TIP PROJECT: U-5027

CONTRACT: C202074

DON
$DATE$
$TIME$

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

STATE PROJECT REFERENCE NO.	SHEET NO.
U-5027	TCP-1

PLAN FOR PROPOSED TRAFFIC CONTROL, MARKING & DELINEATION

SCOTLAND COUNTY

ROADWAY STANDARD DRAWINGS

THE FOLLOWING ROADWAY STANDARDS AS APPEAR IN "ROADWAY STANDARD DRAWINGS"-PROJECT SERVICES UNIT-N.C. DEPARTMENT OF TRANSPORTATION-RALEIGH, N.C., DATED JULY 2006 ARE APPLICABLE TO THIS PROJECT AND BY REFERENCE HEREBY ARE CONSIDERED A PART OF THESE PLANS:

STD. NO.	TITLE
1101.02	TEMPORARY LANE CLOSURES
1101.03	TEMPORARY ROAD CLOSURES
1101.04	TEMPORARY SHOULDER CLOSURES
1101.05	WORK ZONE VEHICLE ACCESSES
1101.11	TRAFFIC CONTROL DESIGN TABLES
1110.01	STATIONARY WORK ZONE SIGNS
1110.02	PORTABLE WORK ZONE SIGNS
1115.01	FLASHING ARROW PANELS
1130.01	DRUMS
1135.01	CONES
1145.01	BARRICADES
1150.01	FLAGGING DEVICES
1160.01	TEMPORARY CRASH CUSHION
1165.01	TRUCK MOUNTED IMPACT ATTENUATOR
1170.01	PORTABLE CONCRETE BARRIER
1205.01	PAVEMENT MARKINGS - LINE TYPES & OFFSETS
1205.02	PAVEMENT MARKINGS - 2 LANE & MULTILANE ROADWAYS
1205.04	PAVEMENT MARKINGS - INTERSECTIONS
1205.05	PAVEMENT MARKINGS - TURN LANES
1205.06	PAVEMENT MARKINGS - THRU LANE DROPS
1205.08	PAVEMENT MARKINGS - SYMBOLS & WORD MESSAGES
1205.09	PAVEMENT MARKINGS - PAINTED ISLANDS
1250.01	PAVEMENT MARKER SPACING
1251.01	RAISED PAVEMENT MARKERS (TEMPORARY & PERMANENT)
1261.01	GUARDRAIL & BARRIER DELINEATOR SPACING
1261.02	GUARDRAIL & BARRIER DELINEATOR TYPES
1262.01	GUARDRAIL END DELINEATION

TEMPORARY PAVEMENT MARKING SCHEDULE

	PAVEMENT MARKING LINES					
	PAINT (4")					
PA	WHITE EDGELINE 2X	29440	ft.			
PD	2 ft. WHITE MINI SKIP 2X	56	ft.			
PF	10 ft. YELLOW SKIP	275	ft.			
PG	2 ft. YELLOW SKIP	60	ft.			
PH	YELLOW SINGLE CENTERLINE	2400	ft.			
PI	YELLOW DOUBLE CENTERLINE	21600	ft.	TOTAL	53831	ft.
	PAINT (8")					
PV	YELLOW DIAGONAL 2X	24	ft.	TOTAL	24	ft.
	PAINT (24")					
P4	WHITE STOP BAR	175	ft.			
P5	WHITE CROSSWALK LINE	220	ft.	TOTAL	395	ft.
	PAVEMENT MARKING SYMBOLS					
	PAINT SYMBOL					
QA	LEFT TURN ARROW	2	EA	TOTAL	2	EA

NOTE: FOR EACH PAINT PAVEMENT MARKING ITEM, 2X IMPLIES TWO APPLICATIONS.

INDEX OF SHEETS

PAVEMENT MARKING SCHEDULE

SYMBOL	DESCRIPTION	PAY ITEM/ QUANTITY BREAKDOWN		TOTAL QUANTITY		
	PAVEMENT MARKING LINES					
	THERMOPLASTIC (4", 90 MILS)					
TA	WHITE EDGELINE	388	ft.	TOTAL	388	ft.
	THERMOPLASTIC (4", 120 MILS)					
TC	10 ft. WHITE SKIP	20	ft.			
TD	2 ft. WHITE MINISKIP	54	ft.			
TE	WHITE SOLID LANE LINE	1065	ft.			
TF	10 ft. YELLOW SKIP	2005	ft.			
TH	YELLOW SINGLE CENTERLINE	9471	ft.			
TI	YELLOW DOUBLE CENTERLINE	2664	ft.	TOTAL	15279	ft.
	THERMOPLASTIC (8", 90 MILS)					
TQ	WHITE DIAGONAL	22	ft.			
TT	YELLOW DIAGONAL	139	ft.	TOTAL	161	ft.
	THERMOPLASTIC (8", 120 MILS)					
TV	WHITE CROSSWALK LINE	674	ft.	TOTAL	674	ft.
	THERMOPLASTIC (24", 120 MILS)					
T2	WHITE STOP BAR	162	ft.			
T3	WHITE CROSSWALK LINE	220	ft.	TOTAL	382	ft.
	PAVEMENT MARKING SYMBOLS					
	THERMOPLASTIC THICK SYMBOL (90 MILS)					
UA	LEFT TURN ARROW	34	EA			
UB	RIGHT TURN ARROW	2	EA			
UC	STRAIGHT ARROW	3	EA			
UE	COMBINATION STRAIGT & RT. TURN ARROW	1	EA	TOTAL	40	EA
	PAVEMENT MARKERS					
MA	YELLOW/YELLOW	251	EA			
MB	CRYSTAL/RED	78	EA	TOTAL	329	EA

LEGEND

GENERAL

- DIRECTION OF TRAFFIC FLOW
- NORTH ARROW
- PROPOSED PVMT. ---------- EXIST. PVMT.
- WORK AREA
- WEDGING/OVERLAY
- TEMPORARY PAVEMENT
- REMOVAL OF EXISTING PAVEMENT

TRAFFIC CONTROL DEVICES

- TYPE I BARRICADE
- TYPE II BARRICADE
- TYPE III BARRICADE
- CONE
- DRUM
- FLASHING ARROW PANEL (TYPE C)
- TYPE 'B' WARNING LIGHT
- STATIONARY SIGN
- PORTABLE SIGN
- STATIONARY OR PORTABLE SIGN
- WARNING FLAGS
- CRASH CUSHION
- CHANGEABLE MESSAGE SIGN
- TRUCK MOUNTED IMPACT ATTENUATOR (TMIA)
- POLICE
- FLAGGER

PAVEMENT MARKINGS

- CRYSTAL/CRYSTAL PAVEMENT MARKER
- YELLOW/YELLOW PAVEMENT MARKER
- CRYSTAL/RED PAVEMENT MARKER
- PAVEMENT MARKING SYMBOLS

PLAN REVIEWED BY: N.C.D.O.T. TRAFFIC CONTROL, MARKING & DELINEATION SECTION

_____ *TRAFFIC CONTROL ENGINEER*

_____ *TRAFFIC CONTROL PROJECT ENGINEER*

_____ *TRAFFIC CONTROL PROJ. DESIGN ENGINEER*

_____ *TRAFFIC CONTROL DESIGN ENGINEER/ TECHNICIAN*

APPROVED: _____ *DATE:* 10/18/06

SEAL

NORTH CAROLINA PROFESSIONAL SEAL 18203 ENGINEER SCOTT A. YARLEY

PLAN PREPARED FOR N.C.D.O.T. BY:

HNTB NORTH CAROLINA, P.C.
343 E. SIX FORKS ROAD, SUITE 200
Raleigh, North Carolina 27609

S.A. YARLEY, P.E. — *PROJECT ENGINEER*

P.M. WARD — *PROJECT DESIGNER*

P.M. WARD — *DESIGN TECHNICIAN*

GENERAL NOTES

CHANGES MAY BE REQUIRED WHEN PHYSICAL DIMENSIONS IN THE DETAIL DRAWINGS, STANDARD DETAILS AND ROADWAY DETAILS ARE NOT ATTAINABLE TO MEET FIELD CONDITIONS, OR RESULT IN DUPLICATE, OR UNDESIRED OVERLAPPING OF DEVICES. MODIFICATION MAY INCLUDE: MOVING, SUPPLEMENTING, COVERING OR REMOVAL OF DEVICES, AS DIRECTED BY THE ENGINEER.

THE FOLLOWING GENERAL NOTES APPLY AT ALL TIMES FOR THE DURATION OF THE CONSTRUCTION PROJECT, EXCEPT WHEN OTHERWISE NOTED IN THE PLAN, OR DIRECTED BY THE ENGINEER.

TIME RESTRICTIONS

A) DO NOT CLOSE OR NARROW TRAVEL LANES AS FOLLOWS:

ROAD NAME	DAY AND TIME RESTRICTIONS
LAUCHWOOD DR, US 501, US 501 BUS, AND ALL -Y- LINES	M-F 6:30 A.M. TO 9:00 A.M. AND M-F 4:00 P.M. TO 6:30 P.M.

B) DO NOT CLOSE OR NARROW TRAVEL LANES DURING HOLIDAYS AND SPECIAL EVENTS AS FOLLOWS:

ROAD NAME

LAUCHWOOD DR, US 501, US 501 BUS AND ALL -Y- LINES

HOLIDAY

1. FOR ANY UNEXPECTED OCCURRENCE THAT CREATES UNUSUALLY HIGH TRAFFIC VOLUMES, AS DIRECTED BY THE ENGINEER.
2. FOR NEW YEAR'S, BETWEEN THE HOURS OF 6:30 P.M. DECEMBER 31st TO 9:00 A.M. JANUARY 2ND. IF NEW YEAR'S DAY IS ON A FRIDAY, SATURDAY, SUNDAY, OR MONDAY THEN UNTIL 9:00 A.M. THE FOLLOWING TUESDAY.
3. FOR EASTER, BETWEEN THE HOURS OF 6:30 P.M. THURSDAY AND 9:00 A.M. MONDAY.
4. FOR MEMORIAL DAY, BETWEEN THE HOURS OF 6:30 P.M. FRIDAY TO 9:00 A.M. TUESDAY.
5. FOR INDEPENDENCE DAY, BETWEEN THE HOURS OF 6:30 P.M. THE DAY BEFORE INDEPENDENCE DAY AND 9:00 A.M. THE DAY AFTER INDEPENDENCE DAY.

   IF INDEPENDENCE DAY IS ON A FRIDAY, SATURDAY, SUNDAY OR MONDAY THEN BETWEEN THE HOURS OF 6:30 P.M. THE THURSDAY BEFORE INDEPENDENCE DAY AND 9:00 A.M. THE TUESDAY AFTER INDEPENDENCE DAY.
6. FOR LABOR DAY, BETWEEN THE HOURS OF 6:30 P.M. FRIDAY AND 9:00 A.M. TUESDAY.
7. FOR THANKSGIVING DAY, BETWEEN THE HOURS OF 6:30 P.M. TUESDAY TO 9:00 A.M. MONDAY.
8. FOR CHRISTMAS, BETWEEN THE HOURS OF 6:30 P.M. THE FRIDAY BEFORE THE WEEK OF CHRISTMAS DAY AND 9:00 A.M. THE FOLLOWING TUESDAY AFTER THE WEEK OF CHRISTMAS.

C) DO NOT CONDUCT ANY HAULING OPERATIONS AGAINST THE FLOW OF TRAFFIC OF AN OPEN TRAVELWAY UNLESS THE HAULING OPERATION IS PROTECTED BY BARRIER OR GUARDRAIL OR AS DIRECTED BY THE ENGINEER.

LANE AND SHOULDER CLOSURE REQUIREMENTS

D) REMOVE LANE CLOSURE DEVICES FROM THE LANE WHEN WORK IS NOT BEING PERFORMED BEHIND THE LANE CLOSURE OR WHEN A LANE CLOSURE IS NO LONGER NEEDED, OR AS DIRECTED BY THE ENGINEER.

E) WHEN PERSONNEL AND/OR EQUIPMENT ARE WORKING WITHIN 15 FT OF AN OPEN TRAVEL LANE, CLOSE THE NEAREST OPEN SHOULDER USING ROADWAY STANDARD DRAWING NO. 1101.04 UNLESS THE WORK AREA IS PROTECTED BY BARRIER OR GUARDRAIL OR A LANE CLOSURE IS INSTALLED.

F) WHEN PERSONNEL AND/OR EQUIPMENT ARE WORKING ON THE SHOULDER ADJACENT TO AN UNDIVIDED FACILITY AND WITHIN 5 FT OF AN OPEN TRAVEL LANE, CLOSE THE NEAREST OPEN TRAVEL LANE USING ROADWAY STANDARD DRAWING NO. 1101.02 UNLESS THE WORK AREA IS PROTECTED BY BARRIER OR GUARDRAIL.

   WHEN PERSONNEL AND/OR EQUIPMENT ARE WORKING ON THE SHOULDER ADJACENT TO A DIVIDED FACILITY AND WITHIN 10 FT OF AN OPEN TRAVEL LANE, CLOSE THE NEAREST OPEN TRAVEL LANE USING ROADWAY STANDARD DRAWING NO. 1101.02 UNLESS THE WORK AREA IS PROTECTED BY BARRIER OR GUARDRAIL.

G) WHEN PERSONNEL AND/OR EQUIPMENT ARE WORKING WITHIN A LANE OF TRAVEL OF AN UNDIVIDED OR DIVIDED FACILITY, CLOSE THE LANE ACCORDING TO THE TRAFFIC CONTROL PLANS, ROADWAY STANDARD DRAWINGS OR AS DIRECTED BY THE ENGINEER. CONDUCT THE WORK SO THAT ALL PERSONNEL AND/OR EQUIPMENT REMAIN WITHIN THE CLOSED TRAVEL LANE.

PROJECT NOTES

CONTINUED

H) DO NOT WORK SIMULTANEOUSLY WITHIN 15 FT ON BOTH SIDES OF AN OPEN TRAVELWAY, RAMP OR LOOP WITHIN THE SAME LOCATION UNLESS PROTECTED WITH GUARDRAIL OR BARRIER.

I) DO NOT INSTALL MORE THAN 2500 FT OF LANE CLOSURE ON LAUCHWOOD RD MEASURED FROM THE BEGINNING OF THE MERGE TAPER TO THE END OF THE LANE CLOSURE.

J) PROVIDE A MINIMUM OF 1 MILE BETWEEN LANE CLOSURES, MEASURED FROM THE END OF ONE CLOSURE TO THE FIRST SIGN OF THE NEXT LANE CLOSURE.

PAVEMENT EDGE DROP OFF REQUIREMENTS

K) BACKFILL AT A 6:1 SLOPE UP TO THE EDGE AND ELEVATION OF EXISTING PAVEMENT IN AREAS ADJACENT TO AN OPENED TRAVEL LANE THAT HAS AN EDGE OF PAVEMENT DROP-OFF AS FOLLOWS:

   BACKFILL DROP-OFFS THAT EXCEED 2 INCHES ON ROADWAYS WITH POSTED SPEED LIMITS OF 45 MPH OR GREATER.

   BACKFILL DROP-OFFS THAT EXCEED 3 INCHES ON ROADWAYS WITH POSTED SPEED LIMITS LESS THAN 45 MPH.

   BACKFILL WITH SUITABLE COMPACTED MATERIAL, AS APPROVED BY THE ENGINEER, AT NO EXPENSE TO THE DEPARTMENT.

L) DO NOT EXCEED A DIFFERENCE OF 2 INCHES IN ELEVATION BETWEEN OPEN LANES OF TRAFFIC FOR NOMINAL LIFTS OF 1.5 INCHES. INSTALL ADVANCE WARNING "UNEVEN LANES" SIGNS (W8-11) 500 FT IN ADVANCE AND A MINIMUM OF EVERY HALF MILE THROUGHOUT THE UNEVEN AREA.

TRAFFIC PATTERN ALTERATIONS

M) NOTIFY THE ENGINEER TWENTY ONE (21) CALENDAR DAYS PRIOR TO ANY TRAFFIC PATTERN ALTERATION.

SIGNING

N) INSTALL ADVANCE WORK ZONE WARNING SIGNS WHEN WORK IS WITHIN 40 FT FROM THE EDGE OF TRAVEL LANE AND NO MORE THAN THREE (3) DAYS PRIOR TO THE BEGINNING OF CONSTRUCTION.

O) STATE FORCES WILL BE RESPONSIBLE FOR PERMANENT SIGNING.

P) ENSURE ALL NECESSARY SIGNING IS IN PLACE PRIOR TO ALTERING ANY TRAFFIC PATTERN.

Q) INSTALL BLACK ON ORANGE "DIP" SIGNS (W8-2) AND/OR "BUMP" SIGNS (W8-1) IN ADVANCE OF THE UNEVEN AREA, OR AS DIRECTED BY THE ENGINEER.

TRAFFIC BARRIER

R) INSTALL TEMPORARY BARRIER ACCORDING TO THE TRAFFIC CONTROL PLANS A MAXIMUM OF TWO (2) WEEKS PRIOR TO BEGINNING WORK IN ANY LOCATION. ONCE TEMPORARY BARRIER IS INSTALLED AT ANY LOCATION, PROCEED IN A CONTINUOUS MANNER TO COMPLETE THE PROPOSED WORK IN THAT LOCATION UNLESS OTHERWISE STATED IN THE TRAFFIC CONTROL PLANS OR AS DIRECTED BY THE ENGINEER.

   DO NOT PLACE BARRIER DIRECTLY ON ANY SURFACE OTHER THAN ASPHALT OR CONCRETE.

   ONCE TEMPORARY BARRIER IS INSTALLED AT ANY LOCATION AND NO WORK IS PERFORMED BEHIND THE TEMPORARY BARRIER FOR A PERIOD LONGER THAN TWO (2) MONTHS, REMOVE/RESET TEMPORARY BARRIER AT NO COST TO THE DEPARTMENT UNLESS OTHERWISE STATED IN THE TRAFFIC CONTROL PLANS, TEMPORARY BARRIER IS PROTECTING A HAZARD, OR AS DIRECTED BY THE ENGINEER.

   INSTALL TEMPORARY BARRIER WITH THE TRAFFIC FLOW, BEGINNING WITH THE UPSTREAM SIDE OF TRAFFIC. REMOVE TEMPORARY BARRIER AGAINST THE TRAFFIC FLOW, BEGINNING WITH THE DOWNSTREAM SIDE OF TRAFFIC.

   INSTALL AND SPACE DRUMS NO GREATER THAN TWICE THE POSTED SPEED LIMIT (MPH) TO CLOSE OR KEEP THE SECTION OF THE ROADWAY CLOSED UNTIL THE TEMPORARY BARRIER CAN BE PLACED OR AFTER THE TEMPORARY BARRIER IS REMOVED.

S) PROTECT THE APPROACH END OF MOVABLE/PORTABLE CONCRETE BARRIER AT ALL TIMES DURING THE INSTALLATION AND REMOVAL OF THE BARRIER BY EITHER A TRUCK MOUNTED IMPACT ATTENUATOR (MAXIMUM 72 HOURS) OR A TEMPORARY CRASH CUSHION.

CONTINUED

   PROTECT THE APPROACH END OF MOVABLE/PORTABLE CONCRETE BARRIER FROM ONCOMING TRAFFIC AT ALL TIMES BY A TEMPORARY CRASH CUSHION UNLESS THE APPROACH END OF MOVABLE/PORTABLE CONCRETE BARRIER IS OFFSET FROM ONCOMING TRAFFIC AS FOLLOWS OR AS SHOWN IN THE PLANS:

POSTED SPEED LIMIT	MINIMUM OFFSET
40 OR LESS	15 FT
45 - 50	20 FT
55	25 FT
60 MPH or HIGHER	30 FT

TRAFFIC CONTROL DEVICES

T) SPACE CHANNELIZING DEVICES IN WORK AREAS NO GREATER THAN TWICE THE POSTED SPEED LIMIT (MPH), EXCEPT 10 FT ON-CENTER IN RADII, AND 3 FT OFF THE EDGE OF AN OPEN TRAVELWAY, WHEN LANE CLOSURES ARE NOT IN EFFECT. WHEN SKINNY DRUMS ARE ALLOWED, REFER TO SECTION 1180 OF STANDARD SPECIFICATIONS FOR ROADS AND STRUCTURES OR AS SHOWN IN THE PLANS.

U) PLACE TYPE III BARRICADES, WITH "ROAD CLOSED" SIGN R11-2 ATTACHED, OF SUFFICIENT LENGTH TO CLOSE ENTIRE ROADWAY.

V) PLACE ADDITIONAL SETS OF THREE CHANNELIZING DEVICES DRUMS PERPENDICULAR TO THE EDGE OF TRAVELWAY ON 500 FT CENTERS WHEN UNOPENED LANES ARE CLOSED TO TRAFFIC.

PAVEMENT MARKINGS AND MARKERS

W) INSTALL PAVEMENT MARKINGS AND PAVEMENT MARKERS ON THE FINAL SURFACE AS FOLLOWS:

ROAD NAME	MARKING	MARKER
LAUCHWOOD DR	THERMOPLASTIC	PERMANENT RAISED
ALL -Y- LINES	THERMOPLASTIC	

X) INSTALL TEMPORARY PAVEMENT MARKINGS AND TEMPORARY PAVEMENT MARKERS ON INTERIM LAYERS OF PAVEMENT AS FOLLOWS:

ROAD NAME	MARKING	MARKER
LAUCHWOOD DR	PAINT	
ALL -Y- LINES	PAINT	

Y) PLACE TWO APPLICATIONS OF PAINT PAVEMENT MARKINGS ON THE FINAL WEARING SURFACE. PLACE THE SECOND APPLICATION OF PAINT UPON SUFFICIENT DRYING TIME OF THE FIRST.

Z) PLACE ONE APPLICATION OF PAINT FOR TEMPORARY TRAFFIC PATTERNS. PLACE A SECOND APPLICATION OF PAINT SIX (6) MONTHS AFTER THE INITIAL APPLICATION AND EVERY SIX MONTHS AS DIRECTED BY THE ENGINEER.

AA) TIE PROPOSED PAVEMENT MARKING LINES TO EXISTING PAVEMENT MARKING LINES.

BB) REMOVE/REPLACE ANY CONFLICTING/DAMAGED PAVEMENT MARKINGS AND MARKERS BY THE END OF EACH DAY'S OPERATION.

CC) TRACE THE PROPOSED MONOLITHIC ISLAND LOCATIONS WITH PROPER COLOR PAVEMENT MARKINGS PRIOR TO INSTALLATION. PLACE DRUMS TO DELINEATE ANY PROPOSED MONOLITHIC ISLANDS AFTER REMOVAL AND BEFORE INSTALLATION

DD) ALL STOP BAR AND CROSSWALK LOCATIONS THAT DO NOT HAVE A LOCATION NOTED BY A STATION ON THE PAVEMENT MARKING PLANS WILL BE DETERMINED BY THE ENGINEER.

TEMPORARY / FINAL SIGNALS

EE) SHIFT AND REVISE ALL SIGNAL HEADS AS SHOWN ON THE SIGNAL PLANS.

MISCELLANEOUS

FF) IN THE EVENT A TIE-IN CANNOT BE MADE IN ONE DAYS TIME, BRING THE TIE-IN AREA TO AN APPROPRIATE ROADWAY ELEVATION, AS DETERMINED BY THE ENGINEER. PLACE BLACK ON ORANGE "LOOSE GRAVEL" SIGNS (W8-7) AND BLACK ON ORANGE "PAVEMENT ENDS" SIGNS (W8-3) AND RESPECTIVELY IN ADVANCE OF THE UNEVEN AREAS. USE DRUMS TO DELINEATE THE EDGE OF ROADWAY ALONG UNPAVED AREAS.

HNTB NORTH CAROLINA, P.C.
343 E. SIX FORKS ROAD, SUITE 200
Raleigh, North Carolina 27609

N.T.S.

PROJ. REFERENCE NO.	SHEET NO.
U-5027	TCP-2
LAUCHWOOD DR.	

APPROVED: Scott A Yahley DATE: 10/8/08

SEAL

NORTH CAROLINA PROFESSIONAL SEAL 18203 ENGINEER SCOTT A YAHLEY

PROJECT NOTES

SCALE:	NONE
DATE:	3/07
DWG. BY:	JRH/PMW
DESIGN BY:	SAY/PMW
REVIEWED BY:	SAY

REVISIONS

CADD FILE

HNTB NORTH CAROLINA, P.C.
343 E. SIX FORKS ROAD, SUITE 200
Raleigh, North Carolina 27609

DGN
$DATE$
$TIME$

PHASING

HNTB NORTH CAROLINA, P.C.
343 E. SIX FORKS ROAD, SUITE 200
Raleigh, North Carolina 27609

N.T.S.

PROJ. REFERENCE NO.	SHEET NO.
U-5027	TCP-2A
LAUCHWOOD DR.	

PHASE I (SEE PHASE I OVERVIEWS, SHEETS TCP-3 THRU TCP-5)

DURING THIS PHASE, THE CONTRACTOR WILL BE CONSTRUCTING THE WIDENING ON THE RIGHT SIDE OF LAUCHWOOD DRIVE IN AREAS OF ASYMMETRICAL WIDENING AND WIDENING LEFT AND RIGHT SIDE IN AREAS OF SYMMETRICAL WIDENING. SOME OF THIS WORK WILL BE PERFORMED WITHOUT INTERFERING WITH EXISTING TRAFFIC, BUT THERE WILL BE WEDGING REQUIRED OVER THE EXISTING TRAVEL LANES THAT WILL NEED TO BE COMPLETED AND TRAFFIC PLACED ON IT BEFORE THE END OF THE DAY. AT THE END OF THE DAY, THE CONTRACTOR WILL PLACE TRAFFIC IN A TWO-LANE, TWO-WAY PATTERN AS SHOWN ON THE PLANS.

PHASE I WORK WILL REQUIRE TEMPORARY LANE CLOSURES, PORTABLE CONCRETE BARRIER, BARRICADES, DRUMS, AND OTHER TRAFFIC CONTROL DEVICES.

STEP 1:
REMOVE EXISTING ISLANDS IN THE FOLLOWING LOCATIONS AND REPLACE WITH TEMPORARY PAVEMENT:

STA. 10+28 +/-	TO	STA. 12+05 +/-
STA. 56+05 +/-	TO	STA. 60+45 +/-
STA. 60+94 +/-	TO	STA. 62+78 +/-

PLACE TEMPORARY PAVEMENT ALONG LT SIDE OF LAUCHWOOD DRIVE FROM STA. 10+57 +/- TO STA. 20+00 +/-.

STEP 2:
PLACE TEMPORARY MARKING ON LAUCHWOOD DRIVE, INSTALL AND ACTIVATE TEMPORARY SIGNAL AT SOUTH MAIN STREET, AND PLACE PCB AT THE CULVERT AREA, THEN PLACE TRAFFIC IN TEMPORARY PATTERN AS SHOWN ON PHASE I OVERVIEWS, SHEETS TCP-3 THRU TCP-5.

INSTALL SHORING AT CULVERT AREA AS SHOWN ON SHEET TCP-4.

STEP 3:
AWAY FROM TRAFFIC, BEGIN CONSTRUCTION OF RT SIDE OF LAUCHWOOD DRIVE FROM STA. 10+24 +/- TO STA. 17+80 +/-.

USING LANE CLOSURES AS NECESSARY, BEGIN CONSTRUCTION OF WIDENING ON RIGHT SIDE OF LAUCHWOOD DRIVE, UP TO EXISTING EDGE AND ELEVATION, FROM STA. 17+80 +/- TO STA. 36+39 +/-.

USING LANE CLOSURES AS NECESSARY, BEGIN CONSTRUCTION OF -Y2-.

USING LANE CLOSURES AS NECESSARY, BEGIN CONSTRUCTION OF WIDENING ON RIGHT AND LEFT SIDE OF LAUCHWOOD DRIVE, UP TO EXISTING EDGE AND ELEVATION, FROM STA. 36+39 +/- TO STA. 56+10 +/-.

USING LANE CLOSURES AS NECESSARY, BEGIN CONSTRUCTION OF -Y5-.

AWAY FROM TRAFFIC, BEGIN CONSTRUCTION OF RT SIDE OF LAUCHWOOD DRIVE FROM STA. 56+10 +/- TO STA. 62+72 +/- AND STEPS 1 AND 2 OF THE CULVERT CONSTRUCTION. (SEE SHEET EC-2F FOR CULVERT PHASING SEQUENCE) (OMIT CONSTRUCTION OF C&G AND SIDEWALK ON RIGHT SIDE FROM STA. 55+38 +/- TO STA. 60+56 +/-)

USING LANE CLOSURES AS NECESSARY, BEGIN CONSTRUCTION OF WIDENING ON RIGHT AND LEFT SIDE OF LAUCHWOOD DRIVE, UP TO EXISTING EDGE AND ELEVATION, FROM STA. 63+72 +/- TO STA. 73+50 +/-.

STEP 4:
AWAY FROM TRAFFIC, COMPLETE CONSTRUCTION OF RT SIDE OF LAUCHWOOD DRIVE FROM STA. 10+24 +/- TO STA. 17+80 +/-.

USING LANE CLOSURES AS NECESSARY, COMPLETE CONSTRUCTION OF WIDENING ON RIGHT SIDE OF LAUCHWOOD DRIVE, UP TO EXISTING EDGE AND ELEVATION, FROM STA. 17+80 +/- TO STA. 36+39 +/-, THEN USING ALTERNATING LANE CLOSURES, WEDGE AND WIDEN THE TOTAL PAVEMENT WIDTH OF 36', RETURNING TRAFFIC TO A TWO-LANE, TWO-WAY PATTERN AT THE END OF THE WORK DAY.

USING LANE CLOSURES AS NECESSARY, COMPLETE CONSTRUCTION OF -Y2-.

USING LANE CLOSURES AS NECESSARY, COMPLETE CONSTRUCTION OF WIDENING ON RIGHT AND LEFT SIDE OF LAUCHWOOD DRIVE, UP TO EXISTING EDGE AND ELEVATION, FROM STA. 36+39 +/- TO STA. 40+00 +/- AND STA. 52+00 +/- TO STA. 56+10 +/-, THEN USING ALTERNATING LANE CLOSURES, WEDGE AND WIDEN THE TOTAL PAVEMENT WIDTH OF 36', RETURNING TRAFFIC TO A TWO-LANE, TWO-WAY PATTERN AT THE END OF THE WORK DAY.

AWAY FROM TRAFFIC, COMPLETE CONSTRUCTION OF RT SIDE OF LAUCHWOOD DRIVE FROM STA. 56+10 +/- TO STA. 62+72 +/- AND STEPS 1 AND 2 OF THE CULVERT CONSTRUCTION. (SEE SHEET EC-2F FOR CULVERT PHASING SEQUENCE) (NOT INCLUDING C&G AND SIDEWALK FROM STA. 55+38 +/- TO STA. 60+56)

CONSTRUCT TEMPORARY PAVEMENT ALONG RIGHT SIDE OF LAUCHWOOD DRIVE FROM STA. 55+38 +/- TO STA. 60+56 +/- (OFF PROPOSED PAVEMENT).

STEP 5:
AFTER COMPLETION OF WORK ACTIVITY IN PHASE 1, STEP 4, PLACE TEMPORARY MARKING ON LAUCHWOOD DRIVE, INSTALL AND ACTIVATE TEMPORARY SIGNAL AT SOUTH MAIN STREET, AND PLACE PCB AT THE CULVERT AREA, THEN PLACE TRAFFIC IN TEMPORARY PATTERN AS SHOWN ON PHASE II OVERVIEWS, SHEETS TCP-6 THRU TCP-8.

PHASE II (SEE PHASE II OVERVIEWS, SHEETS TCP-6 THRU TCP-8)

DURING THIS PHASE, THE CONTRACTOR WILL BE CONSTRUCTING THE LEFT SIDE OF LAUCHWOOD DRIVE IN AREAS OF NEW CONSTRUCTION, CONTINUEING CONSTRUCTION IN AREAS OF WIDENING ON THE RIGHT AND LEFT SIDE OF LAUCHWOOD DRIVE IN AREAS OF SYMMETRICAL WIDENING AND CONSTRUCTING THE ROUNDABOUT AND ISLANDS. SOME OF THIS WORK WILL BE PERFORMED WITHOUT INTERFERING WITH EXISTING TRAFFIC, BUT THERE WILL BE WEDGING REQUIRED OVER THE EXISTING TRAVEL LANES THAT WILL NEED TO BE COMPLETED AND TRAFFIC PLACED ON IT BEFORE THE END OF THE DAY. AT THE END OF THE DAY, THE CONTRACTOR WILL PLACE TRAFFIC IN A TWO-LANE, TWO-WAY PATTERN AS SHOWN ON THE PLANS.

PHASE II WORK WILL REQUIRE TEMPORARY LANE CLOSURES, PORTABLE CONCRETE BARRIER, BARRICADES, DRUMS, AND OTHER TRAFFIC CONTROL DEVICES.

STEP 1:
AWAY FROM TRAFFIC, BEGIN CONSTRUCTION OF LT SIDE OF LAUCHWOOD DRIVE FROM STA. 10+24 +/- TO STA. 17+80 +/-.

USING LANE CLOSURES AS NECESSARY, BEGIN CONSTRUCTION OF WIDENING ON LEFT SIDE OF LAUCHWOOD DRIVE FROM STA. 17+80 +/- TO STA. 36+39 +/-.

AWAY FROM TRAFFIC, BEGIN CONSTRUCTION OF LT SIDE OF LAUCHWOOD DRIVE FROM STA. 56+10 +/- TO STA. 62+72 +/- AND STEPS 3 AND 4 OF THE CULVERT CONSTRUCTION. (SEE SHEET EC-2F FOR CULVERT PHASING SEQUENCE)

STEP 2:
USING LANE CLOSURES AS NECESSARY, COMPLETE CONSTRUCTION OF WIDENING ON RIGHT AND LEFT SIDE OF LAUCHWOOD DRIVE, UP TO EXISTING EDGE AND ELEVATION, FROM STA. 63+72 +/- TO STA. 73+50 +/-, THEN, USING ALTERNATING LANE CLOSURES, WEDGE AND WIDEN THE TOTAL PAVEMENT WIDTH OF 36', RETURNING TRAFFIC TO A TWO-LANE, TWO-WAY PATTERN AT THE END OF THE WORK DAY.

USING LANE CLOSURES, CONSTRUCT TEMPORARY PAVEMENT ALONG RIGHT SIDE OF LAUCHWOOD DRIVE FROM STA. 63+39 +/- TO STA. 63+72 +/- AS SHOWN ON SHEET TCP-8.

STEP 3:
USING RSD 1101.03, SHEET 2 OF 9, CLOSE NORTH END OF -Y6- (JOHNS ROAD) AND PLACE IN OFFSITE DETOUR ROUTE. (SEE SHEET TCP-9 FOR OFFSITE DETOUR)

STEP 4:
CONSTRUCT THE ROUNDABOUT, -Y6-, AND LAUCHWOOD DRIVE IN THE AREA OF THE ROUNDABOUT IN THE FOLLOWING MANNER:

STEP A: USING LANE CLOSURES, PLACE TEMPORARY MARKING ALONG LAUCHWOOD DRIVE AS SHOWN IN STEP A ON SHEET TCP-8A (ROUNDABOUT SEQUENCE) AND SHIFT TRAFFIC TO NEW PATTERN.

BEGIN CONSTRUCTION OF ROUNDABOUT AND -Y6- (JOHNS ROAD) AS SHOWN IN STEP A ON SHEET TCP-8A.

STEP B: AWAY FROM TRAFFIC, COMPLETE CONSTRUCTION OF LT SIDE OF LAUCHWOOD DRIVE FROM STA. 56+10 +/- TO STA. 62+72 +/- AND STEPS 3 AND 4 OF THE CULVERT CONSTRUCTION. (SEE SHEET EC-2F FOR CULVERT PHASING SEQUENCE)

USING RSD 1101.03, SHEET 2 OF 9, CLOSE SOUTH END OF -Y6- (JOHNS ROAD) AND PLACE IN OFFSITE DETOUR. (SEE SHEET TCP-9 FOR OFFSITE DETOUR ROUTE)

AWAY FROM TRAFFIC, COMPLETE SECTION OF ROUNDABOUT ON NORTH SIDE AS SHOWN IN STEP B ON SHEET TCP-8A, PLACE TEMPORARY MARKING AND SHIFT TRAFFIC TO NEW PATTERN AS SHOWN IN STEP B ON SHEET TCP-8A.

BEGIN CONSTRUCTION OF ROUNDABOUT AND -Y6- (JOHNS ROAD) (SOUTH SIDE) AS SHOWN IN STEP B ON SHEET TCP-8A.

AT THIS TIME, REMOVE TEMPORARY PAVEMENT ALONG RT SIDE OF LAUCHWOOD DRIVE FROM STA. 55+38 +/- TO STA. 60+56 +/- AND INSTALL CURB AND GUTTER AND SIDEWALK THAT WAS OMITTED IN PHASE I, STEP 4.

STEP C: AWAY FROM TRAFFIC, COMPLETE SECTION OF ROUNDABOUT ON SOUTH SIDE AS SHOWN IN STEP C ON SHEET TCP-8A.

PLACE TRUCKS ON OFF-SITE DETOUR AS SHOWN ON SHEET TCP-10.

PLACE TEMPORARY MARKING, INSTALL WATER-FILLED BARRIER (WFB) AND SHIFT TRAFFIC TO NEW PATTERN AS SHOWN IN STEP C ON SHEET TCP-8A.

STEP C (CONTINUED: USING LANE CLOSURES IF NECESSARY, CONSTRUCT SPLITTER ISLANDS ALONG LAUCHWOOD DRIVE AND ROUNDABOUT GRASS ISLAND AND CONCRETE APRON AS SHOWN IN STEP C ON SHEET TCP-8A. (ONCE CONCRETE APRON HAS CURED, REMOVE TRUCKS FROM OFF-SITE DETOUR ROUTE)

STEP 5:
AWAY FROM TRAFFIC, COMPLETE CONSTRUCTION OF LT SIDE OF LAUCHWOOD DRIVE FROM STA. 10+24 +/- TO STA. 17+80 +/-.

REMOVE TEMPORARY PAVEMENT USED IN PHASE I ALONG LT SIDE OF LAUCHWOOD DRIVE FROM STA. 10+57 +/- TO STA. 20+00 +/-.

USING LANE CLOSURES AS NECESSARY, COMPLETE CONSTRUCTION OF WIDENING ON LEFT SIDE OF LAUCHWOOD DRIVE FROM STA. 17+80 +/- TO STA. 36+39 +/-.

USING LANE CLOSURES AS NECESSARY, COMPLETE CONSTRUCTION OF WIDENING ON RIGHT AND LEFT SIDE OF LAUCHWOOD DRIVE, UP TO EXISTING EDGE AND ELEVATION, FROM STA. 40+00 +/- TO STA. 52+00 +/-, THEN USING ALTERNATING LANE CLOSURES, WEDGE AND WIDEN THE TOTAL PAVEMENT WIDTH OF 36', RETURNING TRAFFIC TO A TWO-LANE, TWO-WAY PATTERN AT THE END OF THE WORK DAY.

USING LANE CLOSURES AS NECESSARY, COMPLETE CONSTRUCTION OF -Y5-.

INSTALL TEMPORARY SIGNAL AT SOUTH MAIN STREET.

STEP 6:
USING LANE CLOSURES, PLACE MARKING FROM STA. 10+24 +/- TO STA. 17+00 +/- AS SHOWN ON DETAIL II, SHEET TCP-8B, AND FROM STA. 17+00 +/- TO THE END OF THE PROJECT AS SHOWN ON THE FINAL PAVEMENT MARKING PLANS, ACTIVATE TEMPORARY SIGNAL AT SOUTH MAIN STREET, AND SHIFT TRAFFIC TO NEW PATTERN. (PLACE DRUMS TO KEEP TRAFFIN ON THE OUTER 10' OF PAVEMENT IN ORDER TO CONSTRUCT ISLANDS ON LAUCHWOOD DRIVE)

USING LANE CLOSURES AS NECESSARY, CONSTRUCT ISLANDS IN THE FOLLOWING LOCATIONS:

STA. 10+27 +/-	TO	STA. 13+00 +/-
STA. 56+03 +/-	TO	STA. 60+45 +/-
STA. 61+00 +/-	TO	STA. 62+72 +/-
STA. 63+73 +/-	TO	STA. 65+21 +/-

STEP 7:
USING LANE CLOSURES, PLACE FINAL LAYER OF SURFACE COURSE AND FINAL MARKINGS AND MARKERS FROM STA. 10+24 +/- TO STA. 73+50 +/- AND OPEN TRAFFIC TO THE FINAL PATTERN.

STEP 8:
REMOVE ALL REMAINING TRAFFIC CONTROL DEVICES.

APPROVED: Scott A Yarlly DATE: 10/8/08

SEAL

NORTH CAROLINA PROFESSIONAL SEAL 18203 ENGINEER SCOTT A YARLLY

PHASING

SCALE:	NONE
DATE:	3/07
DWG. BY:	JRH/PMW
DESIGN BY:	SAY/PMW
REVIEWED BY:	SAY

DIVISION OF HIGHWAYS ENGINEERING BRANCH TRAFFIC ENGINEERING UNIT

REVISIONS

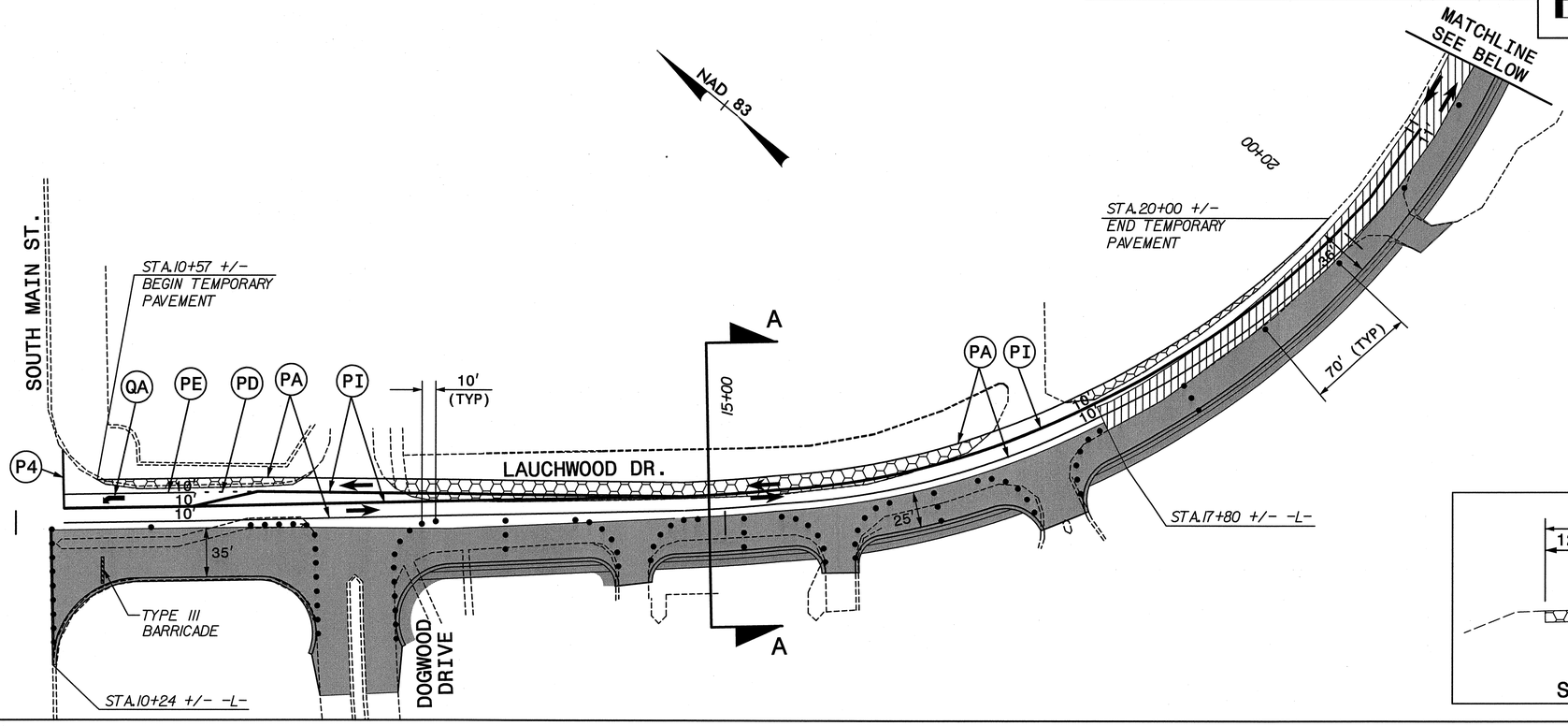
CADD FILE

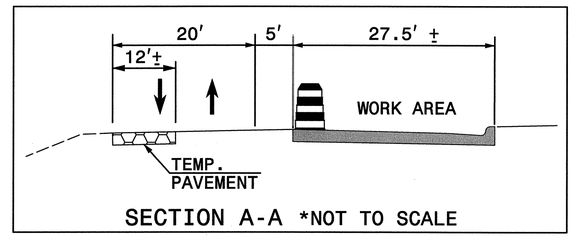
DGN
$DATE$
$TIME$

HNTB NORTH CAROLINA, P.C.
343 E. SIX FORKS ROAD, SUITE 200
Raleigh, North Carolina 27609

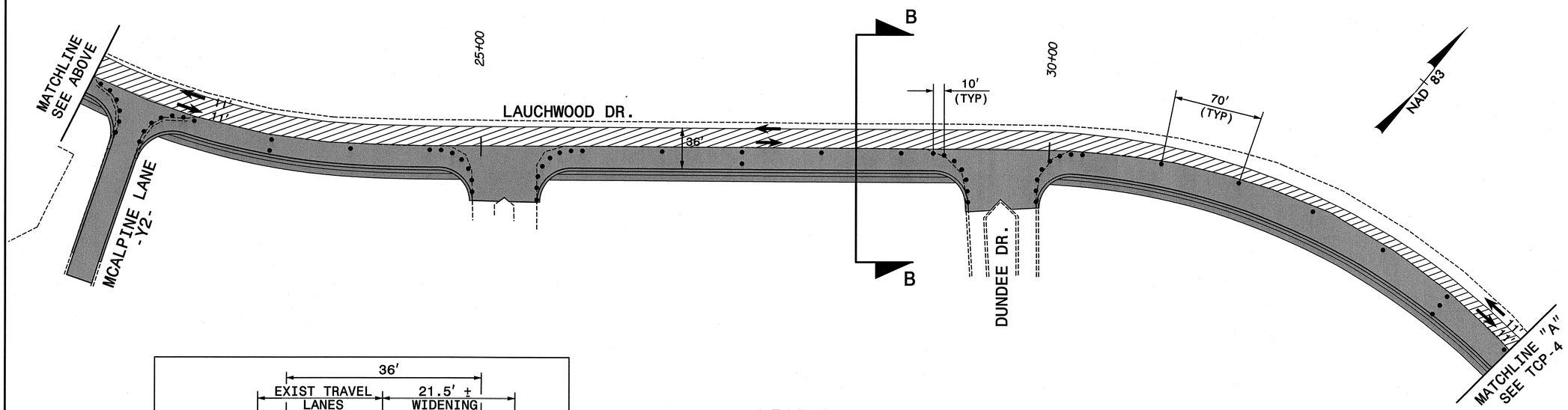
GRAPHIC SCALE
50 25 0 50 100
PLANS

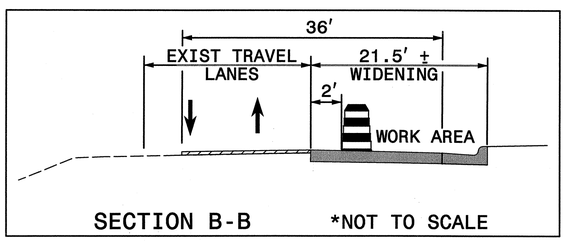
PROJ. REFERENCE NO.	SHEET NO.
U-5027	TCP-3
LAUCHWOOD DR.	





SECTION A-A *NOT TO SCALE





SECTION B-B *NOT TO SCALE

LEGEND

- TEMPORARY PAVEMENT
- PROPOSED CONSTRUCTION
- WEDGING/OVERLAY

APPROVED: DATE: 10/8/08

SEAL

NORTH CAROLINA PROFESSIONAL SEAL 18203 ENGINEER SCOTT A YARLEY

PHASE I OVERVIEW

SCALE:	1"=50'
DATE:	3/07
DWG. BY:	JRH/PMW
DESIGN BY:	SAY/PMW
REVIEWED BY:	SAY

DIVISION OF HIGHWAYS TRAFFIC ENGINEERING BRANCH

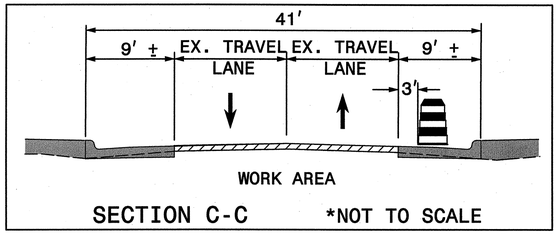
REVISIONS	
CADD FILE	

DGN
$DATE$
$TIME$

HNTB NORTH CAROLINA, P.C.
343 E. SIX FORKS ROAD, SUITE 200
Raleigh, North Carolina 27609

GRAPHIC SCALE
50 25 0 50 100
PLANS

PROJ. REFERENCE NO.	SHEET NO.
U-5027	TCP-4
LAUCHWOOD DR.	



SECTION C-C *NOT TO SCALE

FOR TEMPORARY SHORING, SEE TEMPORARY SHORING SPECIAL PROVISION.

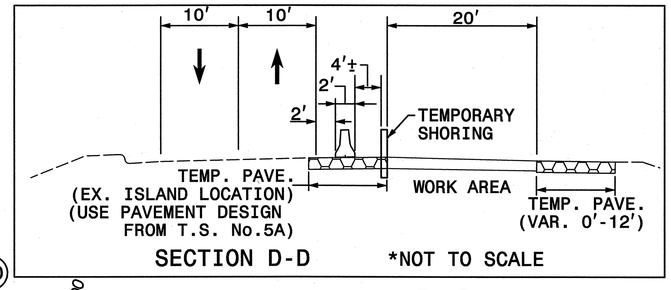
FOR CONTRACTOR DESIGNED SHORING, SURVEY THE SHORING LOCATION TO DETERMINE EXISTING ELEVATIONS AND ACTUAL DESIGN HEIGHTS BEFORE BEGINNING DESIGN.

WHEN USING CONTRACTOR DESIGNED SHORING FROM STATION 57+62.00 +/- -L-, 2.5 FT. RIGHT OF -L-, TO STATION 58+52.00 +/- -L-, 2.5 FT. RIGHT OF -L-, USE THE FOLLOWING SOIL PARAMETERS:

UNIT WT. OF SOIL ABOVE WATER TABLE, γ = 120 lbs/ft^3
UNIT WT. OF SOIL BELOW WATER TABLE, γ = 60 lbs/ft^3
FRICTION ANGLE, Φ = 30°
COHESION, c = 0 psf

NO SUBSURFACE INFORMATION IS AVAILABLE IN THE VICINITY OF THE TEMPORARY SHORING FROM STATION 57+62.00 +/-, 2.5 FT. RIGHT OF -L-, TO STATION 58+52.00 +/- -L-, 2.5 FT. RIGHT OF -L-. THE INFORMATION PROVIDED FOR DESIGN WAS ASSUMED AND MAY NOT BE APPLICABLE TO THE ACTUAL SITE CONDITIONS ENCOUNTERED DURING CONSTRUCTION.

FOR PORTABLE CONCRETE BARRIERS ABOVE AND BEHIND TEMPORARY SHORING, USE AN NCDOT PORTABLE CONCRETE BARRIER (UNANCHORED OR ANCHORED) OR AN OREGON TALL F-SHAPE CONCRETE BARRIER IN ACCORDANCE WITH THE TRAFFIC CONTROL PLANS.



SECTION D-D *NOT TO SCALE

* NOTE: TEMPORARY SHORING RECOMMENDATIONS PROVIDED BY NCDOT GEOTECHNICAL UNIT, SEALED BY JOHN S. W. FARGHER, III, P.E. NO. 023480, ON 11-21-08.

LEGEND

- TEMPORARY PAVEMENT
- PROPOSED CONSTRUCTION
- WEDGING/OVERLAY

APPROVED:_____ DATE:_____

SEAL

NORTH CAROLINA PROFESSIONAL SEAL 18203 ENGINEER SCOTT A. VALLEY
11/24/08

PHASE I OVERVIEW

SCALE:	1"=50'
DATE:	3/07
DWG. BY:	JRH/PMW
DESIGN BY:	SAY/PMW
REVIEWED BY:	SAY

DIVISION OF HIGHWAYS ENGINEERING BRANCH TRAFFIC ENGINEERING UNIT

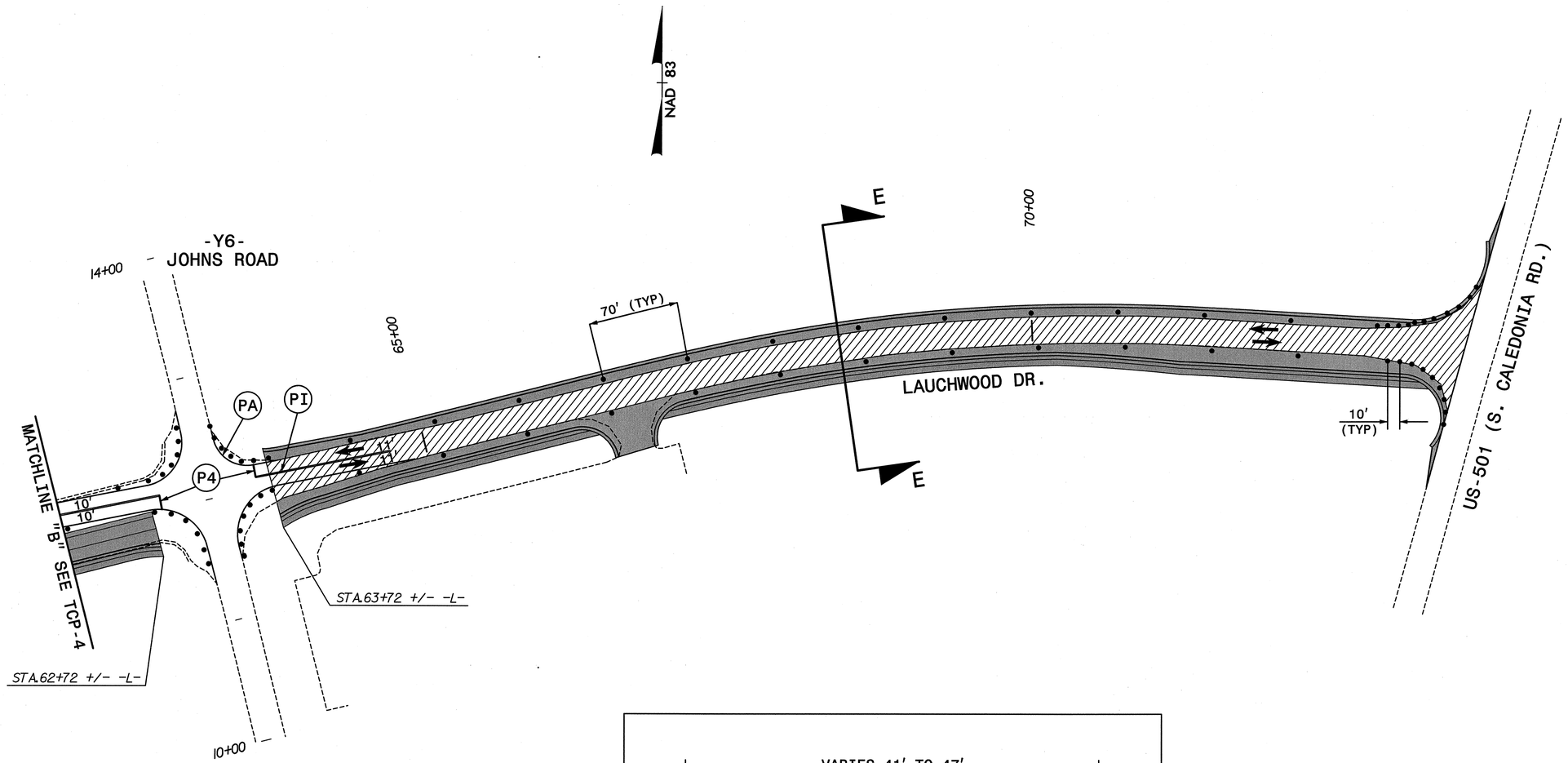
REVISIONS	
CADD FILE	

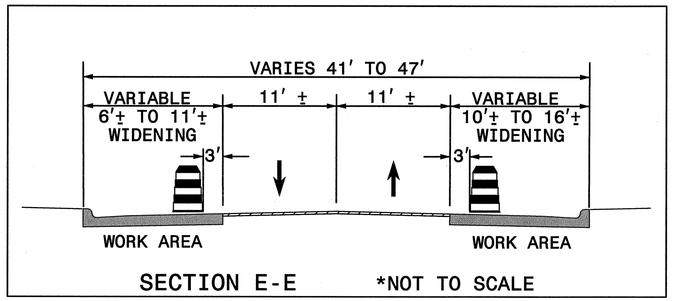
DGN
$DATE$
$TIME$

HNTB NORTH CAROLINA, P.C.
343 E. SIX FORKS ROAD, SUITE 200
Raleigh, North Carolina 27609

GRAPHIC SCALE
50 25 0 50 100
PLANS

PROJ. REFERENCE NO.	SHEET NO.
U-5027	TCP-5
LAUCHWOOD DR.	





SECTION E-E *NOT TO SCALE

LEGEND

- PROPOSED CONSTRUCTION
- WEDGING/OVERLAY

APPROVED: _____ DATE: 10/8/08

SEAL

NORTH CAROLINA PROFESSIONAL SEAL 18203 ENGINEER SCOTT A. YARLEY

PHASE I OVERVIEW

SCALE:	1"=50'
DATE:	3/07
DWG. BY:	JRH/PMW
DESIGN BY:	SAY/PMW
REVIEWED BY:	SAY

DIVISION OF HIGHWAYS — STATE ENGINEER'S OFFICE — STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION CONTROL

REVISIONS

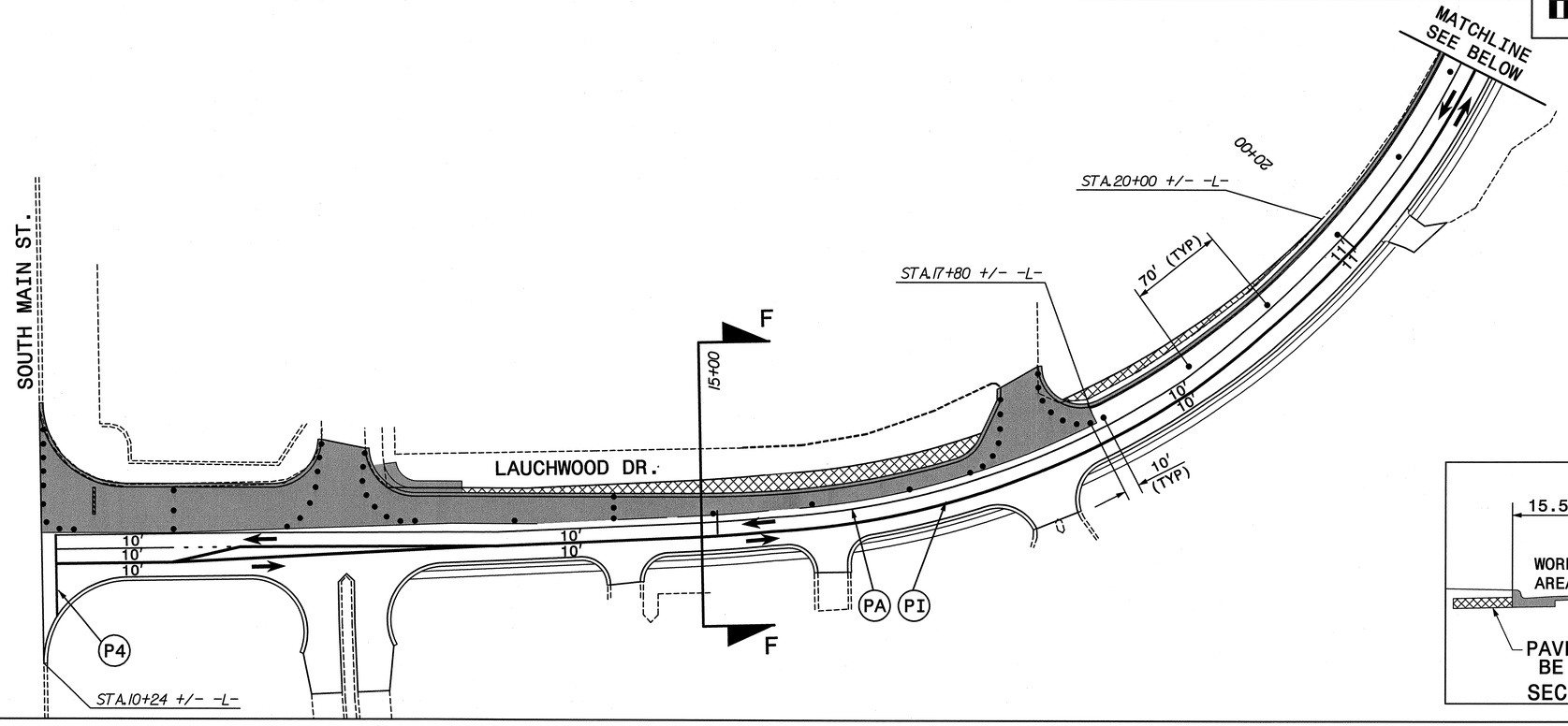
CADD FILE

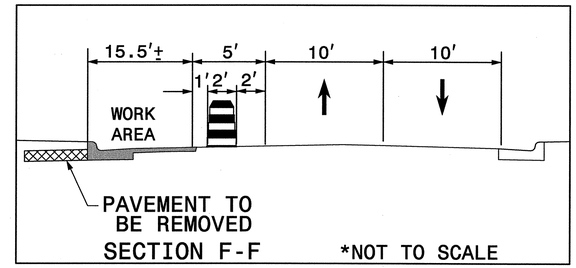
DGN
$DATE$
$TIME$

HNTB NORTH CAROLINA, P.C.
343 E. SIX FORKS ROAD, SUITE 200
Raleigh, North Carolina 27609

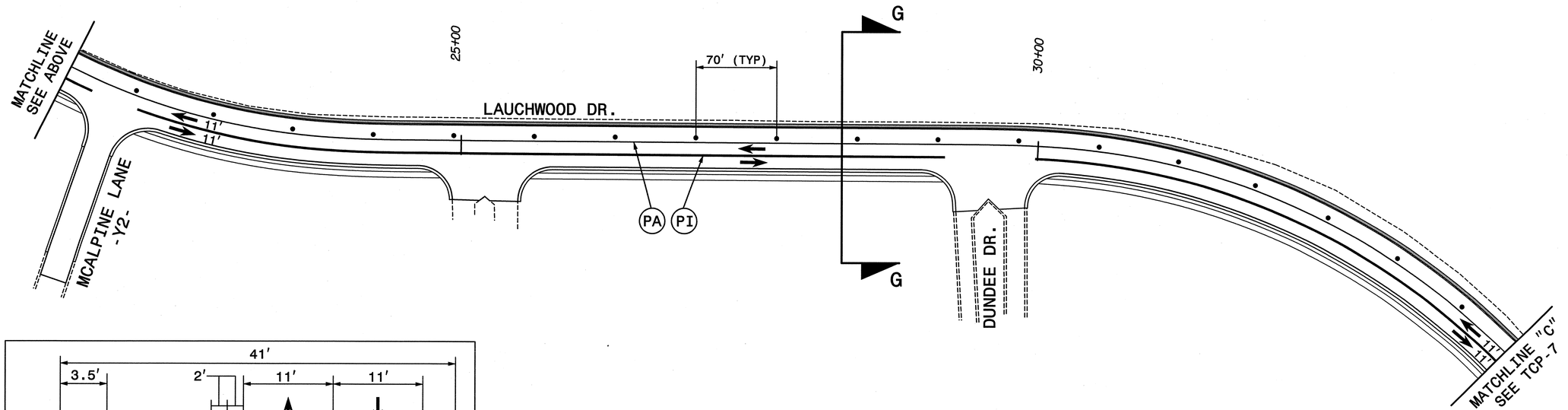
GRAPHIC SCALE
50 25 0 50 100
PLANS

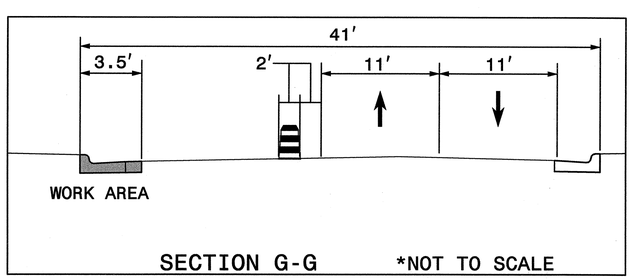
PROJ. REFERENCE NO.	SHEET NO.
U-5027	TCP-6
LAUCHWOOD DR.	





SECTION F-F *NOT TO SCALE





SECTION G-G *NOT TO SCALE

LEGEND

- TEMP. PAVEMENT TO BE REMOVED
- PROPOSED CONSTRUCTION

APPROVED: Scott A. Varley DATE: 10/8/08

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 18203 ENGINEER SCOTT A. VARLEY

PHASE II OVERVIEW

SCALE:	1"=50'
DATE:	3/07
DWG. BY:	JRH/PMW
DESIGN BY:	SAY/PMW
REVIEWED BY:	SAY

DIVISION OF HIGHWAYS TRAFFIC ENGINEERING BRANCH TRAFFIC ENGINEER

REVISIONS

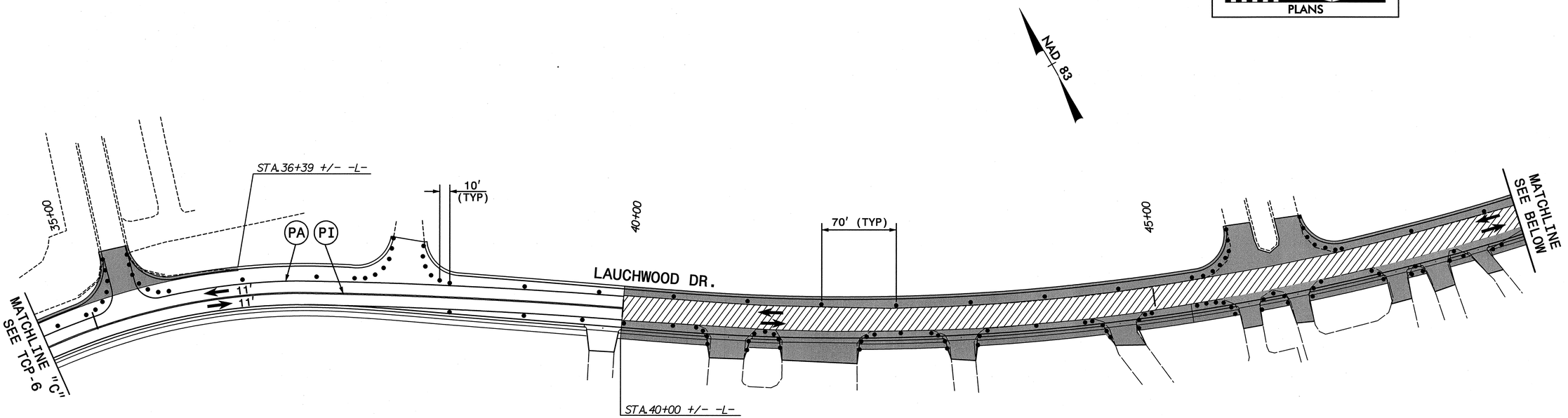
CADD FILE

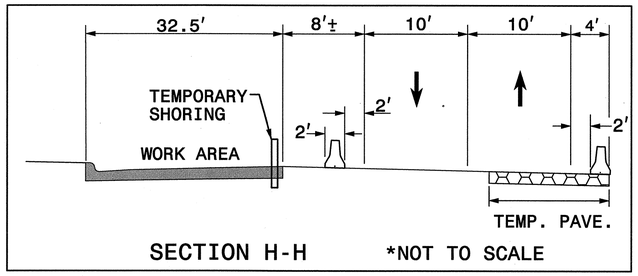
DGN
$DATE$
$TIME$

HNTB NORTH CAROLINA, P.C.
343 E. SIX FORKS ROAD, SUITE 200
Raleigh, North Carolina 27609

GRAPHIC SCALE
50 25 0 50 100
PLANS

PROJ. REFERENCE NO.	SHEET NO.
U-5027	TCP-7
LAUCHWOOD DR.	





LEGEND

- TEMPORARY PAVEMENT
- PROPOSED CONSTRUCTION

APPROVED: Scott A. Varley DATE: 10/8/08

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 18203 ENGINEER SCOTT A. VARLEY

PHASE II OVERVIEW

SCALE:	1"=50'
DATE:	3/07
DWG. BY:	JRH/PMW
DESIGN BY:	SAY/PMW
REVIEWED BY:	SAY

DIVISION OF HIGHWAYS — TRAFFIC ENGINEERING BRANCH — NORTH CAROLINA DEPARTMENT OF TRANSPORTATION — TRAFFIC CONTROL

REVISIONS

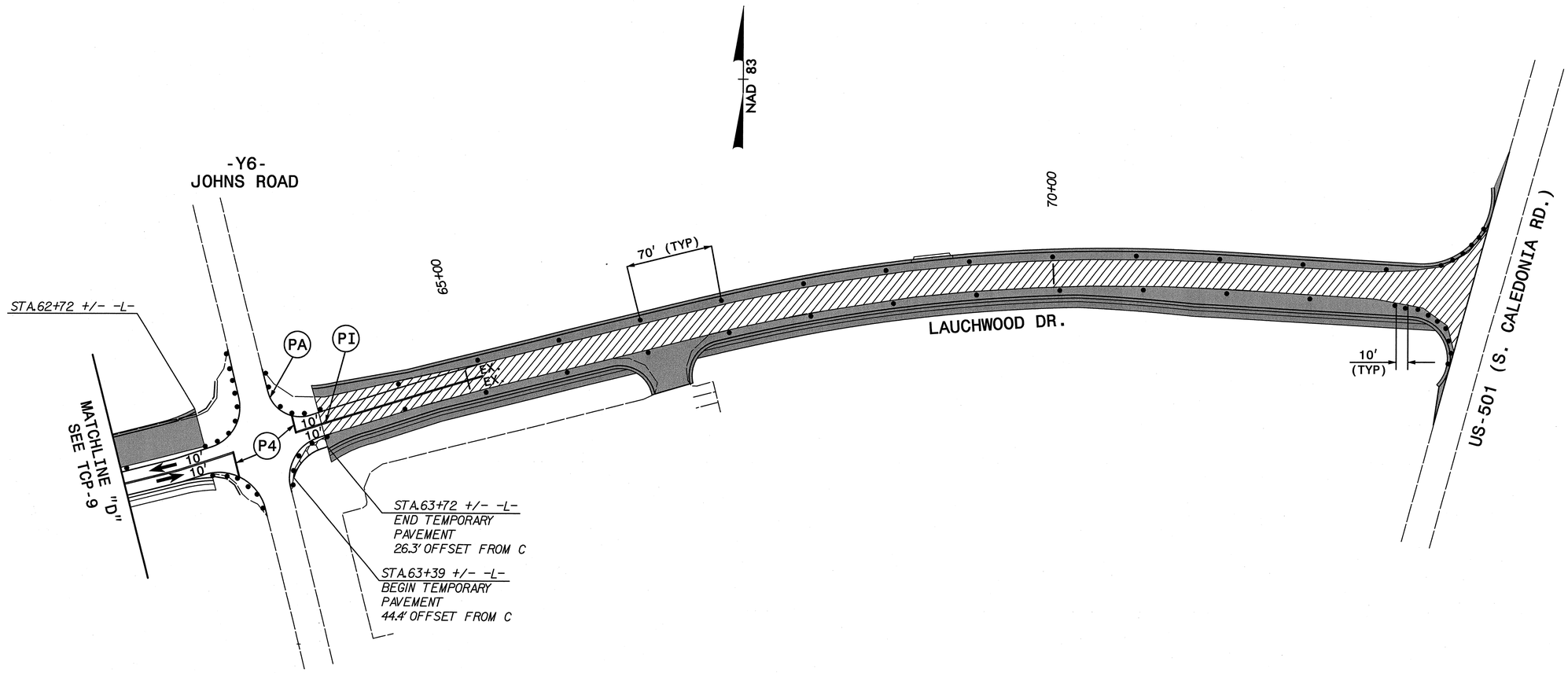
CADD FILE

DGN
$DATE$
$TIME$

HNTB NORTH CAROLINA, P.C.
343 E. SIX FORKS ROAD, SUITE 200
Raleigh, North Carolina 27609

GRAPHIC SCALE
50 25 0 50 100
PLANS

PROJ. REFERENCE NO.	SHEET NO.
U-5027	TCP-8
LAUCHWOOD DR.	



LEGEND

- PROPOSED CONSTRUCTION
- TEMPORARY PAVEMENT

APPROVED: [signature] DATE: 10/8/02

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 18203 ENGINEER SCOTT A YARLEY

PHASE II OVERVIEW

SCALE:	1"=50'
DATE:	3/07
DWG. BY:	JRH/PMW
DESIGN BY:	SAY/PMW
REVIEWED BY:	SAY

DIVISION OF HIGHWAYS ENGINEERING BRANCH TRAFFIC ENGINEERING BRANCH TRAFFIC CONTROL UNIT

REVISIONS	
CADD FILE	

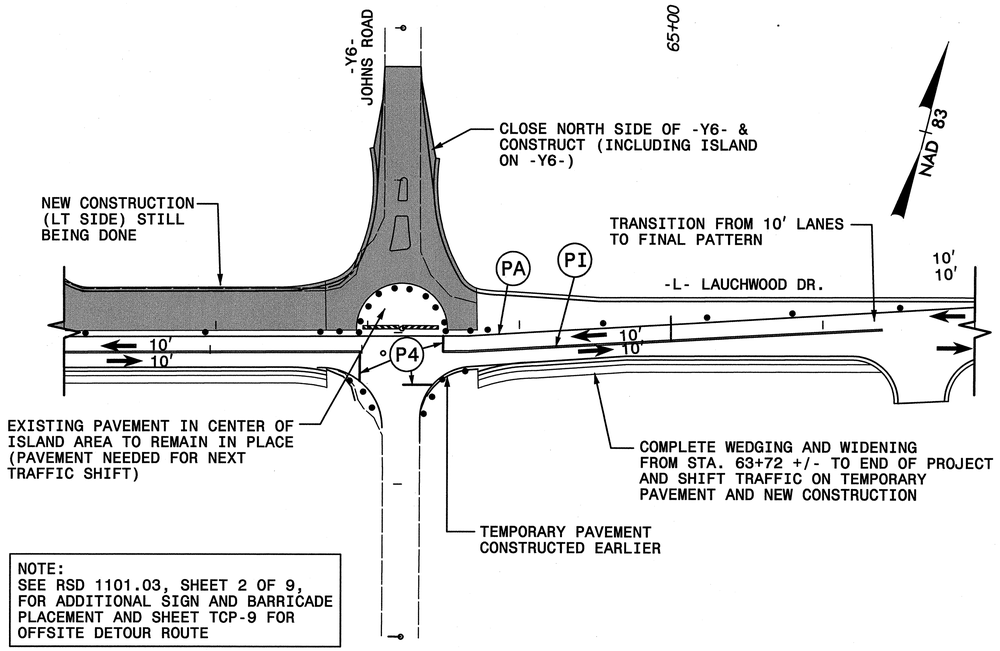
DGN
$DATE$
$TIME$

HNTB NORTH CAROLINA, P.C.
343 E. SIX FORKS ROAD, SUITE 200
Raleigh, North Carolina 27609

GRAPHIC SCALE
50 25 0 50 100
PLANS

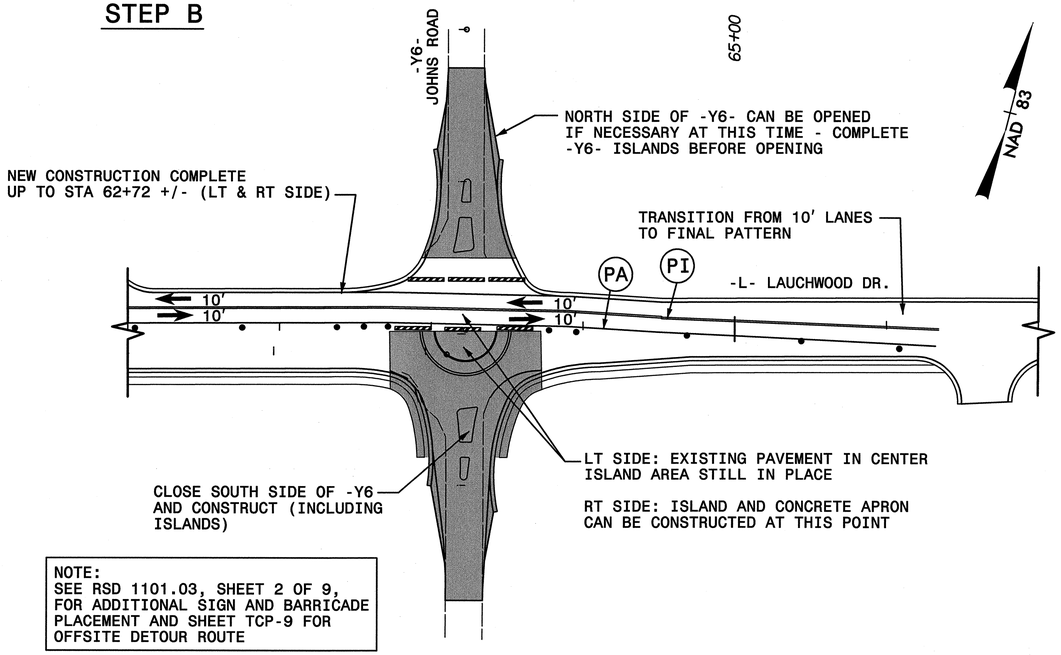
PROJ. REFERENCE NO.	SHEET NO.
U-5027	TCP-8A
LAUCHWOOD DR.	

STEP A



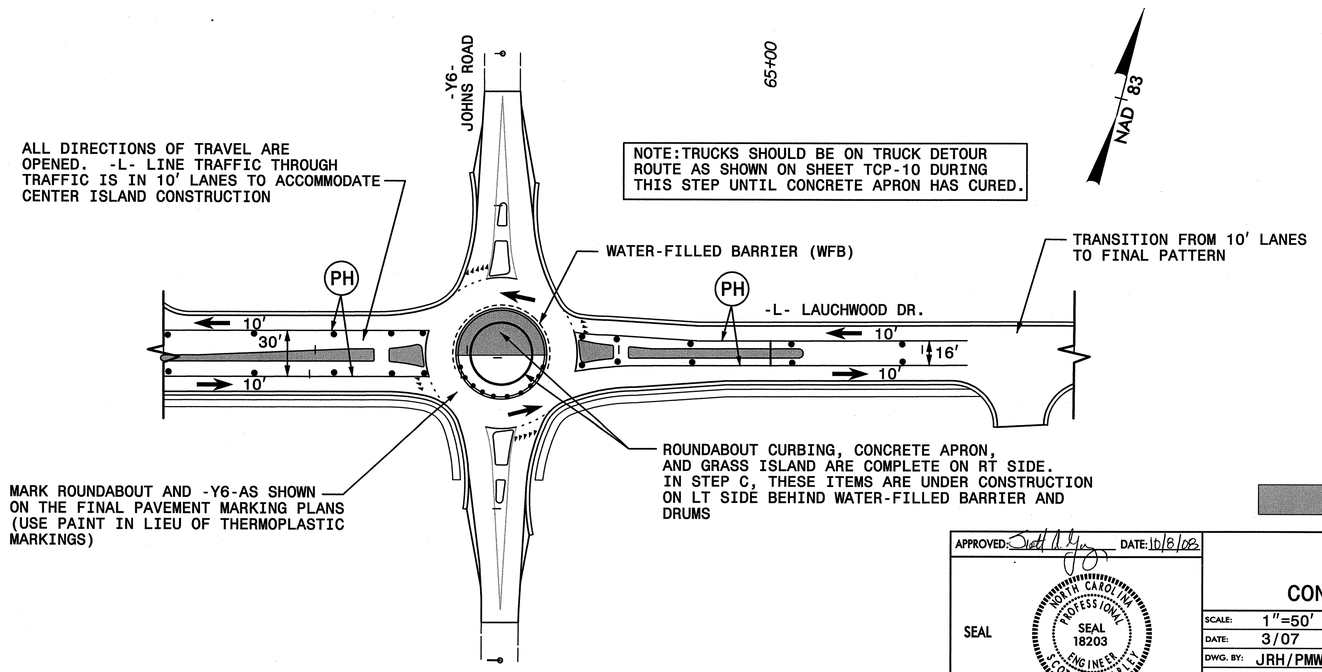
NOTE:
SEE RSD 1101.03, SHEET 2 OF 9, FOR ADDITIONAL SIGN AND BARRICADE PLACEMENT AND SHEET TCP-9 FOR OFFSITE DETOUR ROUTE

STEP B



NOTE:
SEE RSD 1101.03, SHEET 2 OF 9, FOR ADDITIONAL SIGN AND BARRICADE PLACEMENT AND SHEET TCP-9 FOR OFFSITE DETOUR ROUTE

STEP C



LEGEND

- PROPOSED CONSTRUCTION

APPROVED: Scott A. Yaxley DATE: 10/8/08

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 18203 ENGINEER SCOTT A. YAXLEY

DETAIL I
ROUNDABOUT
CONSTRUCTION SEQUENCE

SCALE:	1″=50′
DATE:	3/07
DWG. BY:	JRH/PMW
DESIGN BY:	SAY/PMW
REVIEWED BY:	SAY

REVISIONS

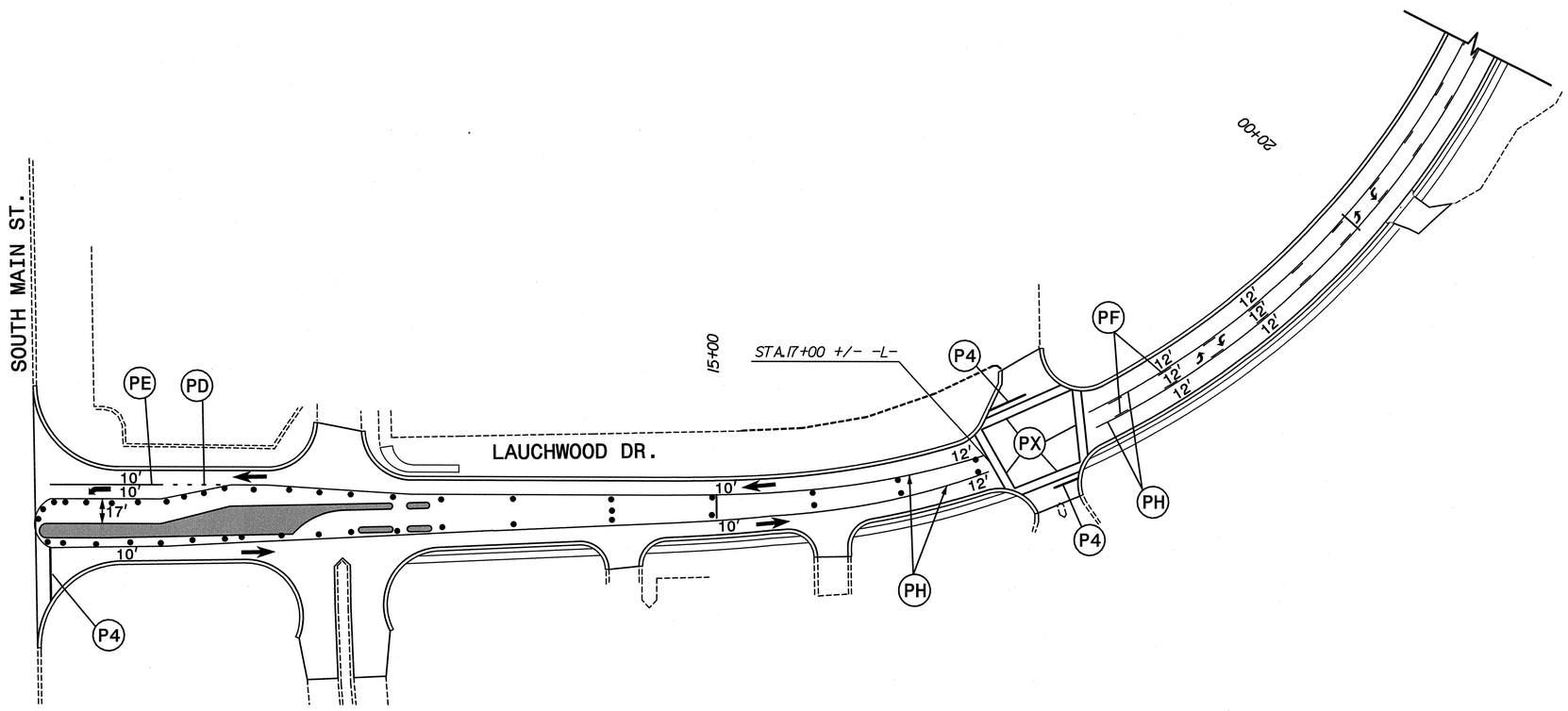
CADD FILE

DGN
$DATE$
$TIME$

HNTB NORTH CAROLINA, P.C.
343 E. SIX FORKS ROAD, SUITE 200
Raleigh, North Carolina 27609

GRAPHIC SCALE
50 25 0 50 100
PLANS

PROJ. REFERENCE NO.	SHEET NO.
U-5027	TCP-8B
LAUCHWOOD DR.	



LEGEND

- PROPOSED CONSTRUCTION

APPROVED: Scott A. Yarley DATE: 6/8/08

SEAL
NORTH CAROLINA PROFESSIONAL SEAL 18203 ENGINEER SCOTT A. YARLEY

DETAIL II
ISLAND CONSTRUCTION AT SOUTH MAIN STREET

SCALE:	1"=50'
DATE:	3/07
DWG. BY:	JRH/PMW
DESIGN BY:	SAY/PMW
REVIEWED BY:	SAY

DIVISION OF HIGHWAYS — TRAFFIC ENGINEERING BRANCH — TRAFFIC CONTROL UNIT

REVISIONS

CADD FILE

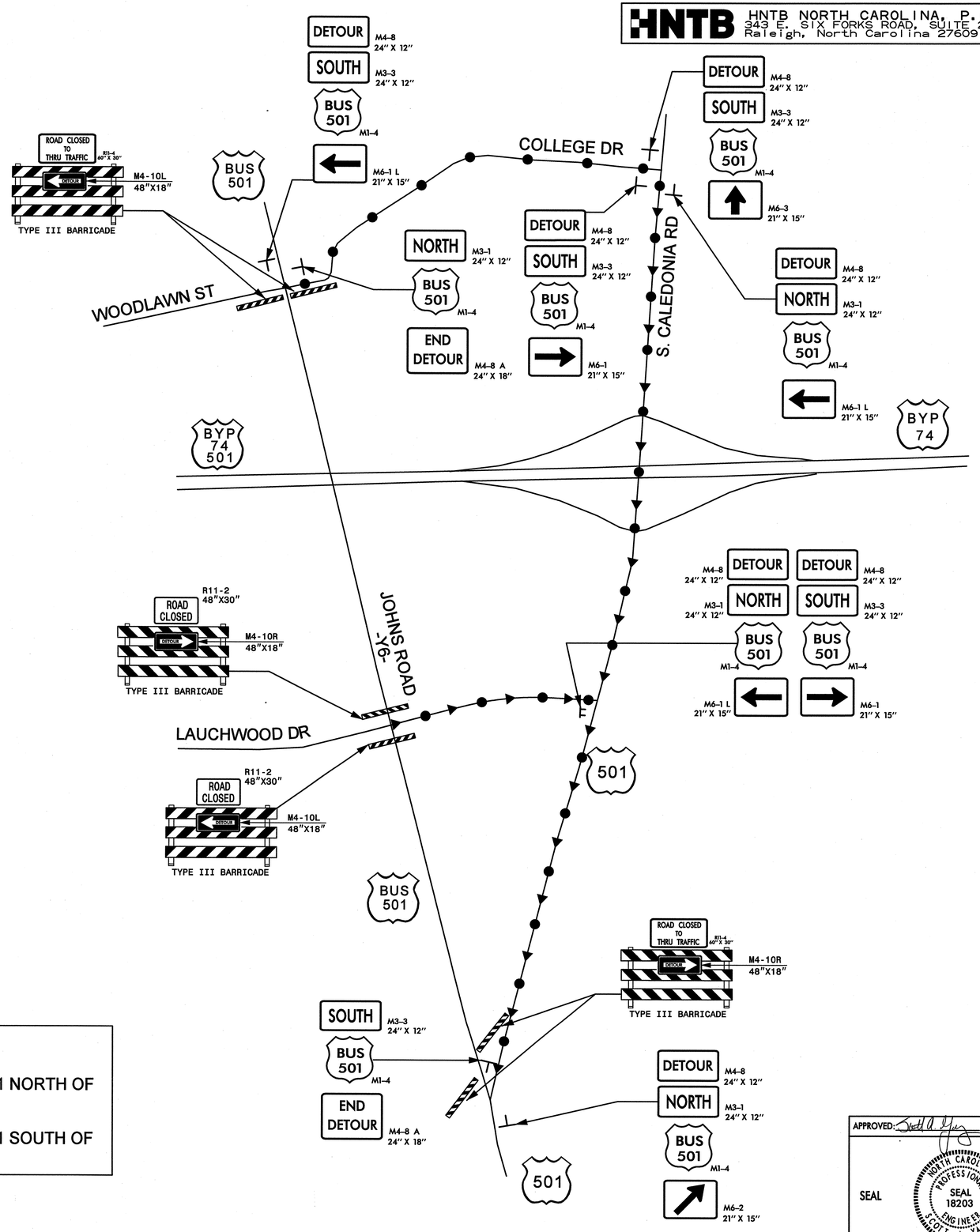
DGN
$DATE$
$TIME$

HNTB NORTH CAROLINA, P.C.
343 E. SIX FORKS ROAD, SUITE 200
Raleigh, North Carolina 27609

N.T.S.

PROJ. REFERENCE NO.	SHEET NO.
U-5027	TCP-9
LAUCHWOOD DR.	

NAD 83



LEGEND

= ACCESS TO BUS 501 NORTH OF LAUCHWOOD DR

= ACCESS TO BUS 501 SOUTH OF LAUCHWOOD DR

APPROVED: Scott A. Yaxley DATE: 10/8/08

SEAL

NORTH CAROLINA PROFESSIONAL SEAL 18203 ENGINEER SCOTT A. YAXLEY

OFFSITE DETOUR - BUS 501 (-Y6-)

SCALE:	NONE
DATE:	3/07
DWG. BY:	PMW
DESIGN BY:	PMW
REVIEWED BY:	SAY

REVISIONS

CADD FILE

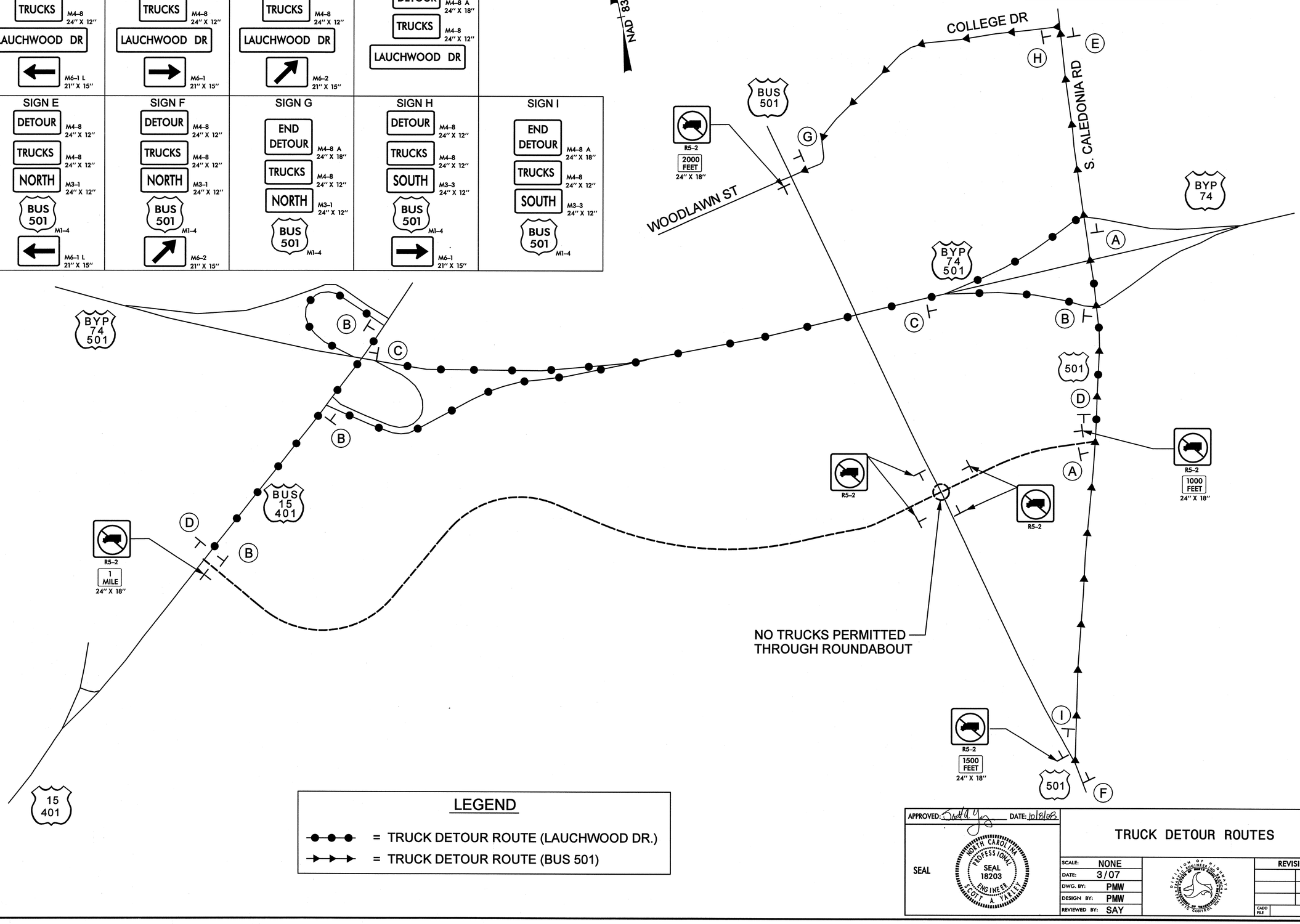
DIVISION OF HIGHWAYS — TRAFFIC ENGINEERING BRANCH — TRAFFIC CONTROL UNIT

DGN
$DATE$
$TIME$

SIGN A	SIGN B	SIGN C	SIGN D
DETOUR M4-8 24" X 12"	DETOUR M4-8 24" X 12"	DETOUR M4-8 24" X 12"	END DETOUR M4-8 A 24" X 18"
TRUCKS M4-8 24" X 12"	TRUCKS M4-8 24" X 12"	TRUCKS M4-8 24" X 12"	TRUCKS M4-8 24" X 12"
LAUCHWOOD DR	LAUCHWOOD DR	LAUCHWOOD DR	LAUCHWOOD DR
← M6-1 L 21" X 15"	→ M6-1 21" X 15"	↗ M6-2 21" X 15"	

SIGN E	SIGN F	SIGN G	SIGN H	SIGN I
DETOUR M4-8 24" X 12"	DETOUR M4-8 24" X 12"	END DETOUR M4-8 A 24" X 18"	DETOUR M4-8 24" X 12"	END DETOUR M4-8 A 24" X 18"
TRUCKS M4-8 24" X 12"	TRUCKS M4-8 24" X 12"	TRUCKS M4-8 24" X 12"	TRUCKS M4-8 24" X 12"	TRUCKS M4-8 24" X 12"
NORTH M3-1 24" X 12"	NORTH M3-1 24" X 12"	NORTH M3-1 24" X 12"	SOUTH M3-3 24" X 12"	SOUTH M3-3 24" X 12"
BUS 501 M1-4	BUS 501 M1-4	BUS 501 M1-4	BUS 501 M1-4	BUS 501 M1-4
← M6-1 L 21" X 15"	↗ M6-2 21" X 15"		→ M6-1 21" X 15"	

NAD 83



LEGEND

= TRUCK DETOUR ROUTE (LAUCHWOOD DR.)

= TRUCK DETOUR ROUTE (BUS 501)

HNTB NORTH CAROLINA, P.C.
343 E. SIX FORKS ROAD, SUITE 200
Raleigh, North Carolina 27609

N.T.S.

PROJ. REFERENCE NO.	SHEET NO.
U-5027	TCP-10
LAUCHWOOD DR.	

APPROVED: [signature] DATE: 10/8/08

SEAL — NORTH CAROLINA PROFESSIONAL SEAL 18203 ENGINEER SCOTT A YARLEY

TRUCK DETOUR ROUTES

SCALE:	NONE
DATE:	3/07
DWG. BY:	PMW
DESIGN BY:	PMW
REVIEWED BY:	SAY

DIVISION OF HIGHWAYS — TRAFFIC ENGINEERING BRANCH — TRAFFIC CONTROL UNIT

REVISIONS

CADD FILE

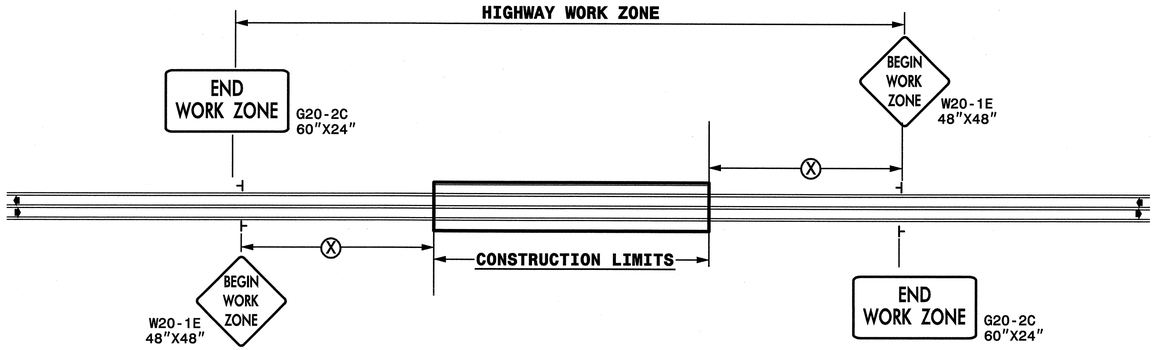
DGN
$DATE$
$TIME$

HNTB NORTH CAROLINA, P.C.
343 E. SIX FORKS ROAD, SUITE 200
Raleigh, North Carolina 27609

N.T.S.

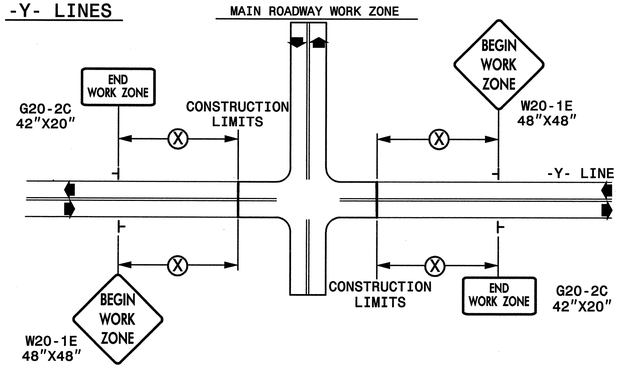
PROJ. REFERENCE NO.	SHEET NO.
U-5027	TCP-11
LAUCHWOOD DR.	

TWO-WAY UNDIVIDED & URBAN FREEWAYS (L-LINES)



POSTED SPEED LIMIT (M.P.H.)	RECOMMENDED MINIMUM SIGN SPACING (X)
≤ 50	350′
≥ 55	500′

ROADWAYS INTERSECTING ALONG 2 WAY UNDIVIDED WORK ZONE (Y-LINES)



GENERAL NOTES

- USE TYPE I AND TYPE II SHEETING FOR ALL WORK ZONE WARNING SIGNS UNTIL THE EXISTING TYPE I AND TYPE II SHEETING INVENTORIES ARE EXHAUSTED, OTHERWISE USE TYPE VII SHEETING OR HIGHER. (STANDARD PRACTICE FOR SIGN SHEETING, S-68)
- DO NOT INSTALL ADVANCE WARNING SIGNS MORE THAN 3 DAYS PRIOR TO BEGINNING OF WORK.
- SIGNS SHOWN ARE REQUIRED FOR WORK ZONES THAT WILL REMAIN IN EFFECT OVERNIGHT. FOR SHORT-TERM DAILY MAINTENANCE TYPE OPERATIONS, THIS SIGNING APPLICATION IS OPTIONAL; MAY USE ONLY APPLICABLE ROADWAY STANDARD DRAWINGS INSTEAD. HOWEVER, IF THIS SIGNING APPLICATION IS USED, SIGNS MAY BE PORTABLE MOUNTED.
- ALL SIGN SPACING DIMENSIONS ARE APPROXIMATE, FIELD ADJUST AS NECESSARY OR AS DIRECTED.
- USE 3LB STEEL U-CHANNEL POST OR 4" X 4" WOOD POST FOR ALL WORK ZONE SIGNS. 3LB STEEL U-CHANNEL POSTS MUST MEET THE REQUIREMENTS OF STANDARD SPECIFICATION SECTION 1094-1(B), MAY BE GALVANIZED STEEL, OR MAY BE PAINTED GREEN BY THE POST MANUFACTURER. SQUARE STEEL TUBING POSTS HAVING EQUIVALENT STRENGTH OF THE 3 LB STEEL U-CHANNEL POST ARE ALSO ACCEPTABLE FOR USE. ERECT SIGNS PER ROADWAY STANDARD DRAWING 1110.01. PAYMENT FOR WOOD POSTS, 3LB STEEL U-CHANNEL AND SQUARE STEEL TUBING POSTS WITH SIGNS WILL BE MADE ACCORDING TO STANDARD SPECIFICATION "WORK ZONE SIGNS" SECTION 1110.
- WHEN NECESSARY, USE SPLICING IN ACCORDANCE WITH ROADWAY STANDARD DRAWING NO. 1110.01. REMOVE ENTIRE POST WHEN REMOVING SIGNS WITH SPLICED POSTS.
- DO NOT BACK BRACE SIGN SUPPORTS.

LEGEND

- ⊢ STATIONARY SIGN
- ⬅ DIRECTION OF TRAFFIC FLOW

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

DETAIL DRAWING FOR TWO-WAY UNDIVIDED WORK ZONE WARNING SIGNS

SHEET 1 OF 1

APPROVED: Scott A. Yarley DATE: 10/18/08

SEAL

NORTH CAROLINA PROFESSIONAL SEAL 18203 ENGINEER SCOTT A. YARLEY

DETAIL DRAWING FOR TWO-WAY UNDIVIDED AND URBAN FREEWAYS ADVANCED WORK ZONE WARNING SIGNS

SCALE:	NONE
DATE:	3/07
DWG. BY:	JRH/PMW
DESIGN BY:	SAY/PMW
REVIEWED BY:	SAY

DIVISION OF HIGHWAYS TRAFFIC ENGINEERING BRANCH STATE OF NORTH CAROLINA DEPARTMENT OF TRANSPORTATION

REVISIONS	
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DGN
$DATE$
$TIME$