

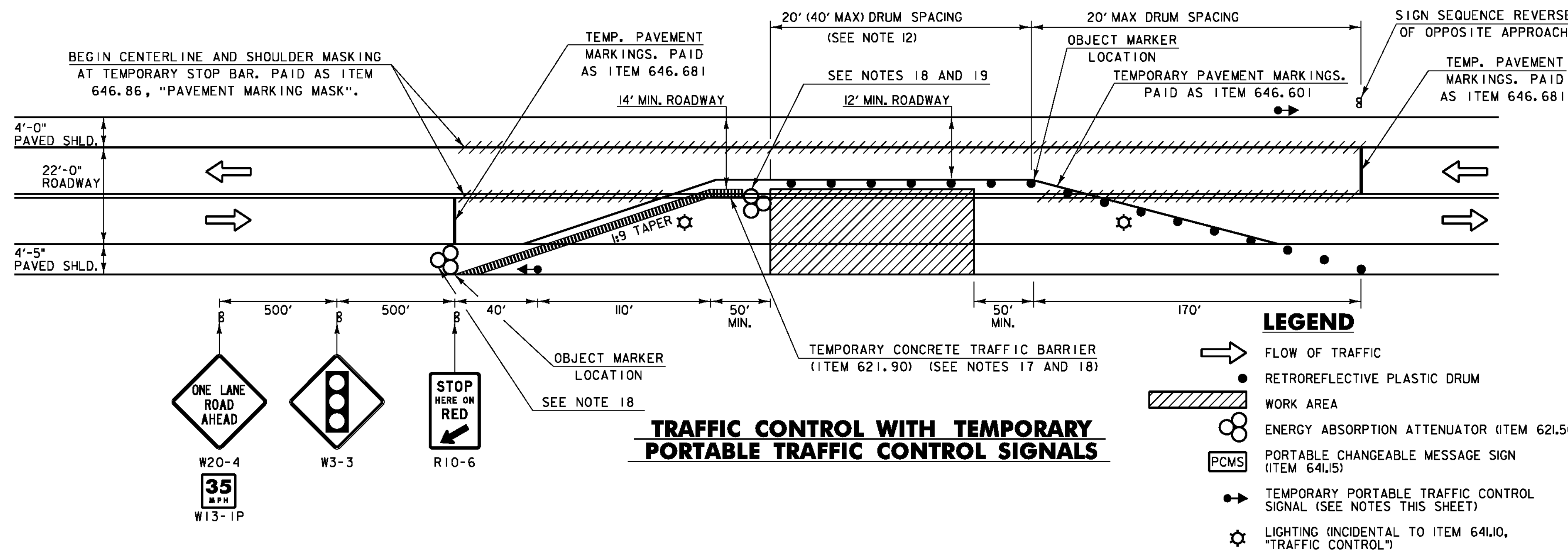
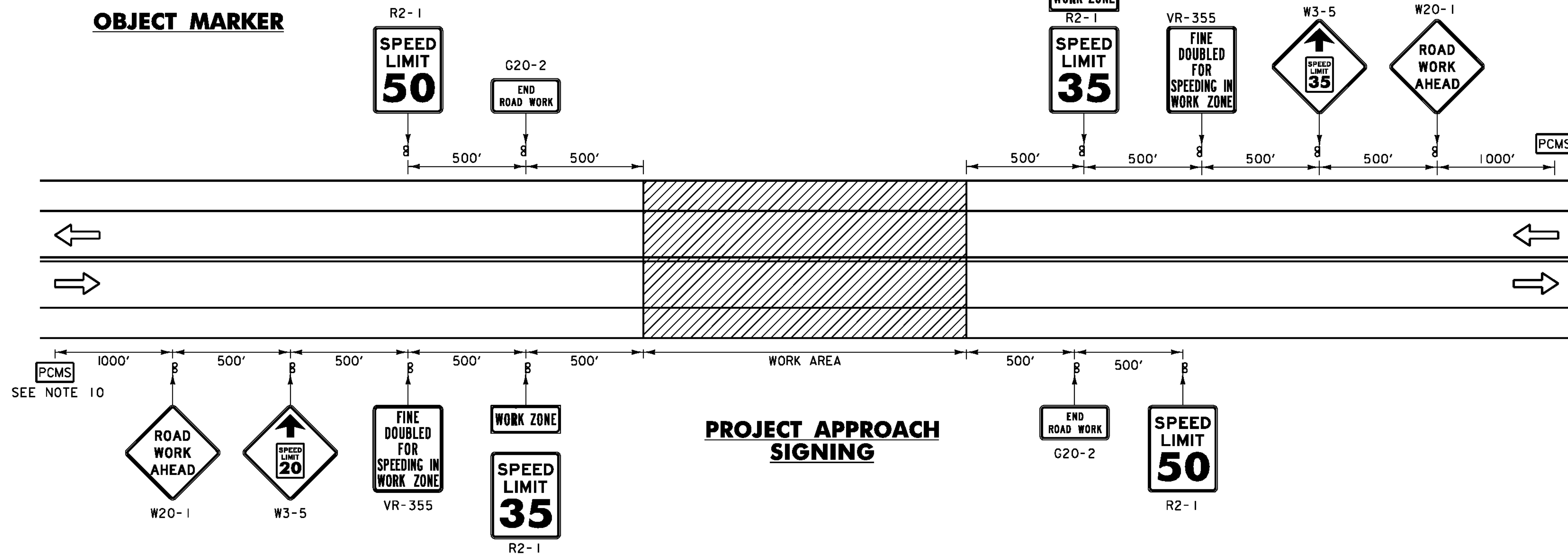
**OBJECT MARKER**

**TEMPORARY PORTABLE SIGNAL NOTES:**

- TEMPORARY TRAFFIC CONTROL (TTC) SIGNALS SHALL BE INSTALLED AND OPERATED IN ACCORDANCE WITH THE PROVISIONS OF PART 4 OF THE MUTCD. TTC SIGNALS SHALL MEET THE PHYSICAL DISPLAY AND OPERATIONAL REQUIREMENTS OF CONVENTIONAL TRAFFIC CONTROL SIGNALS.
- TTC SIGNAL TIMING SHALL BE ESTABLISHED BY THE CONTRACTOR AND APPROVED BY THE ENGINEER. DURATIONS OF RED CLEARANCE INTERVALS SHALL BE ADEQUATE TO CLEAR THE ONE-LANE SECTION OF CONFLICTING VEHICLES.
- WHEN THE TTC SIGNAL IS CHANGED TO FLASHING MODE DURING NON-WORK HOURS, EITHER MANUALLY OR AUTOMATICALLY, RED SIGNAL INDICATIONS SHALL BE FLASHED TO BOTH APPROACHES. RED CLEARANCE INTERVALS SHALL BE UTILIZED BEFORE FLASHING MODE COMMENCES TO ENSURE ALL TRAFFIC HAS EXITED THE WORK AREA.
- STOP LINES SHALL BE INSTALLED WITH TTC SIGNALS. EXISTING CONFLICTING PAVEMENT MARKINGS AND RAISED PAVEMENT MARKER REFLECTORS BETWEEN THE ACTIVITY AREA AND THE STOP LINE SHALL BE REMOVED. AFTER THE TTC SIGNAL IS REMOVED, THE STOP LINES AND OTHER TEMPORARY PAVEMENT MARKINGS (IF APPLICABLE) SHALL BE REMOVED AND THE PERMANENT PAVEMENT MARKINGS RESTORED.
- ADJUSTMENTS IN LOCATION OF THE ADVANCE WARNING SIGNS SHOULD BE MADE AS NEEDED AND AT THE DISCRETION OF THE ENGINEER TO ACCOMMODATE THE HORIZONTAL OR VERTICAL ALIGNMENT OF THE ROADWAY, RECOGNIZING THAT THE DISTANCES SHOWN FOR SIGN SPACINGS ARE MINIMUMS.
- SEE THE SPECIAL PROVISIONS FOR ADDITIONAL INFORMATION AND REQUIREMENTS.

**TRAFFIC CONTROL NOTES:**

- THE EXISTING SPEED LIMIT IS 50 MPH WITH 35 MPH ADVISORY SIGNS IN THE VICINITY OF THE PROJECT. THE SPEED LIMIT WILL BE REDUCED TO 35 MPH IN THE WORK ZONE FOR THIS PROJECT. ANY EXISTING SPEED LIMIT SIGNS WITHIN THE SPEED REDUCTION AREA, INCLUDING THE SPEED ADVISORY SIGNS, SHALL BE COMPLETELY COVERED.
- THE CONTRACTOR SHALL HAVE SIGNS FOR CLOSURE OF NORTHBOUND AND SOUTHBOUND LANES ON PROJECT BEFORE WORK COMMENCES.
- CONSTRUCTION SIGNS SHALL BE INSTALLED SO AS NOT TO OBSTRUCT EXISTING SIGNS.
- ALL SIGNS SHALL BE IN ACCORDANCE WITH THE CURRENT EDITIONS OF THE "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" (MUTCD) AND THE "STANDARD HIGHWAY SIGNS AND MARKINGS" BOOK (SHSM) PUBLISHED BY THE FEDERAL HIGHWAY ADMINISTRATION (FHWA).
- SOLID SUBSTRATE CONSTRUCTION SIGNS SHALL HAVE RETROREFLECTIVE SHEETING EQUAL TO OR EXCEEDING "AMERICAN SOCIETY FOR TESTING AND MATERIALS" (ASTM D 4956) TYPE VII, VIII OR IX REQUIREMENTS, UNLESS OTHERWISE NOTED. BLACK AND WHITE REGULATORY SIGNS SHALL BE A MINIMUM OF TYPE III, UNLESS OTHERWISE NOTED.
- ROLL UP SIGNS SHALL HAVE RETROREFLECTIVE SHEETING EQUAL TO OR EXCEEDING ASTM D 4956 TYPE VI.
- CONSTRUCTION SIGNS SHALL BE ERECTED BEFORE THE START OF ANY WORK AND SHALL BE COVERED UNTIL WORK COMMENCES, DURING PERIODS OF INACTIVITY, OR UPON COMPLETION OF THE WORK. EACH SIGN SHALL BE ERECTED IN A NEAT AND WORKMANLIKE MANNER. SIGNS SHALL BE REMOVED UPON COMPLETION OF THE WORK AT THE DISCRETION OF THE ENGINEER.
- FIXED SIGNS SHALL BE SET SECURELY IN THE GROUND. THE BOTTOM OF A SIGN SHALL BE AT LEAST SEVEN FEET ABOVE THE EDGE OF PAVEMENT. THE NEAREST EDGE OF A SIGN SHALL BE AT LEAST SIX FEET OUTSIDE THE SHOULDER POINT OR FOUR FEET OUTSIDE GUARDRAIL.
- PORTABLE SIGNS SHALL BE PLACED ON THE EDGE OF ROADWAY AND ONE FOOT MINIMUM ABOVE TRAVELLED WAY. ALL VEGETATION THAT INTERFERES WITH VISIBILITY OF THE SIGNS SHALL BE REMOVED AT THE CONTRACTOR'S EXPENSE. WHEN PLACED BEHIND GUARDRAIL, THE BOTTOM OF THE SIGN FACE SHALL BE ABOVE THE TOP OF THE GUARDRAIL.
- THE PORTABLE CHANGEABLE MESSAGE SIGNS (PCMS) SHALL BE USED AT THE DISCRETION OF THE ENGINEER. THE PCMS SHALL BE USED IN ACCORDANCE WITH SECTION 6F.60 OF THE MUTCD. THE PCMS SHALL READ "SIGNAL AHEAD, PREPARE TO STOP".
- WHERE SIGN INSTALLATIONS ARE NOT PROTECTED BY GUARDRAIL OR OTHER APPROVED TRAFFIC BARRIERS, ALL SIGN STANDS AND POST INSTALLATIONS SHALL BE "NATIONAL COOPERATIVE HIGHWAY RESEARCH PROGRAM" (NCHRP) REPORT 350 COMPLIANT. NO SIGN POSTS SHALL EXTEND OVER THE TOP OF THE SIGN INSTALLED ON SAID POST(S). WHEN ANCHORS ARE INSTALLED, STUB SHALL NOT BE GREATER THAN FOUR INCHES ABOVE EXISTING GROUND.
- DUE TO THE NARROW TRAVELWAY AND SHOULDERS ON THE BRIDGE, CHANNELIZING DEVICES SHALL BE USED IN LIEU OF CONCRETE BARRIER WITHIN THE WORK ZONE.
- THE NUMBER OF CHANNELIZING DEVICES AND OTHER TRAFFIC CONTROL DEVICES SHOWN ARE FOR ILLUSTRATIVE PURPOSES ONLY. THE ACTUAL NUMBER REQUIRED ARE TO BE DETERMINED BASED ON INDIVIDUAL DETOUR CONDITIONS (TAPERS, SPEED LIMITS, LENGTH OF DETOUR, CURVE, ETC.). WARNING LIGHTS SHALL NOT BE USED ON CHANNELIZING DEVICES.
- TRAVEL LANE SHALL BE A MINIMUM OF 12 FEET WIDE.
- ALL EQUIPMENT SHALL BE MOVED TO A LOCATION OFF PAVED SHOULDERS AND OUTSIDE THE CLEAR ZONE (MINIMUM 30 FEET) DURING NON-WORK PERIODS AND PROTECTED BY BARRELS OR CONES, UNLESS PROTECTED BY TRAFFIC BARRIER OR GUARDRAIL.
- PROVIDE A 1:9 TAPER RATE AS SHOWN ON THE PLANS.
- IF THE LANE CLOSURE IS TO LAST LONGER THAN 3 DAYS, THE CONTRACTOR SHALL USE TEMPORARY TRAFFIC BARRIER AS SHOWN ON THIS SHEET AND PAID FOR AS ITEM 621.90, "TEMPORARY TRAFFIC BARRIER". TEMPORARY TRAFFIC BARRIER SHALL BE A CONCRETE MEDIAN BARRIER (CMB) TYPE. STEEL BEAM GUARDRAIL WILL NOT BE ALLOWED FOR USE AS A TEMPORARY TRAFFIC BARRIER. WHEN ONE SIDE OF THE BRIDGE IS COMPLETE, MOVING THE BARRIER TO CLOSE THE OTHER SIDE TO TRAFFIC WILL BE PAID FOR AS ITEM 621.95, "REMOVE AND RESET TEMPORARY TRAFFIC BARRIER".
- THE END OF THE BARRIER FACING APPROACHING TRAFFIC SHALL MEET THE FOLLOWING REQUIREMENTS:
  - WHEN NO GUARDRAIL IS PRESENT, A 30' OFFSET SHALL BE USED FROM THE EDGE OF TRAVELLED WAY. IF A 30' OFFSET IS NOT ATTAINABLE, THEN AN ENERGY ABSORPTION ATTENUATOR SHALL BE LOCATED AT THE END OF THE BARRIER.
  - IF GUARDRAIL IS PRESENT, THEN TEMPORARY CONCRETE TRAFFIC BARRIER SHALL BE CONNECTED TO EXISTING GUARDRAIL (COST INCIDENTAL TO ITEM 621.90, "TEMPORARY TRAFFIC BARRIER"). COSTS FOR DISMANTLING BARRIER CONNECTION AND RESTORING EXISTING BARRIER TO ORIGINAL CONFIGURATION SHALL BE INCIDENTAL TO ITEM 621.90, "TEMPORARY TRAFFIC BARRIER". SEE BARRIER RAIL DETAILS ON SHEET 8.
- THE QUANTITIES INCLUDE TWO ENERGY ABSORPTION ATTENUATORS AND ONE BACKUP ATTENUATOR FOR THE PROJECT TO BE USED IN THE EVENT AN IN-SERVICE ATTENUATOR IS DAMAGED AND NEEDS TO BE REPLACED. THE COST FOR THE ATTENUATORS AND TO MOVE ATTENUATORS FOR SHIFTING LANE CLOSURES SHALL BE PAID FOR AS ITEM 621.56, "ENERGY ABSORPTION ATTENUATOR". THE COST FOR ENERGY ABSORPTION ATTENUATORS USED FOR ANY OTHER TRAFFIC CONTROL SETUP SHALL BE INCIDENTAL TO ITEM 641.10, "TRAFFIC CONTROL".



PROJECT NAME:	GRANVILLE
PROJECT NUMBER:	STP 013 - 4(38)
FILE NAME:	88b192-tcp.dgn
PLOT DATE:	4/11/2013
PROJECT LEADER:	JPB
DRAWN BY:	MWS
DESIGNED BY:	PJM
CHECKED BY:	SRB
<b>TRAFFIC CONTROL SHEET</b>	SHEET 4 OF 11

MODEL: \$MODEL\$