAP.....................Y
PEDESTRIAN OVERLAP.................._
WATCHDOG............................_
DETECTOR RESET......................_
ADVANCE BEACON......................_
OUT OF PHASE FLASHER................_
CONTROLLER FLASH...................._
RUN FREE............................_
RESERVED............................_
PREEMPT............................._
SOFT PREEMPT........................_
ANY PREEMPT........................._
COORDINATION PLAN..................._
OFFSET.............................._
PHASE CHECK........................._
PHASE ON............................_
PHASE NEXT.........................._
```

ENTER A "Y" FOR VEHICLE PHASE.

THE OUPUT IS SET AS AN OVERLAP BY DEFAULT, THIS "Y" WILL REMAIN UNTIL THE OUTPUT IS CHANGED.

```
PAGE:2  C1 PIN:88  VEHICLE OVERLAP
SELECT VEHICLE PHASE (1-16).........5
SELECT COLOR(0=RED,1=YEL,2=GRN).....0
```

WHEN A 'Y' IS ENTERED FOR 'VEHICLE PHASE' THE SCREEN SHOWN ABOVE WILL APPEAR. ENTER DATA AS SHOWN.

PRESS THE 'ENT' KEY AFTER INPUTING DATA. THEN 'ESC'.

DISPLAY WILL NOW SHOW THE SPECIFIED OUTPUT ASSIGNED AS 'VEHICLE PHASE' AS SHOWN BELOW.

```
PAGE:2  C1 PIN:88  VEHICLE PHASE
OUTPUT ASSIGNMENT #.................42
FREQUENCY (0=DEFAULT) (0-25.5 HZ)...0.0
DUTY CYCLE (0=DEFAULT) (0 - 100%)...0
MODE (0=SOLID,1=FLASH)..............0
SELECT ASSIGNMENT:
NOT ENABLED........................._
VEHICLE PHASE.......................Y
PEDESTRIAN PHASE...................._
VEHICLE OVERLAP....................._
PEDESTRIAN OVERLAP.................._
WATCHDOG............................_
DETECTOR RESET......................_
ADVANCE BEACON......................_
OUT OF PHASE FLASHER................_
CONTROLLER FLASH...................._
RUN FREE............................_
RESERVED............................_
PREEMPT............................._
SOFT PREEMPT........................_
ANY PREEMPT........................._
COORDINATION PLAN..................._
OFFSET.............................._
PHASE CHECK........................._
PHASE ON............................_
PHASE NEXT.........................._
```

PRESS "+" KEY FOR OUTPUT 43

STEP 2

```
PAGE:2  C1 PIN:89  VEHICLE OVERLAP
OUTPUT ASSIGNMENT #.................43
FREQUENCY (0=DEFAULT) (0-25.5 HZ)...0.0
DUTY CYCLE (0=DEFAULT) (0 - 100%)...0
MODE (0=SOLID,1=FLASH)..............0
SELECT ASSIGNMENT:
NOT ENABLED........................._
VEHICLE PHASE.......................Y
PEDESTRIAN PHASE...................._
VEHICLE OVERLAP.....................Y
PEDESTRIAN OVERLAP.................._
WATCHDOG............................_
DETECTOR RESET......................_
ADVANCE BEACON......................_
OUT OF PHASE FLASHER................_
CONTROLLER FLASH...................._
RUN FREE............................_
RESERVED............................_
PREEMPT............................._
SOFT PREEMPT........................_
ANY PREEMPT........................._
COORDINATION PLAN..................._
OFFSET.............................._
PHASE CHECK........................._
PHASE ON............................_
PHASE NEXT.........................._
```

ENTER A "Y" FOR VEHICLE PHASE.

THE OUPUT IS SET AS AN OVERLAP BY DEFAULT, THIS "Y" WILL REMAIN UNTIL THE OUTPUT IS CHANGED.

```
PAGE:2  C1 PIN:89  VEHICLE OVERLAP
SELECT VEHICLE PHASE (1-16).........5
SELECT COLOR(0=RED,1=YEL,2=GRN).....1
```

WHEN A 'Y' IS ENTERED FOR 'VEHICLE PHASE' THE SCREEN SHOWN ABOVE WILL APPEAR. ENTER DATA AS SHOWN.

PRESS THE 'ENT' KEY AFTER INPUTING DATA. THEN 'ESC'.

DISPLAY WILL NOW SHOW THE SPECIFIED OUTPUT ASSIGNED AS 'VEHICLE PHASE' AS SHOWN BELOW.

```
PAGE:2  C1 PIN:89  VEHICLE PHASE
OUTPUT ASSIGNMENT #.................43
FREQUENCY (0=DEFAULT) (0-25.5 HZ)...0.0
DUTY CYCLE (0=DEFAULT) (0 - 100%)...0
MODE (0=SOLID,1=FLASH)..............0
SELECT ASSIGNMENT:
NOT ENABLED........................._
VEHICLE PHASE.......................Y
PEDESTRIAN PHASE...................._
VEHICLE OVERLAP....................._
PEDESTRIAN OVERLAP.................._
WATCHDOG............................_
DETECTOR RESET......................_
ADVANCE BEACON......................_
OUT OF PHASE FLASHER................_
CONTROLLER FLASH...................._
RUN FREE............................_
RESERVED............................_
PREEMPT............................._
SOFT PREEMPT........................_
ANY PREEMPT........................._
COORDINATION PLAN..................._
OFFSET.............................._
PHASE CHECK........................._
PHASE ON............................_
PHASE NEXT.........................._
```

PRESS "+" KEY FOR OUTPUT 44

STEP 3

```
PAGE:2  C1 PIN:90  VEHICLE OVERLAP
OUTPUT ASSIGNMENT #.................44
FREQUENCY (0=DEFAULT) (0-25.5 HZ)...0.0
DUTY CYCLE (0=DEFAULT) (0 - 100%)...0
MODE (0=SOLID,1=FLASH)..............0
SELECT ASSIGNMENT:
NOT ENABLED.........................Y
VEHICLE PHASE......................._
PEDESTRIAN PHASE...................._
VEHICLE OVERLAP.....................Y
PEDESTRIAN OVERLAP.................._
WATCHDOG............................_
DETECTOR RESET......................_
ADVANCE BEACON......................_
OUT OF PHASE FLASHER................_
CONTROLLER FLASH...................._
RUN FREE............................_
RESERVED............................_
PREEMPT............................._
SOFT PREEMPT........................_
ANY PREEMPT........................._
COORDINATION PLAN..................._
OFFSET.............................._
PHASE CHECK........................._
PHASE ON............................_
PHASE NEXT.........................._
```

ENTER A "Y" FOR NOT ENABLED (THIS WILL DISABLE THE OUTPUT)

THE OUPUT IS SET AS AN OVERLAP BY DEFAULT, THIS "Y" WILL REMAIN UNTIL THE OUTPUT IS CHANGED.

DISPLAY WILL NOW SHOW THE SPECIFIED OUTPUT ASSIGNED AS 'NOT ENABLED' AS SHOWN BELOW.

```
PAGE:2  C1 PIN:90  NOT ENABLED
OUTPUT ASSIGNMENT #.................44
FREQUENCY (0=DEFAULT) (0-25.5 HZ)...0.0
DUTY CYCLE (0=DEFAULT) (0 - 100%)...0
MODE (0=SOLID,1=FLASH)..............0
SELECT ASSIGNMENT:
NOT ENABLED.........................Y
VEHICLE PHASE......................._
PEDESTRIAN PHASE...................._
VEHICLE OVERLAP....................._
PEDESTRIAN OVERLAP.................._
WATCHDOG............................_
DETECTOR RESET......................_
ADVANCE BEACON......................_
OUT OF PHASE FLASHER................_
CONTROLLER FLASH...................._
RUN FREE............................_
RESERVED............................_
PREEMPT............................._
SOFT PREEMPT........................_
ANY PREEMPT........................._
COORDINATION PLAN..................._
OFFSET.............................._
PHASE CHECK........................._
PHASE ON............................_
PHASE NEXT.........................._
```

OUTPUT ASSIGNMENTS FOR SIGNAL HEAD 11

STEP 4

FROM MAIN MENU PRESS '6' (OUTPUTS), THEN
'1' (OUTPUT ASSIGNMENTS). PRESS 'NEXT' FOR PAGE 2.
WITH CURSOR IN "OUTPUT ASSIGNMENT#" POSITION ENTER "50"

```
PAGE:2  C1 PIN:97  VEHICLE OVERLAP
OUTPUT ASSIGNMENT #.................50
FREQUENCY (0=DEFAULT) (0-25.5 HZ)...0.0
DUTY CYCLE (0=DEFAULT) (0 - 100%)...0
MODE (0=SOLID,1=FLASH)..............0
SELECT ASSIGNMENT:
NOT ENABLED........................._
VEHICLE PHASE.......................Y
PEDESTRIAN PHASE...................._
VEHICLE OVERLAP.....................Y
PEDESTRIAN OVERLAP.................._
WATCHDOG............................_
DETECTOR RESET......................_
ADVANCE BEACON......................_
OUT OF PHASE FLASHER................_
CONTROLLER FLASH...................._
RUN FREE............................_
RESERVED............................_
PREEMPT............................._
SOFT PREEMPT........................_
ANY PREEMPT........................._
COORDINATION PLAN..................._
OFFSET.............................._
PHASE CHECK........................._
PHASE ON............................_
PHASE NEXT.........................._
```

ENTER A "Y" FOR VEHICLE PHASE.

THE OUPUT IS SET AS AN OVERLAP BY DEFAULT, THIS "Y" WILL REMAIN UNTIL THE OUTPUT IS CHANGED.

```
PAGE:2  C1 PIN:97  VEHICLE OVERLAP
SELECT VEHICLE PHASE (1-16).........1
SELECT COLOR(0=RED,1=YEL,2=GRN).....0
```

WHEN A 'Y' IS ENTERED FOR 'VEHICLE PHASE' THE SCREEN SHOWN ABOVE WILL APPEAR. ENTER DATA AS SHOWN.

PRESS THE 'ENT' KEY AFTER INPUTING DATA. THEN 'ESC'.

DISPLAY WILL NOW SHOW THE SPECIFIED OUTPUT ASSIGNED AS 'VEHICLE PHASE' AS SHOWN BELOW.

```
PAGE:2  C1 PIN:97  VEHICLE PHASE
OUTPUT ASSIGNMENT #.................50
FREQUENCY (0=DEFAULT) (0-25.5 HZ)...0.0
DUTY CYCLE (0=DEFAULT) (0 - 100%)...0
MODE (0=SOLID,1=FLASH)..............0
SELECT ASSIGNMENT:
NOT ENABLED........................._
VEHICLE PHASE.......................Y
PEDESTRIAN PHASE...................._
VEHICLE OVERLAP....................._
PEDESTRIAN OVERLAP.................._
WATCHDOG............................_
DETECTOR RESET......................_
ADVANCE BEACON......................_
OUT OF PHASE FLASHER................_
CONTROLLER FLASH...................._
RUN FREE............................_
RESERVED............................_
PREEMPT............................._
SOFT PREEMPT........................_
ANY PREEMPT........................._
COORDINATION PLAN..................._
OFFSET.............................._
PHASE CHECK........................._
PHASE ON............................_
PHASE NEXT.........................._
```

PRESS "+" KEY FOR OUTPUT 51

STEP 5

```
PAGE:2  C1 PIN:98  VEHICLE OVERLAP
OUTPUT ASSIGNMENT #.................51
FREQUENCY (0=DEFAULT) (0-25.5 HZ)...0.0
DUTY CYCLE (0=DEFAULT) (0 - 100%)...0
MODE (0=SOLID,1=FLASH)..............0
SELECT ASSIGNMENT:
NOT ENABLED........................._
VEHICLE PHASE.......................Y
PEDESTRIAN PHASE...................._
VEHICLE OVERLAP.....................Y
PEDESTRIAN OVERLAP.................._
WATCHDOG............................_
DETECTOR RESET......................_
ADVANCE BEACON......................_
OUT OF PHASE FLASHER................_
CONTROLLER FLASH...................._
RUN FREE............................_
RESERVED............................_
PREEMPT............................._
SOFT PREEMPT........................_
ANY PREEMPT........................._
COORDINATION PLAN..................._
OFFSET.............................._
PHASE CHECK........................._
PHASE ON............................_
PHASE NEXT.........................._
```

ENTER A "Y" FOR VEHICLE PHASE.

THE OUPUT IS SET AS AN OVERLAP BY DEFAULT, THIS "Y" WILL REMAIN UNTIL THE OUTPUT IS CHANGED.

```
PAGE:2  C1 PIN:98  VEHICLE OVERLAP
SELECT VEHICLE PHASE (1-16).........1
SELECT COLOR(0=RED,1=YEL,2=GRN).....1
```

WHEN A 'Y' IS ENTERED FOR 'VEHICLE PHASE' THE SCREEN SHOWN ABOVE WILL APPEAR. ENTER DATA AS SHOWN.

PRESS THE 'ENT' KEY AFTER INPUTING DATA. THEN 'ESC'.

DISPLAY WILL NOW SHOW THE SPECIFIED OUTPUT ASSIGNED AS 'VEHICLE PHASE' AS SHOWN BELOW.

```
PAGE:2  C1 PIN:98  VEHICLE PHASE
OUTPUT ASSIGNMENT #.................51
FREQUENCY (0=DEFAULT) (0-25.5 HZ)...0.0
DUTY CYCLE (0=DEFAULT) (0 - 100%)...0
MODE (0=SOLID,1=FLASH)..............0
SELECT ASSIGNMENT:
NOT ENABLED........................._
VEHICLE PHASE.......................Y
PEDESTRIAN PHASE...................._
VEHICLE OVERLAP....................._
PEDESTRIAN OVERLAP.................._
WATCHDOG............................_
DETECTOR RESET......................_
ADVANCE BEACON......................_
OUT OF PHASE FLASHER................_
CONTROLLER FLASH...................._
RUN FREE............................_
RESERVED............................_
PREEMPT............................._
SOFT PREEMPT........................_
ANY PREEMPT........................._
COORDINATION PLAN..................._
OFFSET.............................._
PHASE CHECK........................._
PHASE ON............................_
PHASE NEXT.........................._
```

PRESS "+" KEY FOR OUTPUT 52

STEP 6

```
PAGE:2  C1 PIN:99  VEHICLE OVERLAP
OUTPUT ASSIGNMENT #.................52
FREQUENCY (0=DEFAULT) (0-25.5 HZ)...0.0
DUTY CYCLE (0=DEFAULT) (0 - 100%)...0
MODE (0=SOLID,1=FLASH)..............0
SELECT ASSIGNMENT:
NOT ENABLED.........................Y
VEHICLE PHASE......................._
PEDESTRIAN PHASE...................._
VEHICLE OVERLAP.....................Y
PEDESTRIAN OVERLAP.................._
WATCHDOG............................_
DETECTOR RESET......................_
ADVANCE BEACON......................_
OUT OF PHASE FLASHER................_
CONTROLLER FLASH...................._
RUN FREE............................_
RESERVED............................_
PREEMPT............................._
SOFT PREEMPT........................_
ANY PREEMPT........................._
COORDINATION PLAN..................._
OFFSET.............................._
PHASE CHECK........................._
PHASE ON............................_
PHASE NEXT.........................._
```

ENTER A "Y" FOR NOT ENABLED (THIS WILL DISABLE THE OUTPUT)

THE OUPUT IS SET AS AN OVERLAP BY DEFAULT, THIS "Y" WILL REMAIN UNTIL THE OUTPUT IS CHANGED.

DISPLAY WILL NOW SHOW THE SPECIFIED OUTPUT ASSIGNED AS 'NOT ENABLED' AS SHOWN BELOW.

```
PAGE:2  C1 PIN:99  NOT ENABLED
OUTPUT ASSIGNMENT #.................52
FREQUENCY (0=DEFAULT) (0-25.5 HZ)...0.0
DUTY CYCLE (0=DEFAULT) (0 - 100%)...0
MODE (0=SOLID,1=FLASH)..............0
SELECT ASSIGNMENT:
NOT ENABLED.........................Y
VEHICLE PHASE......................._
PEDESTRIAN PHASE...................._
VEHICLE OVERLAP....................._
PEDESTRIAN OVERLAP.................._
WATCHDOG............................_
DETECTOR RESET......................_
ADVANCE BEACON......................_
OUT OF PHASE FLASHER................_
CONTROLLER FLASH...................._
RUN FREE............................_
RESERVED............................_
PREEMPT............................._
SOFT PREEMPT........................_
ANY PREEMPT........................._
COORDINATION PLAN..................._
OFFSET.............................._
PHASE CHECK........................._
PHASE ON............................_
PHASE NEXT.........................._
```

OUTPUT PROGRAMMING COMPLETE

Electrical Detail - Sheet 3 of 4

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

NOTE: THE OUTPUT ASSIGNMENT CHANGES, SHOWN ABOVE, ARE NECESSARY FOR THE TIME OF DAY OPERATION OF SIGNAL HEADS 11 AND 51. IN ALTERNATE PHASING (PROTECTED ONLY) OPERATION, THE RED ARROW CONTROL IS SWITCHED TO THE LEFT TURN PHASE RED. THE SOLID YELLOW ARROW CONTROL IS SWITCHED TO THE LEFT TURN PHASE YELLOW. IN ADDITION, THE FLASHING YELLOW ARROW IS SWITCHED OFF BY DISABLING THE OVERLAP GREEN OUTPUT.

ALL OF THESE OUTPUT CHANGES ARE ACCOMPLISHED ON OUTPUT PAGE 2. THEREFORE IN ALTERNATE PHASING (PROTECTED ONLY) MODE, THE PAGE IS SWITCHED TO "2" BY THE CONTROLLER TOD EVENT SCHEDULING.

IN NORMAL PHASING (PPLT) MODE THE STANDARD, DEFAULT OUPUT ASSIGNMENTS ARE USED WHICH ARE DESIGNATED ON OUTPUT PAGE 1.

1 THIS ELECTRICAL DETAIL IS FOR THE SIGNAL DESIGN: 06-0448
DESIGNED: August 2016
SEALED: 10-07-16
REVISED: N/A

REVISION 1 SEAL

NORTH CAROLINA PROFESSIONAL SEAL 036880 ENGINEER KEITH M. MIMS

DocuSigned by: Keith M. Mims 10/31/2016 DATE
2F80786E8CD34A5...

ELECTRICAL AND PROGRAMMING DETAILS FOR:

Prepared in the Offices of:

Traffic Engineering and Safety Systems Branch — State of North Carolina Department of Transportation — Signals Management Section

750 N. Greenfield Pwky, Garner, NC 27529

US 401 (Ramsey Street) at SR 1615 (Stacy Weaver Drive) / Entrance to Methodist College

Division 6	Cumberland County	Fayetteville

PLAN DATE:	August 2006	REVIEWED BY:	JTR
PREPARED BY:	James Peterson	REVIEWED BY:	

REVISIONS	INIT.	DATE
1 Added 4 PED and updated notes. (JP)	KMM	10/31/2016

SEAL

Not a certified document as to the Original Document but Only as to the Revisions - This document originally issued and sealed by John T. Rowe, Jr. PE#008453 on 10/15/07. This document is only certified as to the revisions.

SIGNATURE DATE

SIG. INVENTORY NO. 06-0448

31-OCT-2016 09:30
S:\ITS&SU\ITS Signals\Workgroups\Sig Man\Peterson\060448_sm_ele_20131007.dgn
jpeterson

PROJECT REFERENCE NO.	SHEET NO.
W-5601EO	Sig. 4.4

TOD EVENT SCHEDULING PROGRAMMING DETAIL

TO CALL ALTERNATE PHASING OPERATION

(program controller as shown below)

✱ DENOTES TO BE DETERMINED BY THE DIVISION TRAFFIC ENGINEER.

ALL EVENTS SHOWN BELOW SHALL BE PROGRAMMED TO START AND STOP ON THE SAME TIMES AND DATES.

FROM MAIN MENU PRESS 'B' (SCHEDULING).

NOTE THAT THE TOP LINE WILL CHANGE FROM "NOT ASSIGNED" TO SPECIFIED FUNCTION WHEN EVENT IS ASSIGNED AS SHOWN.

```
SCHEDULED EVENT #1  OUTPUT PAGE CHANGE
START DATE (MM/DD).............**/**
END DATE (MM/DD)...............**/**
START TIME (HH:MM).............**:**
STOP TIME (HH:MM)..............**:**
DOW      ISUN MON TUE WED THR FRI SAT
ENABLED I *   *   *   *   *   *   *
EVENT GROUPS    |12345678910111213141516
ASSIGNED        |

DELETE EVENT WHEN COMPLETED?........N
CONTINUOUS EVENT?...................N
INVERT EVENT?.......................N
SELECT 1 EVENT TYPE:
EVENT GROUP (1-16)..................._
PLAN (65=FLSH,66=FREE)..._  OFFSET#.._
PLAN PRIORTY:  LOW..._ MED_..  HIGH.._
CAHNGE PHASE SEQUENCE PAGE (1-12)...._
CHANGE PHASE TIMING PAGE (1-4)......._
CHANGE PHASE CONTROL PAGE (1-4)......_
CHANGE OVERLAP CONTROL PAGE (1-4)...._
CHANGE INPUT PAGE (1-4).............._
CHANGE OUTPUT PAGE (1-4).............2   ←
SET OUTPUT ON  (1-64)................_
SET OUTPUT OFF (1-64)................_
SET INPUT ON   (1-64)................_
SET INPUT OFF  (1-64)................_
ENABLE FAILURES LOG?................._
ENABLE EVENTS LOG?..................._
ENABLE DATA ENTRIES LOG?............._
ENABLE COORDINATION PLANS LOG?......._
ENABLE SPECIAL FUNCTIONS LOG?........_
ENABLE SLIT MONITOR LOG?............._
ENABLE DETECTOR DATA LOG?............_
ENABLE DETECTOR (1-64)..............._
ENABLE DETECTOR DIAGNOSTICS (1-64)..._
DISABLE DET STRETCH / DELAY (1-64)..._
DISABLE DET STOP BAR MODE (1-64)....._
SET LOGIC FLAG ON (1-16)............._
SET LOGIC FLAG OFF (1-64)............_
OVERIDE PHASE CONTROL FUNCTIONS?....._
```

PRESS "+" FOR NEXT EVENT

```
SCHEDULED EVENT #2  INPUT OVERRIDE
START DATE (MM/DD).............**/**
END DATE (MM/DD)...............**/**
START TIME (HH:MM).............**:**
STOP TIME (HH:MM)..............**:**
DOW      ISUN MON TUE WED THR FRI SAT
ENABLED I *   *   *   *   *   *   *
EVENT GROUPS    |12345678910111213141516
ASSIGNED        |

DELETE EVENT WHEN COMPLETED?........N
CONTINUOUS EVENT?...................N
INVERT EVENT?.......................N
SELECT 1 EVENT TYPE:
EVENT GROUP (1-16)..................._
PLAN (65=FLSH,66=FREE)..._  OFFSET#.._
PLAN PRIORTY:  LOW..._ MED_..  HIGH.._
CAHNGE PHASE SEQUENCE PAGE (1-12)...._
CHANGE PHASE TIMING PAGE (1-4)......._
CHANGE PHASE CONTROL PAGE (1-4)......_
CHANGE OVERLAP CONTROL PAGE (1-4)...._
CHANGE INPUT PAGE (1-4).............._
CHANGE OUTPUT PAGE (1-4)............._
SET OUTPUT ON  (1-64)................_
SET OUTPUT OFF (1-64)................_
SET INPUT ON   (1-64)................_
SET INPUT OFF  (1-64)...............24   ←
ENABLE FAILURES LOG?................._
ENABLE EVENTS LOG?..................._
ENABLE DATA ENTRIES LOG?............._
ENABLE COORDINATION PLANS LOG?......._
ENABLE SPECIAL FUNCTIONS LOG?........_
ENABLE SLIT MONITOR LOG?............._
ENABLE DETECTOR DATA LOG?............_
ENABLE DETECTOR (1-64)..............._
ENABLE DETECTOR DIAGNOSTICS (1-64)..._
DISABLE DET STRETCH / DELAY (1-64)..._
DISABLE DET STOP BAR MODE (1-64)....._
SET LOGIC FLAG ON (1-16)............._
SET LOGIC FLAG OFF (1-64)............_
OVERIDE PHASE CONTROL FUNCTIONS?....._
```

PRESS "+" FOR NEXT EVENT

```
SCHEDULED EVENT #3  INPUT OVERRIDE
START DATE (MM/DD).............**/**
END DATE (MM/DD)...............**/**
START TIME (HH:MM).............**:**
STOP TIME (HH:MM)..............**:**
DOW      ISUN MON TUE WED THR FRI SAT
ENABLED I *   *   *   *   *   *   *
EVENT GROUPS    |12345678910111213141516
ASSIGNED        |

DELETE EVENT WHEN COMPLETED?........N
CONTINUOUS EVENT?...................N
INVERT EVENT?.......................N
SELECT 1 EVENT TYPE:
EVENT GROUP (1-16)..................._
PLAN (65=FLSH,66=FREE)..._  OFFSET#.._
PLAN PRIORTY:  LOW..._ MED_..  HIGH.._
CAHNGE PHASE SEQUENCE PAGE (1-12)...._
CHANGE PHASE TIMING PAGE (1-4)......._
CHANGE PHASE CONTROL PAGE (1-4)......_
CHANGE OVERLAP CONTROL PAGE (1-4)...._
CHANGE INPUT PAGE (1-4).............._
CHANGE OUTPUT PAGE (1-4)............._
SET OUTPUT ON  (1-64)................_
SET OUTPUT OFF (1-64)................_
SET INPUT ON   (1-64)................_
SET INPUT OFF  (1-64)...............23   ←
ENABLE FAILURES LOG?................._
ENABLE EVENTS LOG?..................._
ENABLE DATA ENTRIES LOG?............._
ENABLE COORDINATION PLANS LOG?......._
ENABLE SPECIAL FUNCTIONS LOG?........_
ENABLE SLIT MONITOR LOG?............._
ENABLE DETECTOR DATA LOG?............_
ENABLE DETECTOR (1-64)..............._
ENABLE DETECTOR DIAGNOSTICS (1-64)..._
DISABLE DET STRETCH / DELAY (1-64)..._
DISABLE DET STOP BAR MODE (1-64)....._
SET LOGIC FLAG ON (1-16)............._
SET LOGIC FLAG OFF (1-64)............_
OVERIDE PHASE CONTROL FUNCTIONS?....._
```

PRESS "+" FOR NEXT EVENT

```
SCHEDULED EVENT #4  DETECTOR CONTROL
START DATE (MM/DD).............**/**
END DATE (MM/DD)...............**/**
START TIME (HH:MM).............**:**
STOP TIME (HH:MM)..............**:**
DOW      ISUN MON TUE WED THR FRI SAT
ENABLED I *   *   *   *   *   *   *
EVENT GROUPS    |12345678910111213141516
ASSIGNED        |

DELETE EVENT WHEN COMPLETED?........N
CONTINUOUS EVENT?...................N
INVERT EVENT?.......................N
SELECT 1 EVENT TYPE:
EVENT GROUP (1-16)..................._
PLAN (65=FLSH,66=FREE)..._  OFFSET#.._
PLAN PRIORTY:  LOW..._ MED_..  HIGH.._
CAHNGE PHASE SEQUENCE PAGE (1-12)...._
CHANGE PHASE TIMING PAGE (1-4)......._
CHANGE PHASE CONTROL PAGE (1-4)......_
CHANGE OVERLAP CONTROL PAGE (1-4)...._
CHANGE INPUT PAGE (1-4).............._
CHANGE OUTPUT PAGE (1-4)............._
SET OUTPUT ON  (1-64)................_
SET OUTPUT OFF (1-64)................_
SET INPUT ON   (1-64)................_
SET INPUT OFF  (1-64)................_
ENABLE FAILURES LOG?................._
ENABLE EVENTS LOG?..................._
ENABLE DATA ENTRIES LOG?............._
ENABLE COORDINATION PLANS LOG?......._
ENABLE SPECIAL FUNCTIONS LOG?........_
ENABLE SLIT MONITOR LOG?............._
ENABLE DETECTOR DATA LOG?............_
ENABLE DETECTOR (1-64)..............._
ENABLE DETECTOR DIAGNOSTICS (1-64)..._
DISABLE DET STRETCH / DELAY (1-64)..11   ←
DISABLE DET STOP BAR MODE (1-64)....._
SET LOGIC FLAG ON (1-16)............._
SET LOGIC FLAG OFF (1-64)............_
OVERIDE PHASE CONTROL FUNCTIONS?....._
```

PRESS "+" FOR NEXT EVENT

```
SCHEDULED EVENT #5  DETECTOR CONTROL
START DATE (MM/DD).............**/**
END DATE (MM/DD)...............**/**
START TIME (HH:MM).............**:**
STOP TIME (HH:MM)..............**:**
DOW      ISUN MON TUE WED THR FRI SAT
ENABLED I *   *   *   *   *   *   *
EVENT GROUPS    |12345678910111213141516
ASSIGNED        |

DELETE EVENT WHEN COMPLETED?........N
CONTINUOUS EVENT?...................N
INVERT EVENT?.......................N
SELECT 1 EVENT TYPE:
EVENT GROUP (1-16)..................._
PLAN (65=FLSH,66=FREE)..._  OFFSET#.._
PLAN PRIORTY:  LOW..._ MED_..  HIGH.._
CAHNGE PHASE SEQUENCE PAGE (1-12)...._
CHANGE PHASE TIMING PAGE (1-4)......._
CHANGE PHASE CONTROL PAGE (1-4)......_
CHANGE OVERLAP CONTROL PAGE (1-4)...._
CHANGE INPUT PAGE (1-4).............._
CHANGE OUTPUT PAGE (1-4)............._
SET OUTPUT ON  (1-64)................_
SET OUTPUT OFF (1-64)................_
SET INPUT ON   (1-64)................_
SET INPUT OFF  (1-64)................_
ENABLE FAILURES LOG?................._
ENABLE EVENTS LOG?..................._
ENABLE DATA ENTRIES LOG?............._
ENABLE COORDINATION PLANS LOG?......._
ENABLE SPECIAL FUNCTIONS LOG?........_
ENABLE SLIT MONITOR LOG?............._
ENABLE DETECTOR DATA LOG?............_
ENABLE DETECTOR (1-64)..............._
ENABLE DETECTOR DIAGNOSTICS (1-64)..._
DISABLE DET STRETCH / DELAY (1-64)..15   ←
DISABLE DET STOP BAR MODE (1-64)....._
SET LOGIC FLAG ON (1-16)............._
SET LOGIC FLAG OFF (1-64)............_
OVERIDE PHASE CONTROL FUNCTIONS?....._
```

TOD PROGRAMMING COMPLETE

ALTERNATE PHASING NOTES

THIS EVENT SCHEDULING DETAIL SHOWS THE TOD PROGRAMMING STEPS NECESSARY FOR THE CONTROLLER TO OPERATE THE "ALTERNATE PHASING" AS SHOWN ON THE SIGNAL PLANS.

THE FOLLOWING IS A SUMMARY OF WHAT TAKES PLACE WHEN THESE TOD EVENTS ACTIVATE TO CALL THE "ALTERNATE PHASING":

EVENT NO.

1. OUPUT PAGE 2 IS CALLED: Modifies control circuits for signal heads 11 and 51.
2. INPUT 24 IS SWITCHED OFF: Disables phase 6 call on loop 1A.
3. INPUT 23 IS SWITCHED OFF: Disables phase 2 call on loop 5A.
4. DELAY IS DISABLED FOR DETECTOR 11 (Phase 1, Loop 1A).
5. DELAY IS DISABLED FOR DETECTOR 15 (Phase 5, Loop 5A).

THIS ELECTRICAL DETAIL IS FOR THE SIGNAL DESIGN: 06-0448
DESIGNED: August 2016
SEALED: 10-07-16
REVISED: N/A

Electrical Detail - Sheet 4 of 4

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

REVISION 1 SEAL

NORTH CAROLINA PROFESSIONAL SEAL 036880 ENGINEER KEITH M. MIMS

DocuSigned by: Keith M. Mims 2F80786E8CD34A5... 10/31/2016 DATE

ELECTRICAL AND PROGRAMMING DETAILS FOR:

Prepared in the Offices of:

Traffic Engineering and Safety Systems Branch — State of North Carolina Department of Transportation — Signals Management Section

750 N. Greenfield Pwky, Garner, NC 27529

US 401 (Ramsey Street)
at
SR 1615 (Stacy Weaver Drive) / Entrance to Methodist College

Division 6	Cumberland County	Fayetteville
PLAN DATE: July 2006	REVIEWED BY: JTR	
PREPARED BY: James Peterson	REVIEWED BY:	

REVISIONS	INIT.	DATE
1 Added 4 PED and updated notes. (JP)	KMM	10/31/2016

SEAL

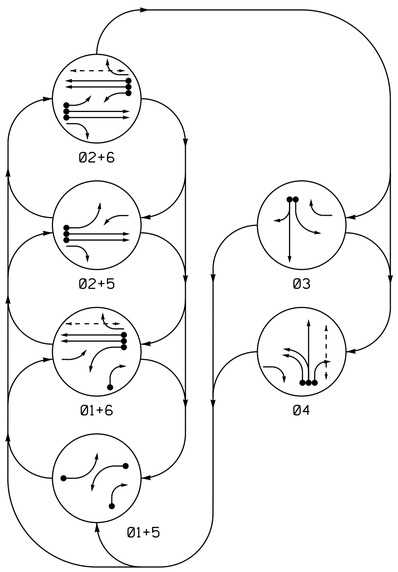
Not a certified document as to the Original Document but Only as to the Revisions - This document originally issued and sealed by John T. Rowe, Jr. PE#008453 on 10/15/07. This document is only certified as to the revisions.

SIGNATURE DATE

SIG. INVENTORY NO. 06-0448

PROJECT REFERENCE NO.	SHEET NO.
W-5601EO	Sig.5.0

PHASING DIAGRAM



PHASING DIAGRAM DETECTION LEGEND

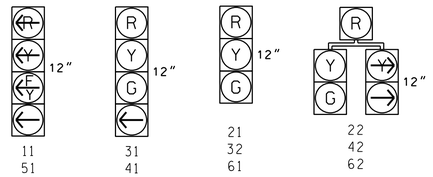
- DETECTED MOVEMENT
- UNDETECTED MOVEMENT (OVERLAP)
- UNSIGNALIZED MOVEMENT
- PEDESTRIAN MOVEMENT

TABLE OF OPERATION

SIGNAL FACE	PHASE 0 1 +5	0 1 +6	0 2 +5	0 2 +6	0 3	0 4	FLASH
11	←	←	~~F Y~~	~~F Y~~	~~R~~	~~R~~	~~Y~~
21	R	R	G	G	R	R	Y
22	R	R	G	G	R	R/→	Y
31	R	R	R	R	G ←	R	R
32	R	R	R	R	G	R	R
41	R	R	R	R	R	G ←	R
42	R/→	R/→	R	R	R	G	R
51	←	~~F Y~~	←	~~F Y~~	~~R~~	~~R~~	~~Y~~
61	R	G	R	G	R	R	Y
62	R	G	R	G	R/→	R	Y
P41,P42	DW	DW	DW	DW	DW	W	DRK
P61,P62	DW	W	DW	W	DW	DW	DRK

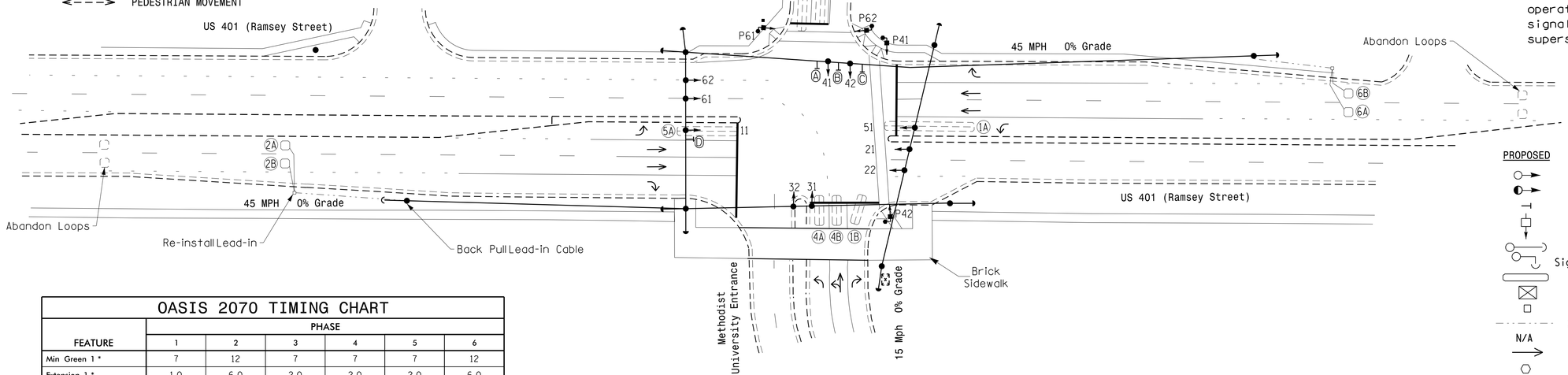
SIGNAL FACE I.D.

All Heads L.E.D.



OASIS 2070 LOOP & DETECTOR INSTALLATION CHART

INDUCTIVE LOOPS					DETECTOR PROGRAMMING						
LOOP	SIZE (FT)	DISTANCE FROM STOPBAR (FT)	TURNS	NEW LOOP	PHASE	CALLING	EXTENSION	FULL TIME DELAY	STRETCH TIME	DELAY TIME	SYSTEM LOOP / NEW CARD
1A	6X60	+5	2-4-2	-	1	Y	Y	-	-	15	- / -
					6	Y	Y	Y	-	3	- / -
1B	6X20	+5	2-4-2	-	1	Y	Y	-	-	15	- / -
2A	6X6	300	5	Y	2	Y	Y	-	-	-	- / -
2B	6X6	300	5	Y	2	Y	Y	-	-	-	- / -
3A	6X40	0	2-4-2	-	3	Y	Y	-	-	-	- / -
3B	6X40	+5	2-4-2	-	3	Y	Y	-	-	10	- / -
4A	6X20	+5	2-4-2	-	4	Y	Y	-	-	-	- / -
4B	6X20	+5	2-4-2	-	4	Y	Y	-	-	-	- / -
5A	6X40	0	2-4-2	-	5	Y	Y	-	-	15	- / -
					2	Y	Y	Y	-	3	- / -
6A	6X6	300	5	Y	6	Y	Y	-	-	-	- / -
6B	6X6	300	5	Y	6	Y	Y	-	-	-	- / -



OASIS 2070 TIMING CHART

FEATURE	PHASE 1	2	3	4	5	6
Min Green 1 *	7	12	7	7	7	12
Extension 1 *	1.0	6.0	2.0	2.0	2.0	6.0
Max Green 1 *	15	120	20	20	15	120
Yellow Clearance	3.0	4.5	3.2	3.0	3.0	4.5
Red Clearance	3.1	1.6	3.2	3.4	3.1	1.6
Walk 1 *	-	-	-	7	-	7
Don't Walk 1	-	-	-	27	-	11
Seconds Per Actuation *	-	1.5	-	-	-	1.5
Max Variable Initial *	-	34	-	-	-	34
Time Before Reduction *	-	20	-	-	-	20
Time To Reduce *	-	40	-	-	-	40
Minimum Gap	-	3.0	-	-	-	3.0
Recall Mode	-	MIN RECALL	-	-	-	MIN RECALL
Vehicle Call Memory	-	YELLOW	-	-	-	YELLOW
Dual Entry	-	-	-	-	-	-
Simultaneous Gap	ON	ON	ON	ON	ON	ON

* These values may be field adjusted. Do not adjust Min Green and Extension times for phases 2 and 6 lower than what is shown. Min Green for all other phases should not be lower than 4 seconds.

6 Phase Fully Actuated Fayetteville 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. Phase 1 and/or phase 5 may be lagged.
4. The order of phase 3 and phase 4 may be reversed.
5. Set all detector units to presence mode.
6. In the event of loop replacement, refer to the current ITS and Signals Design Manual and submit a Plan of Record to the Signal Design Section.
7. Omit "WALK" and flashing "DON'T WALK" with no pedestrian calls.
8. Program pedestrian heads to countdown the flashing "Don't Walk" time only.
9. Pavement markings are existing.
10. 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	----
N/A	Right of Way	----
→	Directional Arrow	→
⬡	Type II Signal Pedestal	⬢
Ⓐ	Left Arrow "ONLY" Sign (R3-5L)	Ⓐ
Ⓑ	Combined Through and Left Arrow Sign (R3-6L)	Ⓑ
Ⓒ	Right Arrow "ONLY" Sign (R3-5R)	Ⓒ
Ⓓ	"U-TURN YIELD TO RIGHT TURN" Sign (R10-16)	Ⓓ

Signal Upgrade

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Prepared in the Offices of:
Transportation Mobility and Safety Division
Signal Design Section
750 N.Greenfield Pkwy.Garner,NC 27529

US 401 (Ramsey Street) at Methodist University / Fernwood Drive

Division 6 Cumberland County Fayetteville

PLAN DATE: August 2016 REVIEWED BY: JPG

PREPARED BY: KGP, Jr. REVIEWED BY:

SCALE 0 40 1"=40'

REVISIONS	INIT.	DATE

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 029904 ENGINEER JASON P. GALLOWAY

DocuSigned by: Jason P. Galloway 10/6/2016
F700EA70481841D... DATE

SIG. INVENTORY NO. 06-0785

21-OCT-2016 16:14
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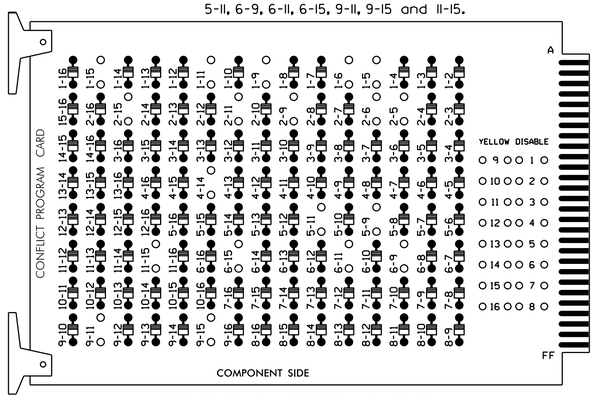
jgalloway

PROJECT REFERENCE NO.	SHEET NO.
W-5601EO	Sig. 5.1

EDI MODEL 2010ECL-NC CONFLICT MONITOR PROGRAMMING DETAIL

(remove jumpers and set switches as shown)

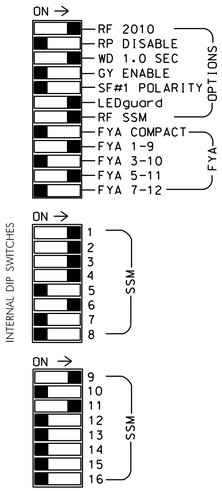
REMOVE DIODE JUMPERS I-5, I-6, I-9, I-11, I-15, 2-5, 2-6, 2-9, 2-11, 2-15, 4-14, 5-9, 5-11, 6-9, 6-11, 6-15, 9-11, 9-15 and 11-15.



REMOVE JUMPERS AS SHOWN

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.



■ = DENOTES POSITION OF SWITCH

NOTES

1. To prevent "flash-conflict" problems, insert red flash program blocks for all unused vehicle load switches in the output file. The installer shall 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 Failures on unused monitor channels, tie unused red monitor inputs 5,7,8, 10,12,13,14,15 & 16 to load switch AC+ per the cabinet manufacturer's instructions.
3. Enable Simultaneous Gap-Out for all phases.
4. Program phases 2 and 6 for Variable Initial and Gap Reduction.
5. Program phases 2 and 6 for Start Up In Green.
6. Program phases 4 and 6 for 'STARTUP PED CALL'.
7. Program phases 2 and 6 for Yellow Flash and overlap 1 as Wag Overlaps.
8. The cabinet and controller are part of the Fayetteville City System.

EQUIPMENT INFORMATION

CONTROLLER.....2070
CABINET.....332 /W/ AUX
SOFTWARE.....ECONOLITE OASIS
CABINET MOUNT.....BASE
OUTPUT FILE POSITIONS...18 WITH AUX. OUTPUT FILE
LOAD SWITCHES USED.....S1,S2,S3,S4,S4P,S5,S6,S6P,S9,S12
PHASES USED.....1,2,3,4,5,6,4 PED,6 PED
OVERLAP "A".....1+2
OVERLAP "B".....NOT USED
OVERLAP "C".....5+6
OVERLAP "D".....NOT USED

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	OLA★	OLB	SPARE	OLC★	OLD	SPARE
SIGNAL HEAD NO.	11★	42	21,22	NU	31	32	62	22	41	42	P41, P42	51	61,62	P61, P62	NU	NU	NU	11	NU	NU	51	NU	NU
RED	✳		128		116	116			101	101			134										
YELLOW			129		117	117			102	102		✳	135										
GREEN			130		118	118			103	103			136										
RED ARROW																		A121			A114		
YELLOW ARROW		126					117	102										A122			A115		
FLASHING YELLOW ARROW																		A123			A116		
GREEN ARROW	127	127			118		118	103	103			133											
✋											104			119									
🚶											106			121									

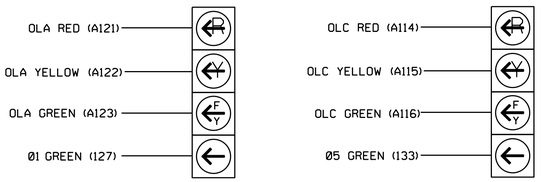
NU = Not Used

✳ Denotes install load resistor. See load resistor installation detail this sheet.

★ See pictorial of head wiring in detail below.

4 SECTION FYA PPLT SIGNAL WIRING DETAIL

(wire signal heads as shown)



NOTE

1. The sequence display for this signal requires special logic programming. See sheet 2 for programming instructions.

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.

THIS ELECTRICAL DETAIL IS FOR
THE SIGNAL DESIGN: 06-0785
DESIGNED: August 2016
SEALED: 10-06-16
REVISED: N/A

INPUT FILE POSITION LAYOUT

(front view)

		1	2	3	4	5	6	7	8	9	10	11	12	13	14
FILE "I"	U	Ø 1 1B	Ø 2 2A	SLOT EMPTY	WIRED INPUT ⊗	SLOT EMPTY	Ø 3 3A	SLOT EMPTY	SLOT EMPTY	Ø 1 1A ⊗ Wired Input	SLOT EMPTY	SLOT EMPTY	NOT USED	Ø6 PED DC ISOLATOR	FS DC ISOLATOR
	L	NOT USED	Ø 2 2B				Ø 3 3B						Ø4 PED DC ISOLATOR	NOT USED	ST DC ISOLATOR
FILE "J"	U	Ø 5 5A	Ø 6 6A	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	Ø 4 4A	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY	SLOT EMPTY
	L	NOT USED	Ø 6 6B				Ø 4 4B								

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

FS = FLASH SENSE
ST = STOP TIME

⊗ Wired Input - Do not populate slot with detector card

INPUT FILE CONNECTION & PROGRAMMING CHART

LOOP NO.	LOOP TERMINAL	INPUT FILE POS.	PIN NO.	INPUT ASSIGNMENT NO.	DETECTOR NO.	NEMA PHASE	CALL	EXTEND	FULL TIME DELAY	STRETCH TIME	DELAY TIME
1B	TB2-1,2	I1U	56	18	1	1	Y	Y			15
2A	TB2-5,6	I2U	39	1	2	2	Y	Y			
2B	TB2-7,8	I2L	43	5	12	2	Y	Y			
3A	TB4-9,10	I6U	41	3	4	3	Y	Y			
3B	TB4-11,12	I6L	45	7	14	3	Y	Y			10
1A[1]	TB6-9,10	I9U	60	22	11	1	Y	Y			15
	-	I9L	62	24	13	6	Y	Y	Y		3
5A[2]	TB3-1,2	J1U	55	17	5	5	Y	Y			15
	-	I4U	47	9	22	2	Y	Y	Y		3
6A	TB3-5,6	J2U	40	2	6	6	Y	Y			
6B	TB3-7,8	J2L	44	6	16	6	Y	Y			
4A	TB5-9,10	J6U	42	4	8	4	Y	Y			
4B	TB5-11,12	J6L	46	8	18	4	Y	Y			
PED PUSH BUTTONS											
P41,P42	TB8-5,6	I12L	69	31	PED 4	4 PED					
P61,P62	TB8-7,9	I13U	68	30	PED 6	6 PED					

[1] Add jumper from I9-F to I9-W, on rear of input file.

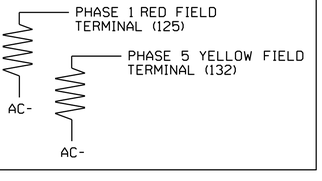
[2] Add jumper from J1-W to I4-W, on rear of input file.

NOTE:
INSTALL DC ISOLATORS IN INPUT FILE SLOTS I12 AND I13.

INPUT FILE POSITION LEGEND: J2L
FILE J
SLOT 2
LOWER

LOAD RESISTOR INSTALLATION DETAIL

ACCEPTABLE VALUES	
VALUE (ohms)	WATTAGE
1.5K - 1.9K	25W (min)
2.0K - 3.0K	10W (min)



ELECTRICAL DETAIL SHEET 1 OF 2

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

ELECTRICAL AND PROGRAMMING DETAILS FOR:

Prepared in the Offices of:

Public Engineering and Safety Systems Branch
Traffic Engineering Unit
North Carolina Department of Transportation
Signals Management Section

750 N. Greenfield Pkwy, Garner, NC 27529

US 401 (Ramsey Street)
at
Methodist University / Fernwood Drive

Division 6 | Cumberland County | Fayetteville

PLAN DATE: October 2016 | REVIEWED BY: BAS

PREPARED BY: James Peterson | REVIEWED BY:

REVISIONS	INIT.	DATE

SEAL

NORTH CAROLINA PROFESSIONAL SEAL 036880 ENGINEER KEITH M. MIMS

DocuSigned by: Keith M. Mims 2F80786E8CD34A5... 10/28/2016 DATE

SIG. INVENTORY NO. 06-0785

PROJECT REFERENCE NO.	SHEET NO.
W-5601EO	Sig. 5.2

LOGICAL I/O PROCESSOR PROGRAMMING DETAIL
TO PRODUCE SPECIAL FYA-PPLT SIGNAL SEQUENCE

(program controller as shown below)

1. FROM MAIN MENU PRESS '2' (PHASE CONTROL), THEN '1' (PHASE CONTROL FUNCTIONS). SCROLL TO THE BOTTOM OF THE MENU AND ENABLE ACT LOGIC COMMANDS 1, 2, 3, 4, 5 AND 6.

2. FROM MAIN MENU PRESS '6' (OUTPUTS), THEN '3' (LOGICAL I/O PROCESSOR).

```
  LOGICAL I/O COMMAND #1  (+/-COMMAND#)
IF  ACTIVE PHASE       #1  IS ON
AND RED CLEAR ON PHASE #1  IS ON

          SCROLL DOWN

 THEN:
 SET OUTPUT  ASSIGNMENT #50 ON
 SET OUTPUT  ASSIGNMENT #51 OFF
```

NOTE: LOGIC FOR PHASE 1 RED CLEAR WHEN TRANSITIONING FROM PHASE 1 TO PHASE 2 (HEAD 11).

PRESS '+'

```
  LOGICAL I/O COMMAND #2  (+/-COMMAND#)
IF  ACTIVE PHASE       #1  IS ON

          SCROLL DOWN

 THEN:
 SET OUTPUT  ASSIGNMENT #52 OFF
```

NOTE: LOGIC FOR SWITCHING FLASHING YELLOW ARROW "OFF" DURING PHASE 1 (HEAD 11).

PRESS '+'

```
  LOGICAL I/O COMMAND #3  (+/-COMMAND#)
IF  YELLOW ON PHASE    #1  IS ON

          SCROLL DOWN

 THEN:
 SET OUTPUT  ASSIGNMENT #51 ON
```

NOTE: LOGIC FOR YELLOW ARROW CLEARANCE FROM PHASE 1 (HEAD 11).

PRESS '+'

```
  LOGICAL I/O COMMAND #4  (+/-COMMAND#)
IF  ACTIVE PHASE       #5  IS ON
AND RED CLEAR ON PHASE #5  IS ON

          SCROLL DOWN

 THEN:
 SET OUTPUT  ASSIGNMENT #42 ON
 SET OUTPUT  ASSIGNMENT #43 OFF
```

NOTE: LOGIC FOR PHASE 5 RED CLEAR WHEN TRANSITIONING FROM PHASE 5 TO PHASE 6 (HEAD 51).

PRESS '+'

```
  LOGICAL I/O COMMAND #5  (+/-COMMAND#)
IF  ACTIVE PHASE       #5  IS ON

          SCROLL DOWN

 THEN:
 SET OUTPUT  ASSIGNMENT #44 OFF
```

NOTE: LOGIC FOR SWITCHING FLASHING YELLOW ARROW "OFF" DURING PHASE 5 (HEAD 51).

PRESS '+'

```
  LOGICAL I/O COMMAND #6  (+/-COMMAND#)
IF  YELLOW ON PHASE    #5  IS ON

          SCROLL DOWN

 THEN:
 SET OUTPUT  ASSIGNMENT #43 ON
```

NOTE: LOGIC FOR YELLOW ARROW CLEARANCE FROM PHASE 5 (HEAD 51).

LOGIC I/O PROCESSOR PROGRAMMING COMPLETE

OUTPUT REFERENCE SCHEDULE

OUTPUT 42 = Overlap C Red
OUTPUT 43 = Overlap C Yellow
OUTPUT 44 = Overlap C Green
OUTPUT 50 = Overlap A Red
OUTPUT 51 = Overlap A Yellow
OUTPUT 52 = Overlap A Green

OVERLAP PROGRAMMING DETAIL

(program controller as shown below)

FROM MAIN MENU PRESS '8' (OVERLAPS), THEN '1' (VEHICLE OVERLAP SETTINGS).

```
 PAGE 1: VEHICLE OVERLAP 'A' SETTINGS
 PHASE:          |12345678910111213141516
VEH OVL PARENTS: |XX
VEH OVL NOT VEH: |
VEH OVL NOT PED: |
VEH OVL GRN EXT: |
STARTUP COLOR: _ RED  _ YELLOW  _ GREEN
FLASH COLORS:  _ RED  _ YELLOW  X GREEN
SELECT VEHICLE OVERLAP OPTIONS:   (Y/N)
FLASH YELLOW IN CONTROLLER FLASH?...Y
GREEN EXTENSION (0-255 SEC).........0
YELLOW CLEAR (0=PARENT,3-25.5 SEC)..0.0
RED CLEAR (0=PARENT,0.1-25.5 SEC)...0.0
OUTPUT AS PHASE # (0=NONE, 1-16)....0
```

← NOTICE GREEN FLASH

PRESS '+' TWICE

```
 PAGE 1: VEHICLE OVERLAP 'C' SETTINGS
 PHASE:          |12345678910111213141516
VEH OVL PARENTS: |    XX
VEH OVL NOT VEH: |
VEH OVL NOT PED: |
VEH OVL GRN EXT: |
STARTUP COLOR: _ RED  _ YELLOW  _ GREEN
FLASH COLORS:  _ RED  _ YELLOW  X GREEN
SELECT VEHICLE OVERLAP OPTIONS:   (Y/N)
FLASH YELLOW IN CONTROLLER FLASH?...Y
GREEN EXTENSION (0-255 SEC).........0
YELLOW CLEAR (0=PARENT,3-25.5 SEC)..0.0
RED CLEAR (0=PARENT,0.1-25.5 SEC)...0.0
OUTPUT AS PHASE # (0=NONE, 1-16)....0
```

← NOTICE GREEN FLASH

OVERLAP PROGRAMMING COMPLETE

THIS ELECTRICAL DETAIL IS FOR
THE SIGNAL DESIGN: 06-0785
DESIGNED: August 2016
SEALED: 10-06-16
REVISED: N/A

ELECTRICAL DETAIL SHEET 2 OF 2

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

ELECTRICAL AND PROGRAMMING DETAILS FOR:

US 401 (Ramsey Street)
at
Methodist University / Fernwood Drive

Division 6 | Cumberland County | Fayetteville

PLAN DATE: October 2016 | REVIEWED BY: BAS

PREPARED BY: James Peterson | REVIEWED BY:

REVISIONS	INIT.	DATE

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

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 036880 ENGINEER KEITH M. MINS

DocuSigned by: Keith M. Mins 10/28/2016
-2F807B9EBCD34A5... DATE

SIG. INVENTORY NO. 06-0785