PROJECT DESCRIPTION

I. GENERAL

THIS PROJECT INVOLVES THE MODIFICATION OF AN EXISTING TRAFFIC CONTROL SIGNAL AT THE INTERSECTION OF MD ROUTE 187 (OLD GEORGETOWN ROAD) AND TUCKERMAN LANE IN MONTGOMERY COUNTY.
MD ROUTE 187 (OLD GEORGETOWN ROAD) IS ASSUMED TO RUN IN A NORTH-SOUTH DIRECTION.

II. INTERSECTION OPERATION

THE INTERSECTION WILL OPERATE IN THE EXISTING NEMA SIX (6) PHASE, SEMI-TRAFFIC-ACTUATED MODE. THERE WILL BE AN EXCLUSIVE LEFT TURN PHASE FOR SOUTHBOUND AND AN EXCLUSIVE/ PERMISSIVE LEFT TURN PHASE FOR THE NORTHBOUND MD 187 MOVEMENT. THE MD 187 THROUGH MOVEMENTS ARE TO OPERATE CONCURRENTLY. ALL EASTBOUND MOVEMENTS ON TUCKERMAN LANE WILL OPERATE CONCURRENTLY, AS WILL ALL WESTBOUND MOVEMENTS IN A SPLIT PHASING OPERATION. AN ADDITIONAL WESTBOUND RIGHT TURN PHASE ON TUCKERMAN LANE WILL OPERATE CONCURRENTLY WITH THE MD 187 SOUTHBOUND EXCLUSIVE LEFT TURN PHASE. ALTERNATE CONCURRENT PEDESTRIAN PHASES WILL BE PROVIDED ACROSS THE NORTH AND SOUTH LEGS OF MD 187. CONCURRENT PEDESTRIAN PHASES ARE PROVIDED ACROSS THE EAST AND WEST LEGS OF TUCKERMAN LANE..

A FULL-TRAFFIC-ACTUATED, EIGHT-PHASE CONTROLLER WITH SIX (6)) FOUR-CHANNEL, TIME-DELAY-OUTPUT LOOP DETECTOR AMPLIFIERS, AND L.A.U. PANEL WITH ASSOCIATED HARNESS HOUSED IN A NEMA SIZE "6" BASE MOUNTED CABINET WILL BE INSTALLED AT THIS LOCATION.

III. INTERCONNECTION

THE EXISTING 50 PAIR VOICE GRADE INTERCONNECT CABLE BETWEEN THE INTERSECTIONS OF MD 187 @ TUCKERMAN LANE AND MD 187 AND ROCK SPRING DRIVE IS TO BE MAINTAINED AND REWIRED AS SHOWN ON THE WIRING DIAGRAM.

THE CONTRACTOR SHALL BE RESPONSIBLE FOR TERMINATING ALL SIGNAL CABLE, EXCLUDING INTERCONNECT, TO THE APPROPRIATE TERMINALS AND PROPERLY LABELING EACH CABLE.
DISCONNECTING AND SPLICING OF INTERCONNECT CABLE SHALL BE PERFORMED BY MONTGOMERY COUNTY FORCES. THE CONTRACTOR SHALL RUN THE INTERCONNECT CABLE INTO THE BASE OF CABINET AND PROPERLY TAG. CONTACT MR. BOB GONZALES AT (240) 777-8761 SEVENTY TWO HOURS IN ADVANCE OF THE INTENDED WORK.

IV. PROJECT CONTACTS

THE CONTACT PERSONS FOR DISTRICT THREE ARE AS FOLLOWS:

MR. CHARLIE WATKINS
DISTRICT ENGINEER
PHONE (301) 513-7311

MR. MAJID SHAKIB
ASSISTANT DISTRICT
ENGINEER-TRAFFIC
PHONE: (301) 513-7358

MR. AUGUSTINE REBISH
UTILITY ENGINEER
PHONE: (301) 513-7350

MR. RICHARD L. DAFF, SR.
CHIEF, TRAFFIC OPERATIONS DIVISION
PHONE: (410) 787-7630

MR. ROBERT GONZALES
TRAFFIC ENGINEER
MONTGOMERY COUNTY DPWT
PHONE: (240) 777-8761

THE POWER COMPANY REPRESENTATIVE IS
POTOMAC ELECTRIC POWER COMPANY
MR. JIM SLAYTON
PHONE: (202) 872-2000

V. MAINTENANCE OF TRAFFIC

THE FOLLOWING STANDARD TRAFFIC CONTROL NUMBERS SHALL BE REFERENCED:

STANDARD NO. 104.00
STANDARDS NO. 104.37, 104.38 (LANE CLOSURE)
STANDARDS NO. 104.39, 104.40 (INTERSECTION FAR SIDE CLOSURE)
STANDARD NO. 104.43 (SHOULDER WORK)

EQUIPMENT LIST 'A'

A. EQUIPMENT TO BE SUPPLIED BY THE SHA.

QUANTITY	UNIT	SPECIFICATION SECTION	DESCRIPTION
1	EA	SP	EIGHT-PHASE, FULL-TRAFFIC-ACTUATED, SOLID STATE DIGITAL CONTROLLER WITH TELEMETRY AND SYSTEM PACKAGE HOUSED IN A NEMA SIZE '6' BASE MOUNTED CABINET
6	EA	814	FOUR-CHANNEL, TIME DELAY OUTPUT, LOOP DETECTOR AMPLIFIER
4	EA	SP	PEDESTRIAN PUSHBUTTON AND SIGN
276	SF	813	FLAT SHEET ALUMINUM SIGNS CONSISTING OF: - 4 EACH R3-5L (30" X 36")-SPAN WIRE MOUNT - 1 EACH R3-5R (30" X 36")-SPAN WIRE MOUNT - 1 EACH R10-12 (36" X 42")-SPAN WIRE MOUNT - 2 EACH R10-11 (30" X 30")-SPAN WIRE MOUNT - 1 EACH R3-6R (30" X 36")-SPAN WIRE MOUNT - 2 EACH D-3(2) (Tuckerman Lane) (Var. x 24") - SPAN WIRE MOUNT - 2 EACH D-3(2) (Old Georgetown Rd) (Var. x 24") - SPAN WIRE MOUNT - 2 EACH D-3(1) (Tuckerman Lane) (Var. x 12") - POLE MOUNT - 2 EACH D-3(1) (Old Georgetown Rd) (Var. x 12") - POLE MOUNT - 2 ASSOCIATED MD 187 SHIELD ASSEMBLY (30"X51") - 2 ASSOCIATED MD 187 SHIELD ASSEMBLY (48"X75")

NOTE: ALL EQUIPMENT AND/OR MATERIALS TO BE REMOVED BY THE CONTRACTOR, BUT NOT LISTED BELOW, SHALL BECOME THE PROPERTY OF THE CONTRACTOR.

QUANTITY	UNIT	DESCRIPTION
1	EA	CONTROLLER AND CABINET

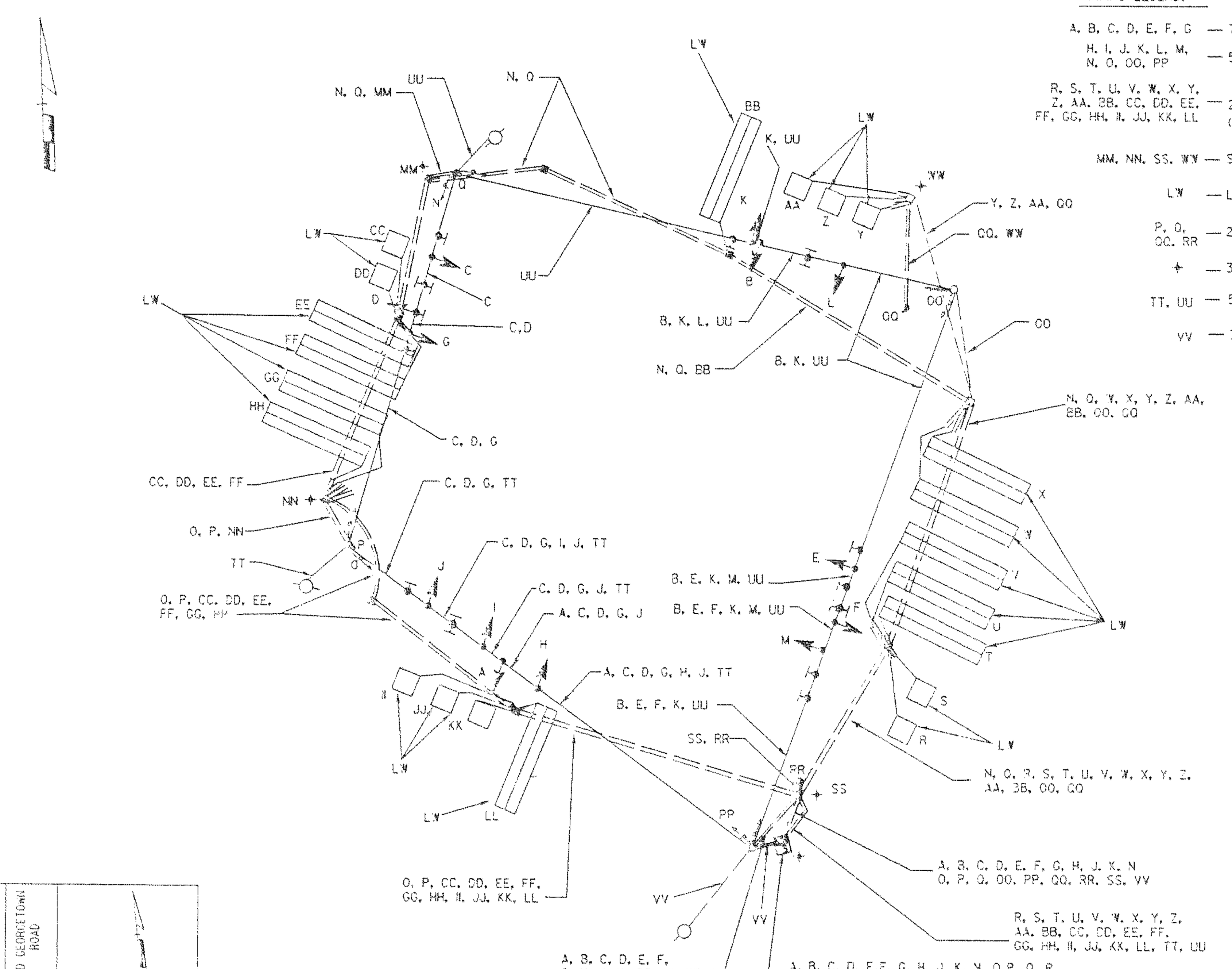
EQUIPMENT LIST 'B'

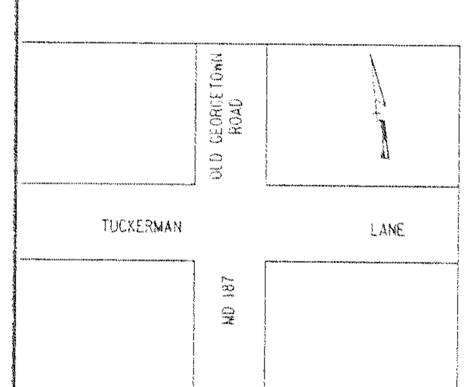
B. EQUIPMENT TO BE FURNISHED AND/OR INSTALLED BY THE CONTRACTOR.

	QUANTITY	UNIT	SPECIFICATION SECTION	DESCRIPTION
	3	CY	205	TEST PIT EXCAVATION
	900	LF	556	12 INCH HEAT APPLIED WHITE PERMANENT PREFORMED THERMOPLASTIC PAVEMENT MARKING
	250	LF	556	24 INCH HEAT APPLIED WHITE PERMANENT PREFORMED THERMOPLASTIC PAVEMENT MARKING
	5.5	CY	801	FURNISH AND INSTALL CONCRETE FOR SIGNAL FOUNDATION
	550	LF	810	FURNISH AND INSTALL NO. 6 AWG STRANDED BARE COPPER GROUND WIRE
	500	LF	805	FURNISH AND INSTALL 4" SCHEDULE 80 RIGID PVC CONDUIT - BORED
	110	LF	805	FURNISH AND INSTALL 1" LIQUID TIGHT FLEXIBLE NON-METALLIC CONDUIT FOR DETECTOR SLEEVE
△2	300	LF	810	FURNISH AND INSTALL ELECTRICAL CABLE - 1 CONDUCTOR ~~(NO 8 AWG)~~ (NO 4 AWG) [5]
	9	EA	811	FURNISH AND INSTALL ELECTRICAL HANDHOLE
△2	276	SF	813	INSTALL OVERHEAD SIGN
△2	5	EA	804	FURNISH AND INSTALL GROUND ROD-3/4 INCH DIAMETER X 10-FOOT LENGTH
	49	EA	814	FURNISH AND INSTALL 12 INCH VEHICULAR TRAFFIC SIGNAL HEAD SECTION
	10	EA	814	FURNISH AND INSTALL 12 INCH PEDESTRIAN SIGNAL HEAD SECTION POLE MOUNT
	3000	LF	810	FURNISH AND INSTALL ELECTRICAL CABLE- 2 CONDUCTOR (ALUMINUM SHIELDED)
	750	LF	810	FURNISH AND INSTALL ELECTRICAL CABLE- 2 CONDUCTOR (NO 14 AWG)
	1400	LF	810	FURNISH AND INSTALL ELECTRICAL CABLE- 5 CONDUCTOR (NO 14 AWG)
	1500	LF	810	FURNISH AND INSTALL ELECTRICAL CABLE- 7 CONDUCTOR (NO 14 AWG)
	6450	LF	810	FURNISH AND INSTALL LOOP WIRE ENCASED IN FLEXIBLE TUBING (NO 14 AWG)
	2150	LF	815	FURNISH AND INSTALL SAWCUT FOR SIGNAL (LOOP DETECTOR)
	4	EA	SP	INSTALL PUSHBUTTON AND SIGN
	2	EA	818	FURNISH AND INSTALL 4 FOOT BREAKAWAY PEDESTAL POLE
	450	LF	819	FURNISH AND INSTALL STEEL SPAN WIRE - 1/4 INCH DIAMETER
	450	LF	819	FURNISH AND INSTALL STEEL SPAN WIRE - 3/8 INCH DIAMETER
	1	LS	SP	DELIVERY OF SALVAGED EQUIPMENT
	1100	LF	805	FURNISH AND INSTALL 4" SCHEDULE 80 RIGID PVC CONDUIT - TRENCHED
	2	EA	SP	CUT, CLEAN AND CAP TRAFFIC SIGNAL STRUCTURE
	2	EA	SP	REMOVE AND DISPOSE OF EXISTING FOUNDATION 12" BELOW GRADE
	1	LS	SP	REMOVE AND DISPOSE OF EXISTING EQUIPMENT
	1	LS	SP	REMOVAL OF EXISTING SIGNAL EQUIPMENT TO BE SALVAGED
	2	EA	SP	FURNISH AND INSTALL 12 INCH X 30 FOOT STRAIN POLE
	1000	LF	SP	RELOCATE EXISTING COMMUNICATION CABLE
	1	EA	816	INSTALL CONTROLLER AND CABINET - BASE MOUNT

WIRING LEGEND:

A, B, C, D, E, F, G — 7 CONDUCTOR ELECTRICAL CABLE (NO. 14 A.W.G.)
H, I, J, K, L, M, N, O, OO, PP — 5 CONDUCTOR ELECTRICAL CABLE (NO. 14 A.W.G.)
R, S, T, U, V, W, X, Y, Z, AA, BB, CC, DD, EE, FF, GG, HH, II, JJ, KK, LL — 2 CONDUCTOR ELECTRICAL CABLE (ALUMINUM SHIELDED) (NO. 14 A.W.G.)
MM, NN, SS, WW — STRANDED BARE COPPER GROUND WIRE (NO. 6 A.W.G.)
LW — LOOP WIRE (NO. 14 AWG)
P, Q, QQ, RR — 2 CONDUCTOR ELECTRICAL CABLE (NO. 14 A.W.G.)
+ — 3/4" x 10' GROUND ROD
TT, UU — 50 PAIR JELLY FILLED (NO. 19 A.W.G)
VV — 3-1 CONDUCTOR ELECTRICAL CABLE (NO. 4 A.W.G.)





WIRING DIAGRAM

PHASE CHART △2 [5]

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21
PHASE 2 & 5	R	R	R	◄G-	◄G-	G	G	R	R	R	R	R/G►	W	DW	DW	W	DW	DW	DW	DW
PED CLEAR	R	R	R	◄G-	◄G-	G	G	R	R	R	R	R/G►	W	DW	DW	W	DW	DW	DW	DW
5 CHANGE	R	R	R	◄Y-	◄Y-	G	G	R	R	R	R	R/Y►	W	DW	DW	W	DW	DW	DW	DW
PHASE 2 & 6	G	G	G	◄R-	◄R-	G	G	R	R	R	R	R	W	W	W	W	DW	DW	DW	DW
PED CLEAR	G	G	G	◄R-	◄R-	G	G	R	R	R	R	R	FL/DW	W	W	FL/DW	DW	DW	DW	DW
2 & 6 CHANGE	Y	Y	Y	◄R-	◄R-	Y	Y	R	R	R	R	R	DW	W	W	DW	DW	DW	DW	DW
PHASE 3	R	R	R	◄R-	◄R-	R	R	◄G/G	◄G/G	G	R	R	R	DW	DW	DW	DW	DW	DW	DW	DW
3 CHANGE	R	R	R	◄R-	◄R-	R	R	Y	Y	Y	R	R	R	DW	DW	DW	DW	DW	DW	DW	DW
PHASE 4	R	R	R	◄R-	◄R-	R	R	R	R	R	◄G/G	◄G/G	G►/G	DW	DW	DW	DW	DW	DW	DW	DW
4 CHANGE	R	R	R	◄R-	◄R-	R	R	R	R	R	Y	Y	Y►/Y	DW	DW	DW	DW	DW	DW	DW	DW
PHASE 1 & 6	◄G/G	◄G/G	G	◄R-	◄R-	R	R	R	R	R	R	R	R	DW	W	W	DW	DW	DW	DW	DW
PED CLEAR	◄G/G	◄G/G	G	◄R-	◄R-	R	R	R	R	R	R	R	R	DW	FL/DW	FL/DW	DW	DW	DW	DW	DW
1 & 6 CHANGE	◄Y/Y	◄Y/Y	G	◄R-	◄R-	R	R	R	R	R	R	R	R	DW	DW	DW	DW	DW	DW	DW	DW
ALTERNATE 3	R	R	R	◄R-	◄R-	R	R	◄G/G	◄G/G	G	R	R	R	DW	DW	DW	DW	W	DW	DW	W
PED CLEAR	R	R	R	◄R-	◄R-	R	R	◄G/G	◄G/G	G	R	R	R	DW	DW	DW	DW	FL/DW	DW	DW	FL/DW
ALT 3 CHANGE	R	R	R	◄R-	◄R-	R	R	Y	Y	Y	R	R	R	DW	DW	DW	DW	DW	DW	DW	DW
ALTERNATE 4	R	R	R	◄R-	◄R-	R	R	R	R	R	◄G/G	◄G/G	G	DW	DW	DW	DW	DW	W	W	DW
PED CLEAR	R	R	R	◄R-	◄R-	R	R	R	R	R	◄G/G	◄G/G	G	DW	DW	DW	DW	DW	FL/DW	FL/DW	DW
ALT 4 CHANGE	R	R	R	◄R-	◄R-	R	R	R	R	R	Y	Y	Y	DW	DW	DW	DW	DW	DW	DW	DW
FLASHING OPERATION	FL/Y	FL/Y	FL/Y	FL/◄R-	FL/◄R-	FL/Y	FL/Y	FL/R	FL/R	FL/R	FL/R	FL/R	FL/R	DARK	DARK	DARK	DARK	DARK	DARK	DARK	DARK

TS-4A

REVISIONS
[5] REDLINE REVISION NO. 5 NEW SHEET 9/4/2001
△2 ADDENDUM NO. 2 11/30/00
③ NEW TUCKERMAN LANE GEOMETRICS 10-00 SHA CONT. NO. MC3995172
Ⓐ NEW TUCKERMAN LANE GEOMETRICS 6-83

APPROVALS
ORIGINAL ON FILE
TEAM LEADER, TRAFFIC ENGINEERING DESIGN DIVISION
ASST. CHIEF TRAFFIC ENGINEERING DESIGN DIVISION
CHIEF, TRAFFIC ENGINEERING DESIGN DIVISION
DIRECTOR, TRAFFIC & SAFETY

REVISION '3'
KCI TECHNOLOGIES INC.
ENGINEERS AND PLANNERS
10 NORTH PARK DRIVE
HUNT VALLEY, MARYLAND
21030-1888
(410) 316-7800

MARYLAND DOT - STATE HIGHWAY ADMINISTRATION
Office of Traffic & Safety
TRAFFIC ENGINEERING DESIGN DIVISION

I-270 INTERCHANGES AT ROCKLEDGE DRIVE AND MD 187
GENERAL INFORMATION SHEET
MD 187 (OLD GEORGETOWN ROAD) AT TUCKERMAN LANE

DRAWN BY: LES TOWNSEND
CHECKED BY: LES TOWNSEND
SCALE: NONE
DATE: 11-4-83

F.A.P. NO.
S.H.A. NO.
COUNTY: MONTGOMERY
LOG MILE: 15018704.06

TS NO. 445 B-GI
T.I.M.S. NO. D 434
SHEET NO. 255A OF 404

M:#1998 0198078 #TRAFFIC#

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