

## Appendix A-2

### Checklists

#### REVIEWING YOUR WORK

The following pages include a copy of the Signing and Marking Design Checklist, Lighting Design Checklist for Insert Projects, Traffic Signal Pole Location Checklist and Signal Plan Checklist which has been developed and updated by various designers over the years. It outlines all the major areas of a plan which should be verified by both the designer and the reviewer.

#### CHECKING YOUR PS&E PACKAGE

In addition to checking your design, it is important to verify that your package is complete and contains all the information and approvals necessary to construct the project. Two checklists have been developed to assist with this, the first, the "TEDD Areawide Checklist", is for use on Areawide Projects and the second, the "PS&E Checklist", is for Insert or Advertised Projects. As your project progresses, keep these checklists updated to help ensure that your final submission package will be complete.

**SIGNING AND MARKING DESIGN CHECKLIST FOR INSERT PROJECTS**

Project Name: \_\_\_\_\_ TIMS Number: \_\_\_\_\_

Description: \_\_\_\_\_

Designer: \_\_\_\_\_ Reviewer: \_\_\_\_\_

Date of Review: \_\_\_\_\_

QUALITY CONTROL			
	Yes	No	Comments
Destinations: (Freeways, Expressways)			
• Control Cities (Guide Signs)	<input type="checkbox"/>	<input type="checkbox"/>	
• Town Names (Guide & Supplemental)	<input type="checkbox"/>	<input type="checkbox"/>	
• Advance Signing (1 mile, ½ mile, ¼ mile – Interstate requires a 2 MILE advance sign)	<input type="checkbox"/>	<input type="checkbox"/>	
Confirmatory Signing (Freeways, Expressways)			
• Route Marker	<input type="checkbox"/>	<input type="checkbox"/>	
• Speed Limit	<input type="checkbox"/>	<input type="checkbox"/>	
• Distance Sign	<input type="checkbox"/>	<input type="checkbox"/>	
Business Shields are White/Green	<input type="checkbox"/>	<input type="checkbox"/>	
Road Name/Street Name Signs	<input type="checkbox"/>	<input type="checkbox"/>	
Advance Signing (Intersection of State Routes)			
• Junction Sign (JCT)	<input type="checkbox"/>	<input type="checkbox"/>	
• Advance Turn Signs	<input type="checkbox"/>	<input type="checkbox"/>	
Confirmatory Signing (Intersection of State Routes)			
• Route Marker	<input type="checkbox"/>	<input type="checkbox"/>	
• Speed Limit	<input type="checkbox"/>	<input type="checkbox"/>	
• Destination Sign	<input type="checkbox"/>	<input type="checkbox"/>	
• Correct Order of Destinations	<input type="checkbox"/>	<input type="checkbox"/>	
Correct Spelling and Location (Circle all sources used when making checks) :			
<input type="checkbox"/> Highway Location Reference	<input type="checkbox"/> Other (please describe):		
Regulatory Signs:			
• Appropriate Angle	<input type="checkbox"/>	<input type="checkbox"/>	
Warning Signs:			
• Appropriate Angle	<input type="checkbox"/>	<input type="checkbox"/>	
Object Markers			
• Bridge End Markers	<input type="checkbox"/>	<input type="checkbox"/>	
• Bridge Abutment Markers	<input type="checkbox"/>	<input type="checkbox"/>	
• Hazard Markers	<input type="checkbox"/>	<input type="checkbox"/>	
• Point Chevrons in Correct Direction	<input type="checkbox"/>	<input type="checkbox"/>	
Mile Markers (Freeways, Expressways if not Existing)	<input type="checkbox"/>	<input type="checkbox"/>	

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QUALITY CONTROL			
	Yes	No	Comments
Logos/Attractions	<input type="checkbox"/>	<input type="checkbox"/>	
Correct order GFLCA (Moving back from gore)	<input type="checkbox"/>	<input type="checkbox"/>	
Services (generic service plates with arrows)	<input type="checkbox"/>	<input type="checkbox"/>	
No More than 4 per interchange, but can be combined	<input type="checkbox"/>	<input type="checkbox"/>	
CHART			
• Sr. Staff Engineer (contact to determine need)	<input type="checkbox"/>	<input type="checkbox"/>	
Traffic Generators (Examples: Colleges, Parks)	<input type="checkbox"/>	<input type="checkbox"/>	
Sign Numbering			
• Cantilever Signs: C-1, C-2, etc.	<input type="checkbox"/>	<input type="checkbox"/>	
• Overhead Signs: OH-1, OH-2, etc.	<input type="checkbox"/>	<input type="checkbox"/>	
• Bridge Mount Signs: BM-1, BM-2, etc.	<input type="checkbox"/>	<input type="checkbox"/>	
• Ground Mount Signs: GM-1, GM-2, etc.	<input type="checkbox"/>	<input type="checkbox"/>	
• Regulatory and Warning Signs: 1,2,3, etc.	<input type="checkbox"/>	<input type="checkbox"/>	
<b>→ NO SIGN SHOULD HAVE MORE THAN ONE NUMBER ASSIGNED TO IT</b>			
Noisewall Conflicts with TCD Structures	<input type="checkbox"/>	<input type="checkbox"/>	
All work within SHA Right of Way (ROW)	<input type="checkbox"/>	<input type="checkbox"/>	
Utility conflicts or impacts (overhead and underground, drainage ditches, etc.)	<input type="checkbox"/>	<input type="checkbox"/>	
Impact on existing signing on mainline and X-streets within 1 mile of Limit of Work (LOW)	<input type="checkbox"/>	<input type="checkbox"/>	

FORMS TO BE FILLED OUT			
	Yes	No	Comments
Structure verification sheet (when using existing structures)	<input type="checkbox"/>	<input type="checkbox"/>	
New Sign Luminaire Supports and Luminaires (when using existing structures)	<input type="checkbox"/>	<input type="checkbox"/>	
Location of non-breakaway devices requiring traffic barrier (to HDD)	<input type="checkbox"/>	<input type="checkbox"/>	
Structure design request (Input sheets and x-sections for new overheads and cantilevers)	<input type="checkbox"/>	<input type="checkbox"/>	
Generate overhead structure and cantilever sheets	<input type="checkbox"/>	<input type="checkbox"/>	
Submit to Structures Section	<input type="checkbox"/>	<input type="checkbox"/>	
Long lead time items	<input type="checkbox"/>	<input type="checkbox"/>	

Plan Sheets (SN-2)			
	Yes	No	Comments
North Arrow	<input type="checkbox"/>	<input type="checkbox"/>	
Arrows with destinations	<input type="checkbox"/>	<input type="checkbox"/>	
Sheet Numbers or Letters at Match Lines	<input type="checkbox"/>	<input type="checkbox"/>	
Baseline	<input type="checkbox"/>	<input type="checkbox"/>	
Station Numbers	<input type="checkbox"/>	<input type="checkbox"/>	
Scales	<input type="checkbox"/>	<input type="checkbox"/>	

Plan Sheets (SN-2)			
	Yes	No	Comments
Street names shown on cross streets	<input type="checkbox"/>	<input type="checkbox"/>	
Route Numbers with cardinal direction (e.g. I-70 (WBL))	<input type="checkbox"/>	<input type="checkbox"/>	
Key / Legend			
• Signing	<input type="checkbox"/>	<input type="checkbox"/>	
• Pavement Marking	<input type="checkbox"/>	<input type="checkbox"/>	
Current Borders / Signature / Revision block			
<b>ONLY PERTINENT INFORMATION SHOULD BE SHOWN ON PLANS. ALL OTHER LEVELS SHOULD BE TURNED OFF (e.g. landscaping, houses, buildings, old alignment)</b>			

Detail Sheets			
	Yes	No	
Proposal Sheet (SN-1)			
• Re-do Sheet, Delete Items Section	<input type="checkbox"/>	<input type="checkbox"/>	
• Title Block filled out	<input type="checkbox"/>	<input type="checkbox"/>	
Sign Details and Dimensions (SN-3)			
• Appropriate legend / shield size (1 <sup>st</sup> letter of Cardinal Direction Larger)	<input type="checkbox"/>	<input type="checkbox"/>	
• Proper Shield Use for Guide Sign or Independent Mount (Available in supplement)	<input type="checkbox"/>	<input type="checkbox"/>	
• Check spelling and abbreviations	<input type="checkbox"/>	<input type="checkbox"/>	
• Appropriate color (If using FY or FYG)	<input type="checkbox"/>	<input type="checkbox"/>	
Appropriate Arrow: dimension/detail as needed	<input type="checkbox"/>	<input type="checkbox"/>	
• Type	<input type="checkbox"/>	<input type="checkbox"/>	
• Size	<input type="checkbox"/>	<input type="checkbox"/>	
• Direction (straight, left, right, angle (matches angle of the ramp, dog leg arrows for advance signs))	<input type="checkbox"/>	<input type="checkbox"/>	
Appropriate Remarks (sheet aluminum, extruded aluminum, overlay, etc.)	<input type="checkbox"/>	<input type="checkbox"/>	
Appropriate Border (offsets, widths, and radii)	<input type="checkbox"/>	<input type="checkbox"/>	
Appropriate Dimensions			
• Width			
• Height (Extruded even foot increments)			
• Square foot area matches height/width	<input type="checkbox"/>	<input type="checkbox"/>	
<b>Support Sheets (SN-4, SN-7 thru SN-9)</b>			
Steel Beam and Wood Support (guide signs only)			
• Steel Beam Chart for guide signs filled out on SN-4: size, length, spacing, breakaway / nonbreakaway, lateral clearance code (Square tube in narrow conc. Median for signs 30x30 & under (70mph))	<input type="checkbox"/>	<input type="checkbox"/>	
• Wood Support Chart for guide signs filled out on SN-4: size, length, spacing, breakaway / nonbreakaway, lateral clearance code	<input type="checkbox"/>	<input type="checkbox"/>	
• Signs behind curb w/posted > 40mph must	<input type="checkbox"/>	<input type="checkbox"/>	

Detail Sheets			
	Yes	No	
be on breakaway supports			
<b>No more than two 4x4 or two drilled 4x6 wood posts within a 7 foot distance.</b>	<input type="checkbox"/>	<input type="checkbox"/>	
<b>Minimum 7' spacing between all 6x6 or 6x8 posts</b>	<input type="checkbox"/>	<input type="checkbox"/>	
<b>Be sure when placing signs in median that there is adequate space for the width of the sign and the required lateral clearance</b>	<input type="checkbox"/>	<input type="checkbox"/>	
Support on plan sheet matches support indicated on SN-4	<input type="checkbox"/>	<input type="checkbox"/>	
Cantilever Structure Sheet			
• Single Panel	<input type="checkbox"/>	<input type="checkbox"/>	
• Double Panel	<input type="checkbox"/>	<input type="checkbox"/>	
Overhead Structure Sheet	<input type="checkbox"/>	<input type="checkbox"/>	
<b>Quantity of Index – SN – 11</b>			
Item Descriptions and unit of measure matches corresponding category code item and estimate	<input type="checkbox"/>	<input type="checkbox"/>	
All columns are filled out	<input type="checkbox"/>	<input type="checkbox"/>	
Only items being used are listed	<input type="checkbox"/>	<input type="checkbox"/>	
Pavement Markings Items listed last each sheet	<input type="checkbox"/>	<input type="checkbox"/>	

Coordinate			
	Yes	No	
Sign numbers and messages on plan sheets and details	<input type="checkbox"/>	<input type="checkbox"/>	
Structure sheets / support sheet (SN-4) and Quantity sheets (SN-11) --all quantities items match	<input type="checkbox"/>	<input type="checkbox"/>	
Sign Lighting (Ott Structures/ Lit) Included on plans Signing / Lighting	<input type="checkbox"/>	<input type="checkbox"/>	
Bid Items and quantities on Index of Quantity sheet (SN-11), Engineer's Estimate	<input type="checkbox"/>	<input type="checkbox"/>	
Special Provisions and Category codes have the same wordings and quantities match	<input type="checkbox"/>	<input type="checkbox"/>	
Coordinate S.L.. & Landscape Plans Marking and Signals	<input type="checkbox"/>	<input type="checkbox"/>	

PAVEMENT MARKING			
	Yes	No	
Delineators (Post Mounted)	<input type="checkbox"/>	<input type="checkbox"/>	
Raised Pavement Markers (RPM's)	<input type="checkbox"/>	<input type="checkbox"/>	
• Recessed (to be used West of LaVale only)	<input type="checkbox"/>	<input type="checkbox"/>	
Concrete Barrier Delineator (wall markers)	<input type="checkbox"/>	<input type="checkbox"/>	
Rail riders	<input type="checkbox"/>	<input type="checkbox"/>	
Pavement Marking Legend			
• Edge Line	<input type="checkbox"/>	<input type="checkbox"/>	
• Lane Line	<input type="checkbox"/>	<input type="checkbox"/>	
• Auxiliary Line	<input type="checkbox"/>	<input type="checkbox"/>	

PAVEMENT MARKING			
	Yes	No	
• Stop Bars	<input type="checkbox"/>	<input type="checkbox"/>	
• Symbols (to be crossed referenced with R3-7 (1) R & L signs)	<input type="checkbox"/>	<input type="checkbox"/>	
• Arrows	<input type="checkbox"/>	<input type="checkbox"/>	
• Legend (Only)	<input type="checkbox"/>	<input type="checkbox"/>	
• Crosswalks (hatched at district request)	<input type="checkbox"/>	<input type="checkbox"/>	
Passing Zones on two way undivided highways (determined by district office)	<input type="checkbox"/>	<input type="checkbox"/>	
Lane Drops & Transitions (signed and marked)	<input type="checkbox"/>	<input type="checkbox"/>	

Special Provisions			
	Yes	No	
State Highway Administration (SHA) Number	<input type="checkbox"/>	<input type="checkbox"/>	
Correlate to items on SN-11 Sheet & Estimate	<input type="checkbox"/>	<input type="checkbox"/>	
950 Material Specs	<input type="checkbox"/>	<input type="checkbox"/>	
Project Description	<input type="checkbox"/>	<input type="checkbox"/>	
Clearinghouse & Shelf Specs	<input type="checkbox"/>	<input type="checkbox"/>	

Shop Drawings			
	Yes	No	
<b>Note Revisions on AD set on designer's plans</b>	<input type="checkbox"/>	<input type="checkbox"/>	
Check sign layouts with Plan Detail sheets (SN-3) for errors	<input type="checkbox"/>	<input type="checkbox"/>	
Check for all revisions to AD plans (addenda, Redline Revisions)	<input type="checkbox"/>	<input type="checkbox"/>	
Correlate structure and sign lighting modifications with the Structure Section	<input type="checkbox"/>	<input type="checkbox"/>	
<b>If you determine that details are not in accordance with current standards, make corrections to shop drawings and detail sheets</b>			

Sign Lighting			
	Yes	No	
<b>NEW</b>			
Sign Lighting System (SLS)			
• Overheads	<input type="checkbox"/>	<input type="checkbox"/>	
• Cantilevers	<input type="checkbox"/>	<input type="checkbox"/>	
Standard Luminaires and Supports (to be installed on signs over shoulders)	<input type="checkbox"/>	<input type="checkbox"/>	
Check spacing chart	<input type="checkbox"/>	<input type="checkbox"/>	
<b>If a new sign is being placed on an existing structure, you must include an item for furnishing and installing "sign / luminaire supports."</b>	<input type="checkbox"/>	<input type="checkbox"/>	
<b>SLS is not to be installed where it would not be over a maintainable area (i.e. no shoulder, wall)</b>	<input type="checkbox"/>	<input type="checkbox"/>	
<b>EXISTING</b>			
Adherence to current standards	<input type="checkbox"/>	<input type="checkbox"/>	
Discuss with Team Leader (TL) possibilities to	<input type="checkbox"/>	<input type="checkbox"/>	

Sign Lighting			
	Yes	No	
upgrade to SLS			
<b>Coordinate with Lighting / Electrical Checklist</b>			
Cabinet / Service Pedestal / Electrical Serv. Eq.	<input type="checkbox"/>	<input type="checkbox"/>	
Power location and feed	<input type="checkbox"/>	<input type="checkbox"/>	
Wiring: Voltage Drop Calculations			
• Cable Size Correct	<input type="checkbox"/>	<input type="checkbox"/>	
• Ampacity Correct	<input type="checkbox"/>	<input type="checkbox"/>	
Underground Conduits:			
• Pushed	<input type="checkbox"/>	<input type="checkbox"/>	
• Trenched	<input type="checkbox"/>	<input type="checkbox"/>	
• Slotted	<input type="checkbox"/>	<input type="checkbox"/>	
• Bored	<input type="checkbox"/>	<input type="checkbox"/>	
Connector Kits (Electrical tags Filled in)	<input type="checkbox"/>	<input type="checkbox"/>	
Luminaires' Wattage and Type. Street lighting uses High Pressure Sodium (HPS)	<input type="checkbox"/>	<input type="checkbox"/>	
Grounding			
• Ground Rods	<input type="checkbox"/>	<input type="checkbox"/>	
• Ground Cable	<input type="checkbox"/>	<input type="checkbox"/>	
Circuits			
• Existing adequate for additional loads	<input type="checkbox"/>	<input type="checkbox"/>	
• New circuits numbered correctly?	<input type="checkbox"/>	<input type="checkbox"/>	
Manholes (Electrical tag filled in)	<input type="checkbox"/>	<input type="checkbox"/>	
Disconnect	<input type="checkbox"/>	<input type="checkbox"/>	
Structure Conduit			
• Size	<input type="checkbox"/>	<input type="checkbox"/>	
• Flexible	<input type="checkbox"/>	<input type="checkbox"/>	
• Rigid	<input type="checkbox"/>	<input type="checkbox"/>	

Engineer's Estimate			
	Yes	No	
<b>Current Cat Codes</b>	<input type="checkbox"/>	<input type="checkbox"/>	
<b>Quantities – all necessary bid items included</b>	<input type="checkbox"/>	<input type="checkbox"/>	
<b>Unit of Measurement matches cat code/spec</b>	<input type="checkbox"/>	<input type="checkbox"/>	
<b>Cost Share Breakdown (co/state/fed)</b>	<input type="checkbox"/>	<input type="checkbox"/>	
<b>Breakout Federally funded SHA supplied items</b>			
• Cabinets 900000	<input type="checkbox"/>	<input type="checkbox"/>	
• Signing	<input type="checkbox"/>	<input type="checkbox"/>	

Bike Lanes			
	Yes	No	
	<input type="checkbox"/>	<input type="checkbox"/>	

Designer: \_\_\_\_\_ Team Leader: \_\_\_\_\_

Note revisions to advertised set on designer's plans.  
 Place Checklist in Project Files when complete.

**LIGHTING DESIGN CHECKLISTS FOR INSERT PROJECTS**

Project Name: \_\_\_\_\_ TIMS Number: \_\_\_\_\_

Description: \_\_\_\_\_

Designer: \_\_\_\_\_ Reviewer: \_\_\_\_\_

Date of Review: \_\_\_\_\_

INTERCHANGE LIGHTING			
	Yes	No	Comments
Complete Lighting	<input type="checkbox"/>	<input type="checkbox"/>	If yes explain below.
Illumination levels adequate	<input type="checkbox"/>	<input type="checkbox"/>	
All decision points lighted	<input type="checkbox"/>	<input type="checkbox"/>	
All conflict points lighted	<input type="checkbox"/>	<input type="checkbox"/>	
All overhead and cantilever signs illuminated	<input type="checkbox"/>	<input type="checkbox"/>	
Sign lighting systems used where applicable	<input type="checkbox"/>	<input type="checkbox"/>	
Pole and sign call outs complete	<input type="checkbox"/>	<input type="checkbox"/>	
Connector Kits correct	<input type="checkbox"/>	<input type="checkbox"/>	
Poles have stations, or dimensions	<input type="checkbox"/>	<input type="checkbox"/>	
Explanation for Complete Interchange lighting			

CONTINUOUS LIGHTING			
	Yes	No	Comments
CONTINUOUS LIGHTING	<input type="checkbox"/>	<input type="checkbox"/>	If Yes, explain why justified below. If No, skip this section.
Illumination levels adequate	<input type="checkbox"/>	<input type="checkbox"/>	
All overhead and cantilever signs illuminated	<input type="checkbox"/>	<input type="checkbox"/>	
Sign lighting systems used where applicable	<input type="checkbox"/>	<input type="checkbox"/>	
Pole and sign call outs complete	<input type="checkbox"/>	<input type="checkbox"/>	
Connector Kits correct	<input type="checkbox"/>	<input type="checkbox"/>	
Poles have stations, or dimensions	<input type="checkbox"/>	<input type="checkbox"/>	
Justification for Continuous Lighting			

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INTERSECTION LIGHTING			
	Yes	No	Comments
INTERSECTION LIGHTING	<input type="checkbox"/>	<input type="checkbox"/>	If Yes, check for each intersection. If No skip this section.
Light Placement Correct	<input type="checkbox"/>	<input type="checkbox"/>	
Crosswalks Lighted	<input type="checkbox"/>	<input type="checkbox"/>	
Wiring and Conduits Meet Signal Standards (4 light poles or less)	<input type="checkbox"/>	<input type="checkbox"/>	
Illumination Levels Match Standards	<input type="checkbox"/>	<input type="checkbox"/>	
"Beacon" lighting used where applicable	<input type="checkbox"/>	<input type="checkbox"/>	
Pole and sign call outs complete	<input type="checkbox"/>	<input type="checkbox"/>	
Connector Kits correct	<input type="checkbox"/>	<input type="checkbox"/>	
Poles have stations, or dimensions	<input type="checkbox"/>	<input type="checkbox"/>	

PEDESTRIAN LIGHTING			
	Yes	No	Comments
Pedestrian Lighting	<input type="checkbox"/>	<input type="checkbox"/>	If No, skip this section.
MOU signed and approved	<input type="checkbox"/>	<input type="checkbox"/>	
Illumination of pedestrian walks adequate	<input type="checkbox"/>	<input type="checkbox"/>	
Veiling luminance on adjacent roads acceptable	<input type="checkbox"/>	<input type="checkbox"/>	
Pole call outs complete	<input type="checkbox"/>	<input type="checkbox"/>	
Connector Kits correct	<input type="checkbox"/>	<input type="checkbox"/>	
Poles have stations, or dimensions	<input type="checkbox"/>	<input type="checkbox"/>	

WIRING			
	Yes	No	Comments
All luminaries and illuminated signs connected to power supply	<input type="checkbox"/>	<input type="checkbox"/>	
Each luminaire and sign has a <u>single</u> connection to power supply	<input type="checkbox"/>	<input type="checkbox"/>	
Voltage drops 5% or less	<input type="checkbox"/>	<input type="checkbox"/>	
#6 AWG cable used in bridges and walls	<input type="checkbox"/>	<input type="checkbox"/>	
Conduit fills 25% or less	<input type="checkbox"/>	<input type="checkbox"/>	
All duct cables and ground wires clearly marked	<input type="checkbox"/>	<input type="checkbox"/>	

GROUNDING			
	Yes	No	Comments
All light poles, illuminated signs and manholes are adjacent to ground rods	<input type="checkbox"/>	<input type="checkbox"/>	
Electrical service drop grounded	<input type="checkbox"/>	<input type="checkbox"/>	
Continuous ground wire from each luminaire, pole, illuminated sign, and manhole to power supply	<input type="checkbox"/>	<input type="checkbox"/>	

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UTILITY			
	Yes	No	Comments
Utility company has approved service location	<input type="checkbox"/>	<input type="checkbox"/>	
Utility pole for service drop indicated with pole number	<input type="checkbox"/>	<input type="checkbox"/>	
Utility poles for lease lighting clearly indicated with pole numbers	<input type="checkbox"/>	<input type="checkbox"/>	

PLAN SHEETS			
	Yes	No	Comments
North Arrow	<input type="checkbox"/>	<input type="checkbox"/>	
Arrows with destinations	<input type="checkbox"/>	<input type="checkbox"/>	
Sheet Numbers or Letters at Match Lines	<input type="checkbox"/>	<input type="checkbox"/>	
Baseline and station numbers shown	<input type="checkbox"/>	<input type="checkbox"/>	
Scale shown	<input type="checkbox"/>	<input type="checkbox"/>	
Street names show on cross streets	<input type="checkbox"/>	<input type="checkbox"/>	
Route Numbers with cardinal direction (e.g. I-70 (WBL))	<input type="checkbox"/>	<input type="checkbox"/>	
Current Borders / Signature / Revision block	<input type="checkbox"/>	<input type="checkbox"/>	
<b>ONLY PERTINENT INFORMATION SHOULD BE SHOWN ON PLANS. ALL OTHER LEVELS SHOULD BE TURNED OFF (e.g. landscaping, houses, buildings, old alignment)</b>			

POLE, PANEL, AND SIGN SCHEDULES			
	Yes	No	Comments
<b>Pole Schedule</b>			
Stations shown for all poles	<input type="checkbox"/>	<input type="checkbox"/>	
Poles with breakaway bases indicated	<input type="checkbox"/>	<input type="checkbox"/>	
<b>Panel Schedule</b>			
All luminaries and signs on panel shown	<input type="checkbox"/>	<input type="checkbox"/>	
Amperage loads Shown and correct	<input type="checkbox"/>	<input type="checkbox"/>	
Amperage less than 80% of Breaker Rating	<input type="checkbox"/>	<input type="checkbox"/>	
Main Breaker and contactor ratings shown	<input type="checkbox"/>	<input type="checkbox"/>	
Luminaire operating voltage shown	<input type="checkbox"/>	<input type="checkbox"/>	
<b>Sign Lighting Schedule</b>			
Sign panel sizes agree with signing plans	<input type="checkbox"/>	<input type="checkbox"/>	
Sign lighting system used where required	<input type="checkbox"/>	<input type="checkbox"/>	
Luminaire spacing correct	<input type="checkbox"/>	<input type="checkbox"/>	

Designer: \_\_\_\_\_ Team Leader: \_\_\_\_\_

Note revisions to advertised set on designer's plans.  
 Place Checklist in Project Files when complete.



## Traffic Signal Pole Location Checklist

Design Engineer/Manager \_\_\_\_\_ Date \_\_\_\_\_

Intersection Location \_\_\_\_\_

SHA Contract No. \_\_\_\_\_ County \_\_\_\_\_

T.I.M.S. No. \_\_\_\_\_ T.S. No. \_\_\_\_\_

YES	NO	SIGNAL POLE LOCATION CONSIDERATION	COMMENTS
<b>Site - Perimeter Pole Location</b>			
<input type="checkbox"/>	<input type="checkbox"/>	Existing Signal Plans Verified	
<input type="checkbox"/>	<input type="checkbox"/>	Site Characteristics Inventoried and Examined	
<b>Engineering – Perimeter Pole Location</b>			
<input type="checkbox"/>	<input type="checkbox"/>	Adequate Signal Visibility (sight distance, alignment, RTOR, etc.)	
<input type="checkbox"/>	<input type="checkbox"/>	Clear Zone Requirements (meets SHA & AASHTO criteria)	
<input type="checkbox"/>	<input type="checkbox"/>	Driver Expectancy (signal consistent with corridor)	
<input type="checkbox"/>	<input type="checkbox"/>	Alternative Pole Locations Examined (diagonal, twin-mast arm, etc.)	
<input type="checkbox"/>	<input type="checkbox"/>	Geometric Alignment (future improvement, horizontal/vertical, etc.)	
<input type="checkbox"/>	<input type="checkbox"/>	Unique Construction Problem (work zone, temporary supports, etc.)	
<b>Environmental – Perimeter Pole Location</b>			
<input type="checkbox"/>	<input type="checkbox"/>	Environmental Impacts Anticipated (historic, wetlands, tree, etc.)	
<input type="checkbox"/>	<input type="checkbox"/>	Environmental Mitigation Impractical (Comment)	
<b>Utility – Perimeter Pole Location</b>			
<input type="checkbox"/>	<input type="checkbox"/>	Overhead Utility Conflict (power, phone, etc.)	
<input type="checkbox"/>	<input type="checkbox"/>	Underground Utility Conflict (fiberoptic, drainage, gas, water, elec., etc.)	
<input type="checkbox"/>	<input type="checkbox"/>	Special Signal Pole Examined (“T”, triple-mast arm, etc.)	
<input type="checkbox"/>	<input type="checkbox"/>	Utility Relocation Impractical (Comment)	
<b>Right-of-Way – Perimeter Pole Location</b>			
<input type="checkbox"/>	<input type="checkbox"/>	Adequate ROW for Perimeter Pole Location	
<input type="checkbox"/>	<input type="checkbox"/>	ADA Conflicts (additional ROW may be required, etc.)	
<input type="checkbox"/>	<input type="checkbox"/>	Traffic Barrier Conflicts (additional ROW may be required, etc.)	
<input type="checkbox"/>	<input type="checkbox"/>	Special Pole Foundations (3' x 15', etc.)	
<input type="checkbox"/>	<input type="checkbox"/>	Right-of-Way Acquisition Impractical (Comment)	
<b>Median Pole Location</b>			
<input type="checkbox"/>	<input type="checkbox"/>	Adequate Signal Visibility (sight distance, alignment, etc.)	
<input type="checkbox"/>	<input type="checkbox"/>	Clear Zone Requirements (meets SHA & AASHTO criteria)	
<input type="checkbox"/>	<input type="checkbox"/>	Adequate ADA Requirements	
<input type="checkbox"/>	<input type="checkbox"/>	Median Disturbance (raised median, drainage, width, etc.)	
<input type="checkbox"/>	<input type="checkbox"/>	Environmental Concerns (historic, wetlands, etc.)	
<input type="checkbox"/>	<input type="checkbox"/>	Utility Concerns (overhead and/or underground)	
<input type="checkbox"/>	<input type="checkbox"/>	Right-of-Way Conflicts	

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**SIGNAL PLAN CHECKLIST**

Project Name: \_\_\_\_\_ Tims Number: \_\_\_\_\_  
 Description: \_\_\_\_\_ Date of Review: \_\_\_\_\_  
 Designer: \_\_\_\_\_ Reviewer: \_\_\_\_\_

- |  |  |
|--|--|
| <p><b>GENERAL</b></p> <p>_____ North Arrow</p> <p>_____ North Arrow Note</p> <p>_____ Utility Legend</p> <p>_____ Consultant Logo</p> <p>_____ Revision Letter Matches TS Number</p> <p>_____ Right of Way Lines</p> <p>_____ Equipment within Right of Way</p> <p>_____ Log Mile</p> <p>_____ General Notes</p> <p>_____ Street Names</p> <p><b>SIGNS</b></p> <p>_____ Sign Legend Matches Plan</p> <p>_____ Street Name Signs</p> <p>_____ Route Marker Assemblies</p> <p>_____ Signal Ahead Signs</p> <p>_____ Remove Stop/Stop Ahead Signs</p> <p>_____ Special Sign Layout</p> <p><b>PAVEMENT MARKINGS</b></p> <p>_____ Arrow/Only for Lane Drops</p> <p>_____ Stop Lines</p> <p>_____ Edge Lines, Center Lines, Lane Lines</p> <p>_____ Turn Bays</p> <p>_____ Crosswalks</p> <p><b>NEMA PHASING</b></p> <p>_____ Correct Orientation</p> <p>_____ Flashing Operation</p> <p>_____ Matches Phasing Chart</p> <p>_____ Solid/Dash Lines in Chart</p> <p>_____ Notes</p> <p>_____ Preemption</p> <p>_____ Pedestrian Phases</p> <p><b>DIMENSIONS/STATIONING</b></p> <p>_____ Pavement Markings</p> <p>_____ Signals and Signs on Span/Mast</p> <p>_____ Detectors</p> <p>_____ Poles</p> <p>_____ Controller</p> <p>_____ Break Lines</p> <p><b>SIGNALS</b></p> <p>_____ Correct Numbering Including Signs</p> <p>_____ Signal Legend Matches Plan</p> <p>_____ 40' to 120' from Stop Line</p> <p>_____ Third and/or Near Side Signal Head Required</p> <p>_____ Size of Head, 8" or 12"</p> <p><b>DETECTORS</b></p> <p>_____ Presence Det. Placement (1' behind Stop Line)</p> <p>_____ Pulse Det. Placement (Varies)</p> <p>_____ Delay Output</p> | <p><b>GEOMETRICS</b></p> <p>_____ Stop Line Set Back Adequate for Turning</p> <p>_____ Handicap Ramps with Sidewalks</p> <p>_____ Pad or Sidewalk to Pedestrian Push Button</p> <p><b>PROJECT DESCRIPTION</b></p> <p>_____ Reconstruction/Modification</p> <p>_____ Road Direction – North/South or East/West</p> <p>_____ Street Lighting</p> <p>_____ Controller Requirements</p> <p>_____ Interconnect</p> <p>_____ Check Phasing with Plan</p> <p>_____ Check Amps. With Plan and Equipment List "A"</p> <p>_____ Phone Drop Note</p> <p>_____ Special Notes</p> <p><b>EQUIPMENT LIST "A"</b></p> <p>_____ Cabinet</p> <p>_____ Controller Equipment – Specifics</p> <p>_____ Special Signs</p> <p><b>EQUIPMENT LIST "B"</b></p> <p>_____ Items Match Construction Details</p> <p>_____ Items Match Wiring Diagram</p> <p>_____ Test Pit</p> <p>_____ Install Equipment from Equipment List "A"</p> <p>_____ Equipment Removal for Disposal</p> <p><b>EQUIPMENT LIST "C"</b></p> <p>_____ Equipment to be Removed and Salvaged (Controller and Cabinet)</p> <p><b>WIRING DIAGRAM</b></p> <p>_____ Signals</p> <p>_____ Detectors</p> <p>_____ Ground Wire and Rods</p> <p>_____ Legend</p> <p>_____ North Arrow</p> <p>_____ Power Service</p> <p><b>PHASE CHART</b></p> <p>_____ Check Signals with Plans</p> <p>_____ Check Movements vs Indications</p> <p>_____ Preemption</p> <p>_____ Pedestrian Phase</p> <p>_____ North Arrow</p> <p><b>MAINTENANCE OF TRAFFIC</b></p> <p>_____ Standards Specified as Needed</p> <p><b>CONTACT PERSONNEL</b></p> <p>_____ District</p> <p>_____ Utilities</p> |
|--|--|

**TEDD AREAWIDE CHECKLIST**

Contract No. \_\_\_\_\_ TIMS No. \_\_\_\_\_ Designer \_\_\_\_\_

FAP No.: \_\_\_\_\_ Location: \_\_\_\_\_

Description: \_\_\_\_\_

Tasks	Dates		Remarks																																													
	Requested/ Began	Received/ Completed																																														
Obtain Existing Plans (Construction/Right of Way)																																																
Environmental Review Request w/Site Map, Project Description (Attach Mod Form 25C) & Prelim. Plan																																																
Preliminary Field Review																																																
Request Structure Design																																																
Power Location Requested																																																
Utility Conflicts Cleared?	<input type="checkbox"/> Yes <input type="checkbox"/> No																																															
Final Review																																																
FR Minutes (to TH from BRK for TH's concurrence)																																																
Modified 25C to FMU w/map (orig./4 copies) Note: Cost Sharing/ TCP Plate #'s																																																
PS&E Package for Signature																																																
Submittal to O.E.S.																																																
PS&E Package Contains The Following: <table style="width: 100%; border: none;"> <tr> <td></td> <td style="text-align: center;">YES</td> <td style="text-align: center;">N/A</td> </tr> <tr> <td>Cover Letter</td> <td style="text-align: center;"><input type="checkbox"/></td> <td style="text-align: center;"><input type="checkbox"/></td> </tr> <tr> <td>Work Description</td> <td style="text-align: center;"><input type="checkbox"/></td> <td style="text-align: center;"><input type="checkbox"/></td> </tr> <tr> <td>Independent Review</td> <td style="text-align: center;"><input type="checkbox"/></td> <td style="text-align: center;"><input type="checkbox"/></td> </tr> <tr> <td>Power Confirmation</td> <td style="text-align: center;"><input type="checkbox"/></td> <td style="text-align: center;"><input type="checkbox"/></td> </tr> <tr> <td>Traffic Barrier Include</td> <td style="text-align: center;"><input type="checkbox"/></td> <td style="text-align: center;"><input type="checkbox"/></td> </tr> <tr> <td>Structure Details</td> <td style="text-align: center;"><input type="checkbox"/></td> <td style="text-align: center;"><input type="checkbox"/></td> </tr> <tr> <td>Signing &amp; Lighting Details</td> <td style="text-align: center;"><input type="checkbox"/></td> <td style="text-align: center;"><input type="checkbox"/></td> </tr> <tr> <td>Engineer Estimate</td> <td style="text-align: center;"><input type="checkbox"/></td> <td style="text-align: center;"><input type="checkbox"/></td> </tr> </table>				YES	N/A	Cover Letter	<input type="checkbox"/>	<input type="checkbox"/>	Work Description	<input type="checkbox"/>	<input type="checkbox"/>	Independent Review	<input type="checkbox"/>	<input type="checkbox"/>	Power Confirmation	<input type="checkbox"/>	<input type="checkbox"/>	Traffic Barrier Include	<input type="checkbox"/>	<input type="checkbox"/>	Structure Details	<input type="checkbox"/>	<input type="checkbox"/>	Signing & Lighting Details	<input type="checkbox"/>	<input type="checkbox"/>	Engineer Estimate	<input type="checkbox"/>	<input type="checkbox"/>	<b>Final Cost:</b> _____  <table style="width: 100%; border: none;"> <tr> <td></td> <td style="text-align: center;">YES</td> <td style="text-align: center;">N/A</td> </tr> <tr> <td>Environmental Rev. Req</td> <td style="text-align: center;"><input type="checkbox"/></td> <td style="text-align: center;"><input type="checkbox"/></td> </tr> <tr> <td>Final Review Letter</td> <td style="text-align: center;"><input type="checkbox"/></td> <td style="text-align: center;"><input type="checkbox"/></td> </tr> <tr> <td>Gary Gray Letter (FMU)</td> <td style="text-align: center;"><input type="checkbox"/></td> <td style="text-align: center;"><input type="checkbox"/></td> </tr> <tr> <td>TCP Plate</td> <td style="text-align: center;"><input type="checkbox"/></td> <td style="text-align: center;"><input type="checkbox"/></td> </tr> <tr> <td>Partial Reimbursements (Logo Projects)</td> <td style="text-align: center;"><input type="checkbox"/></td> <td style="text-align: center;"><input type="checkbox"/></td> </tr> </table> <p>Checked by Team Leader: <span style="border: 1px solid black; display: inline-block; width: 150px; height: 20px; vertical-align: middle;"></span></p> <p style="text-align: right; margin-right: 50px;">Signature</p>		YES	N/A	Environmental Rev. Req	<input type="checkbox"/>	<input type="checkbox"/>	Final Review Letter	<input type="checkbox"/>	<input type="checkbox"/>	Gary Gray Letter (FMU)	<input type="checkbox"/>	<input type="checkbox"/>	TCP Plate	<input type="checkbox"/>	<input type="checkbox"/>	Partial Reimbursements (Logo Projects)	<input type="checkbox"/>	<input type="checkbox"/>
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Partial Reimbursements (Logo Projects)	<input type="checkbox"/>	<input type="checkbox"/>																																														

**PS&E REVIEW CHECKLIST**

**PROJECT INFORMATION**

Design Engineer/Project Manager:  
 SHA Contract No.  
 Route:  
 Limits:  
 State Funded (No Federal Participation)  
 Federal Participation  
     FAP Contract No.(Constr.) \_\_\_\_\_  
     Federal Aid:  Exempt  Non-Exempt  
 SHA Project Engineer                      Phone No.  
 FHWA Area Engineer                      Phone No.  
 Advertisement Date                      Pre-Bid Date                      Bid Opening Date  
 Engineers Estimate \$  
 STIP/TIP approval \_\_\_\_\_ (date)

**PRE-DESIGN ACTIVITIES**

Environmental Assessment: \_\_\_\_\_ (date)  
 Finding:  Environmental Impact Statement approved \_\_\_\_\_ (date)  
            Finding of No Significant Impact approved \_\_\_\_\_ (date)  
            Categorical Exclusion approved \_\_\_\_\_ (date)  
 No Public Hearing  
 Public Hearing(s) \_\_\_\_\_ (date)                      SHA/FHWA approval \_\_\_\_\_ (date)  
 Location/Design Approval Date \_\_\_\_\_ (date)  
 Air Quality Conformity Analysis \_\_\_\_\_ (FHWA approval date)

**PS&E SUBMISSION**

Included	N/A	
<input type="checkbox"/>	<input type="checkbox"/>	Complete Plans
<input type="checkbox"/>	<input type="checkbox"/>	Complete Estimate
<input type="checkbox"/>	<input type="checkbox"/>	Estimate Broken Out by Federal/3rd Party Funding Categories
<input type="checkbox"/>	<input type="checkbox"/>	Lump Sum Cost Breakdowns
<input type="checkbox"/>	<input type="checkbox"/>	As-Built Plans Attached
<input type="checkbox"/>	<input type="checkbox"/>	Utility Relocation Plans included in project
<input type="checkbox"/>	<input type="checkbox"/>	Cross-Sections
<input type="checkbox"/>	<input type="checkbox"/>	Any Proprietary Items Used on Project
<input type="checkbox"/>	<input type="checkbox"/>	FHWA Approval of Proprietary Items (date)
<input type="checkbox"/>	<input type="checkbox"/>	All Special Provisions Included (Electronic and Hardcopy)
<input type="checkbox"/>	<input type="checkbox"/>	Listing of Applicable Special Provision Inserts
<input type="checkbox"/>	<input type="checkbox"/>	Final Form 25-C (Construction) Approval (date)
<input type="checkbox"/>	<input type="checkbox"/>	Preliminary Investigation (date)
<input type="checkbox"/>	<input type="checkbox"/>	PI Report Approved (date)
<input type="checkbox"/>	<input type="checkbox"/>	PI Report approval by FHWA (non-CA) (date)
<input type="checkbox"/>	<input type="checkbox"/>	Semi-Final Review (date)
<input type="checkbox"/>	<input type="checkbox"/>	Semi-Final Review Report Approved (date)
<input type="checkbox"/>	<input type="checkbox"/>	Semi-Final Review Report approval by FHWA (non-CA) (date)
<input type="checkbox"/>	<input type="checkbox"/>	Final Review (date)
<input type="checkbox"/>	<input type="checkbox"/>	Final Review Report Approved (date)
<input type="checkbox"/>	<input type="checkbox"/>	Final Review Report approval by FHWA (non-CA) (date)
<input type="checkbox"/>	<input type="checkbox"/>	Approved Soils Report/Pavement Recommendations
<input type="checkbox"/>	<input type="checkbox"/>	Design Exception(s) on Project
<input type="checkbox"/>	<input type="checkbox"/>	Approved by SHA (date)
<input type="checkbox"/>	<input type="checkbox"/>	Approved by FHWA (non-CA) (date)
<input type="checkbox"/>	<input type="checkbox"/>	Structures on Project
<input type="checkbox"/>	<input type="checkbox"/>	Noise Walls on Project
<input type="checkbox"/>	<input type="checkbox"/>	Noise Analysis Report Completed (date)
<input type="checkbox"/>	<input type="checkbox"/>	Noise Wall Justification Completed (date)
<input type="checkbox"/>	<input type="checkbox"/>	Environmental Re-Evaluation Complete (date)
<input type="checkbox"/>	<input type="checkbox"/>	Certification of Environmental Permits Received (date)
<input type="checkbox"/>	<input type="checkbox"/>	PCE Letter (Categorical Exclusion) Received (date)
<input type="checkbox"/>	<input type="checkbox"/>	Utility Statement Received (date)

PS&E REVIEW CHECKLIST, Cont.

- |                          |                          |   |
|--------------------------|--------------------------|---|
| Included                 | N/A                      |   |
| <input type="checkbox"/> | <input type="checkbox"/> | Right of Way Certification Received (date)                          |
| <input type="checkbox"/> | <input type="checkbox"/> | Traffic Control Plan Approval (w/ lane closure restrictions) (date) |
| <input type="checkbox"/> | <input type="checkbox"/> | Wage Rates Received (date)  |
| <input type="checkbox"/> | <input type="checkbox"/> | CID Recommendations (requires lump sum breakdowns)                  |
|                          |                          | Number of working days or Calendar Date                             |
|                          |                          | Liquidated Damages \$   |
|                          |                          | E & S Penalty \$  |
|                          |                          | MOT Penalty \$  |
|                          |                          | Trainees  |
|                          |                          | MBE goal %  |
| <input type="checkbox"/> | <input type="checkbox"/> | Constructability Review Report (date)                               |

Third Party Agreements  Yes  No (Please include copies of all Agreements & MOUs)

- 1.
- 2.
- 3.
- 4.

All Environmental Permits Received  Yes  No (Please include copies of all Permits)

- 1.
- 2.
- 3.
- 4.

SUBMITTED BY:

\_\_\_\_\_  
 Project Engineer Date Phone. No.

The OOTS Traffic Engineering Design Division has reviewed these PS&E documents and conclude that to the best of our knowledge the major elements of design are in compliance with State and national guidelines. We recommend that the project be advertised for bids.

\_\_\_\_\_  
 Assistant Division Chief Date Phone. No.