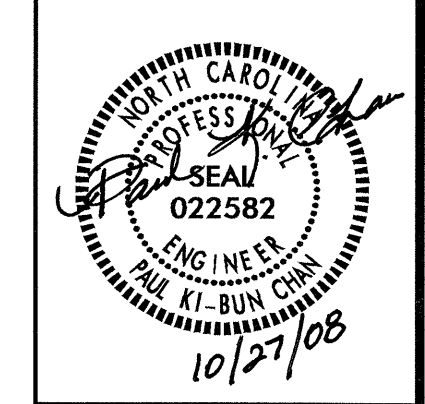


# PLANS AND DETAILS FOR PROPOSED LIGHTING /ELECTRICAL CONSTRUCTION



### NOTES

- 1 AT THESE LOCATIONS, PROVIDE ELECTRICAL DUCT IN ACCORDANCE WITH NEC REQUIREMENTS FOR AN APPROVED RACEWAY FOR ELECTRICAL CIRCUITS. SEE TABLE "C"
- 2 INSTALL ALL BORE PITS OUTSIDE THE CLEAR ZONE, AS DEFINED BY THE 2002 AASHTO ROADSIDE DESIGN GUIDE OR AS DIRECTED BY THE ENGINEER.
- 3 LOCATE ALL JUNCTION BOXES OUTSIDE CLEAR ZONE AND IN AN AREA UNLIKELY TO BE USED BY TRAFFIC.
- 4 LOCATE PROPOSED CONTROL SYSTEM IN AN AREA ACCESSIBLE FOR MAINTENANCE VEHICLES AND OUTSIDE OF CLEAR ZONE AS DEFINED BY THE 2002 AASHTO ROADSIDE DESIGN GUIDE.
- 5 TYPE PC18 JUNCTION BOXES ARE 18" L X 12" W X 18" H.
- 6 AT THESE LOCATIONS USE TYPE PC30 JUNCTION BOX. MIN. SIZE 30" L X 17" W X 18" H.

### SCOPE OF WORK

PLACE ROADWAY LIGHTING SYSTEM INTO SERVICE BY PROVIDING AND INSTALLING 100' HIGH MOUNT STANDARDS WITH HIGH PRESSURE SODIUM LUMINAIRES, UNDERGROUND CIRCUITRY, CONTROL SYSTEM AND JUNCTION BOXES.

### DESIGN CRITERIA

- 2005 AASHTO ROADWAY LIGHTING DESIGN GUIDE
- 2001 AASHTO STANDARD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES, AND TRAFFIC SIGNALS, AND LATEST INTERIM SPECIFICATIONS VALID AT THE TIME OF LETTING
- FATIGUE CATEGORY II SHALL BE USED IN DESIGN
- DESIGN HIGH MOUNT STANDARD FOR BASIC WIND SPEED OF 90 MPH
- DESIGN HIGH MOUNT STANDARD FOUNDATION FOR BASIC WIND SPEED OF 90 MPH. ANY CONTRACTOR-DESIGNED SITE SPECIFIC FOUNDATION DESIGN SHALL BE DESIGNED FOR THE SAME WIND SPEED
- 2008 NATIONAL ELECTRICAL CODE
- 2002 AASHTO ROADSIDE DESIGN GUIDE

### ROADWAY STANDARDS

THE FOLLOWING ROADWAY ENGLISH STANDARDS AS APPEAR IN "NCDOT ROADWAY STANDARD DRAWINGS", ROADWAY DESIGN 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
1401.01	HIGH MOUNT STANDARD
1402.01	HIGH MOUNT FOUNDATION
1403.01	HIGH MOUNT LUMINAIRES
1407.01	ELECTRIC SERVICE POLE AND LATERAL
1408.01	LIGHT CONTROL SYSTEM
(USE ATTACHED DETAIL SHEET 1408D01 IN LIEU OF STANDARD DRAWING 1408.01 SHEET 2)	
1409.01	ELECTRICAL DUCT
1410.01	FEEDER CIRCUITS
1411.01	ELECTRICAL JUNCTION BOXES

ALL WORK SHALL BE IN CONFORMANCE WITH DIVISION 14 OF THE STANDARD SPECIFICATIONS FOR ROADS AND STRUCTURES, DATED JULY 2006.

### LEGEND

- 6 PROPOSED 100' HIGH MAST STANDARD W/ HM FOUNDATION & (6) HM LUMINAIRES 750W HPS, MEDIUM, CUTOFF, TYPE V
- PC36 PROPOSED CONTROL SYSTEM WITH PC36 JUNCTION BOX. BREAKER SIZE SHOWN IN LOAD SCHEDULE, SHEET E2
- JB1 PROPOSED ELECTRICAL JUNCTION BOX SIZED AS SHOWN IN TABLE B, THIS SHEET
- 1 REFERENCE TO CORRESPONDING NOTE AS NUMBERED
- (A1) PROPOSED FEEDER CIRCUIT CONTROL SYSTEM(A), CIRCUIT(1) PLAN SYMBOL (6) SEE TABLE A, THIS SHEET
- 3#1/0 USE 2" PROPOSED SERVICE POLE AND LATERAL 30' CLASS 4 3#1/0 USE CONDUCTORS 2" CONDUIT
- 2", 3" OR 4" ELEC. DUCT JA & BD PROPOSED ELECTRICAL DUCT SIZE 2", 3" OR 4" TYPE (JA) OR (BD) LOCATION: SEE TABLE C, THIS SHEET

PLAN SYMBOL	DESCRIPTION	CONTRACT ITEM
8	2#8 Ø 1 #10G 1.5" P	2 AWG SIZE 8 CONDUCTOR (BK & RD) 1 AWG SIZE 10 GROUNDING CONDUCTOR 1.5" PVC CONDUIT
*8	2#8 Ø 1 #10G	2 AWG SIZE 8 CONDUCTOR (BK & RD) 1 AWG SIZE 10 GROUNDING CONDUCTOR
6	2#6 Ø 1 #8G 1.5" P	2 AWG SIZE 6 CONDUCTOR (BK & RD) 1 AWG SIZE 8 GROUNDING CONDUCTOR 1.5" PVC CONDUIT
*6	2#6 Ø 1 #8G	2 AWG SIZE 6 CONDUCTOR (BK & RD) 1 AWG SIZE 8 GROUNDING CONDUCTOR
4	2#4 Ø 1 #6G 1.5" P	2 AWG SIZE 4 CONDUCTOR (BK & RD) 1 AWG SIZE 6 GROUNDING CONDUCTOR 1.5" PVC CONDUIT
*4	2#4 Ø 1 #6G	2 AWG SIZE 4 CONDUCTOR (BK & RD) 1 AWG SIZE 6 GROUNDING CONDUCTOR

NUMBER	LOCATION	TYPE	SHEET
JB1	11+75 -Y12-, 33' LT	PC30	E2
JB2	11+60 -Y12-, 18' RT	PC30	E2
JB3	24+10 -Y10-, 85' RT	PC30	E2
JB4	21+40 -Y10-, 80' RT	PC18	E2
JB5	5+95 -Y12-, 68' RT	PC18	E2
JB6	25+00 -Y10-, 90' LT	PC18	E2
JB7	22+00 -Y10-, 80' LT	PC18	E2
JB8	8+50 -Y14-, 100' RT	PC18	E2
TOTALS		5	3

LOCATION	RACEWAY	SHEET	TYPE					
			JACKED (JA) FEET			BURIED (BD) FEET		
			SIZE 2"	SIZE 3"	SIZE 4"	SIZE 2"	SIZE 3"	SIZE 4"
11+65 -Y12-		E2			55			
11+65 -Y12-	JB1 - JB2	E2				105		
24+55 -Y10-		E2			145			
24+55 -Y10-	JB3 - JB6	E2				200		
TOTALS					200	305		

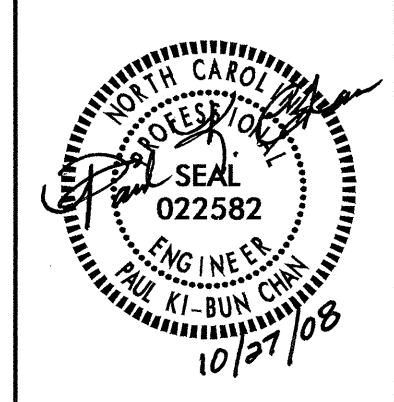
ABBREVIATIONS

BD	BURIED	PVC	PVC SCHEDULE 40 CONDUIT
LT	LIGHT	RGC	RIGID GALVANIZED STEEL CONDUIT
JA	JACKED	C	CONDUIT
MH	MOUNTING HEIGHT	CKT	CIRCUIT
Ø	PHASE	N	NEUTRAL
SER LAT	SERVICE LATERAL	G	GROUND
		HM	HIGH MAST

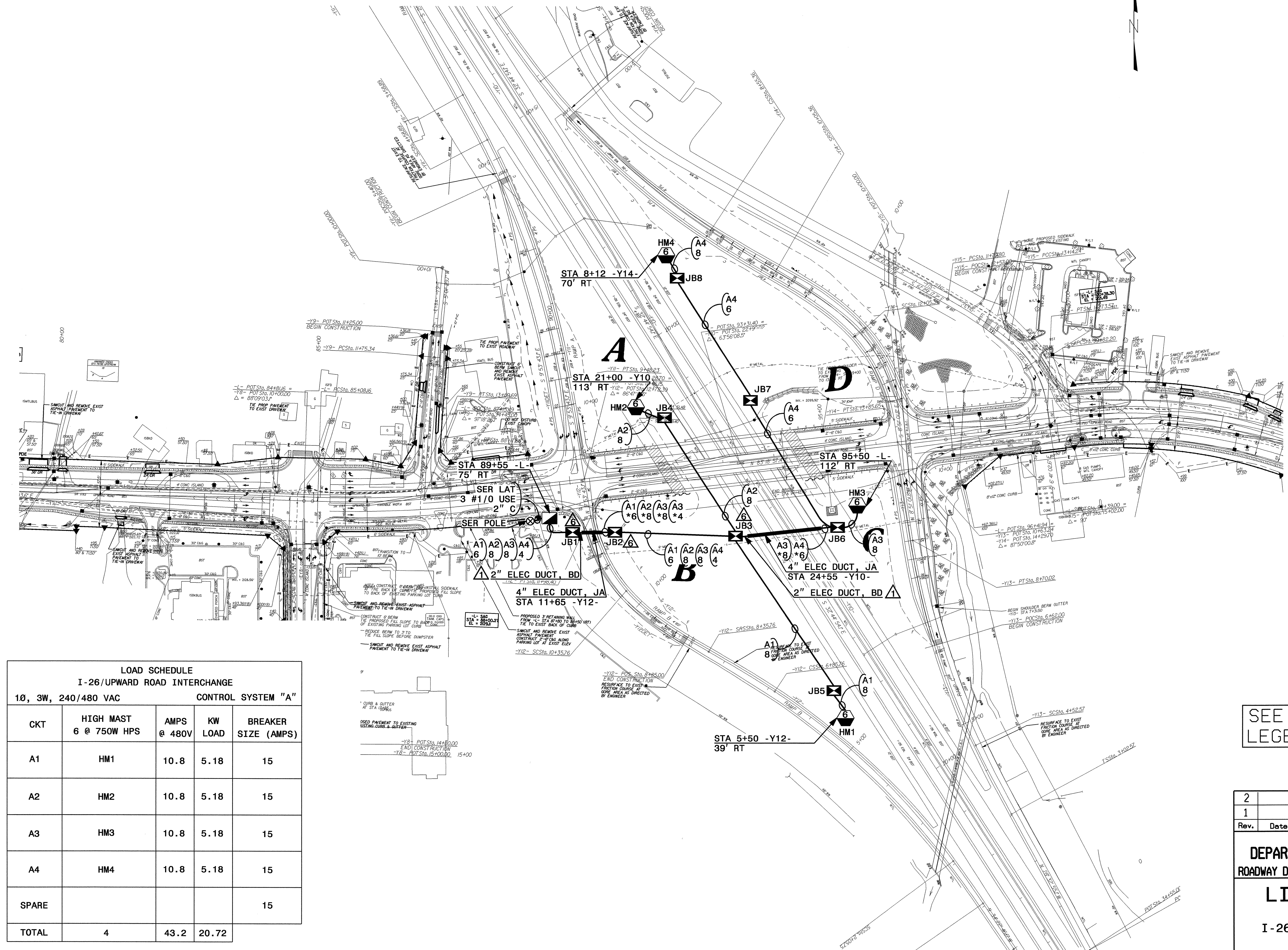
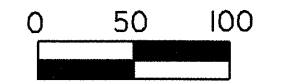
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USE FOR LIGHTING CONSTRUCTION ONLY

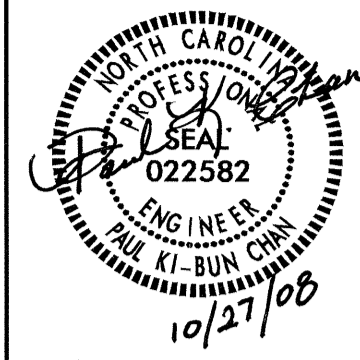


LOAD SCHEDULE				
I-26/UPWARD ROAD INTERCHANGE				
10, 3W, 240/480 VAC CONTROL SYSTEM "A"				
CKT	HIGH MAST 6 @ 750W HPS	AMPS @ 480V	KW LOAD	BREAKER SIZE (AMPS)
A1	HM1	10.8	5.18	15
A2	HM2	10.8	5.18	15
A3	HM3	10.8	5.18	15
A4	HM4	10.8	5.18	15
SPARE				15
TOTAL	4	43.2	20.72	

SEE SHEET "E1" FOR LEGEND & △ NOTES

2				
1				
Rev.	Date	Description	Approved	
<b>NORTH CAROLINA</b> <b>DEPARTMENT OF TRANSPORTATION</b> ROADWAY DESIGN LIGHTING/ELECTRICAL SECTION <b>LIGHTING LAYOUT</b> I-26/UPWARD ROAD INTERCHANGE HENDERSON COUNTY				
Drawn By:	RGH	Approved By:	Dwg. No.:	

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USE FOR LIGHTING CONSTRUCTION ONLY

<p style="text-align: center;"><b>7-06</b></p> <p style="text-align: center;">STATE OF NORTH CAROLINA DEPT. OF TRANSPORTATION DIVISION OF HIGHWAYS RALEIGH, N.C.</p>	<p>ENGLISH STANDARD DRAWING FOR <b>LIGHT CONTROL SYSTEM</b> ASSEMBLY</p>	<p style="text-align: center;"><b>7-06</b></p> <p style="text-align: center;">STATE OF NORTH CAROLINA DEPT. OF TRANSPORTATION DIVISION OF HIGHWAYS RALEIGH, N.C.</p>
<p><b>NOTES</b></p> <ul style="list-style-type: none"> <li>△ CURRENT TRANSFORMER (CT) CABINET AND METER MAY BE MOUNTED ON SERVICE POLE OR BACK OF CONTROL ENCLOSURE.</li> <li>△ SEE SECTION 1407 OF THE STANDARD SPECIFICATIONS FOR SERVICE POLE AND SERVICE LATERAL.</li> <li>△ SEE PLANS FOR SIZE OF CONDUITS AND/OR ELECTRICAL DUCT.</li> <li>△ STUB FEEDER CIRCUIT CONDUITS INTO JUNCTION BOX. CAP UNUSED CONDUITS. FEEDER CIRCUITS MUST BE MINIMUM 30" BELOW GRADE.</li> <li>△ SEE SECTION 1411 OF THE STANDARD SPECIFICATIONS FOR JUNCTION BOX INSTALLATION.</li> </ul>		<p style="text-align: center;"><b>7-06</b></p> <p style="text-align: center;">STATE OF NORTH CAROLINA DEPT. OF TRANSPORTATION DIVISION OF HIGHWAYS RALEIGH, N.C.</p>
<p><b>DETAIL "A"</b></p> <p>MOUNTING HARDWARE</p>	<p style="text-align: center;"><b>ASSEMBLY</b></p>	<p style="text-align: center;"><b>7-06</b></p> <p style="text-align: center;">STATE OF NORTH CAROLINA DEPT. OF TRANSPORTATION DIVISION OF HIGHWAYS RALEIGH, N.C.</p>
<p>SHEET 2 OF 3 <b>1408D01</b></p>	<p>SHEET 2 OF 3 <b>1408D01</b></p>	<p>SHEET 2 OF 3 <b>1408D01</b></p>

2			
1			
Rev.	Date	Description	Approved
<p><b>NORTH CAROLINA</b>                  DEPARTMENT OF TRANSPORTATION                  ROADWAY DESIGN      LIGHTING/ELECTRICAL SECTION</p>			
<p><b>LIGHT CONTROL ASSEMBLY</b>                  SPECIAL DETAILS</p>			
Drawn By:	RGH	Approved By:	Dwg No.: