STATE	FEDERAL PROJECT NO.
N.J.	*

ABBREVIATIONS

AAM	ADVANCED ARTERIAL MANAGEMENT
AASHTO	AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS
AMC	ARTERIAL MANAGEMENT CENTER
ASCT	ADAPTIVE SIGNAL CONTROL TECHNOLOGY
ATMS	ADVANCED TRAFFIC MANAGEMENT SYSTEM
CTSS	CONTROLLED TRAFFIC SIGNAL SYSTEM
EB	EASTBOUND
FNMC	FLEXIBLE NONMETALLIC CONDUIT
IP	INTERNET PROTOCOL
ITS	INTELLIGENT TRANSPORTATION SYSTEM
JB	JUNCTION BOX
MAX.	MAXIMUM
MIN.	MINIMUM
M.P.	MILE POST
MM_	MOBILITY MANAGEMENT_
MSE	MOBILITY & SYSTEMS ENGINEERING
MUTCD	MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES
NB	NORTHBOUND
PDU	POWER DISTRIBUTION UNIT
POE	POWER OVER ETHERNET
RMC, R.M.C.	RIGID METALLIC CONDUIT
RNMC, R.N.M.C.	RIGID NON-METALLIC CONDUIT
ROW, R.O.W.	RIGHT-OF-WAY
RTE., RT.	ROUTE
SB	SOUTHBOUND
STMC	STATEWIDE TRAFFIC MANAGEMENT CENTER
TOD	TIME OF DAY
TYP.	TYPICAL
WB	WESTBOUND

ELECTRICAL EQUIPMENT ABBREVIATIONS

ID	IMAGE DETECTOR
IDC	IMAGE DETECTOR CABLE
JBF	JUNCTION BOX FOUNDATION
L	LUMINAIRE
LAA	LIGHTING ARM ASSEMBLY
LMA-A	LIGHTING MAST ARM, ALUMINUM
LMA-S	LIGHTING MAST ARM, STEEL
LSA	LIGHTING STANDARD, ALUMINUM
LSF	LIGHTING STANDARD, FIBERGLASS
LSS	LIGHTING STANDARD, STEEL
MAS	MAST ARM SIGN
MSC II	MEDIUM SEMI-CUTOFF LUMINAIRE, TYPE 2
MSC III	MEDIUM SEMI-CUTOFF LUMINAIRE, TYPE 3
MVD	MAGNETOMETER VEHICLE DETECTOR
PB	PUSH BUTTON
PDU	POWER DISTRIBUTION UNIT
PSH	PEDESTRIAN SIGNAL HEAD
PSS	PEDESTRIAN SIGNAL STANDARD
RD	RADAR DETECTOR
RDIP	RADAR DETECTOR INTERFACE PANEL
SFK	SIGNAL FOUNDATION, TYPE "K"
SFT	SIGNAL FOUNDATION, TYPE "T"
SFX	SIGNAL FOUNDATION, TYPE "X"
STF	STEEL TRAFFIC SIGNAL POLE FOUNDATION
TSA	TRAFFIC SIGNAL ASSEMBLY
TSH	TRAFFIC SIGNAL HEAD
TSMA-A	TRAFFIC SIGNAL MAST ARM, ALUMINUM
TSMA-S	TRAFFIC SIGNAL MAST ARM, STEEL
TSO	TRAFFIC SIGNAL OPERATION
TSS-C	TRAFFIC SIGNAL STANDARD, ALUMINUM "C"
TSS-K	TRAFFIC SIGNAL STANDARD, ALUMINUM "K"
TSS-S	TRAFFIC SIGNAL STANDARD, STEEL
TSS-SC	TRAFFIC SIGNAL STANDARD, STEEL COMBINATION
TSS-T	TRAFFIC SIGNAL STANDARD, ALUMINUM "T"
UL-P	UNDERDECK LIGHTING, TYPE "P"
UL-W	UNDERDECK LIGHTING, TYPE "W"
UPS	UNINTERRUPTIBLE POWER SUPPLY
V	VERTICAL LUMINAIRE

LEGEND

PROPOSED	EXISTING	
		SYSTEM DETECTOR, TYPE RADAR
		18" X 36" JUNCTION BOX
J.B.	J.B.	JUNCTION BOX ITS, TYPE C
		CONTROLLER CABINET WITH SKIRT
		IMAGE DETECTOR
		TRAFFIC SIGNAL POLE
		TRAFFIC SIGNAL HEAD
		PEDESTRIAN SIGNAL HEAD
		WIRELESS ANTENNA

GENERAL NOTES

1. EXISTING INFORMATION WAS OBTAINED FROM AVAILABLE AS-BUILT AND CONTRACTUAL PLANS FROM THE DEPARTMENT AND VERIFIED IN THE FIELD.
2. FIELD VERIFY THE LOCATION OF EXISTING AERIAL UTILITIES BEFORE CONSTRUCTION. FIELD VERIFY THE LOCATION OF EXISTING UNDERGROUND UTILITIES AND DRAINAGE FACILITIES BEFORE CONSTRUCTION. ENSURE MINIMUM DISTANCE REQUIRED BY THE UNDERGROUND UTILITY OWNERS IS MAINTAINED BETWEEN THE EXISTING SUBSURFACE AND AERIAL UTILITIES AND THE PROPOSED ITS/ELECTRICAL FACILITIES. PROTECT ALL UTILITIES PER NJDOT 2007 SPECIFICATIONS, SUBSECTION 105.07. CONTACT "NJ ONE CALL" BEFORE DIGGING AND NOTIFY THE RE OF ANY CONFLICTS BETWEEN EXISTING AND PROPOSED FACILITIES. (800)-272-1000.
3. FIELD VERIFY EXISTING CONDUITS AND JUNCTION BOXES THAT ARE TO BE USED IN THIS PROJECT.
4. COORDINATE WITH NEW JERSEY OFFICE OF INFORMATION TECHNOLOGY (NJOIT) TO OBTAIN NETWORKING INFORMATION PRIOR TO SUBMITTING SHOP DRAWINGS.
5. REFER TO NJDOT WEBSITE (http://www.state.nj.us/transportation/eng/elec/ITS/markout.shtm) FOR FORM FOR MARK OUT OF EXISTING ITS UNDERGROUND WIRES AND CABLES. PROVIDE A MINIMUM OF 10 STATE BUSINESS DAYS NOTICE TO TRAFFIC OPERATIONS PRIOR TO START OF ANY WORK. STANDARD PROVISIONS 105 AND 701 APPLY FOR EXISTING ITS SYSTEMS. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO PROVIDE TRAFFIC CONTROL REQUIRED FOR MARK OUT OPERATIONS.
6. COORDINATE WITH UTILITY COMPANIES FOR THE INSTALLATION OF AERIAL AND SUBSURFACE UTILITIES.
7. PROVIDE SUPPORT TO ANY UTILITY POLE WHERE THERE IS AN EXCAVATION FOR THE INSTALLATION OF UNDERGROUND UTILITIES.
8. SALVAGE AND RETURN REMOVED IMAGE DETECTORS, MOUNTING HARDWARE, AND OTHER TRAFFIC SIGNAL EQUIPMENT TO BUREAU OF PERMITS, ELECTRICAL MAINTENANCE, AND CLAIMS, OR OTHER LOCATION AS DIRECTED BY THE RESIDENT ENGINEER. IF THE RESIDENT ENGINEER DETERMINES THAT THE CONTRACTOR'S REMOVAL OPERATIONS RESULTED IN DAMAGE TO THE TRAFFIC SIGNAL EQUIPMENT, REPAIR OR REPLACE THE EQUIPMENT TO THE SATISFACTION OF THE RESIDENT ENGINEER AT NO ADDITIONAL COST TO THE STATE.
9. MOUNT AND INSTALL IMAGE DETECTORS IN CONFORMANCE TO THE LATEST AASHTO STANDARDS ADOPTED BY THE STATE, THE LOCATIONS DEPICTED ON THE PLANS, AND IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS. WHEN MOUNTED ON A TRAFFIC SIGNAL MAST ARM, MOUNT THE IMAGE DETECTOR AT A POSITION ALONG THE MAST ARM THAT PROVIDES OPTIMAL COVERAGE FOR THE TRAVEL LANES AND DETECTION ZONE INDICATED. THE DETECTION ZONE SHALL EXTEND FROM 10 FEET IN FRONT OF THE STOP LINE TO EITHER A MINIMUM OF 40 FEET BEYOND THE STOP LINE OR AS FAR BACK FROM THE STOP LINE AS RECOMMENDED BY THE MANUFACTURER OF THE CTSS/ASCT SYSTEM, WHICHEVER IS GREATER. DURING ITS GREEN PHASE, THE DETECTION ZONE SHALL EXTEND 10 FEET FROM IN FRONT OF THE STOP LINE TO 10 FEET BEYOND THE STOP LINE. THE WIDTH OF THE DETECTION ZONE SHALL BE AS SHOWN ON THE PLANS. INSTALLATION OF IMAGE DETECTORS SHALL CONFORM TO ALL OVERHEAD UTILITY PROXIMITY STANDARDS FOR THE DEPARTMENT. THE IMAGE DETECTORS SHALL BE POSITIONED TO AVOID UTILITY WIRES OBSCURING THE VISIBILITY OF THE DETECTION ZONE. MAXIMIZE IMAGE DETECTOR SURVEILLANCE COVERAGE AREA WITHOUT COMPROMISING DETECTION ACCURACY. ENSURE NEW IMAGE DETECTORS ARE OPERATIONAL AND TESTING IS COMPLETE PRIOR TO THE REMOVAL OF ANY EXISTING VEHICLE DETECTION.
10. RESTORE ALL DISTURBED OR DAMAGED GUIDE RAIL, PAVEMENT, SIDEWALKS, CURBS, CONDUITS, OR OTHER INFRASTRUCTURE TO THEIR ORIGINAL CONDITION.
11. ALL ELECTRICAL MATERIAL AND EQUIPMENT FOR WHICH THERE ARE ESTABLISHED UL STANDARDS SHALL BEAR THE UL LABEL.
12. EQUIP ALL SPARE/ EMPTY CONDUITS WITH DRAG/ PULL WIRE, TERMINATE IN A JUNCTION BOX AND LABEL AT EACH END.
13. COORDINATE WITH MOBILITY MANAGEMENT THROUGH ACCESS FORM ON WEB TO RESERVE PATCH PANEL OR ETHERNET SWITCH PORTS AT FIBER CROSS CONNECT CABINET, COMMUNICATION HUB, AND ALL OTHER LOCATIONS AS REQUIRED. TAG THE RESERVED PORTS FOR USE ON THIS PROJECT.
14. SUBMIT WORKING DRAWINGS FOR ALL EQUIPMENT AND EQUIPMENT LIST TABLE SHOWING MANUFACTURER MAKE AND MODEL FOR ALL EQUIPMENT INSTALLED UNDER THIS PROJECT. REFER TO TABLE 105.05-1 OF THE SPECIAL PROVISIONS. FOR DETAILS FOLLOW STANDARD ELECTRICAL/ITS DETAILS.
15. FOR ITS GENERAL NOTES, LEGEND, AND ABBREVIATIONS, REFER TO ITS SAMPLE PLANS.

NOTE TO DESIGNER:

THIS SHEET REQUIRES DESIGN SPECIFIC INFORMATION TO BE ADDED AND INCLUDED IN THE CONTRACT PLANS. THESE NOTES CAN BE AMENDED/OMITTED TO REFLECT PROJECT SPECIFIC CONDITIONS. ADDITIONAL NOTES MAY BE NEEDED.

COORDINATE WITH NJDOT DIVISION OF MOBILITY AND SYSTEMS ENGINEERING WHEN DEVELOPING THE NOTES FOR THE SPECIFIC PROJECT.

REMOVE THIS NOTE AND OTHER DESIGNER NOTES AFTER DESIGN SPECIFIC INFORMATION IS ADDED.

FIRM NAME

MODEL	MODELNAME		PROJECT #	PROJECTNAME
USERNAME	USERNAME		PROJECT NAME	PROJECTDESIGR
PLOT DATE	DATE	TIME	PLOTDRIVER	PLOTDRIVERABBREV
DWG NAME	CTSS SAMPLE PLAN – ORIGINAL SHEET			

NEW JERSEY DEPARTMENT OF TRANSPORTATION

ELECTRICAL GENERAL NOTES

ROUTE*
CONTRACT NO. *

CTSS SAMPLE PLAN

INDIVIDUAL, FIRM, PARTNERSHIP, ETC.
CERTIFICATE OF AUTHORIZATION NO. *

NAME*
NEW JERSEY PROFESSIONAL ENGINEER LICENSE NO. *

*
*

STATE	FEDERAL PROJECT NO.
N.J.	*

* ***TOWNSHIP***

* ***COUNTY***

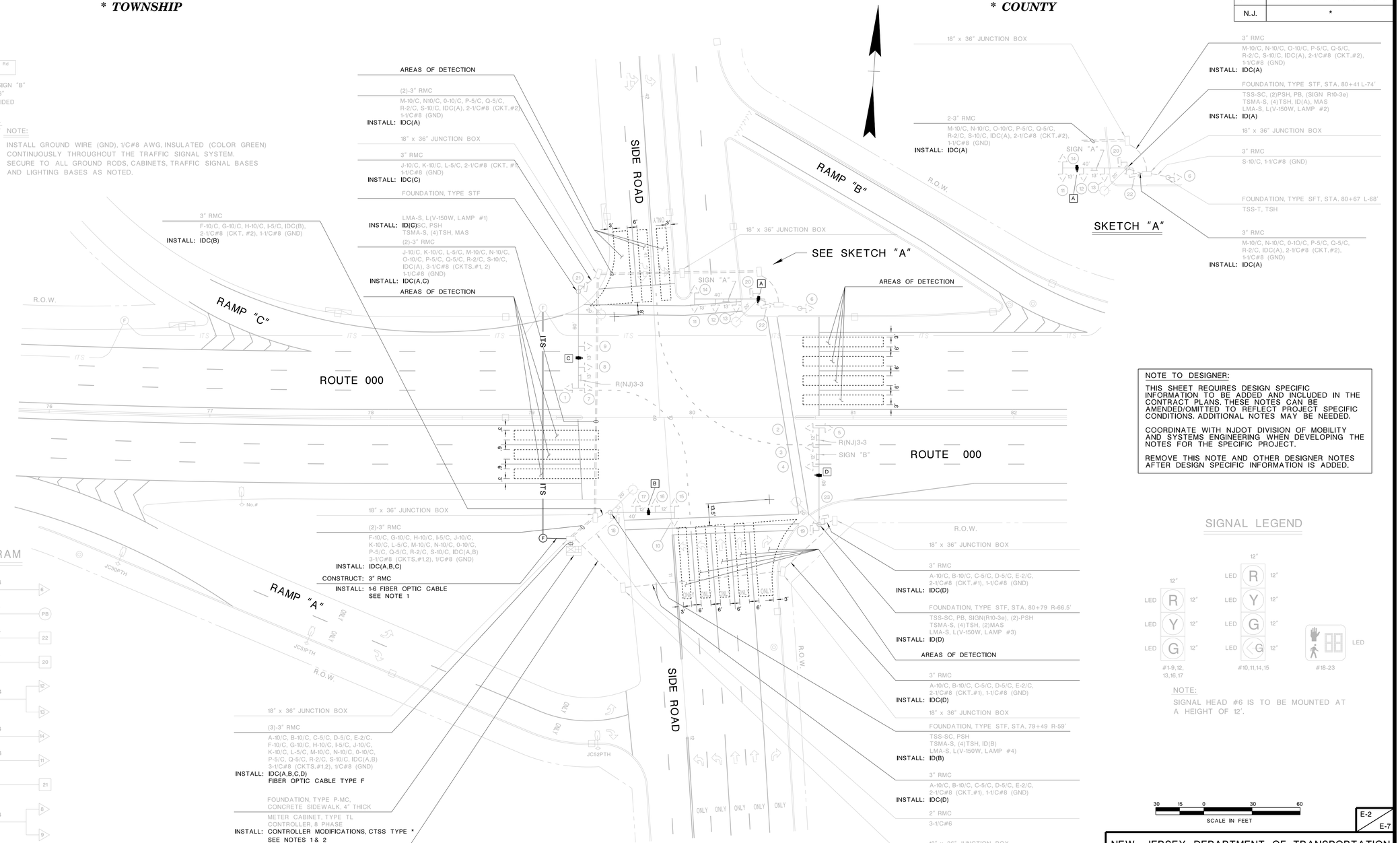
SIGN LEGEND

W 000 E — MAST ARM SIGN "A" 48" x 18" DOUBLE SIDED

Side Rd — MAST ARM SIGN "B" 48" x 18" DOUBLE SIDED

NO TURNS — R(NJ)3-3 60" x 12" DOUBLE SIDED

NOTE:
INSTALL GROUND WIRE (GND), 1/C#8 AWG, INSULATED (COLOR GREEN) CONTINUOUSLY THROUGHOUT THE TRAFFIC SIGNAL SYSTEM. SECURE TO ALL GROUND RODS, CABINETS, TRAFFIC SIGNAL BASES AND LIGHTING BASES AS NOTED.



SKETCH "A"

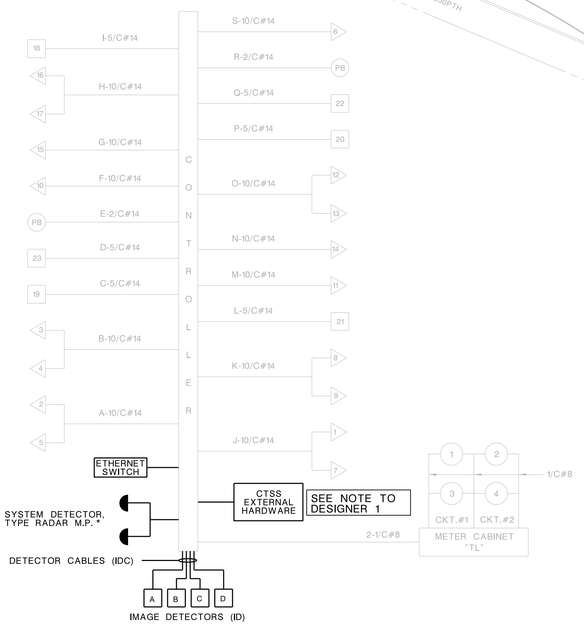
NOTE TO DESIGNER:

THIS SHEET REQUIRES DESIGN SPECIFIC INFORMATION TO BE ADDED AND INCLUDED IN THE CONTRACT PLANS. THESE NOTES CAN BE AMENDED/OMITTED TO REFLECT PROJECT SPECIFIC CONDITIONS. ADDITIONAL NOTES MAY BE NEEDED.

COORDINATE WITH NJDOT DIVISION OF MOBILITY AND SYSTEMS ENGINEERING WHEN DEVELOPING THE NOTES FOR THE SPECIFIC PROJECT.

REMOVE THIS NOTE AND OTHER DESIGNER NOTES AFTER DESIGN SPECIFIC INFORMATION IS ADDED.

BLOCK WIRING DIAGRAM



ITEM NO.	TO BE CONSTRUCTED	CONTRACT QUANTITY
701021P	3" RIGID METALLIC CONDUIT	LF
702045M	IMAGE DETECTOR	UNIT
704032M	CONTROLLER MODIFICATIONS, CTSS TYPE *	UNIT
704081P	FIBER OPTIC CABLE TYPE F	UNIT
704090M	CONTROLLER, CTSS TURN ON	UNIT

NOTES:
1. SEE SHEET E-7 FOR CONTROLLER CABINET MODIFICATIONS EQUIPMENT AND LAYOUT.
2. SEE SHEET ITS-1 FOR CONNECTION TO FIBER OPTIC TRUNK LINE.

NOTES TO DESIGNER:
1. CTSS EXTERNAL HARDWARE IS NOT REQUIRED FOR CONTROLLER SOFTWARE BASED SYSTEMS.

SIGNAL LEGEND

NOTE:
SIGNAL HEAD #6 IS TO BE MOUNTED AT A HEIGHT OF 12'.

30 15 0 30 60
SCALE IN FEET

E-2 / E-7

NEW JERSEY DEPARTMENT OF TRANSPORTATION

ELECTRICAL PLANS

ROUTE*
CONTRACT NO. *

INDIVIDUAL, FIRM, PARTNERSHIP, ETC.
CERTIFICATE OF AUTHORIZATION NO. *
NAME*
NEW JERSEY PROFESSIONAL ENGINEER LICENSE NO. *

* *

CTSS SAMPLE PLAN

CTSS – Fiber Optic Communication

FIRM NAME
MODEL MODELNAME PROJECT # PROJECTNAME
USERNAME USERNAME PROJECT NAME PROJECTDESCR
PLOT DATE DATE TIME PLOTDRIVER PLOTDRIVERABBREV
DWG NAME CTSS SAMPLE PLAN – ORIGINAL SHEET

STATE	FEDERAL PROJECT NO.
N.J.	*

* ***TOWNSHIP***

* ***COUNTY***

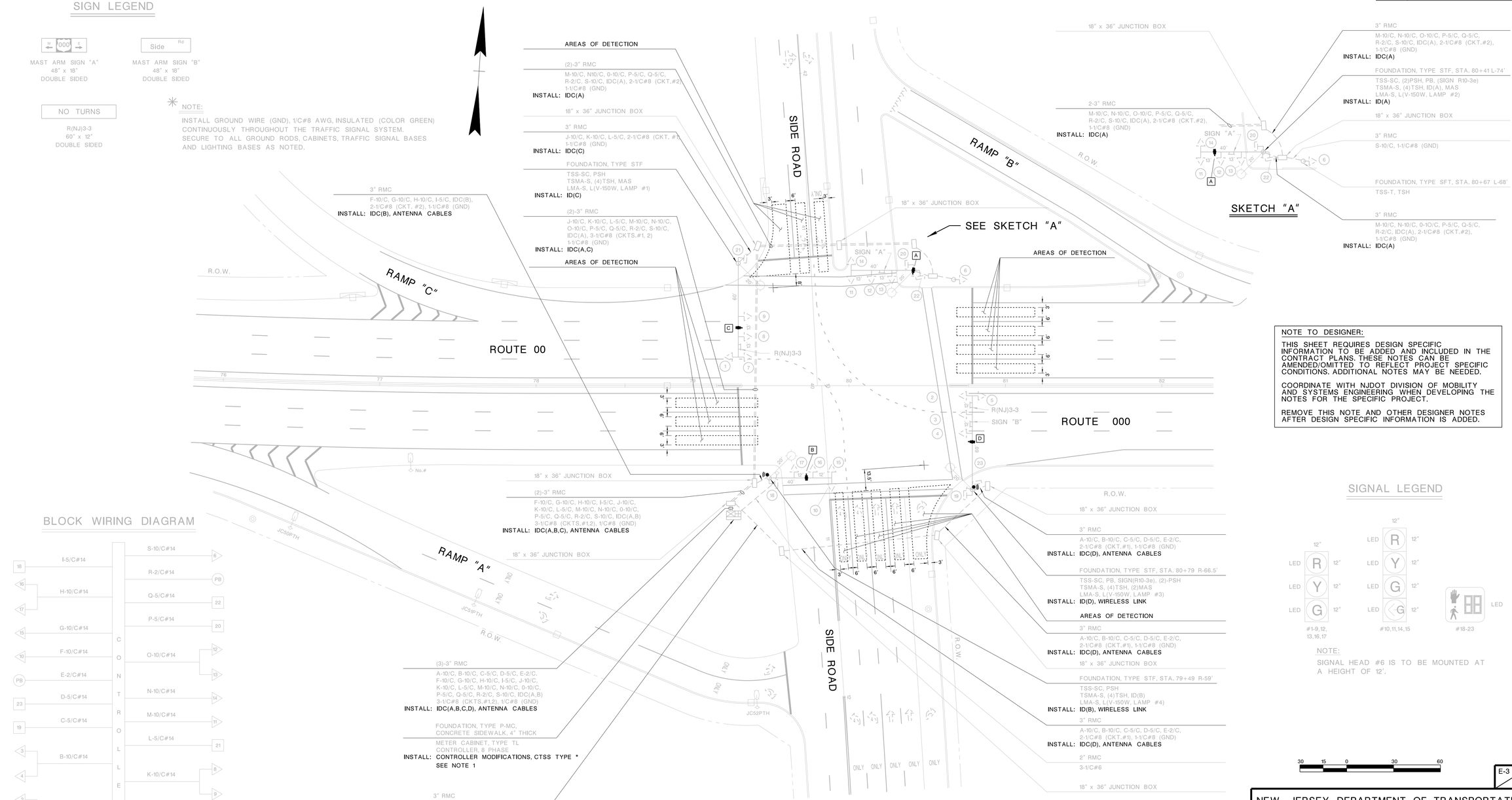
SIGN LEGEND

MAST ARM SIGN "A"
48" x 18"
DOUBLE SIDED

MAST ARM SIGN "B"
48" x 18"
DOUBLE SIDED

NO TURNS
R(NJ)3-3
60" x 12"
DOUBLE SIDED

NOTE:
INSTALL GROUND WIRE (GND), 1/C#8 AWG, INSULATED (COLOR GREEN) CONTINUOUSLY THROUGHOUT THE TRAFFIC SIGNAL SYSTEM. SECURE TO ALL GROUND RODS, CABINETS, TRAFFIC SIGNAL BASES AND LIGHTING BASES AS NOTED.



SKETCH "A"

BLOCK WIRING DIAGRAM

SIGNAL LEGEND

NOTE:
SIGNAL HEAD #6 IS TO BE MOUNTED AT A HEIGHT OF 12'.

NOTE TO DESIGNER:

THIS SHEET REQUIRES DESIGN SPECIFIC INFORMATION TO BE ADDED AND INCLUDED IN THE CONTRACT PLANS. THESE NOTES CAN BE AMENDED/OMITTED TO REFLECT PROJECT SPECIFIC CONDITIONS. ADDITIONAL NOTES MAY BE NEEDED.

COORDINATE WITH NJDOT DIVISION OF MOBILITY AND SYSTEMS ENGINEERING WHEN DEVELOPING THE NOTES FOR THE SPECIFIC PROJECT.

REMOVE THIS NOTE AND OTHER DESIGNER NOTES AFTER DESIGN SPECIFIC INFORMATION IS ADDED.

ITEM NO.	TO BE CONSTRUCTED	CONTRACT QUANTITY
702045M	IMAGE DETECTOR	UNIT
704032M	CONTROLLER MODIFICATIONS, CTSS TYPE *	UNIT
704090M	CONTROLLER, CTSS TURN ON	UNIT
704235M	WIRELESS LINK	UNIT

NOTES:
1. SEE SHEET E-7 FOR CONTROLLER CABINET MODIFICATIONS EQUIPMENT AND LAYOUT.

NOTES TO DESIGNER:
1. CTSS EXTERNAL HARDWARE IS NOT REQUIRED FOR CONTROLLER SOFTWARE BASED SYSTEMS.

30 15 0 30 60

E-3
E-7

NEW JERSEY DEPARTMENT OF TRANSPORTATION

ELECTRICAL PLANS

ROUTE*
CONTRACT NO. *

INDIVIDUAL, FIRM, PARTNERSHIP, ETC.
CERTIFICATE OF AUTHORIZATION NO. *

NAME*
NEW JERSEY PROFESSIONAL ENGINEER LICENSE NO. *

* *

CTSS SAMPLE PLAN

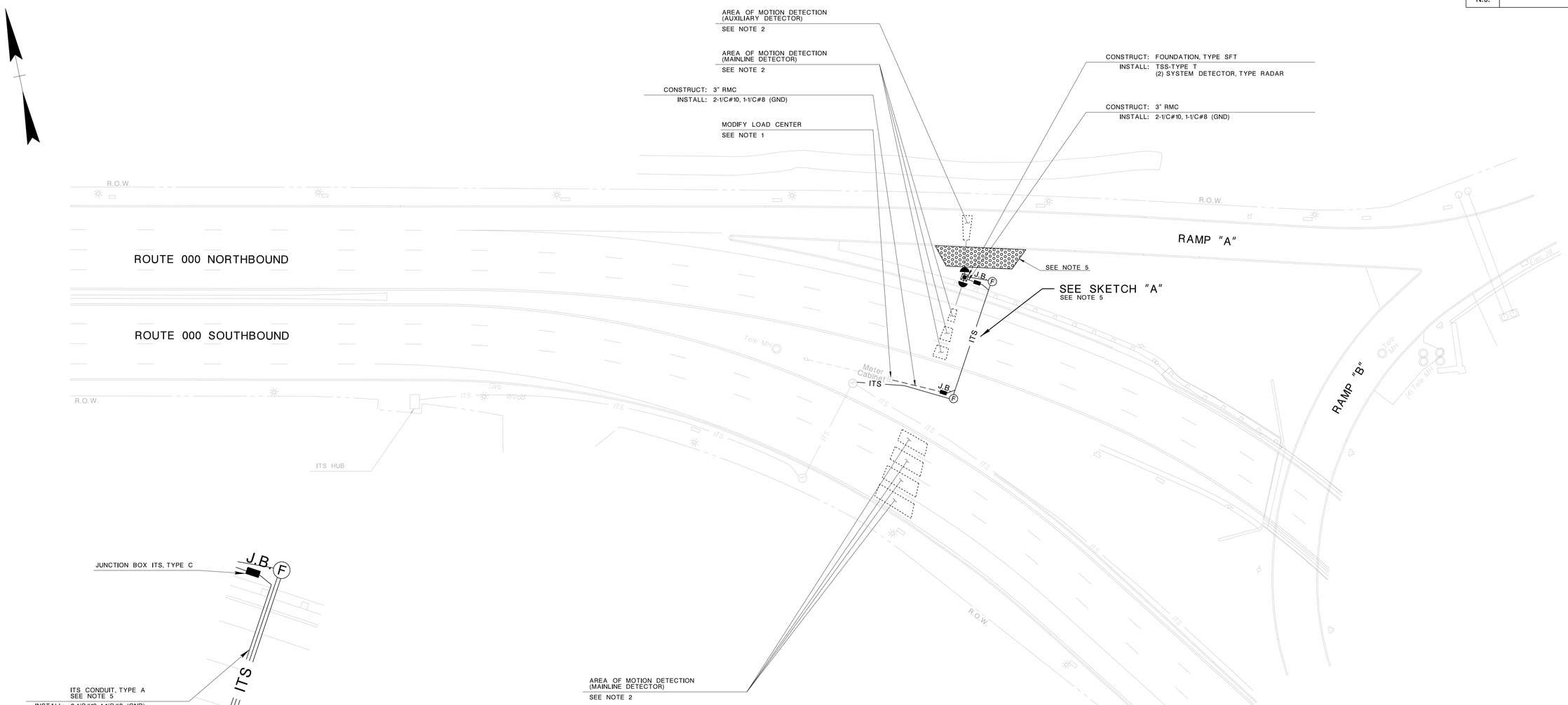
CTSS – Wireless Communication

FIRM NAME
MODEL MODELNAME
USERNAME USERNAME
PLOT DATE DATE
DWG. NAME CTSS SAMPLE PLAN – ORIGINAL SHEET
PROJECT # PROJECTNAME
PROJECT NAME PROJECTDESCR
TIME PLOTDRIVER
PLOTDRIVERABBREV

STATE	FEDERAL PROJECT NO.
N.J.	*

* *TOWNSHIP*

* *COUNTY*



SKETCH "A"
(N.T.S.)

NOTES:

1. SEE SHEET E-XX FOR LOAD CENTER MODIFICATION DETAIL.
2. THE SYSTEM DETECTORS, TYPE RADAR FOR THE ROUTE 000 NORTHBOUND AND SOUTHBOUND ROADWAYS AND RAMP "A" ARE TO DETECT EACH LANE SEPARATELY AND PROVIDE DETECTION DATA PER LANE AS AN INPUT TO THE M.P. XX TRAFFIC SIGNAL CABINET BACK PANEL. CONFIGURE DETECTOR INPUT CHANNELS THROUGH MSE AND AAM PRIOR TO INTEGRATION.
3. INTEGRATE THE SYSTEM DETECTORS, TYPE RADAR WITH THE EXISTING NJDOT HISTORICAL DATA SERVER TO AUTOMATICALLY LOG VOLUME, OCCUPANCY, SPEED, AND CLASSIFICATION DATA ON THE SERVER.
4. MOUNT THE SYSTEM DETECTOR, TYPE RADAR AT HEIGHTS RECOMMENDED BY THE MANUFACTURER. SEE SHEET ITS-8 FOR SYSTEM DETECTOR, TYPE RADAR AND SOLAR POWER SYSTEM, TYPE A DETAILS.
5. SEE SHEET ITS-2 FOR ITS FACILITIES PLANS.
6. SEE SHEET ITS-9 FOR DETAILS.

NOTE TO DESIGNER:

THIS SHEET REQUIRES DESIGN SPECIFIC INFORMATION TO BE ADDED AND INCLUDED IN THE CONTRACT PLANS. THESE NOTES CAN BE AMENDED/OMITTED TO REFLECT PROJECT SPECIFIC CONDITIONS. ADDITIONAL NOTES MAY BE NEEDED.

COORDINATE WITH NJDOT DIVISION OF MOBILITY AND SYSTEMS ENGINEERING WHEN DEVELOPING THE NOTES FOR THE SPECIFIC PROJECT.

REMOVE THIS NOTE AND OTHER DESIGNER NOTES AFTER DESIGN SPECIFIC INFORMATION IS ADDED.

ITEM NO.	TO BE CONSTRUCTED	CONTRACT QUANTITY
701021P	3" RIGID METALLIC CONDUIT	LF
701123M	FOUNDATION, TYPE SFT	UNIT
701192P	GROUND WIRE, NO. 8 AWG	LF
701204P	MULTIPLE LIGHTING WIRE, NO. 10 AWG	LF
701375P	MODIFY EXISTING LOAD CENTER	LS
702012M	TRAFFIC SIGNAL STANDARD, ALUMINUM	UNIT
704XXX	SYSTEM DETECTOR, TYPE RADAR	UNIT
704009M	JUNCTION BOX ITS TYPE C	UNIT

SITE *
MIDBLOCK DETECTOR LOCATION *
MP *
LAT * /LONG *

30 15 0 30 60
SCALE IN FEET

E-4
E-7

NEW JERSEY DEPARTMENT OF TRANSPORTATION

CTSS ELECTRICAL PLANS

ROUTE*
CONTRACT NO. *

INDIVIDUAL, FIRM, PARTNERSHIP, ETC.
CERTIFICATE OF AUTHORIZATION NO. *

NAME*
NEW JERSEY PROFESSIONAL ENGINEER LICENSE NO. *

* *

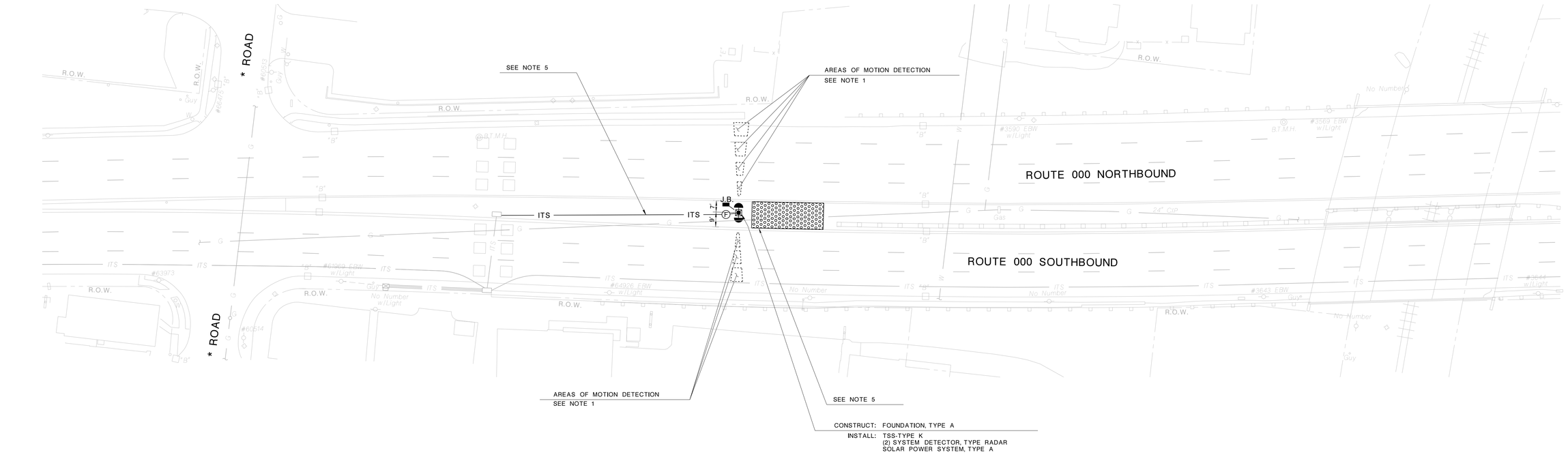
CTSS SAMPLE PLAN
CTSS – SYSTEM DETECTION HARDWIRE-POWERED

FIRM NAME
MODEL: MODELNAME | PROJECT # | PROJECTNAME
USERNAME: USERNAME | PROJECT NAME | PROJECTDESCR
PLOT DATE: DATE | TIME | PLOTDRIVER | PLOTDRIVERABBREV
DWG. NAME: CTSS SAMPLE PLAN - ORIGINAL SHEET

* TOWNSHIP

* COUNTY

STATE	FEDERAL PROJECT NO.
N.J.	*



SITE X
MIDBLOCK DETECTOR LOCATION X
MILE POST *
LAT * /LONG *

SCALE IN FEET 30 15 0 30 60

NOTES:

1. THE RADAR DETECTOR FOR THE NORTHBOUND AND SOUTHBOUND ROADWAYS ARE TO DETECT EACH LANE SEPARATELY AND PROVIDE DETECTION DATA PER LANE AS AN INPUT TO THE M.P. XX TRAFFIC SIGNAL CABINET BACK PANEL. CONFIGURE DETECTOR INPUT CHANNELS THROUGH MSE AND AAM PRIOR TO INTEGRATION.
2. INTEGRATE THE RADAR DETECTORS WITH THE EXISTING NJDOT HISTORICAL DATA SERVER TO AUTOMATICALLY LOG VOLUME, OCCUPANCY, SPEED, AND CLASSIFICATION DATA ON THE SERVER.
3. MOUNT THE SYSTEM DETECTOR, TYPE RADAR AT HEIGHTS RECOMMENDED BY THE MANUFACTURER. SEE SHEET ITS-8 FOR SYSTEM DETECTOR, TYPE RADAR AND SOLAR POWER SYSTEM, TYPE A DETAILS.
4. HAND DIG NEAR GAS LINE.
5. SEE SHEET ITS-3 FOR ITS FACILITIES PLANS.
6. REMOVE EXISTING SYSTEM LOOP DETECTOR EQUIPMENT FROM CABINET. ABANDON SYSTEM LOOPS IN PLACE.

NOTE TO DESIGNER:

COORDINATE WITH NJDOT DIVISION OF MOBILITY AND SYSTEMS ENGINEERING REGARDING ABANDONMENT OR REMOVAL OF EXISTING SYSTEM LOOPS AND RELATED EQUIPMENT FOR THE SPECIFIC PROJECT.

REMOVE THIS NOTE AND OTHER DESIGNER NOTES AFTER DESIGN SPECIFIC INFORMATION IS ADDED.

ITEM NO.	TO BE CONSTRUCTED	CONTRACT QUANTITY
701021P	3" RIGID METALLIC CONDUIT	LF
701253M	FOUNDATION, TYPE A	UNIT
702012M	TRAFFIC SIGNAL STANDARD, ALUMINUM	UNIT
702046M	SYSTEM DETECTOR, TYPE RADAR	UNIT
704009M	JUNCTION BOX ITS TYPE C	UNIT
704XXX	SOLAR POWER SYSTEM, TYPE A	UNIT

CTSS SAMPLE PLAN
CTSS – SYSTEM DETECTION
SOLAR POWERED

E-5 / E-7

NEW JERSEY DEPARTMENT OF TRANSPORTATION

ELECTRICAL PLANS

ROUTE*
CONTRACT NO. *

INDIVIDUAL, FIRM, PARTNERSHIP, ETC.
CERTIFICATE OF AUTHORIZATION NO. *
NAME*
NEW JERSEY PROFESSIONAL ENGINEER LICENSE NO. *

* *

FIRM NAME
MODEL MODELNAME | PROJECT # | PROJECTNAME
USERNAME USERNAME | PROJECT NAME | PROJECTDESCR
PLOT DATE DATE | TIME | PLOTDRIVER | PLOTDRIVERABBREV
DWG NAME CTSS_SAMPLE_PLAN – ORIGINAL SHEET

STATE	FEDERAL PROJECT NO.
N.J.	*

ROUTE 000 AND SIDE ROAD

NOTES TO DESIGNER:

1. The maximum cycle length shall be fixed between 210 and 240 seconds during CTSS operation. Coordinate with NJDOT to determine cycle length.
2. During the transition into emergency vehicle or transit priority control, the shortening of any pedestrian walk interval below that time shall not be permitted. During the transition into railroad preemption control, the shortening or omission of any pedestrian walk interval and/or pedestrian change interval shall be permitted, in accordance with MUTCD guidelines.
3. Remove this note and other designer notes after design specific information is added.

PHASE — SIGNAL INDICATIONS — TIME (SECONDS)

NORMAL OPERATION

	1-7	8, 10	9, 11	12, 13, 16, 17	14, 15	ADAPTIVE MODE*	FALLBACK TOD PLANS PLAN I	PLAN II	PLAN XI, XII XIII, XIV
A. RTE 00 R.O.W.	G	R	R	W	DW	7 (Min)	73-53	103-85	193-165
PEDESTRIAN CLEARANCE	G	R	R	FDW	DW	17	17	17	17
CHANGE	Y	R	R	DW	DW	6**	6	6	6
CLEARANCE	R	R	R	DW	DW	2	2	2	2
B. SIDE RD. WB LEAD	R	R	G/<G-	DW	DW	5 (Min)	5-12	5-10	5-15
LEAD CHANGE	R	R	G/<Y-	DW	DW	3	3	3	3
C. SIDE RD. R.O.W.	R	G	G	DW	DW	7 (Min)	7-20	7-20	7-25
CHANGE	R	Y	Y	DW	DW	3	3	3	3
CLEARANCE	R	R	R	DW	DW	4	4	4	4

WITH PEDESTRIAN ACTUATION

A. RTE 00 R.O.W.	G	R	R	W	DW	7 (Min)	42	72	162
PEDESTRIAN CLEARANCE	G	R	R	FDW	DW	17	17	17	17
CHANGE	Y	R	R	DW	DW	6**	6	6	6
CLEARANCE	R	R	R	DW	DW	2	2	2	2
B. SIDE RD. WB LEAD	R	R	G/<G-	DW	DW	5 (Min)	5	5	5
LEAD CHANGE	R	R	G/<Y-	DW	DW	3	3	3	3
C. SIDE RD. R.O.W.	R	G	G	DW	W	7 (Min)	7	7	7
PEDESTRIAN CLEARANCE	R	G	G	DW	FDW	31	31	31	31
CHANGE	R	Y	Y	DW	DW	3	3	3	3
CLEARANCE	R	R	R	DW	DW	4	4	4	4
EMERGENCY FLASHING OPERATION	Y	R	R	DARK	DARK	-	-	-	-

EMERGENCY SEQUENCE

SIDE RD WB PREEMPTION ACTUATION

A. RTE 00 R.O.W.	G	R	R	W	DW	
PREEMPTION ACTUATION						7 (Min)
A. RTE 00 R.O.W.	G	R	R	W	DW	
PEDESTRIAN CLEARANCE	G	R	R	FDW	DW	17
CHANGE	Y	R	R	DW	DW	6
CLEARANCE	R	R	R	DW	DW	2
B. SIDE RD WB R.O.W.	R	R	G/<G-	DW	DW	30 (Min)
	R	R	Y	DW	DW	3
	R	R	R	DW	DW	4
A. RTE 00 R.O.W.	G	R	R	W	DW	10 (Min)

RESUME NORMAL OPERATION

SIDE RD EB PREEMPTION ACTUATION

A. RTE 00 R.O.W.	G	R	R	W	DW	
PREEMPTION ACTUATION						7 (Min)
A. RTE 00 R.O.W.	G	R	R	W	DW	
PEDESTRIAN CLEARANCE	G	R	R	FDW	DW	17
CHANGE	Y	R	R	DW	DW	6
CLEARANCE	R	R	R	DW	DW	2
B. SIDE RD EB R.O.W.	R	G	R	DW	DW	30 (Min)
	R	Y	R	DW	DW	3
	R	R	R	DW	DW	4
A. RTE 00 R.O.W.	G	R	R	W	DW	10 (Min)

RESUME NORMAL OPERATION

NOTES:

1. Vehicle interval is to be set at 2 seconds.
2. The memory circuit is to be off.
3. The controller is to rest in mainline R.O.W. green.
4. The manual control is to be disconnected.
5. Any unactuated phases shall be skipped.
6. Calls to non-actuated CNA shall be set to off.
7. Detector switching shall be provided so that the Side Rd. WB Lead (Phase B) movement may extend the Side Rd. ROW (Phase C) movement.
8. *The maximum cycle length shall be XXX seconds.
9. If adaptive system fails or is turned off, controller will revert to Timing Plans I - II and XI - XIV.
10. **Offsets are to be measured from the beginning of yellow to Route 00 traffic at this intersection.
11. Phase C must follow Phase B.

FALLBACK TOD PLANS

	HOURS OF OPERATION	CYCLE LENGTH
Plan I:	6:00 A.M. - 9:30 A.M. Monday thru Friday	120
Plan II:	All Other Times	150
Plan XI:	Incident Management Northbound Progression - Soft Diversion	240
Plan XII:	Incident Management Northbound Progression - Hard Diversion	240
Plan XI:	Incident Management Southbound Progression - Soft Diversion	240
Plan XI:	Incident Management Southbound Progression - Hard Diversion	240

FIRM NAME

MODEL	MODELNAME	PROJECT #		PROJECTNAME	
USERNAME	USERNAME	PROJECT NAME		PROJECTDESCR	
PLOT DATE	DATE	TIME	PLOTDRIVER	PLOTDRIVERABBREV	
DWG NAME	CTSS SAMPLE PLAN – ORIGINAL SHEET				

E-6
E-7

NEW JERSEY DEPARTMENT OF TRANSPORTATION

ELECTRICAL DETAILS

ROUTE*
CONTRACT NO. *

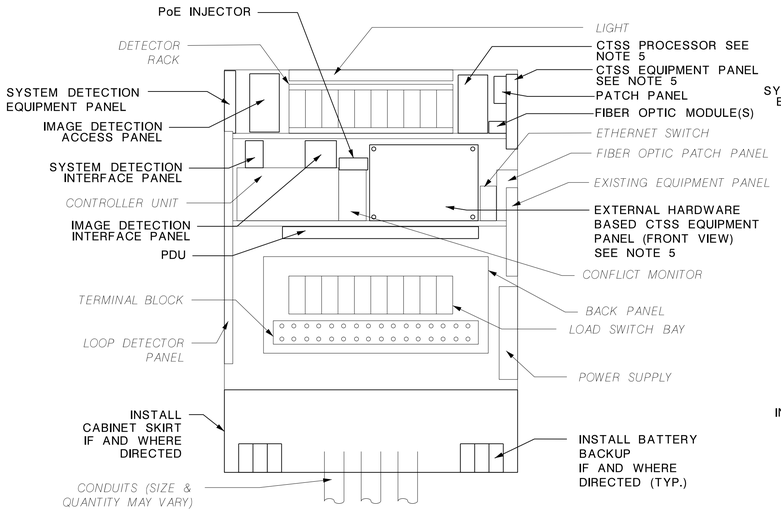
INDIVIDUAL, FIRM, PARTNERSHIP, ETC.
CERTIFICATE OF AUTHORIZATION NO. *

NAME*
NEW JERSEY PROFESSIONAL ENGINEER LICENSE NO. *

* / *

CTSS SAMPLE PLANS
CTSS TIMING DIRECTIVE

STATE	FEDERAL PROJECT NO.
N.J.	*

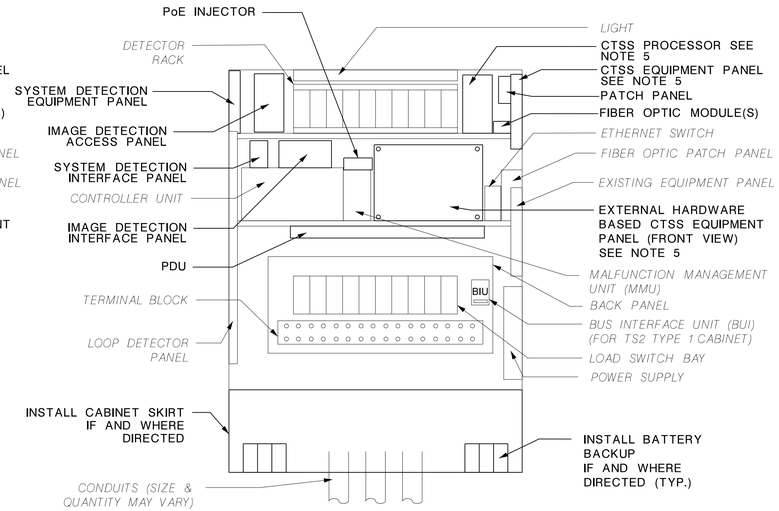


EXISTING TS1 CABINET LAYOUT

SEE TABLE 1
SEE NOTE 1

NOTE TO DESIGNER:

COORDINATE WITH NJDOT DIVISION OF MOBILITY AND SYSTEMS ENGINEERING REGARDING THE NEED FOR BATTERY BACKUPS, CABINET SKIRTS, AND EXTERNAL GENERATOR HOOKUPS.

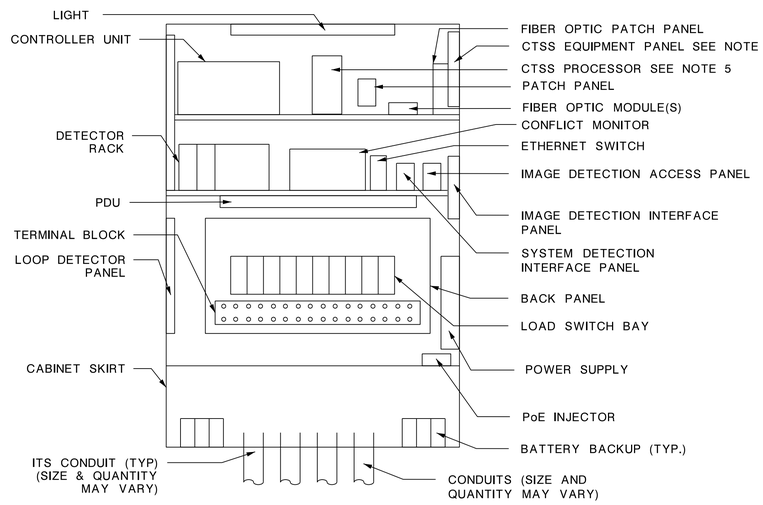


EXISTING TS2 CABINET LAYOUT

SEE TABLE 1
SEE NOTE 1

NOTE TO DESIGNER:

COORDINATE WITH NJDOT DIVISION OF MOBILITY AND SYSTEMS ENGINEERING REGARDING THE NEED FOR BATTERY BACKUPS, CABINET SKIRTS, AND EXTERNAL GENERATOR HOOKUPS.



PROPOSED TS1 CABINET LAYOUT

SEE TABLE 1
SEE NOTE 1

NOTE TO DESIGNER:

COORDINATE WITH NJDOT DIVISION OF MOBILITY AND SYSTEMS ENGINEERING REGARDING THE NEED FOR BATTERY BACKUPS, CABINET SKIRTS, AND EXTERNAL GENERATOR HOOKUPS.

NOTE TO DESIGNER:

THIS SHEET REQUIRES DESIGN SPECIFIC INFORMATION TO BE ADDED AND INCLUDED IN THE CONTRACT PLANS. THE CONTENT OF THESE DETAILS AND NOTES CAN BE AMENDED/OMITTED TO REFLECT PROJECT SPECIFIC CONDITIONS. ADDITIONAL NOTES MAY BE NEEDED.

COORDINATE WITH NJDOT DIVISION OF MOBILITY AND SYSTEMS ENGINEERING WHEN DEVELOPING THE NOTES FOR THE SPECIFIC PROJECT.

DEPICT AS MANY VARIATIONS OF SIGNAL CONTROLLER CABINET EQUIPMENT LAYOUTS AS NECESSARY FOR THE PROPOSED SIGNAL CONTROLLER MODIFICATIONS WITHIN THE PROJECT LIMITS, INCLUDING REPLACEMENT OF CONTROLLER UNIT, IF NECESSARY. NAME EACH SPECIFIC LAYOUT CONTROLLER MODIFICATIONS CTSS, TYPE "A" THROUGH "Z".

REMOVE THIS NOTE AND OTHER DESIGNER NOTES AFTER DESIGN SPECIFIC INFORMATION IS ADDED.

TABLE 1

JOB SITE	SHEET	MILE POST	LOCATION DESCRIPTION	CABINET LAYOUT	LAT	LONG
*	E-*	*	*	CONTROLLER MODIFICATIONS, CTSS TYPE *	*	*

NOTES:

1. INDIVIDUAL SIGNAL EQUIPMENT POSITIONS MAY VARY.
2. FIELD VERIFY AND UTILIZE EMPTY SPACE.
3. REMOVE EXISTING EQUIPMENT NO LONGER IN SERVICE AND RETURN TO NJDOT.
4. IF NECESSARY, REARRANGE THE CABINET EQUIPMENT TO MAKE SPACE FOR NEW INSTALLATION.
5. THE INDICATED EQUIPMENT IS ONLY REQUIRED FOR EXTERNAL HARDWARE BASED CTSS SYSTEMS.

   NOTE TO DESIGNER:

   REMOVE CTSS EXTERNAL HARDWARE FROM LAYOUT AND NOTE 5 FOR A SIGNAL CONTROLLER SOFTWARE BASED CTSS SYSTEM.

6. INSTALL LOCAL TRAFFIC SIGNAL CONTROLLER SOFTWARE FOR A SOFTWARE BASED CTSS SYSTEM.

FIRM NAME
MODEL | MODELNAME | PROJECT # | PROJECTNAME
USERNAME | USERNAME | PROJECT NAME | PROJECTDESCR
PLOT DATE | DATE | TIME | PLOTDRIVER | PLOTDRIVERFABPREV
DWG. NAME | CTSS SAMPLE PLAN – ORIGINAL SHEET

E-7
E-7

NEW JERSEY DEPARTMENT OF TRANSPORTATION

CTSS CABINET LAYOUT DETAILS

ROUTE*
CONTRACT NO. *

INDIVIDUAL, FIRM, PARTNERSHIP, ETC.
CERTIFICATE OF AUTHORIZATION NO. *
NAME*
NEW JERSEY PROFESSIONAL ENGINEER LICENSE NO. *

*
*

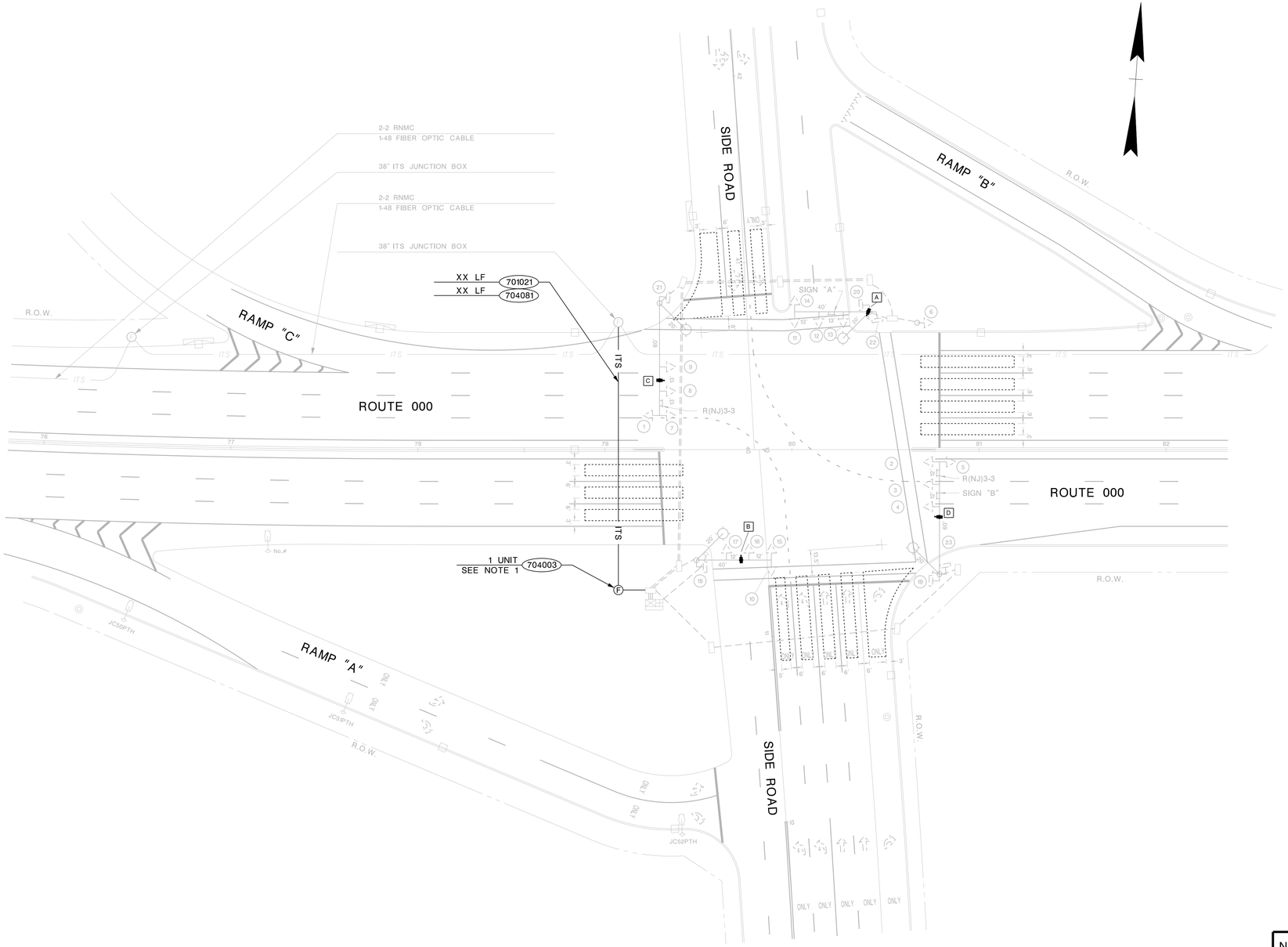
CTSS SAMPLE PLAN

CTSS CABINET LAYOUT

STATE	FEDERAL PROJECT NO.
N.J.	*

* *TOWNSHIP*

* *COUNTY*



ITEM NO.	TO BE CONSTRUCTED	CONTRACT QUANTITY
701021P	3" RIGID METALLIC CONDUIT	LF
704003M	JUNCTION BOX ITS TYPE A	UNIT
704081P	FIBER OPTIC CABLE TYPE F	LF

NOTE:

1. SEE E-2 FOR ELECTRICAL PLAN FIBER INSTALLATION TO CONTROLLER CABINET.

CTSS SAMPLE PLAN
CTSS – Fiber Optic Communication

ITS-1
ITS-11

NEW JERSEY DEPARTMENT OF TRANSPORTATION

ITS PLANS

ROUTE*
CONTRACT NO. *

INDIVIDUAL, FIRM, PARTNERSHIP, ETC.
CERTIFICATE OF AUTHORIZATION NO. *

NAME*
NEW JERSEY PROFESSIONAL ENGINEER LICENSE NO. *

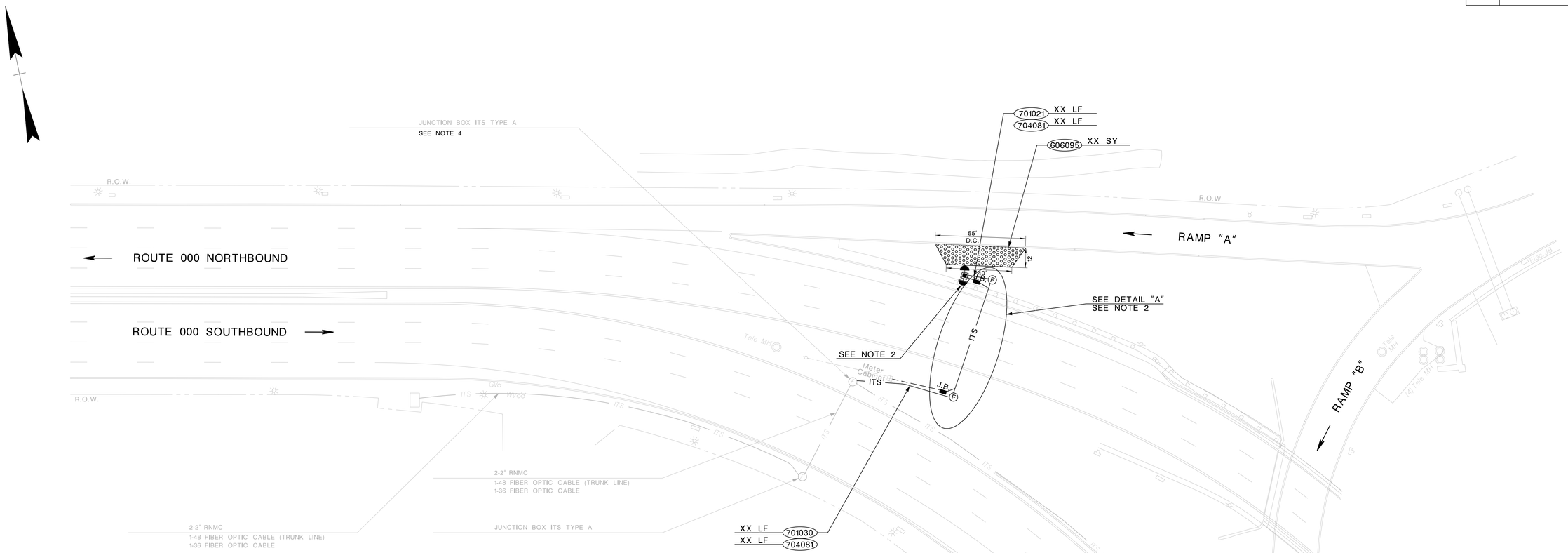
* / *

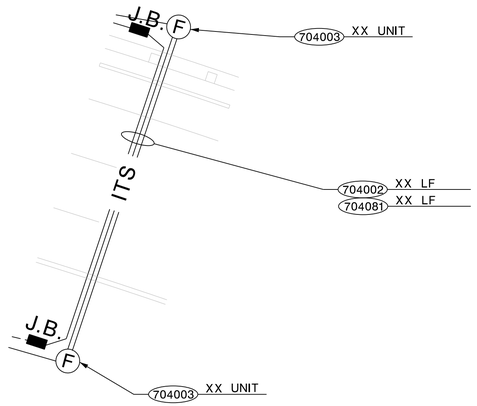
FIRM NAME
MODEL MODELNAME
USERNAME USERNAME
PLOT DATE DATE TIME
DWG NAME CTSS SAMPLE PLAN – ORIGINAL SHEET
PROJECT # PROJECTNAME
PROJECT NAME PROJECTDESCR
PLOTDRIVER PLOTDRIVERABBREV

STATE	FEDERAL PROJECT NO.
N.J.	*

* *TOWNSHIP*

* *COUNTY*





DETAIL "A"
(N.T.S.)

NOTES:

1. SEE SHEET ITS-XX FOR FIBER OPTIC CABLE SPLICE DETAILS.
2. SEE SHEET E-4 FOR ELECTRICAL FACILITY PLANS, INCLUDING THE SYSTEM DETECTOR, TYPE RADAR.
3. SEE ITS-XX FOR TURF PAVERS DETAIL.

ITEM NO.	TO BE CONSTRUCTED	CONTRACT QUANTITY
606095P	TURF PAVERS	SY
701021P	3" RIGID METALLIC CONDUIT	LF
701030P	3" RIGID NONMETALLIC CONDUIT	LF
704002M	ITS CONDUIT, TYPE A	LF
704003M	JUNCTION BOX ITS TYPE A	UNIT
704081P	FIBER OPTIC CABLE TYPE F	LF

SITE *
MIDBLOCK DETECTOR LOCATION *
MP *
LAT * /LONG *

30 15 0 30 60
SCALE IN FEET

ITS-2
ITS-11

NEW JERSEY DEPARTMENT OF TRANSPORTATION

ITS PLANS

ROUTE*
CONTRACT NO. *

INDIVIDUAL, FIRM, PARTNERSHIP, ETC.
CERTIFICATE OF AUTHORIZATION NO. *

NAME*
NEW JERSEY PROFESSIONAL ENGINEER LICENSE NO. *

* / *

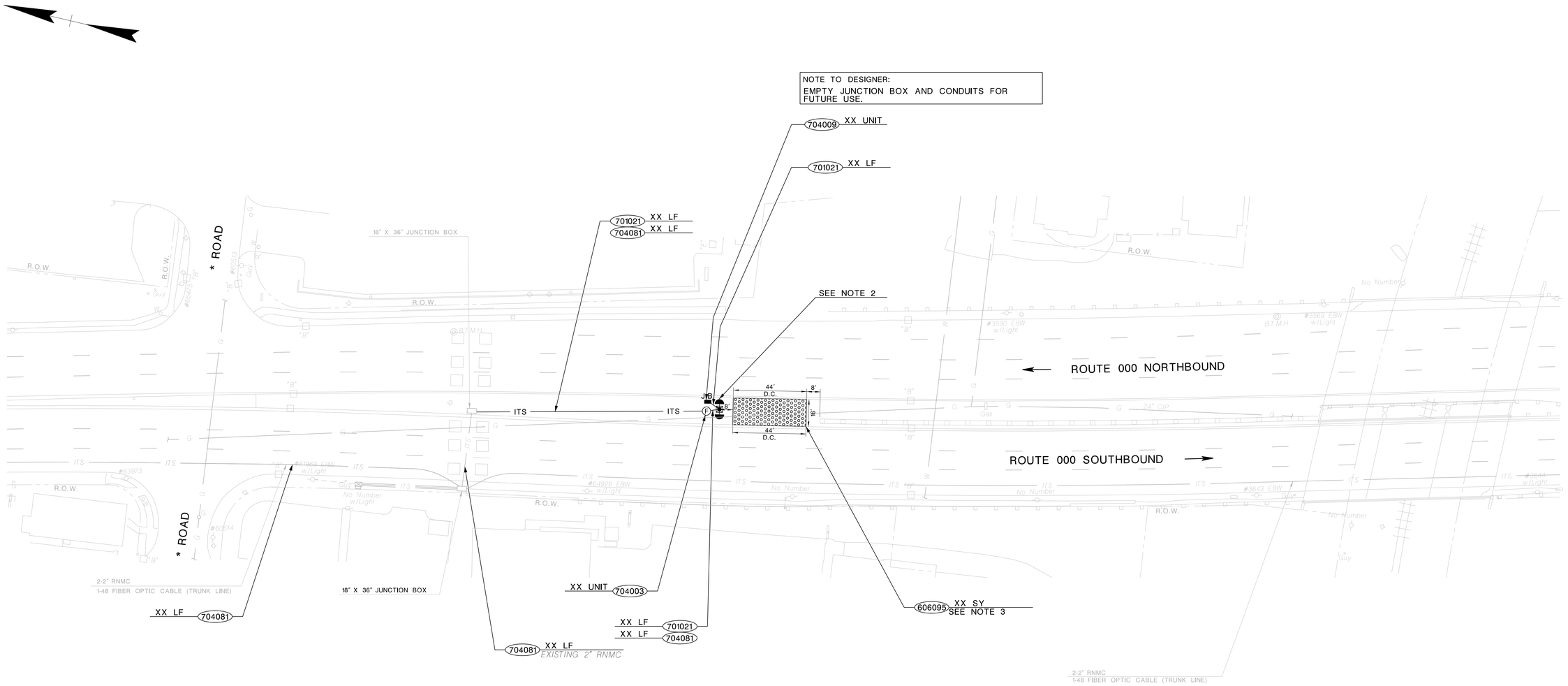
CTSS SAMPLE PLANS
SYSTEM DETECTION HARDWIRE POWERED

FIRM NAME
MODEL MODELNAME | PROJECT # | PROJECTNAME
USERNAME USERNAME | PROJECT NAME | PROJECTDESCR
PLOT DATE DATE TIME | PLOTDRIVER | PLOTDRIVERDRIVERHEY
DWG. NAME CTSS SAMPLE PLAN - ORIGINAL SHEET

STATE	FEDERAL PROJECT NO.
N.J.	*

* *TOWNSHIP*

* *COUNTY*



SITE X
MIDBLOCK DETECTOR LOCATION X
MILE POST *
LAT * /LONG *

30 15 0 30 60
SCALE IN FEET

ITEM NO.	TO BE CONSTRUCTED	CONTRACT QUANTITY
606095P	TURF PAVERS	SY
701021P	3" RIGID METALLIC CONDUIT	LF
704003M	JUNCTION BOX ITS TYPE A	UNIT
704009M	JUNCTION BOX ITS TYPE C	UNIT
704081P	FIBER OPTIC CABLE TYPE F	LF

NOTES:

1. HAND DIG NEAR GAS LINE.
2. SEE E-5 FOR ELECTRICAL FACILITY PLANS, INCLUDING THE SYSTEM DETECTOR, TYPE RADAR.
3. SEE ITS-XX FOR TURF PAVERS DETAIL.

CTSS SAMPLE PLAN
CTSS – SYSTEM DETECTION
SOLAR POWERED

ITS-3
ITS-11

NEW JERSEY DEPARTMENT OF TRANSPORTATION

ITS PLANS

ROUTE*
CONTRACT NO. *

INDIVIDUAL, FIRM, PARTNERSHIP, ETC.
CERTIFICATE OF AUTHORIZATION NO. *
NAME*
NEW JERSEY PROFESSIONAL ENGINEER LICENSE NO. *

* / *

FIRM NAME	
MODEL	MODELNAME
USERNAME	USERNAME
PLOT DATE	DATE
DWG. NAME	CTSS SAMPLE PLAN – ORIGINAL SHEET
PROJECT #	PROJECTNAME
PROJECT NAME	PROJECTDESCR
PLOTDRIVER	PLOTDRIVERFABBREV
TIME	

STATE	FEDERAL PROJECT NO.
N.J.	*

SYSTEM DETECTION CONTROLLER CABINET
ROUTE 000 M.P. *
SITE * (SEE SHEET E-XX)

SYSTEM DETECTION
TERMINAL SERVER
FIBER TRANSCEIVER
PATCH PANEL
1 BLUE
2 ORANGE
3 GREEN
4 BROWN
5 SLATE
6 WHITE
FIBER OPTIC CABLE TYPE F

CTSS CONTROLLER CABINET
ROUTE 000 M.P. *
SITE * (SEE SHEET E-XX)

PATCH PANEL
SYSTEM DETECTION EQUIPMENT PANEL
TRAFFIC CONTROLLER
BACK PANEL (TS-1)
I.D. ACCESS PANEL
ETHERNET SWITCH TYPE B
PDU
I.D. INTERFACE PANEL
24 PORT PATCH PANEL
BLUE 1, ORANGE 2, GREEN 3, BROWN 4, SLATE 5, WHITE 6, BLUE 7, ORANGE 8, GREEN 9, BROWN 10, SLATE 11, WHITE 12

SYSTEM DETECTION CONTROLLER CABINET
ROUTE 000 M.P. *
SITE * (SEE SHEET E-XX)

SYSTEM DETECTION
TERMINAL SERVER
SYSTEM DETECTION LINK

SYSTEM DETECTION
COAXIAL CABLE
SYSTEM DETECTION CONTROLLER CABINET
ROUTE 000 M.P. *
SITE * (SEE SHEET E-XX)

RADIO LINK
ETHERNET SWITCH
TERMINAL SERVER TYPE A
TERMINAL SERVER
12 PORT PATCH PANEL
BLUE 1, ORANGE 2, GREEN 3, BROWN 4, SLATE 5, WHITE 6, BLUE 7, ORANGE 8, GREEN 9, BROWN 10, SLATE 11, WHITE 12

SPLICE ENCLOSURE

JUNCTION BOX ITS TYPE A
ROUTE 000 MEDIAN M.P. *

JUNCTION BOX ITS TYPE A
ROUTE 000 MEDIAN M.P. *

96- FIBER OPTIC CABLE TO CROSS-CONNECT CABINET
ROUTE 000 M.P. *

BLUE BUNDLE 1-12 — CSS
ORANGE BUNDLE 1-12 — DMS
GREEN BUNDLE 1-12 — HUB TO HUB
BROWN BUNDLE — CTSS
1 BLUE
2 ORANGE
3 GREEN
4 BROWN
5 SLATE
6 WHITE
7 RED
8 BLACK
9 YELLOW
10 VIOLET
11 ROSE
12 AQUA
SLATE BUNDLE 1-12 — VIM/TVS
WHITE BUNDLE 1-12 — TTS
RED BUNDLE 1-12 — FUTURE
BLACK BUNDLE 1-5, 6 WHITE, 7-12

INTERSTITIAL BUNDLES

1-12
13-24
25-36
37
38
39
40
41
42
43
44
45
46
47
48
49-60
61-72
73-84
85-89
90
91-96

FIBER OPTIC CABLE TYPE E

DATA COLLECTION AND TROUBLESHOOTING

FIBER OPTIC CABLE TYPE E

JUNCTION BOX ITS TYPE A
ROUTE 000 MEDIAN M.P. *

JUNCTION BOX ITS TYPE A
ROUTE 000 MEDIAN M.P. *

JUNCTION BOX ITS TYPE A
ROUTE * MEDIAN M.P. *

JUNCTION BOX ITS TYPE A
ROUTE 000 M.P. *

BLUE 1, ORANGE 2, GREEN 3, BROWN 4, SLATE 5, WHITE 6, BLUE 7, ORANGE 8, GREEN 9, BROWN 10, SLATE 11, WHITE 12

24 PORT PATCH PANEL
I.D. ACCESS PANEL
I.D. INTERFACE PANEL
BACK PANEL (TS-1)
SYSTEM DETECTION EQUIPMENT PANEL
ETHERNET SWITCH TYPE B
PDU
TRAFFIC CONTROLLER

CTSS CONTROLLER CABINET
ROUTE 000 M.P. *
SITE * (SEE SHEET E-XX)

12 PORT PATCH PANEL
TERMINAL SERVER
SYSTEM DETECTION
TERMINAL SERVER TYPE A
COAXIAL CABLE

SYSTEM DETECTION CONTROLLER CABINET
ROUTE 000 M.P. *
SITE * (SEE SHEET E-XX)

LEGEND OF SYMBOLS

—●— DENOTES FIBER OPTIC CABLE SPLICE
—✕— DENOTES FIBER OPTIC CABLE END

NOTE TO DESIGNER:

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REMOVE THIS NOTE AND OTHER DESIGNER NOTES AFTER DESIGN SPECIFIC INFORMATION IS ADDED.

TYPICAL FIBER OPTIC
CABLE INTERCONNECTIONS
N.T.S.

REFERENCE

FIRM NAME
MODEL | MODELNAME | PROJECT # | PROJECTNAME
USERNAME | USERNAME | PROJECT NAME | PROJECTDESCR
PLOT DATE | DATE | TIME | PLOTDRIVER | PLOTDRIVERFABRREV
DWG. NAME | CTSS SAMPLE PLAN - ORIGINAL SHEET

ITS-4
ITS-11

NEW JERSEY DEPARTMENT OF TRANSPORTATION

CTSS FIBER ASSIGNMENT DIAGRAM

ROUTE*

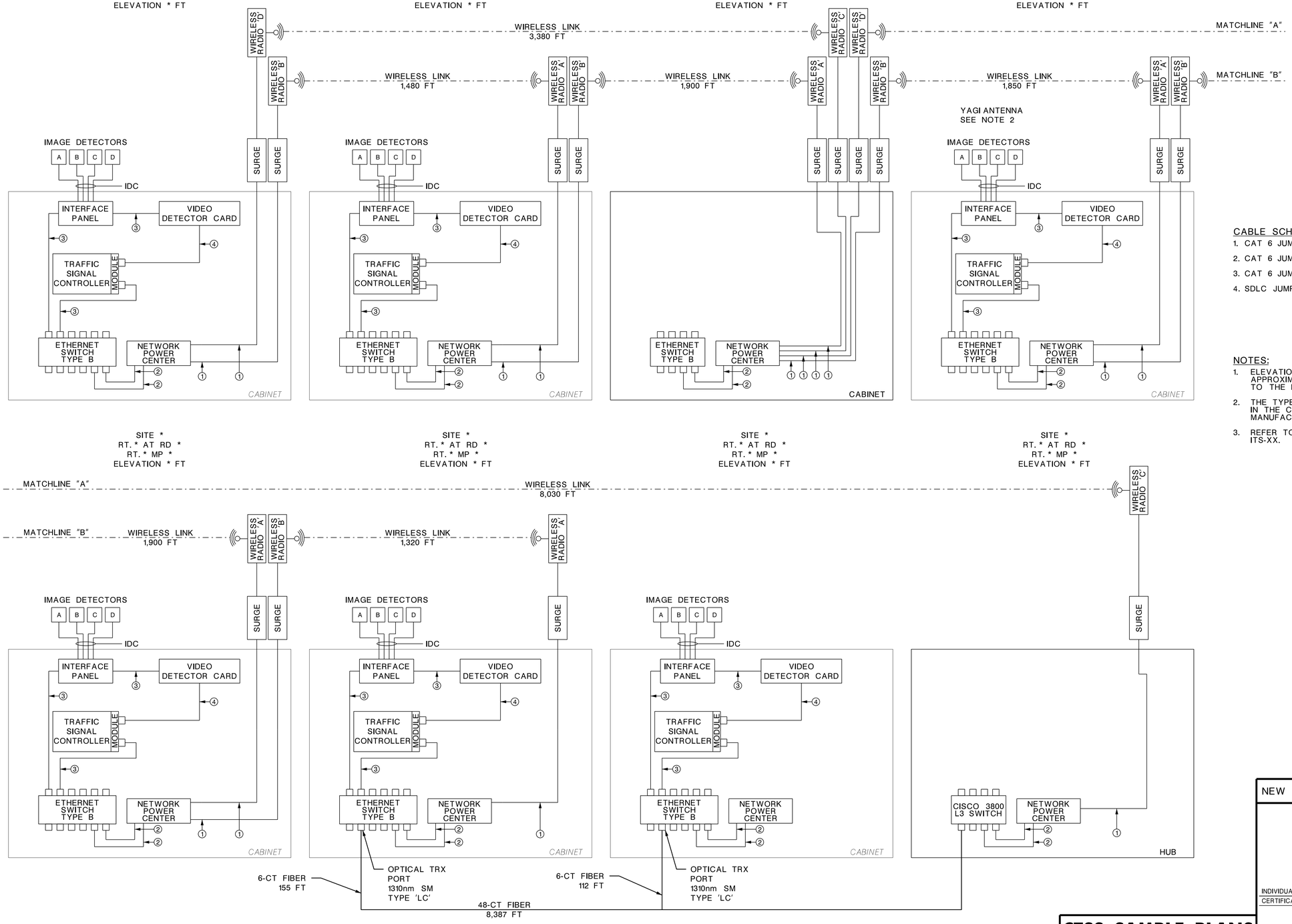
CONTRACT NO. *

INDIVIDUAL, FIRM, PARTNERSHIP, ETC.
CERTIFICATE OF AUTHORIZATION NO. *
NAME*
NEW JERSEY PROFESSIONAL ENGINEER LICENSE NO. *

*
*

CTSS SAMPLE PLANS

STATE	FEDERAL PROJECT NO.
N.J.	*



CABLE SCHEDULE:

1. CAT 6 JUMPER OUTDOOR RATED
2. CAT 6 JUMPER INDOOR RATED
3. CAT 6 JUMPER
4. SDLC JUMPER

NOTES:

1. ELEVATIONS GIVEN AT SITE LOCATIONS ARE APPROXIMATE GROUND LEVEL ELEVATION ADJACENT TO THE FOUNDATIONS.
2. THE TYPES AND QUANTITIES OF CABLES DEPICTED IN THE CABLE SCHEDULE MAY VARY. REFER TO MANUFACTURERS' RECOMMENDATIONS.
3. REFER TO FIBER ASSIGNMENT DIAGRAM, SHEET ITS-XX.

FIRM NAME

MODEL	MODELNAME
USERNAME	USERNAME
PLOT DATE	DATE
DWG NAME	CTSS SAMPLE PLAN - ORIGINAL SHEET
PROJECT #	
PROJECT NAME	
TIME	
PROJECTNAME	
PROJECTDESCR	
PLOTDRIVER	
PLOTDRIVERABBREV	

N.T.S.

ITS-5 / ITS-11

NEW JERSEY DEPARTMENT OF TRANSPORTATION

CTSS SYSTEM BLOCK DIAGRAM

ROUTE*

CONTRACT NO. *

INDIVIDUAL, FIRM, PARTNERSHIP, ETC.

CERTIFICATE OF AUTHORIZATION NO. *

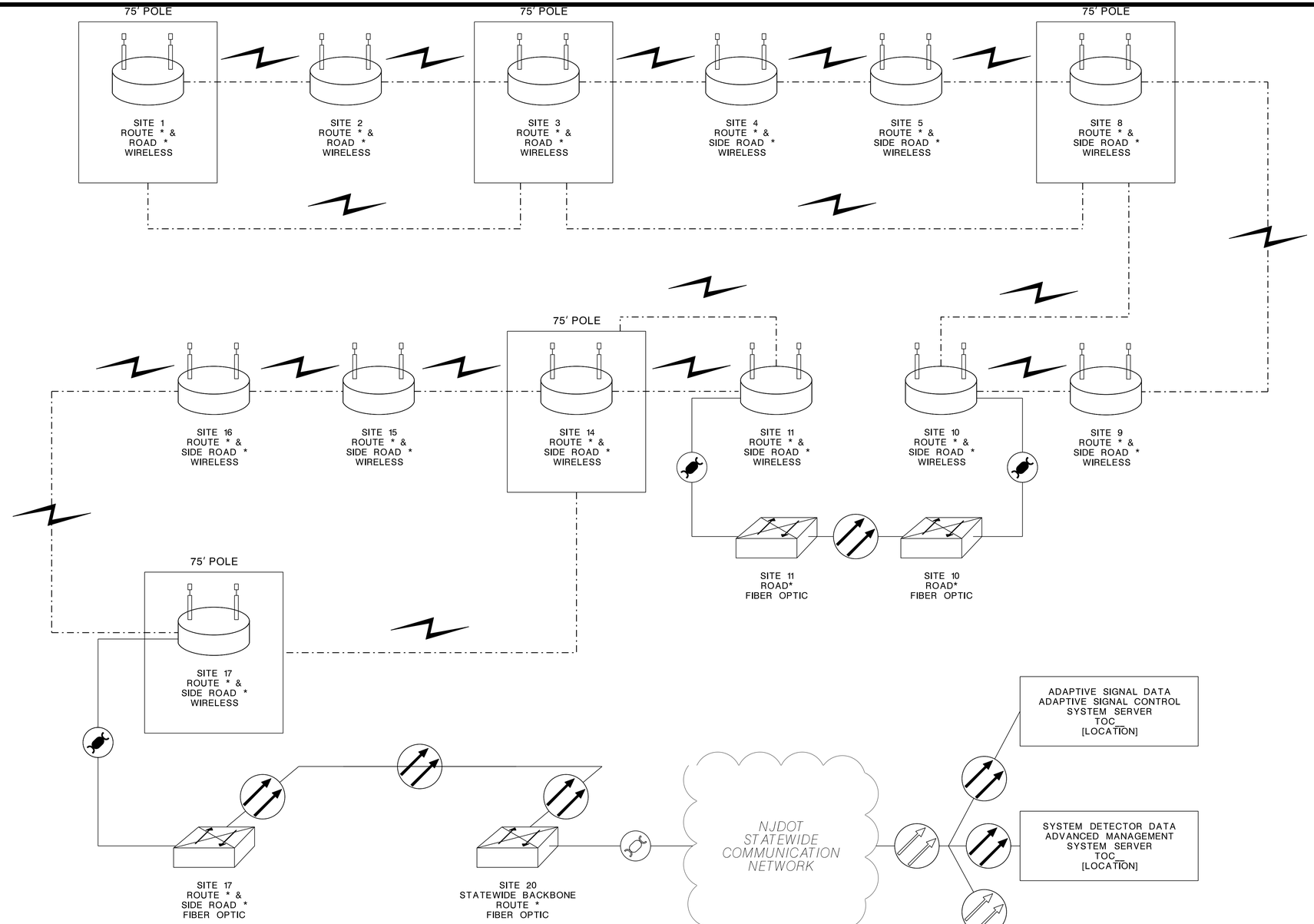
NAME*

NEW JERSEY PROFESSIONAL ENGINEER LICENSE NO. *

* / *

CTSS SAMPLE PLANS

STATE	FEDERAL PROJECT NO.
N.J.	*



LEGEND

PROPOSED WIRELESS LINK (xx GHz)

EXISTING/PROPOSED ETHERNET CONNECTION

EXISTING/PROPOSED FIBER OPTIC CONNECTION

PROPOSED ETHERNET SWITCH

PROPOSED WIRELESS CONNECTION

ITEM NO.	TO BE CONSTRUCTED	CONTRACT QUANTITY
704033P	CONTROL CENTER SYSTEM, LOCATION NO. ___	LS

NOTE:

1. SEE SHEET ITS-XX FOR ANTENNA DETAILS.

N.T.S.

ITS-6 / ITS-11

NEW JERSEY DEPARTMENT OF TRANSPORTATION

CTSS SYSTEM NETWORK DIAGRAM

ROUTE*

CONTRACT NO. *

INDIVIDUAL, FIRM, PARTNERSHIP, ETC.

CERTIFICATE OF AUTHORIZATION NO. *

NAME*

NEW JERSEY PROFESSIONAL ENGINEER LICENSE NO. *

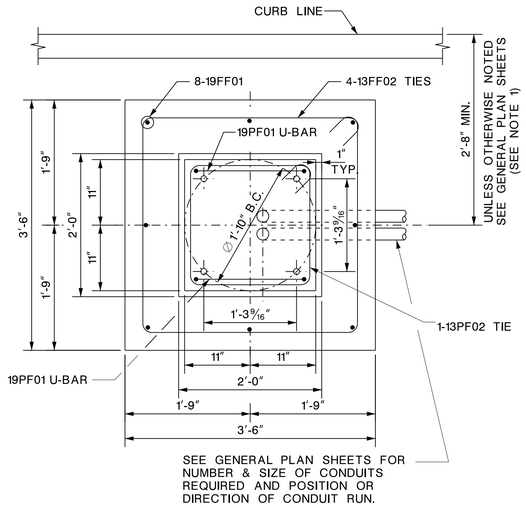
*
*

CTSS SAMPLE PLANS

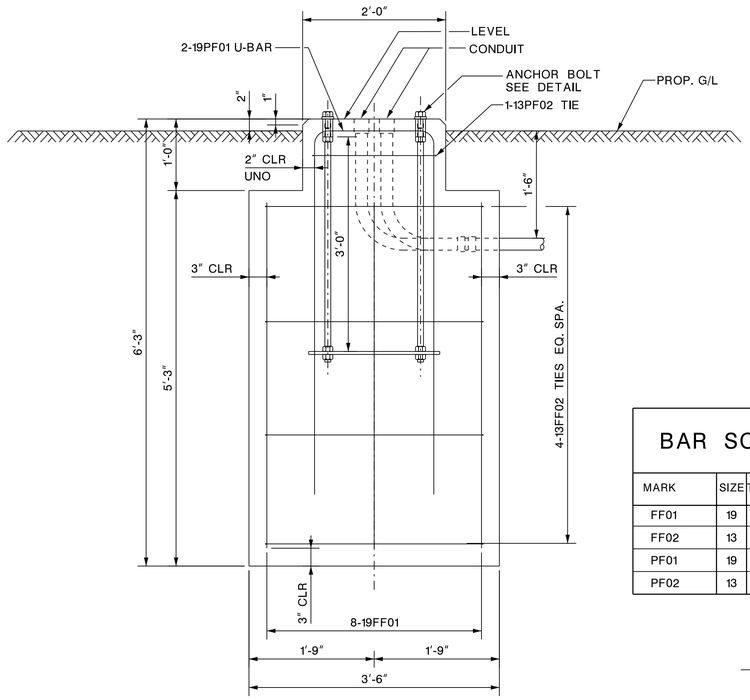
FIRM NAME

MODEL NAME	MODELNAME	PROJECT #	PROJECTNAME
USERNAME	USERNAME	PROJECT NAME	PROJECTDESCR
PLOT DATE	DATE	TIME	PLOTDRIVER
DWG. NAME	CTSS_SAMPLE PLAN - ORIGINAL SHEET		PLOTDRIVERABBREV

STATE	FEDERAL PROJECT NO.
N.J.	*



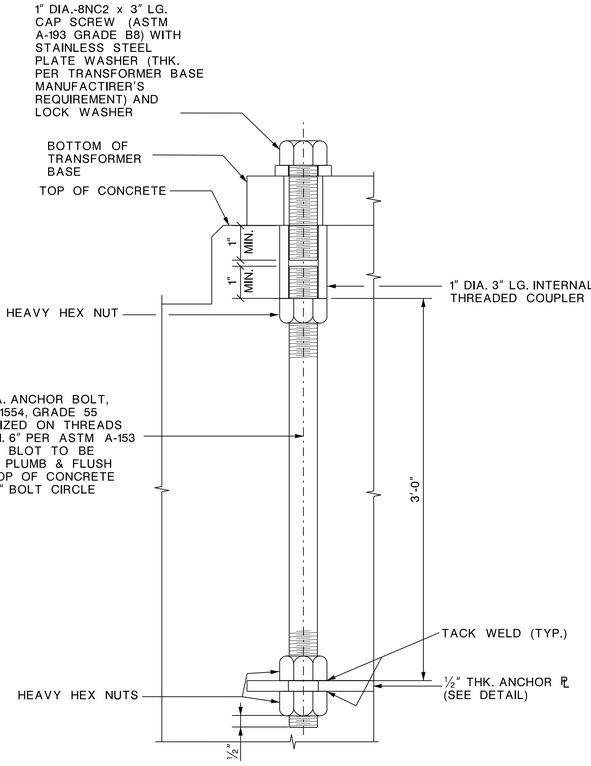
PLAN



ELEVATION

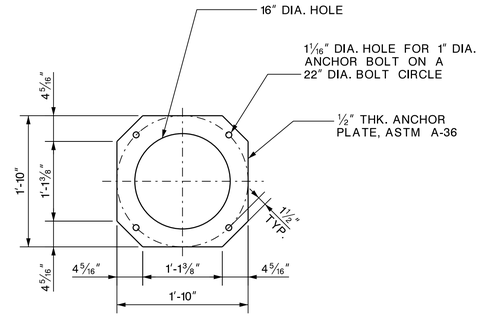
FOUNDATION TYPE 'A'

SCALE: 1"=1'-0"



ANCHOR BOLT DETAIL

N.T.S.



ANCHOR PLATE DETAIL

SCALE: 1"=1'-0"

NOTES:

1. OFFSET FROM CENTER LINE OF POLE TO ROADWAY'S CURB LINE IS TO BE DETERMINED BY EACH PROJECT. THE OFFSET SHALL BE FAR ENOUGH TO PREVENT ANY OF THE POLE ATTACHMENTS INTRUDING INTO THE ROADWAY'S CLERANCE ENVELOP, AND, AT A MINIMUM THE OFFSET SHALL BE NO LESS THAN 32 INCHES.

2. CONCRETE:
   FOUNDATION CONCRETE SHALL BE CLASS B PER NJDOT STANDARD SPECIFICATIONS
   CLASS MIX DESIGN STRENGTH @ 28 DAY = 3,700 PSI
   COMPRESSIVE STRENGTH (FC') USED IN DESIGN = 3,000 PSI

3. REINFORCEMENT STEEL:
   ASTM A615 GRADE 60

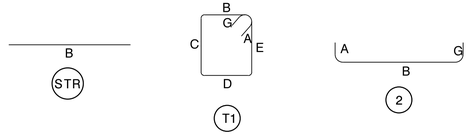
4. ANCHOR BOLT MATERIAL AS CALLED OUT IN DETAILS

5. ANY AND ALL ASPECTS OF FOUNDATION CONSTRUCTION, INCLUDING BUT NOT LIMITED TO EXCAVATION, PLACING REINFORCEMENT, RIGID METALLIC CONDUIT, FORMWORK, CONCRETE POUR, AND BACKFILLING, SHALL FOLLOW THE LATEST NJDOT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTIONS WITH CURRENT SUPPLEMENTAL SPECIFICATIONS.

6. GEOTECHNICAL DESIGN OF THIS FOUNDATION IS BASED ON BROM'S METHOD PRESENTED IN CHAPTER 13 OF THE 2009 AASHTO STANDARD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES, AND TRAFFIC SIGNALS. THE STANDARD DETAILS PRESENTED HEREIN ARE DEVELOPED BASED ON THE FOLLOWING DESIGN PARAMETERS:
   A. NOT TO EXCEED LOADS AT TOP OF FOUNDATION: 33.3 KIP-FT MOMENT AND 2.49 KIP SHEAR
   B. SAFETY FACTOR ACCOUNTS FOR AN OVERLOAD FACTOR OF 2 AND AN UNDER CAPACITY FACTOR OF 0.7, RESULTING AN OVERALL SAFETY FACTOR OF 2/0.7 = 2.86
   C. SOIL TYPE IS COHESIONLESS SOIL (SAND)
   D. UNIT WEIGHT OF SOIL (ABOVE WATER TABLE): 115 PCF
   E. INTERNAL FRICTION ANGLE: 32 DEGREES
   F. HIGHEST WATER TABLE: 2 FEET BELOW GROUND LINE
   G. GROUND LINE IS RELATEIVELY FLAT.
   IF THE SITE CONDITION IS DETERMINED TO BE VERY DIFFERENT FROM THE DESIGN PARAMETERS ESTIMATED ABOVE, STANDARD DETAILS PRESENTED HEREIN SHALL BE SUPERSEDED BY A PROJECT-SPECIFIC DESIGN.

BAR SCHEDULE: FOUNDATION TYPE 'A'

MARK	SIZE	TYPE	LENGTH	NO. REQD.	A	B	C	D	E	F	G	H	I	J	REMARKS
FF01	19	STR	4'-10"	8		4'-10"									
FF02	13	T1	12'-9"	4	4 1/2"	3'-0"	3'-0"	3'-0"	3'-0"		4 1/2"				
PF01	19	2	12'-1"	2	5'-3"	1'-7"					5'-3"				
PF02	13	T1	7'-5"	1	4 1/2"	1'-8"	1'-8"	1'-8"	1'-8"		4 1/2"				



CONCRETE CLASS B, 2.53 CUBIC YARDS, FOUNDATION SHALL BE POURED MONOLITHIC

FIRM NAME	
MODEL	MODELNAME
USERNAME	USERNAME
PLOT DATE	DATE
DWG NAME	CSS$ SAMPE PLAN - ORIGINAL SHEET
	TIME
	PROJECT #
	PROJECT NAME
	PLOTDRIVER
	PROJECTNAME
	PROJECTDSCR
	PLOTDRIVERABBREV

ITS-7
ITS-11

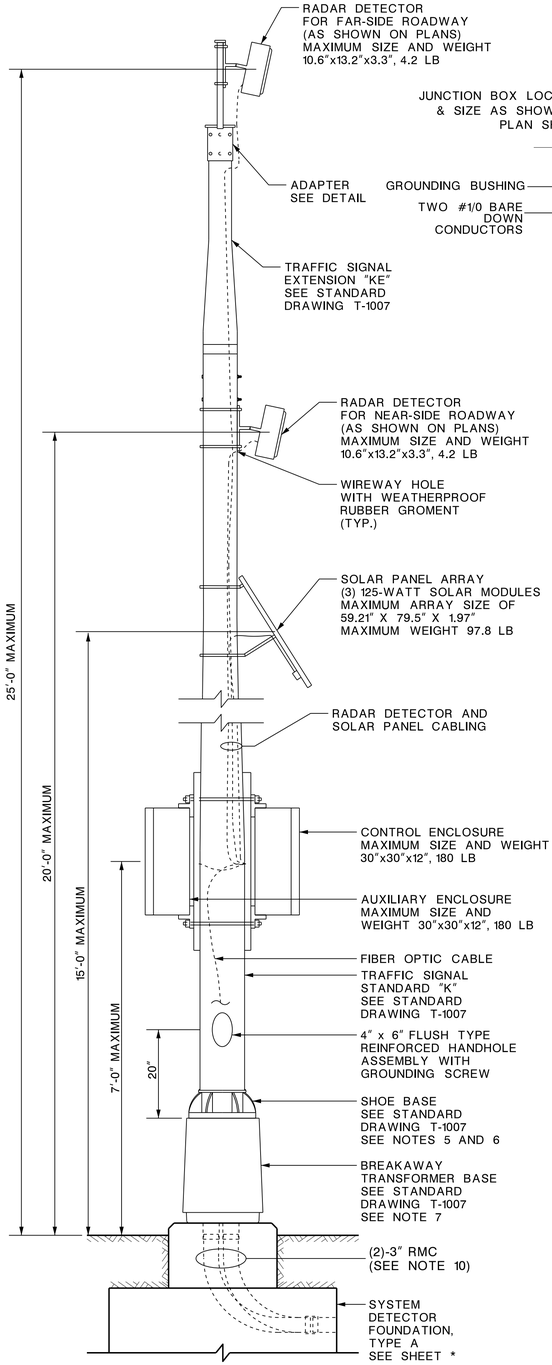
NEW JERSEY DEPARTMENT OF TRANSPORTATION

ITS DETAILS

SYSTEM DETECTOR
FOUNDATION TYPE A

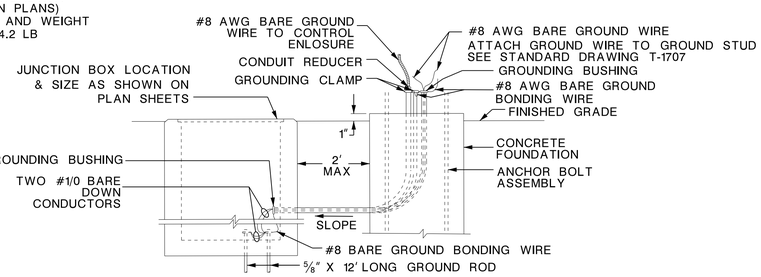
*
*

STATE	FEDERAL PROJECT NO.
N.J.	*



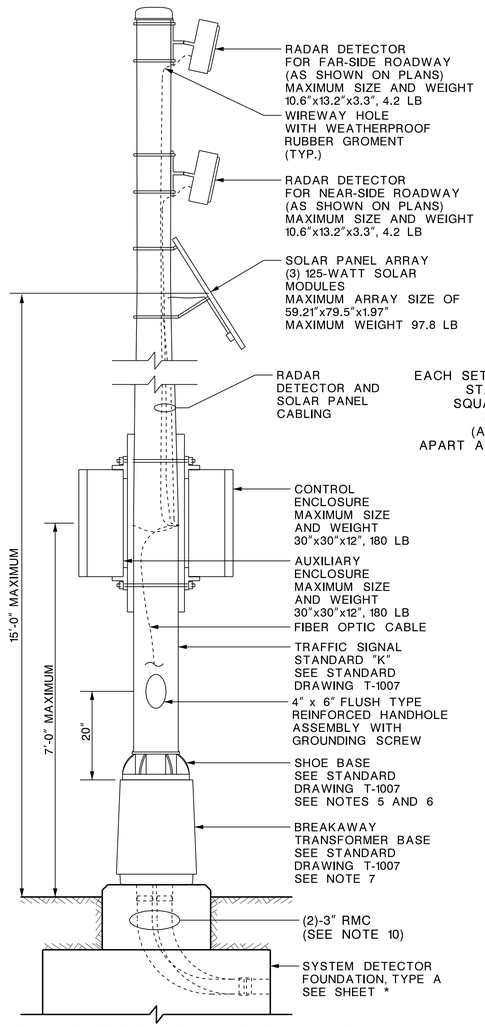
SYSTEM DETECTORS, TYPE RADAR AND SOLAR POWER SYSTEM, TYPE A ON TRAFFIC SIGNAL STANDARD "K" WITH "KE" EXTENSION

N.T.S.



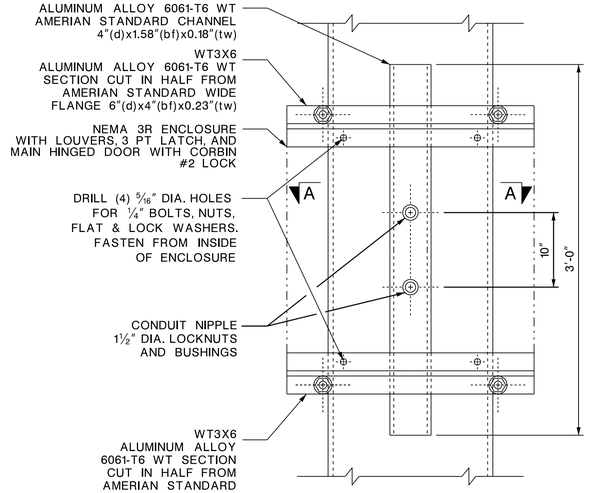
GROUNDING DETAIL

N.T.S.



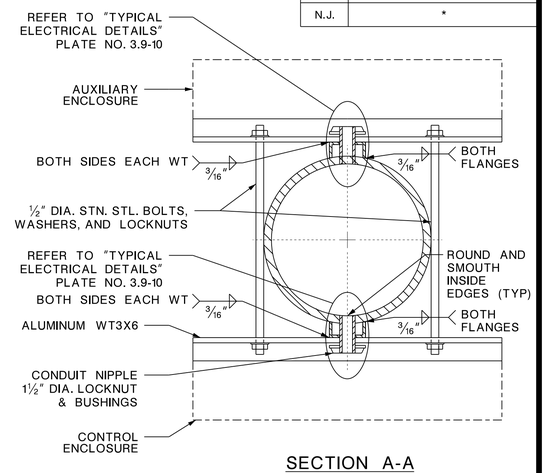
SYSTEM DETECTION, TYPE RADAR AND SOLAR POWER SYSTEM, TYPE A ON TRAFFIC SIGNAL STANDARD "K"

N.T.S.



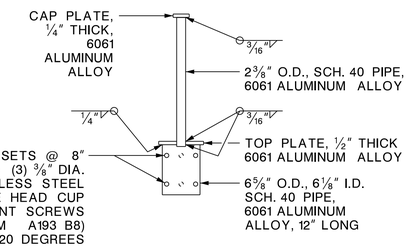
ENCLOSURE MOUNTING DETAIL

N.T.S.



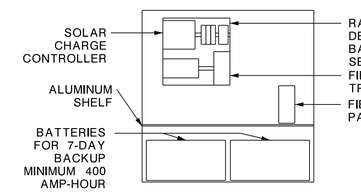
SECTION A-A

N.T.S.



ADAPTER DETAIL

N.T.S.



CONTROL ENCLOSURE EQUIPMENT LAYOUT

N.T.S.

NOTES:

1. DESIGN AND MANUFACTURE ACCORDING TO THE LATEST STANDARD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES AND TRAFFIC SIGNALS. UTILIZE APPENDIX C OF THE SPECIFICATIONS FOR IDENTIFICATION OF LOADING CRITERIA. DESIGN WIND SPEED IS 80 MPH UNLESS NOTED OTHERWISE. DESIGN FOR FATIGUE IS WAIVED.
2. IF, BASED ON JUDGMENT, A DESIGN WIND SPEED GREATER THAN 80 MPH IS APPLICABLE TO A PROJECT SITE IN AREAS WHERE EXTREME EXPOSURE EXIST, THE APPENDIX C WIND MAP BASED ON A 50 YEAR MEAN RECURRENCE INTERVAL SHALL BE FOLLOWED TO DETERMINE THE DESIGN WIND SPEED AT THAT PROJECT SITE. IF DESIGN WIND SPEED IS DETERMINED GREATER THAN 80 MPH, STRUCTURAL DETAILS SHOWN IN THIS STANDARD DRAWING SHALL BE SUPERSEDED BY PROJECT SPECIFIC DESIGNS.
3. INTEGRATE EQUIPMENT WITH THE PROPOSED CTSS/ASCT AND THE EXISTING ATMS.
4. ATTACH RADAR DETECTOR TO THE STANDARD WITH CONNECTION HARDWARE ACCORDING TO MANUFACTURER'S SPECIFICATIONS.
5. IF RADAR DETECTOR EQUIPMENT FURNISHED IS NOT MOUNTABLE TO A BACK PANEL, FURNISH AND INSTALL ADDITIONAL ALUMINUM SHELVING FOR THIS EQUIPMENT.
6. HOUSE ADDITIONAL BATTERIES REQUIRED TO PROVIDE 7-DAY AUTONOMY IN THE AUXILIARY ENCLOSURE ON THE OPPOSITE SIDE OF THE STANDARD POLE FROM THE CONTROL ENCLOSURE.
7. POLE ASSEMBLIES OF ALUMINUM ALLOY 6063 UP THROUGH 0.375 INCH THICK ARE TO BE WELDED IN THE -T4 TEMPER WITH FILLER ALLOY 4043 AND PRECIPITATION HEAT TREATED (ARTIFICIALLY AGED) TO THE -T6 TEMPER, BY AN APPROVED METHOD AFTER WELDING.
8. THE SHOE BASE SHALL BE RATED TO A MINIMUM ALLOWABLE STRUCTURAL CAPACITY OF 33.3 KIP-FT WITH A MINIMUM SAFETY FACTOR OF 1.67.
9. THE BREAKAWAY TRANSFORMER BASE SHALL MEET THE REQUIREMENTS OF NCHRP REPORT 350, RECOMMENDED PROCEDURES FOR THE SAFETY PERFORMANCE EVALUATION OF HIGHWAY FEATURES. IN ADDITION, THE TRANSFORMER BASE SHALL BE RATED TO A MINIMUM ALLOWABLE STRUCTURAL CAPACITY OF 33.3 KIP-FT WITH A MINIMUM SAFETY FACTOR OF 1.67.
10. THE TWO 3 INCH DIAMETER RIGID METALLIC CONDUIT ARE FOR FUTURE USE. SEE 2007 NJDOT STANDARD SPECIFICATION FOR ROADS AND BRIDGE CONSTRUCTIONS SECTION 701.03.12 FOR CONSTRUCTION OF CONDUIT EMBEDDED IN FOUNDATION".
11. UNLESS OTHERWISE DIRECTED ON THE PLAN SHEETS, INSTALL SOLAR PANEL ARRAYS WITH A SOUTHERN ORIENTATION.
12. ROTATE THE CONTROL AND AUXILIARY ENCLOSURES ABOUT THE TRAFFIC SIGNAL STANDARD CENTERLINE AS NECESSARY SO THAT THE ENCLOSURES RESIDE ENTIRELY WITHIN STATE RIGHT-OF-WAY.

RECOMMENDED MOUNTING HEIGHTS

OFFSET[1]	HEIGHT[2]	OFFSET[1]	HEIGHT[2]
6 ft	17.00 ft	25 ft	20.00 ft
7 ft	17.00 ft	26 ft	20.50 ft
8 ft	17.00 ft	27 ft	21.00 ft
9 ft	17.00 ft	28 ft	21.75 ft
10 ft	17.00 ft	29 ft	22.25 ft
11 ft	17.00 ft	30 ft	23.00 ft
12 ft	17.00 ft	31 ft	23.50 ft
13 ft	17.00 ft	32 ft	24.00 ft
14 ft	17.00 ft	33 ft	24.50 ft
15 ft	17.00 ft	34 ft	25.25 ft
16 ft	17.00 ft	35 ft	25.75 ft
17 ft	17.00 ft	36 ft	26.50 ft
18 ft	17.00 ft	37 ft	27.00 ft
19 ft	17.00 ft	38 ft	27.50 ft
20 ft	17.00 ft	39 ft	28.25 ft
21 ft	17.50 ft	40 ft	28.75 ft
22 ft	18.00 ft	41 ft	29.50 ft
23 ft	18.75 ft	42 ft	30.00 ft
24 ft	19.25 ft	> 42 ft	30.00 ft

SEE NOTE TO DESIGNER 1

TABLE NOTES:

1 OFFSET IS MEASURED AS THE HORIZONTAL DISTANCE FROM THE DETECTOR TO THE EDGE OF THE FIRST LANE OF INTEREST, OR AS DETERMINED BY MANUFACTURER.

2 RECOMMENDED MOUNTING HEIGHT MAY VARY BY MANUFACTURER. CONFIRM THE MANUFACTURER MOUNTING HEIGHT REQUIREMENTS FOR EACH SUITABLE DETECTOR MODEL.

NOTES TO DESIGNER:

1. DESIGN CUSTOM SYSTEM DETECTOR POLE ASSEMBLY IF MOUNTING HEIGHTS OVER 25 FEET ARE REQUIRED.

N.T.S.

ITS-8
ITS-11

NEW JERSEY DEPARTMENT OF TRANSPORTATION

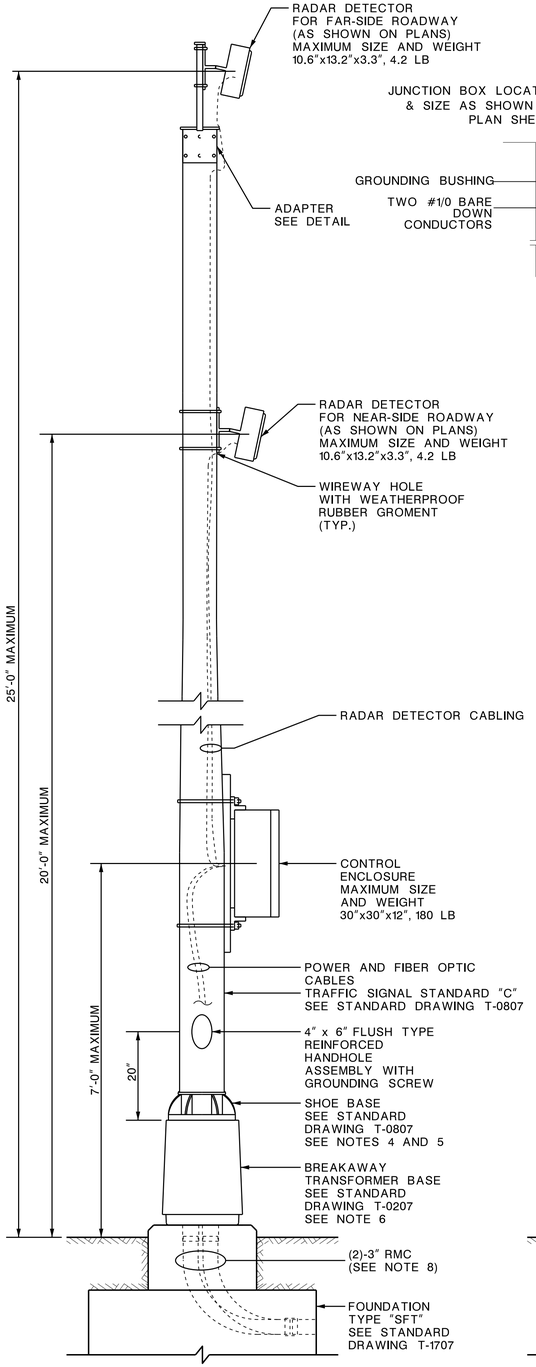
ITS DETAILS

SYSTEM DETECTOR
TYPE RADAR AND
SOLAR POWER SYSTEM TYPE A

*
*

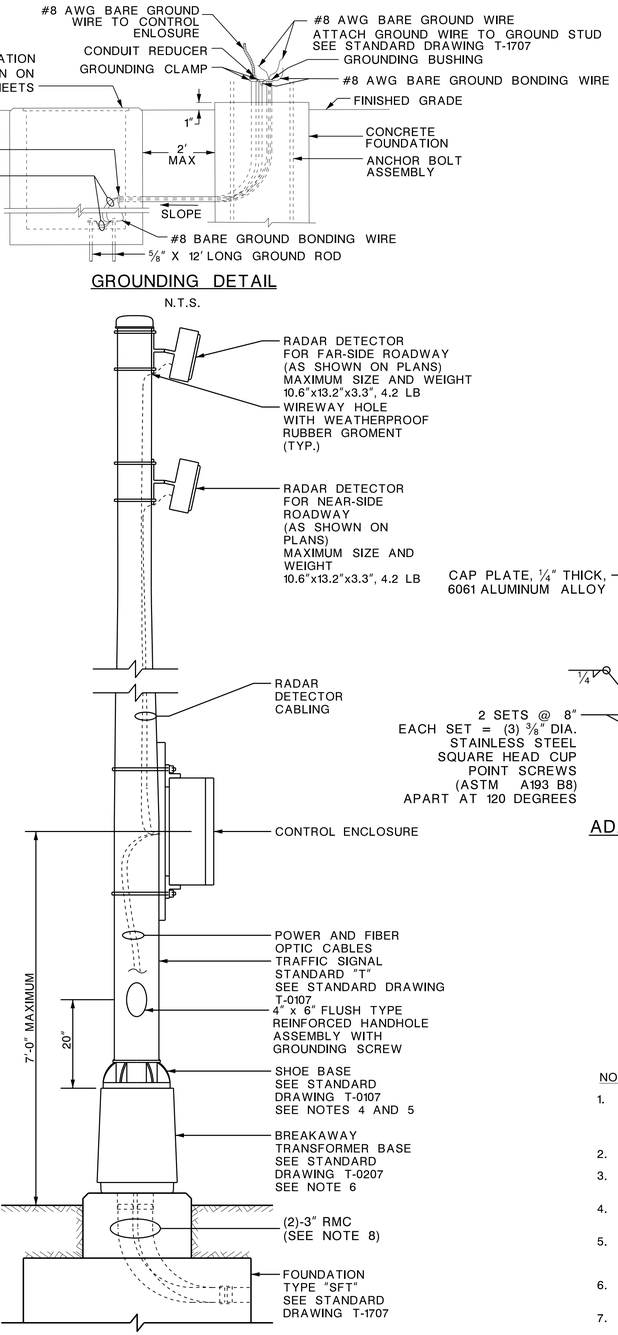
FIRM NAME
MODEL MODELNAME | PROJECT # PROJECTNAME
USERNAME USERNAME | PROJECT NAME PROJECTDESCR
PLOT DATE DATE | TIME PLOTDRIVER PLOTDRIVERABBREV
DWG NAME CTSS SAMPLE PLAN – ORIGINAL SHEET

STATE	FEDERAL PROJECT NO.
N.J.	*



SYSTEM DETECTION, TYPE RADAR ON TRAFFIC SIGNAL STANDARD "C"

N.T.S.

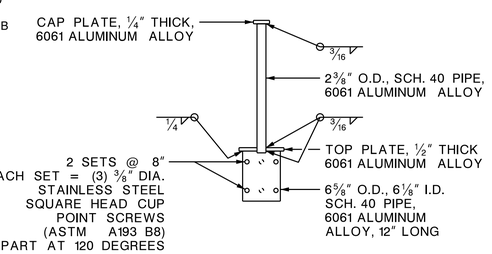


GROUNDING DETAIL

N.T.S.

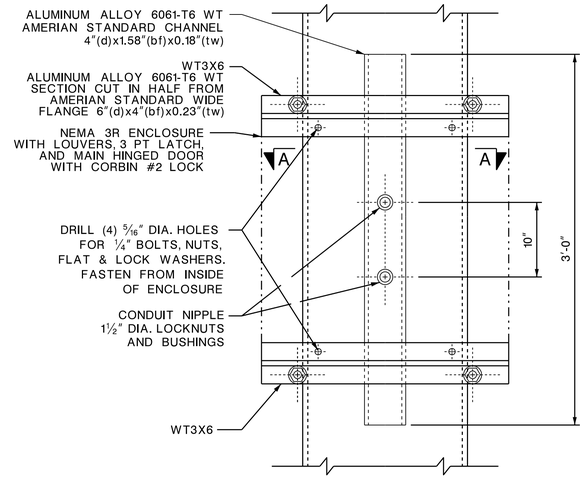
SYSTEM DETECTION, TYPE RADAR ON TRAFFIC SIGNAL STANDARD "T"

N.T.S.



ADAPTER DETAIL

N.T.S.

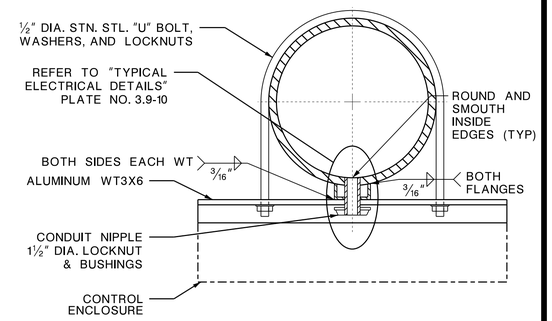


ENCLOSURE MOUNTING DETAIL

N.T.S.

CONTROL ENCLOSURE EQUIPMENT LAYOUT

N.T.S.



SECTION A-A

N.T.S.

RECOMMENDED MOUNTING HEIGHTS

OFFSET$_1$	HEIGHT$_2$
6 ft	17.00 ft
7 ft	17.00 ft
8 ft	17.00 ft
9 ft	17.00 ft
10 ft	17.00 ft
11 ft	17.00 ft
12 ft	17.00 ft
13 ft	17.00 ft
14 ft	17.00 ft
15 ft	17.00 ft
16 ft	17.00 ft
17 ft	17.00 ft
18 ft	17.00 ft
19 ft	17.00 ft
20 ft	17.00 ft
21 ft	17.50 ft
22 ft	18.00 ft
23 ft	18.75 ft
24 ft	19.25 ft

OFFSET$_1$	HEIGHT$_2$
25 ft	20.00 ft
26 ft	20.50 ft
27 ft	21.00 ft
28 ft	21.75 ft
29 ft	22.25 ft
30 ft	23.00 ft
31 ft	23.50 ft
32 ft	24.00 ft
33 ft	24.50 ft
34 ft	25.25 ft
35 ft	25.75 ft
36 ft	26.50 ft
37 ft	27.00 ft
38 ft	27.50 ft
39 ft	28.25 ft
40 ft	28.75 ft
41 ft	29.50 ft
42 ft	30.00 ft
> 42 ft	30.00 ft

SEE NOTE TO DESIGNER 1

TABLE NOTES:

1 OFFSET IS MEASURED AS THE HORIZONTAL DISTANCE FROM THE DETECTOR TO THE EDGE OF THE FIRST LANE OF INTEREST, OR AS DETERMINED BY MANUFACTURER.

2 RECOMMENDED MOUNTING HEIGHT MAY VARY BY MANUFACTURER, CONFIRM THE MANUFACTURER MOUNTING HEIGHT REQUIREMENTS FOR EACH SUITABLE DETECTOR MODEL.

NOTES TO DESIGNER:

1. DESIGN CUSTOM SYSTEM DETECTOR POLE ASSEMBLY IF MOUNTING HEIGHTS OVER 25 FEET ARE REQUIRED.

NOTES:

1. DESIGN AND MANUFACTURE ACCORDING TO THE LATEST STANDARD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES AND TRAFFIC SIGNALS. UTILIZE APPENDIX C OF THE SPECIFICATIONS FOR IDENTIFICATION OF LOADING CRITERIA. DESIGN WIND SPEED IS 80 MPH. DESIGN FOR FATIGUE IS WAIVED.
2. INTEGRATE EQUIPMENT WITH THE PROPOSED CTSS/ASCT AND THE EXISTING ATMS.
3. ATTACH RADAR DETECTOR TO THE STANDARD WITH CONNECTION HARDWARE ACCORDING TO MANUFACTURER'S SPECIFICATIONS.
4. IF RADAR DETECTOR EQUIPMENT FURNISHED IS NOT MOUNTABLE TO A BACK PANEL, FURNISH AND INSTALL ADDITIONAL ALUMINUM SHELVING FOR THIS EQUIPMENT.
5. POLE ASSEMBLIES OF ALUMINUM ALLOY 6063 UP THROUGH 0.375 INCH THICK ARE TO BE WELDED IN THE -T4 TEMPER WITH FILLER ALLOY 4043 AND PRECIPITATION HEAT TREATED (ARTIFICIALLY AGED) TO THE -T6 TEMPER, BY AN APPROVED METHOD AFTER WELDING.
6. THE SHOE BASE SHALL BE RATED TO A MINIMUM ALLOWABLE STRUCTURAL CAPACITY OF 15.8 KIP-FT WITH A MINIMUM SAFETY FACTOR OF 1.67.
7. THE BREAKAWAY TRANSFORMER BASE SHALL MEET THE REQUIREMENTS OF NCHRP REPORT 350, RECOMMENDED PROCEDURES FOR THE SAFETY PERFORMANCE EVALUATION OF HIGHWAY FEATURES. IN ADDITION, THE TRANSFORMER BASE SHALL BE RATED TO A MINIMUM ALLOWABLE STRUCTURAL CAPACITY OF 15.8 KIP-FT WITH A MINIMUM SAFETY FACTOR OF 1.67.
8. THE TWO 3 INCH DIAMETER RIGID METALLIC CONDUIT ARE FOR FUTURE USE. SEE 2007 NJDOT STANDARD SPECIFICATION FOR ROADS AND BRIDGE CONSTRUCTIONS SECTION 701.03.12 FOR CONSTRUCTION OF CONDUIT EMBEDDED IN FOUNDATION".
9. ROTATE THE CONTROL AND AUXILIARY ENCLOSURES ABOUT THE TRAFFIC SIGNAL STANDARD CENTERLINE AS NECESSARY SO THAT THE ENCLOSURES RESIDE ENTIRELY WITHIN STATE RIGHT-OF-WAY.

N.T.S.

ITS-9
ITS-11

NEW JERSEY DEPARTMENT OF TRANSPORTATION

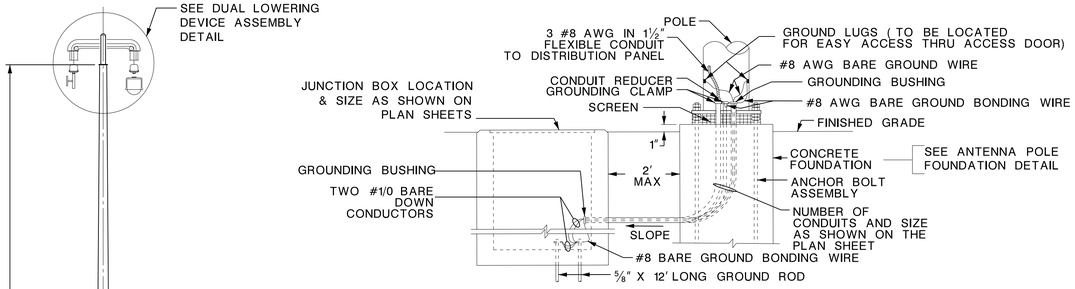
ITS DETAILS

SYSTEM DETECTOR TYPE RADAR

*
*

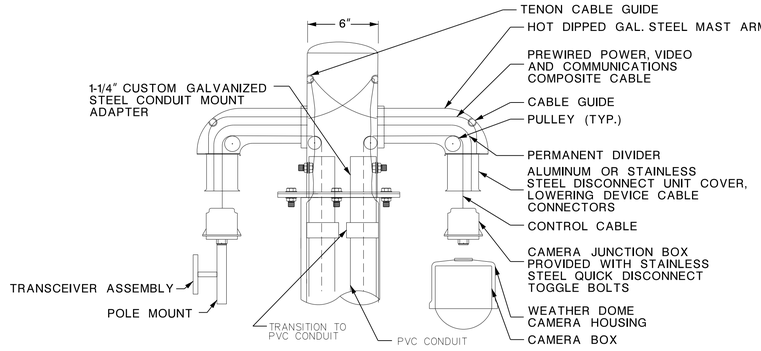
FIRM NAME			
MODEL	MODELNAME	PROJECT #	PROJECTNAME
USERNAME	USERNAME	PROJECT NAME	PROJECTDESCR
PLOT DATE	DATE	TIME	PLOTDRIVER
DWG. NAME	CTSS SAMPLE PLAN - ORIGINAL SHEET		PLOTDRIVERDIRREV

STATE	FEDERAL PROJECT NO.
N.J.	*

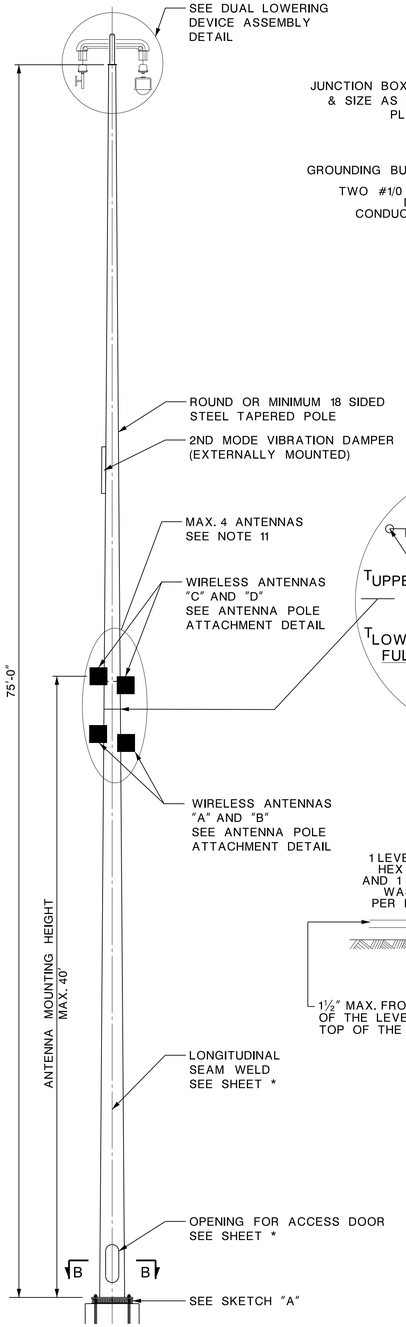


GROUNDING DETAIL

N.T.S.

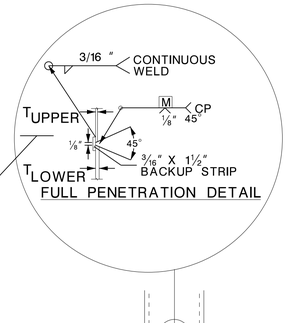


DUAL LOWERING DEVICE ASSEMBLY DETAIL

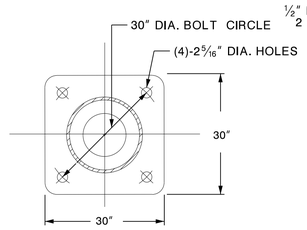


75' POLE ELEVATION

N.T.S.

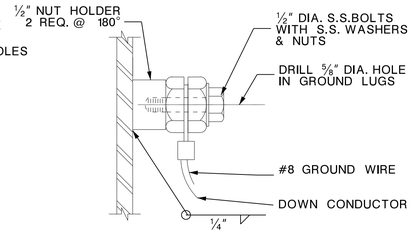


FULL PENETRATION DETAIL



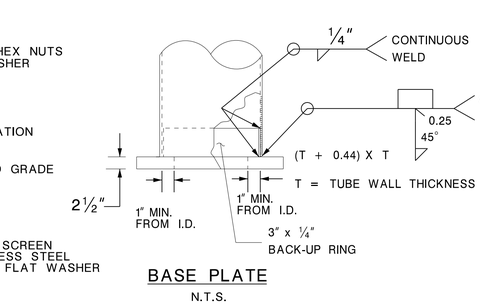
SECTION B-B (BASE PLATE)

(BOLTS NOT SHOWN)
N.T.S.



GROUND LUGS DETAIL

N.T.S.

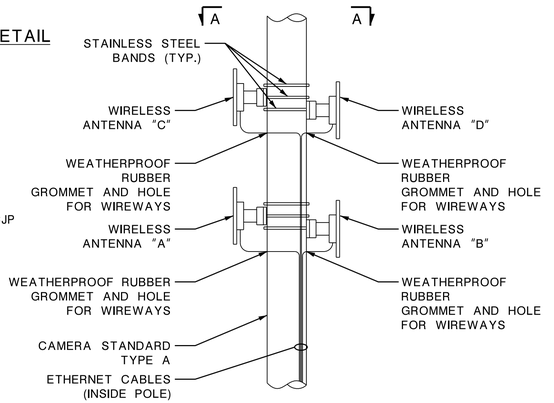


SKETCH "A"

N.T.S.

BASE PLATE

N.T.S.



ANTENNA POLE ATTACHMENT DETAIL

N.T.S.

NOTES:

1. ENSURE STEEL POLE CONSISTS OF A MAXIMUM OF TWO STEEL SECTIONS. THE LOWER SECTION TO BE A MIN. OF 40 FT AND MAXIMUM OF 50' LONG WITH A MIN. THICKNESS OF ¼" WITH ONLY ONE LONGITUDINAL SEAM WELD, IF POLE DIA. IS GREATER THAN 24 INCHES, TWO LONGITUDINAL SEAM WELDS WILL BE PERMITTED. FULL PENETRATION WELD JOINTS ARE ACCEPTABLE. SEE FULL PENETRATION DETAILS. SLIP JOINTS ARE NOT PERMITTED. LAMINATED TUBES ARE NOT PERMITTED. SEE TYPICAL LONGITUDINAL SEAM WELD DETAIL ON SHEET DTL-X.
2. ENSURE THAT THE POLE DIAMETER IS SUFFICIENT TO ACCOMMODATE THE WINCH / MOTOR ASSEMBLY COMPLETELY INSIDE THE POLE.
3. PROVIDE NEOPRENE DOOR GASKET CEMENTED TO DOOR.
4. PROVIDE A GALVANIZED SCREEN, WRAPPED AROUND THE BASE OF THE POLE.
5. ENSURE THE GALVANIZED SCREEN HAS NO MORE THAN ½" OPENINGS, AND IS HELD TOGETHER WITH STAINLESS STEEL NUT, BOLT, AND FLAT WASHER.
6. DO NOT GROUT UNDER THE POLE.
7. PROVIDE ONE (1) LEVELING HEX NUT, TWO (2) HOLD DOWN HEX NUTS AND TWO (2) FLAT WASHERS PER ANCHOR BOLT (SEE SKETCH 'A'). DETERMINE THE PROPER LENGTH OF THE ANCHOR BOLT FOR PROJECTION AND EMBEDMENT. THE CLEARANCE BETWEEN THE TOP OF THE FOUNDATION AND THE BOTTOM OF THE LEVELING NUT NOT TO EXCEED 1½". THE PROJECTION LENGTH TO BE A MINIMUM OF 10½".
8. ENSURE WELDING CONFORMS TO THE ANSI/AWS D1.1 STRUCTURAL WELDING CODE-STEEL, WITH NJDOT AMENDMENTS IN NJDOT STANDARD SPECIFICATIONS. ENSURE WELDING INSPECTION AND FULL PENETRATION WELD NONDESTRUCTIVE TESTING CONFORM TO AWS D1.1. UNLESS OTHERWISE SPECIFIED.
9. LOCATE TOP, CENTER, AND BOTTOM ELECTRICAL CABLE GUIDES WITHIN THE POLE AND ALIGN WITH EACH OTHER. POSITION THE BOTTOM CABLE GUIDE 2 INCHES BELOW THE BOTTOM OF THE ACCESS DOOR AND THE TOP CABLE GUIDE 1 INCH DIRECTLY BELOW THE TOP OF TENON. POSITION TWO PARKING STANDS A MAXIMUM OF 2¾" INCHES BELOW THE TOP OF THE ACCESS DOOR AND LOCATED AT 90° AND 270° FROM THE ACCESS DOOR. ENSURE EACH CABLE GUIDE IS ⅜" WIRE EYE BOLT HAVING 1" INTERNAL DIA. FOR WIRE TIE OFF.
10. ENSURE THE TIGHTENING PROCEDURE FOR ANCHOR BOLTS CONFORMS WITH SECTION 6.9 OF THE 2005 FHWA "GUIDELINES FOR THE INSTALLATION, INSPECTION, MAINTENANCE AND REPAIR OF STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINARIES AND TRAFFIC SIGNALS".

    DESIGN DATA:
    CCTV CAMERA: WT.=20#, PROJ. AREA=1.0 SQ.FT, WIND DRAG COEFFICIENT=1.2
    TRANSCEIVER ASSEMBLY: WT.=20#, PROJ. AREA=1.0 SQ. FT, WIND DRAG COEFFICIENT=1.7
    DUAL LOWERING DEVICE: WT.=80#, PROJ. AREA=4.0 SQ. FT, WIND DRAG COEFFICIENT=1.45
    DISH ANTENNA & SUPPORT (EACH): WT.=25#, PROJ. AREA=1.8 SQ. FT, WIND DRAG COEFFICIENT=1.7
11. ENSURE ANTENNA LOCATION DOES NOT CONFLICT WITH LOWERING DEVICES.

DESIGN SPECIFICATIONS:

UTILIZE LATEST AASHTO STANDARD SPECIFICATIONS FOR STRUCTURAL SUPPORT FOR HIGHWAY SIGNS, LUMINAIRES AND TRAFFIC SIGNALS WITH THE LATEST INTERIM.

DESIGN WIND VELOCITY	80 M.P.H. (APPENDIX C)
DESIGN ICE LOAD	3 P.S.F.
FATIGUE CATEGORY	2
DESIGN LIFE	50 YEARS

ENSURE ALL LOADS APPLIED TO ALL MEMBERS HAVE BEEN TAKEN INTO ACCOUNT FOR STRENGTH DESIGN, AND ALL WELDED STRUCTURAL DETAILS HAVE BEEN ANALYZED AGAINST FATIGUE. THE DESIGN ANALYSIS IS NOT LIMITED TO POLE, BUT OTHER COMPONENTS LIKE ACCESS DOOR, TENON, LOWERING DEVICE, WINCH ASSEMBLY, BASE PLATE, POLE-TO-BASE CONNECTION, ANCHOR BOLTS EMBEDMENT, ETC., MUST ALSO BE CONSIDERED.

ENSURE MAXIMUM HORIZONTAL DEFLECTION AT THE TOP OF THE POLE COMPLETELY ASSEMBLED WITH CCTV CAMERA AND ALL FIXTURES ATTACHED DOES NOT EXCEED 2 INCHES FROM THE CENTER LINE DUE TO A 40 MPH (GUST FACTOR 1.3) WIND SPEED (APPENDIX C WIND PRESSURE FORMULA)

SUBMIT DETAIL PLANS AND DESIGN CALCULATIONS OF CAMERA STANDARD POLES WITH CAMERA SHOWING STRENGTH, FATIGUE AND DEFLECTION CHECKS. SHOW CAMERA ASSEMBLY WEIGHT, INCLUDING LOWERING DEVICE AND EFFECTIVE PROJECTED AREA (EPA). ENSURE THE DESIGN CALCULATIONS AND WORKING DRAWINGS ARE SIGNED AND SEALED BY A PROFESSIONAL ENGINEER.

MATERIALS:

ENSURE THE POLE MATERIAL CONFORMS TO ASTM SPECIFICATIONS A595,GRADE A (MIN. YIELD POINT 55 KSI) OR GRADE B (MIN. YIELD POINT 60 KSI). TENON MATERIAL CONFIRMS TO ASTM A53, GRADE B (MIN. YIELD POINT 35 KSI). THE POLE TAPER TO BE 0.14 IN./FT. MAX. TWO SEGMENTS MUST BE THE SAME MATERIAL AS AN ALTERNATE THE POLE (18 SIDED MIN.) AND TENON MAY BE FORMED FROM STEEL CONFORMING TO ASTM A572 GRADE 55 OR GRADE 60. ALL OTHER STEEL CONFORMS TO ASTM SPECIFICATION A709(AASTHO M270) GRADE 36 OR GRADE 50. ENSURE ALL POLES REGARDLESS OF THICKNESS AND ALL OTHER STEEL PLATES GREATER THAN ½" THICKNESS MEET THE AASHTO REQUIREMENTS FOR NOTCH TOUGHNESS (CHARPY TESTING) ZONE 2. GALVANIZE BOTH UNITS OF THE POLE AND TENON PER ASTM A123 AFTER FABRICATION.

PROCURE BOLTS/ANCHOR BOLTS, NUTS, AND WASHERS AS A PACKAGE FROM THE MANUFACTURER.

ENSURE ANCHOR BOLT MATERIALS CONFORM TO ASTM F1554, GRADE 55, GALVANIZE THE ANCHOR BOLTS PER ASTM A153, CLASS C AFTER THREADING FOR THE FULL LENGTH OF THE BOLT, AS WELL AS NUTS AND WASHERS.

HIGH STRENGTH BOLTS, NUTS AND WASHERS TO BE GALVANIZED PER ASTM A153 CLASS C.

PROVIDE STAINLESS STEEL FASTENERS (INCLUDING BOLTS, NUTS AND WASHERS) CONFORMING TO CURRENT ASTM A320, GRADE B8, CLASS 2 (AISI TYPE 304) AND STRAIN HARDENED. ALTERNATE MATERIALS PROPOSED TO BE USED FOR FASTNERS MUST BE PRE-APPROVED SEPERATELY PRIOR TO SUBMISSION OF WORKING DRAWINGS.

ALL CONCRETE TO BE "CLASS B" AS DEFINED IN THE NJDOT STANDARD SPECIFICATIONS.

N.T.S.

ITS-10
ITS-11

NEW JERSEY DEPARTMENT OF TRANSPORTATION

ITS DETAILS

ANTENNA POLE

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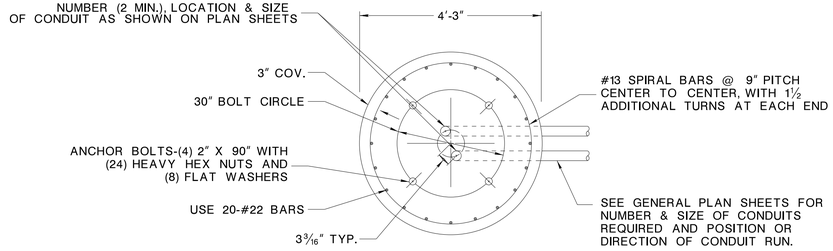
*

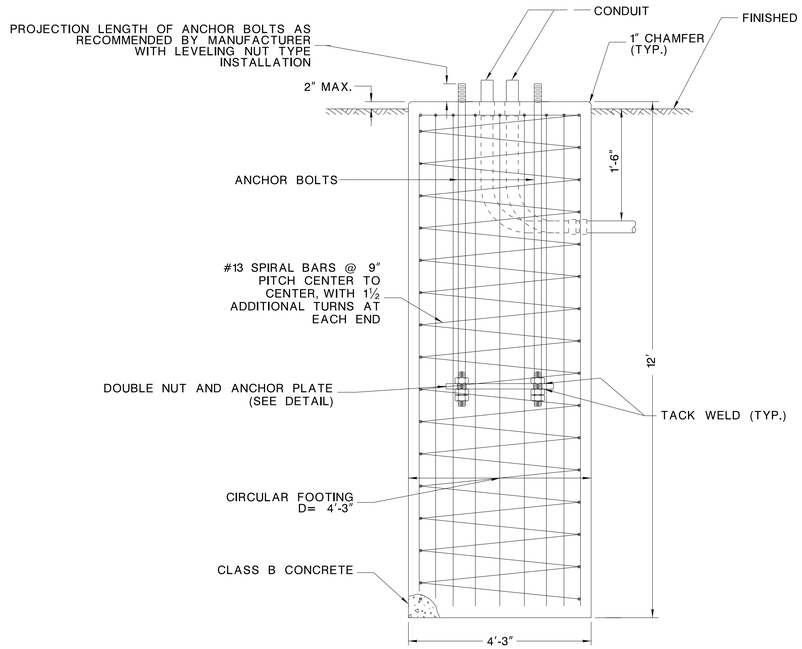
FIRM NAME

MODEL	MODELNAME
USERNAME	USERNAME
PLOT DATE	DATE
DWG. NAME	CTSS SAMPLE PLAN – ORIGINAL SHEET

PROJECT #	PROJECTNAME
PROJECT NAME	PROJECTDESCR
PLOTDRIVER	PLOTDRIVERABBREV

STATE	FEDERAL PROJECT NO.
N.J.	*



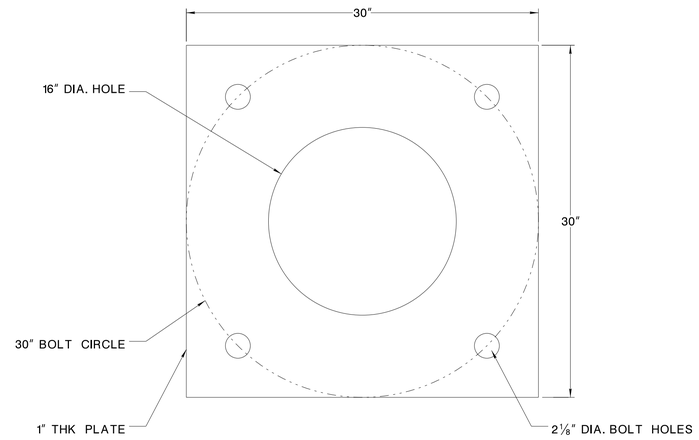


CAMERA STANDARD TYPE 75
FOUNDATION

N.T.S.

NOTES:

1. HOT DIP GALVANIZE ANCHOR BOLTS PER ASTM A153 FOR THE FULL LENGTH OF THE BOLT AFTER THREADING.
2. PROCURE ANCHOR BOLTS MEETING ASTM F 1554 GRADE 55 STEEL FROM THE MANUFACTURER OF CAMERA STANDARD. ANCHOR BOLTS EMBEDMENT LENGTH, THREADED LENGTH AND PROJECTION LENGTH ARE TO BE DETERMINED AND PROVIDED BY THE MANUFACTURER.
3. LUBRICATE ANCHOR BOLT PROJECTION PORTION BEFORE MOUNTING THE POLE.
4. ENSURE THE TIGHTENING PROCEDURE FOR ANCHOR BOLTS CONFORMS WITH SECTION 6.9 OF THE 2005 FHWA "GUIDELINES FOR THE INSTALLATION, INSPECTION, MAINTENANCE, AND REPAIR OF STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES AND TRAFFIC SIGNALS".
5. ALL BAR SIZES ARE DESIGNATED IN SOFT METRIC SIZES.
6. ANY AND ALL ASPECTS OF FOUNDATION CONSTRUCTION, INCLUDING EXCAVATION, PLACING REINFORCEMENT, RIGID METALLIC CONDUIT, FORMWORK, CONCRETE POUR, AND BACKFILLING, SHALL FOLLOW 2007 NJDOT STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION WITH CURRENT SUPPLEMENTAL SPECIFICATIONS.



CAMERA STANDARD TYPE 75
ANCHOR PLATE DETAIL

N.T.S.

GENERAL DESIGN SPECIFICATIONS:

CONCRETE DESIGN STRESS:

SPECIFIED COMPRESSIVE STRENGTH (f'c) (CLASS B).....3,000 PSI

REINFORCEMENT STEEL DESIGN STRESS:

YIELD STRENGTH (fy) (A615, GRADE 60).....60 KSI

GEOTECHNIC DESIGN:
GEOTECHNICAL DESIGN OF THIS FOUNDATION IS BASED ON BROM'S METHOD PRESENTED IN CHAPTER 13 OF THE 2009 AASHTO STANDARD SPECIFICATIONS FOR STRUCTURAL SUPPORTS FOR HIGHWAY SIGNS, LUMINAIRES, AND TRAFFIC SIGNALS. THE STANDARD DETAILS PRESENTED HEREIN ARE DEVELOPED BASED ON THE FOLLOWING DESIGN PARAMETERS:

a. NOT TO EXCEED LOADS AT TOP OF FOUNDATION: 110 KIP-FT MOMENT AND 2.5 KIP SHEAR
b. SAFETY FACTOR ACCOUNTS FOR AN OVERLOAD FACTOR OF 2 AND AN UNDER CAPACITY FACTOR OF 0.7, RESULTING AN OVERALL SAFETY FACTOR OF 2/0.7 = 2.86
c. SOIL TYPE IS COHESIONLESS SOIL (SAND)
d. UNIT WEIGHT OF SOIL (ABOVE WATER TABLE): 115 PCF
e. INTERNAL FRICTION ANGLE: 32 DEGREES
f. HIGHEST WATER TABLE: 2 FEET BELOW GROUND LINE
g. GROUND LINE IS RELATEIVELY FLAT.

IF THE SITE CONDITION IS DETERMINED TO BE VERY DIFFERENT FROM THE DESIGN PARAMETERS ESTIMATED ABOVE, STANDARD DETAILS PRESENTED HEREIN SHALL BE SUPERSEDED BY A PROJECT-SPECIFIC DESIGN.

FIRM NAME

MODEL	MODELNAME	PROJECT #	PROJECTNAME		
USERNAME	USERNAME	PROJECT NAME	PROJECTDESCR		
PLOT DATE	DATE	TIME	PLOTDRIVER	PLOTDRIVERABBREV	
DWG. NAME	ITS5 SAMPLE PLAN - ORIGINAL SHEET				

N.T.S.

ITS-11
ITS-11

NEW JERSEY DEPARTMENT OF TRANSPORTATION

ITS DETAILS

ANTENNA POLE
FOUNDATION DETAILS

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