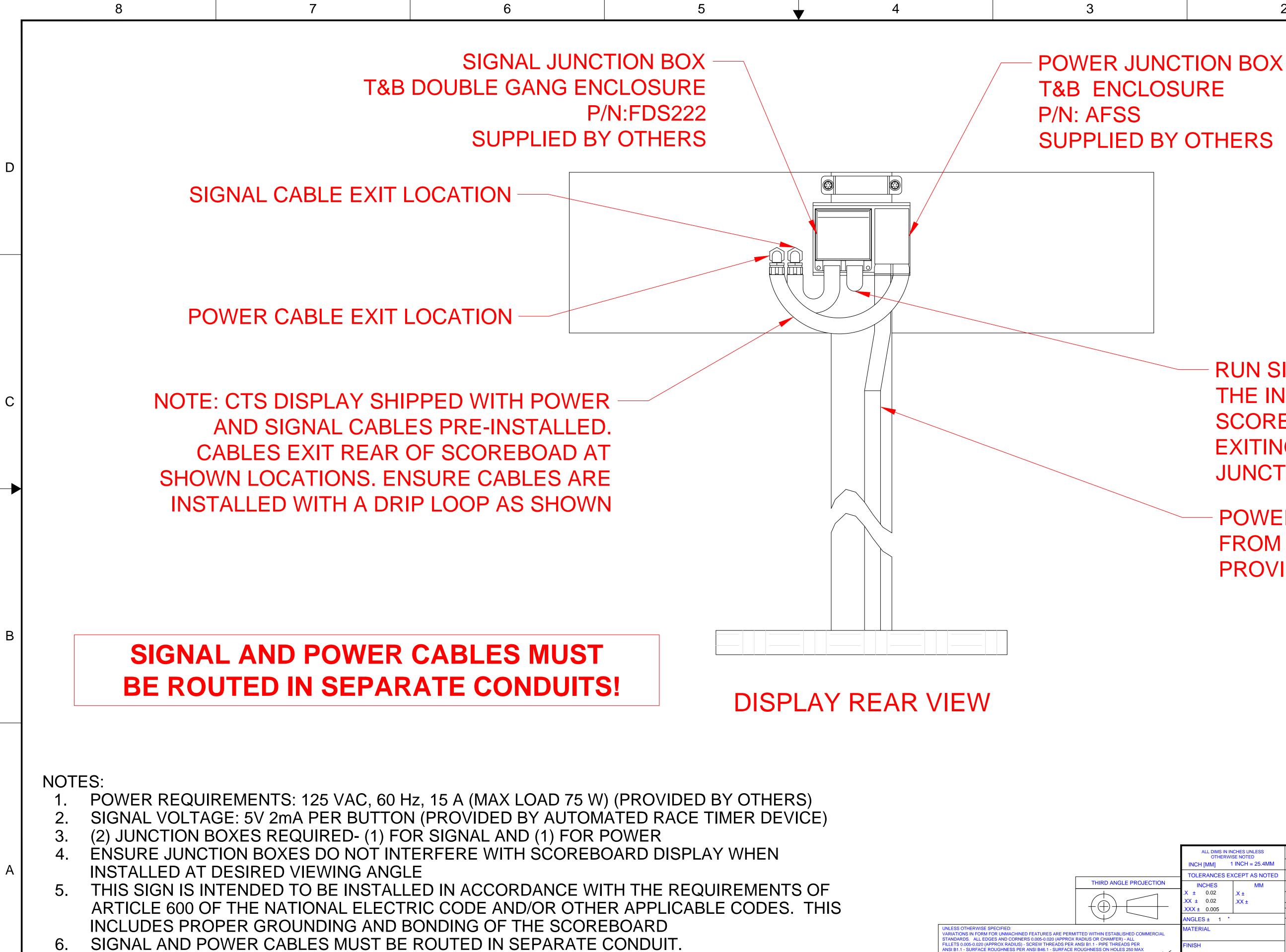


	ISE NOTED	P.SCHIE	L 10/14/15			1551 E. 11th. St.		
INCH [MM]	1 INCH = 25.4MM	ENG. APPROVAL			Colorado TIME systems.	Loveland, CO 8053 P: (970) 667-1000	7	
TOLERANCES EX	XCEPT AS NOTED	PROJECT ENG.				F: (970) 667-5876		7
INCHES	MM				ITOMATED R			
. <mark>X ±</mark> 0.02	.X ±				IALLENGE CO			
.XX ± 0.02	.XX ±	DO NOT SCALE THIS DRAW		SC	BD ATTACH	MENT DETA	ILS	
.XXX ± 0.005		TRADE SECR		NEXT ASS	SEMBLY			
ANGLES ± 1 *		The information and data contained herein is secret and is subr		SIZE	DRAWING	IUMBER	REV.	
MATERIAL		shall not be disclosed, used, or duplicated for any purpose whatsoever without the prior written permission of Colorado Time Systems, ILc., 1551 E. 11th Street, Loveland Colorado, 80537. This legend shall be marked on any reproduction hereof in whole or in part. Receipt of this document shall be deemed to be an acceptance of the conditions specified		D	2014-01	0-009	C1	
FINISH		herein.	·	SCALE				
					N.T.S.	SHEET 2 O	F 8	
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W) (PROVIDED BY OTHERS)
DMATED RACE TIMER DEVICE)
R POWER
EBOARD DISPLAY WHEN

			NCHES UNLESS ISE NOTED	DRAWN BY	P.SCHIEL	DATE 10/14/15			1551 E. 11th. St.		
		INCH [MM]	1 INCH = 25.4MM	ENG. APPROVAL				Colorado	Loveland, CO 80 P: (970) 667-100	0	
1		TOLERANCES E	XCEPT AS NOTED	PROJECT ENG.					F: (970) 667-5876	3	
	THIRD ANGLE PROJECTION	INCHES	MM					UTOMATED R			
	\wedge \neg	.X ± 0.02	.X ±					HALLENGE CO			
		.XX ± 0.02	.XX ±	DO NOT SO	ALE THIS DRAWI	NG		<u>CBD CONDUI</u>	<u>I DETAILS</u>		
		.XXX ± 0.005		- TRADE	E SECR	ET	NEXTAS	SSEMBLY			
)	ANGLES ± 1 °		The information and data contained he shall not be disclosed, used, or duplic	erein is secret and is subm	itted in confidence, and	SIZE	DRAWING	NUMBER	REV.	
	ITTED WITHIN ESTABLISHED COMMERCIAL RADIUS OR CHAMFER) - ALL	MATERIAL		written permission of Colorado Time Sy 80537. This legend shall be marker Receipt of this document shall be deem	stems, IIc., 1551 E. 11th St I on any reproduction here ed to be an acceptance of	treet, Loveland Colorado, of in whole or in part.	D	2014-01	10-009	C1	
REÀDS PER /	ANSI B1.1 - PIPE THREADS PER ROUGHNESS ON HOLES 250 MAX	FINISH			herein.		SCALE	NTO			
-	\checkmark	۴						N.T.S.	SHEET 3	JF 8	1
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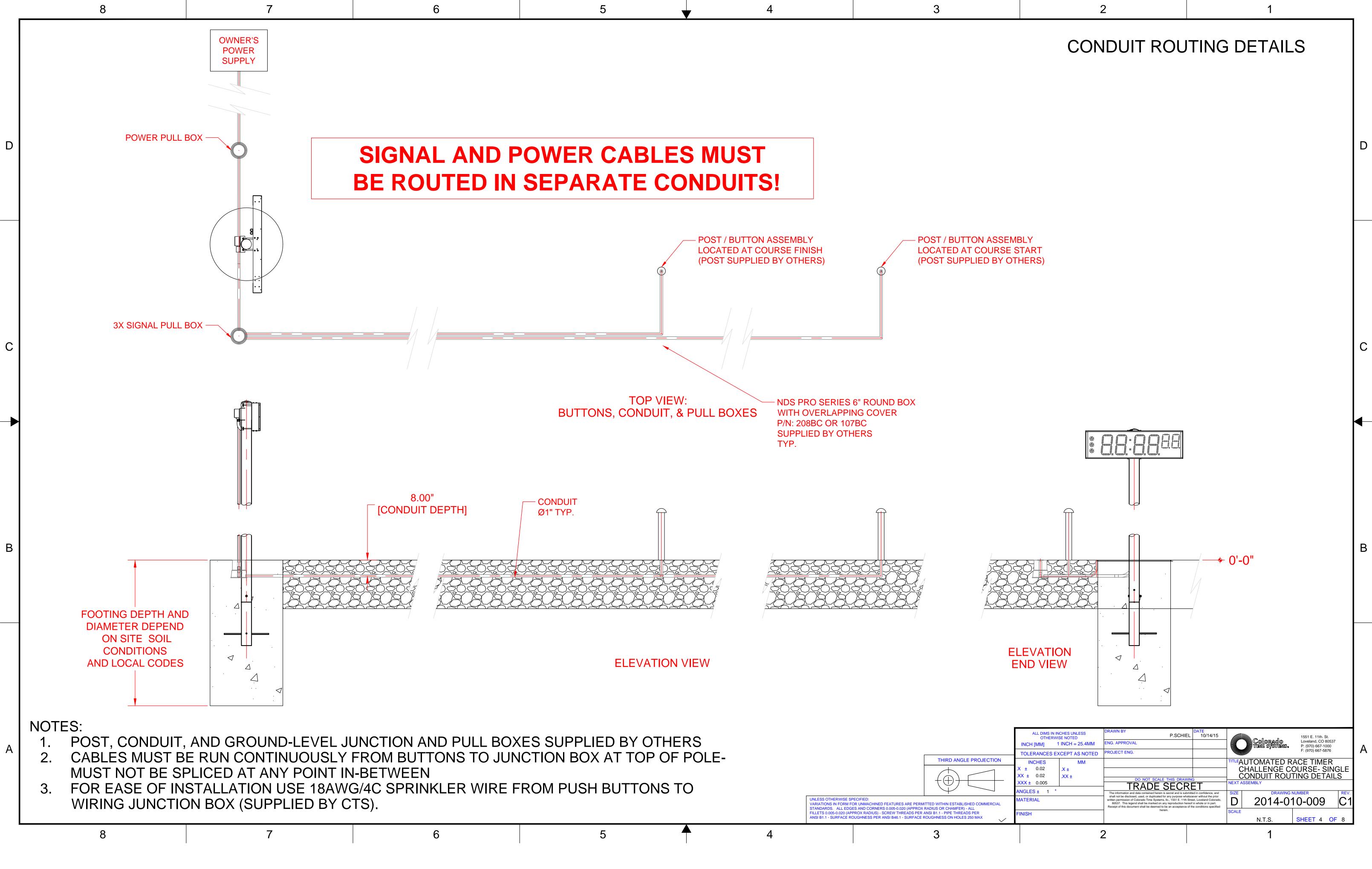
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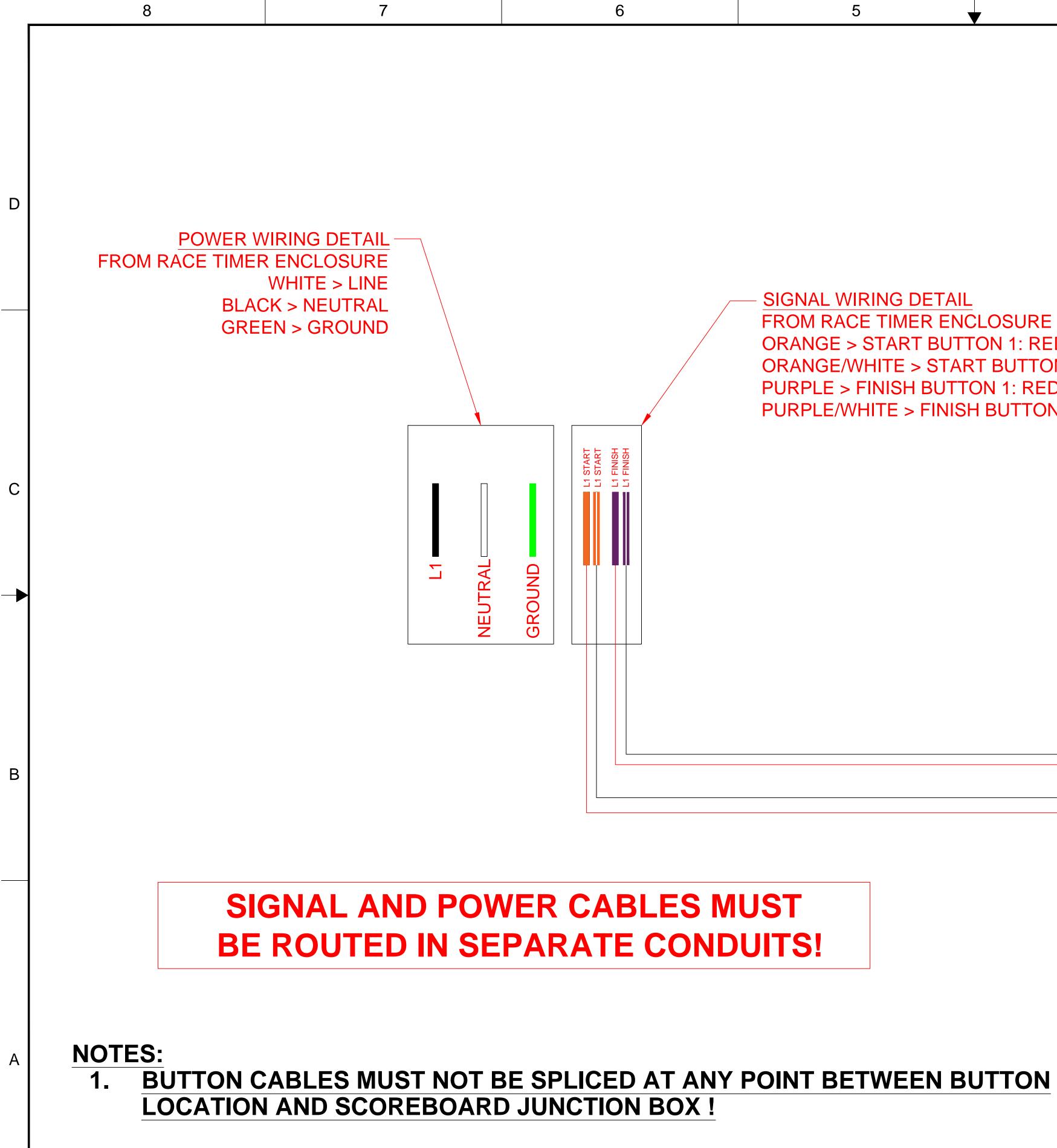
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2

RUN SIGNAL CABLES UP THE INSIDE OF THE SCOREBOARD POLE EXITING IN 1" CONDUIT NEAR CON JUNCTION BOX

POWER CONDUIT FROM POWER SOURCE **PROVIDED BY OTHERS**

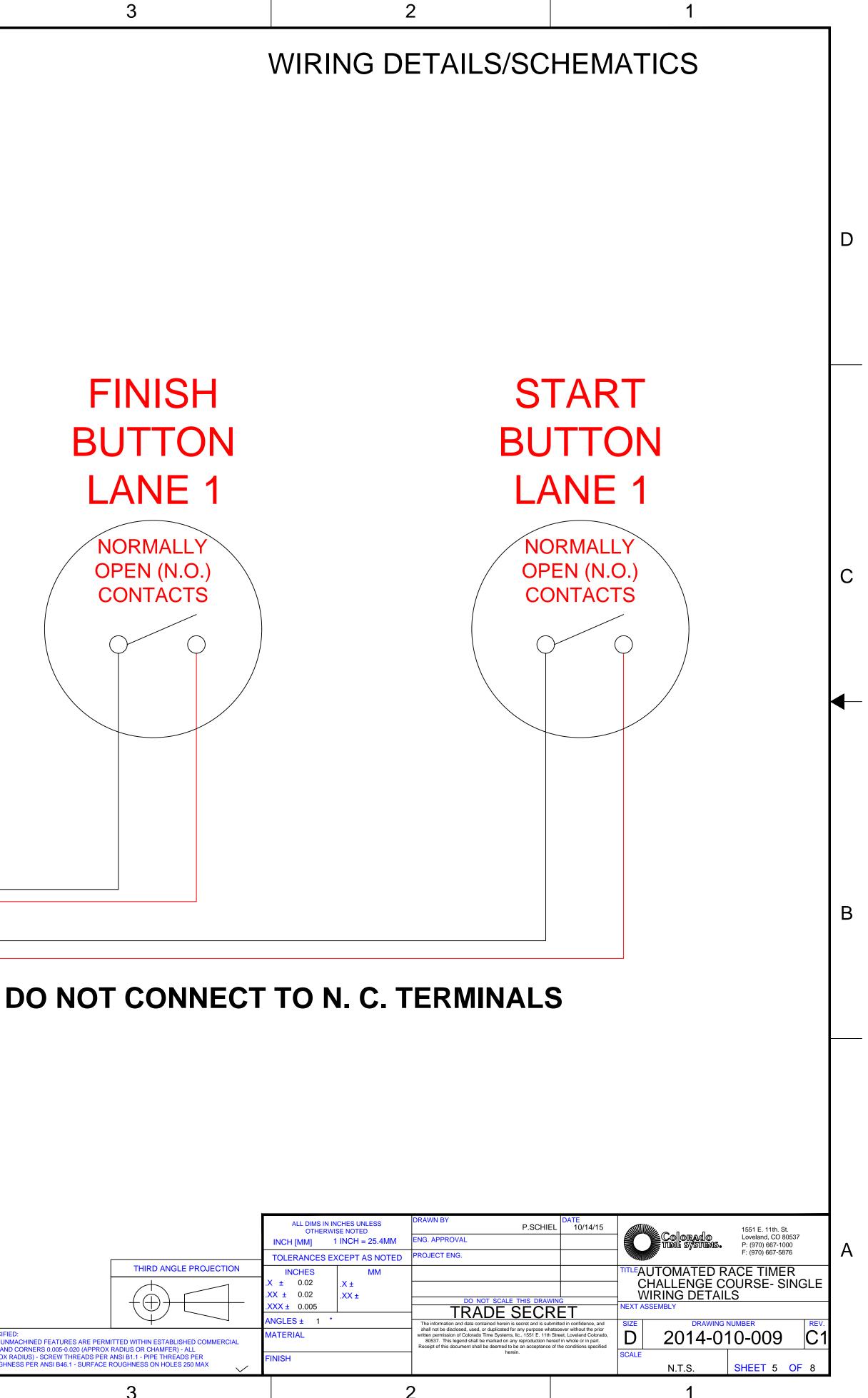




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SIGNAL WIRING DETAIL FROM RACE TIMER ENCLOSURE ORANGE > START BUTTON 1: RED (COM) ORANGE/WHITE > START BUTTON 1: WHITE (N.O.) PURPLE > FINISH BUTTON 1: RED (COM) PURPLE/WHITE > FINISH BUTTON 1: WHITE (N.O.)



RIATIONS IN FORM FOR UNMACHINED FEATURES ARE PERMITTED WITHIN ESTABLISHED COMMERCIA STANDARDS. ALL EDGES AND CORNERS 0.005-0.020 (APPROX RADIUS OR CHAMFER) - ALL FILLETS 0.005-0.020 (APPROX RADIUS) - SCREW THREADS PER ANSI B1.1 - PIPE THREADS PER NSI B1.1 - SURFACE ROUGHNESS PER ANSI B46.1 - SURFACE ROUGHNESS ON HOLES 250 MAX

INLESS OTHERWISE SPECIFIED

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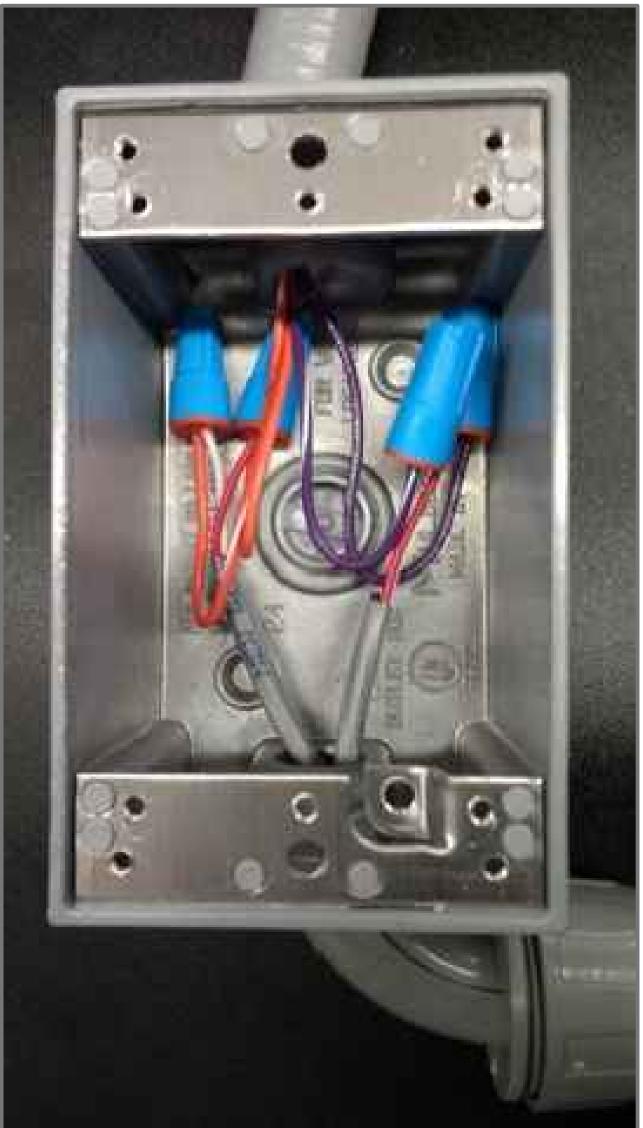
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PULL SIGNAL CABLE (18 AWG/4C SPRINKLER WIRE SUPPLIED BY CTS - PART NUMBER R-015-727) IN CONDUITS BETWEEN CHALLENGE COURSE TIMER/SCOREBOARD AND START BUTTON AND STOP BUTTON LOCATIONS. THIS SIGNAL CABLE MUST BE RUN IN CONDUIT SEPARATE FROM THE POWER CABLE. CABLE MUST BE RUN CONTINUOUSLY FROM BUTTONS TO JUNCTION BOX AT TOP OF POLE; IT MUST NOT BE SPLICED AT ANY POINT IN BETWEEN.

AT THE CHALLENGE COURSE TIMER/SCOREBOARD, STRIP SIGNAL CABLE JACKET 1.5 INCHES, AND CUT OUT GREEN AND BLACK WIRES. CONNECT SIGNAL CABLE TO SIGNAL WIRES FROM SCOREBOARD WITH SUPPLIED WIRE NUTS (CTS PART NUMBER R-025-698), AS PICTURED AT RIGHT AND DETAILED ON PAGE 5.

SIGNAL AND POWER CABLES MUST **BE ROUTED IN SEPARATE CONDUITS!**

SCBD WIRING PROCEDURE



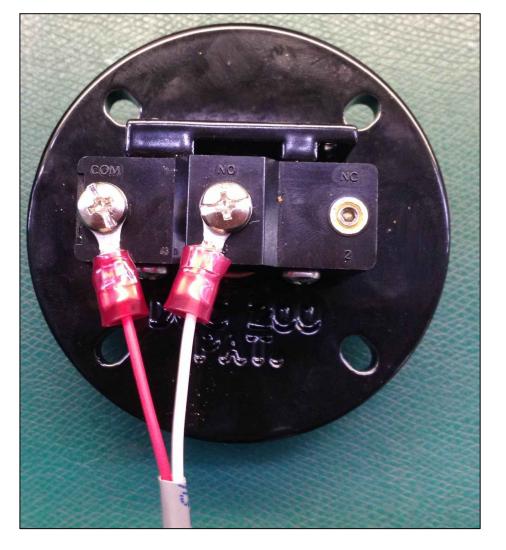
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OTHERWI	ICHES UNLESS SE NOTED 1 INCH = 25.4MM	DRAWN BY P.SCHIEL ENG. APPROVAL	DATE 10/14/15	C	Colorado	1551 E. 11th. St. Loveland, CO 8053 P: (970) 667-1000		
TOLERANCES EX	XCEPT AS NOTED	PROJECT ENG.				F: (970) 667-5876		/
INCHES .X ± 0.02 .XX ± 0.02 .XXX ± 0.005	MM .X ± .XX ±	DO NOT SCALE THIS DRAWIN		CH	JTOMATED R IALLENGE C CBD WIRING	OURSE- SIN	IGLE	
ANGLES ± 1 * MATERIAL		The information and data contained herein is secret and is subm shall not be disclosed, used, or duplicated for any purpose whats written permission of Colorado Time Systems, lic., 1551 E. 11th St 80537. This legend shall be marked on any reproduction here Receipt of this document shall be deemed to be an acceptance of	itted in confidence, and soever without the prior treet, Loveland Colorado, of in whole or in part.	D SIZE	DRAWING 2014-01		C1	
FINISH		herein.		SCALE	N.T.S.	SHEET 6 C)F 8	
		2			1			

AT EACH BUTTON, STRIP SIGNAL CABLE JACKET 2 INCHES, AND CUT OUT GREEN AND BLACK WIRES. CHOOSE WIRING METHOD, EITHER RING TERMINAL **LUGS OR TINNED WIRES:**



RING LUG CONNECTION REQUIRES CRIMPING TOOL, WIRE CUTTER/STRIPPER AND SCREWDRIVER (EITHER PHILIPS OR FLATHEAD) STRIP RED AND WHITE WIRE 1/4". TWIST WIRE TIGHTLY (OR TIN). INSERT EACH WIRE INTO ONE OF THE SUPPLIED RING LUGS (18-22 AWG #8, CTS PART NUMBER R-025-613) AND CRIMP TIGHTLY. PULL ON WIRE TO ENSURE IT IS SECURE. INSTALL RED WIRE TO COM (1) AND WHITE WIRE TO NO (3). DO NOT USE NC (2).

SCREWDRIVER (EITHER PHILIPS OR FLATHEAD)

STRIP RED AND WHITE WIRE 5/8" AND TIN. UNTINNED BARE WIRE IS NOT ACCEPTABLE. USING NEEDLE-NOSE PLIERS, BEND TINNED WIRE. INSTALL RED WIRE TO COM (1) AND WHITE WIRE TO NO (3). DO NOT USE NC (2). TIGHTEN SCREWS SNUGLY.



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PUSH BUTTON WIRING PROCEDURE

TINNED WIRE CONNECTION REQUIRES SOLDERING IRON AND SOLDER, NEEDLE-NOSE PLIERS, WIRE CUTTER/STRIPPER AND



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SIGNAL AND POWER CABLES MUST **BE ROUTED IN SEPARATE CONDUITS!**

OTHERWI INCH [MM] 1	ICHES UNLESS SE NOTED I INCH = 25.4MM (CEPT AS NOTED	DRAWN BY P.SCHIE ENG. APPROVAL PROJECT ENG.	L DATE 10/14/15		Colorado TIME Systems.	1551 E. 11th. St. Loveland, CO 80537 P: (970) 667-1000 F: (970) 667-5876	7	Α
INCHES .X ± 0.02 .XX ± 0.02 .XXX ± 0.005 ANGLES ± 1 *	MM .X ± .XX ±	DO NOT SCALE THIS DRAW TRADE SECR The information and data contained herein is secret and is sub	RET mitted in confidence, and	P V	UTOMATED R USH BUTTON VIRING PROCI SSEMBLY DRAWING	EDURE	REV.	
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SINGLE LANE CHALLENGE COURSE RACE TIMER INSTALLATION TESTING

5

ACTION

6

PUSH & HOLD START BUTT

7

CONTINUE HOLDING STAR LANE 1

RELEASE START BUTTON FO GREEN DOT IS DISPLAYED

PUSH FINISH BUTTON FOR MINUTES OF START (CAN H PERSON DO THIS)

SIGNAL AND POWER CABLES MUST BE ROUTED IN SEPARATE CONDUITS!

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DN	CORRECT RESULT
	DISPLAY FOR LANE 1 SHOWS 0s IN
TON FOR LANE 1	RED DOT
RT BUTTON FOR	DISPLAY CHANGES TO AMBER DOT,
	GREEN, TIME STARTS COUNTING U
FOR LANE 1 AFTER	TIME CONTINUES TO COUNT UP
R LANE 1 WITHIN 60 HAVE ANOTHER	TIME STOPS FOR LANE 1; FINISH TI DISPLAYED

4

THIRD ANGLE PROJECTION RIATIONS IN FORM FOR UNMACHINED FEATURES ARE PERMITTED WITHIN ESTABLISHED COMMERCI STANDARDS. ALL EDGES AND CORNERS 0.005-0.020 (APPROX RADIUS OR CHAMFER) - ALL FILLETS 0.005-0.020 (APPROX RADIUS) - SCREW THREADS PER ANSI B1.1 - PIPE THREADS PER

NLESS OTHERWISE SPECIFIED:

NSI B1.1 - SURFACE ROUGHNESS PER ANSI B46.1 - SURFACE ROUGHNESS ON HOLES 250 MAX

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OTHERW	NCHES UNLESS VISE NOTED 1 INCH = 25.4MM	P.SC ENG. APPROVAL	CHIEL 10/14/15		Colorado	1551 E. 11th. St. Loveland, CO 8053 P: (970) 667-1000	
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INCHES .X ± 0.02 .XX ± 0.02 .XXX ± 0.005 ANGLES ± 1 *	MM .X ± .XX ±	DO NOT SCALE THIS D TRADE SEC The information and data contained herein is secret and shall not be disclosed, used, or duplicated for any purpo	Is submitted in confidence, and	- Cł	JTOMATED R HALLENGE CU SETING PROCE SEMBLY DRAWING	OURSE- SIN CEDURE	
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