ITEM 633 CONTROLLER ITEM, MISC.: TRANSCEIVER INTERFACE UNIT, AS PER PLAN
THE INTERSECTION RF TRANSCEIVER INTERFACE UNIT SHALL BE THE VENTURE ENGINEERING CORPORATION REMOTE COMMUNICATIONS UNIT, MODEL #732-002A.

THE CONTRACTOR SHALL INSTALL A GILBERT "F" SERIES RF TERMINATOR (GILBERT PART NO. GTR-59-A) ON THE TEST PORT. THE COST OF THE "F" SERIES RF TERMINATOR IS CONSIDERED INCIDENTAL TO THE COMMUNICATIONS UNIT.

THE CONTRACTOR SHALL SUPPLY AN EDCO 1 GHZ COAXIAL CABLE LIGHTNING PROTECTOR, EDCO PART NO. CATV-145A. THE COST OF THE LIGHTNING PROTECTOR IS CONSIDERED INCIDENTAL TO THE COMMUNICATIONS UNIT. TRANSPORTATION DIVISION PERSONNEL SHALL INSTALL THE LIGHTNING PROTECTOR IN THE CONTROLLER CABINET.

PAYMENT SHALL BE PER EACH UNIT FURNISHED AND INSTALLED.

COAXIAL CABLE SYSTEM GENERAL REQUIREMENTS
THE CONTRACTOR SHALL INSTALL A COAXIAL INTERCONNECT CABLE SYSTEM IN ACCORDANCE WITH THE DESIGN PLANS.

AT LEAST TEN (10) DAYS IN ADVANCE OF BEGINNING COAXIAL CABLE WORK, THE CONTRACTOR SHALL NOTIFY THE DIVISION OF DESIGN AND CONSTRUCTION PROJECT MANAGER BY EMAIL OF THE AREA WHERE CABLE WORK WILL TAKE PLACE AND THE STARTING DATE OF WORK. AT THE SAME TIME, THE CONTRACTOR SHALL ALSO REQUEST THE PROJECT MANAGER TO SET UP A PRE-CONSTRUCTION MEETING WITH THE DIVISION OF DESIGN AND CONSTRUCTION SIGNAL PLAN REVIEWER TO REVIEW THE COAXIAL CABLE INTERCONNECT INSTALLATION PLANS PRIOR TO BEGINNING WORK. THE COAXIAL CABLE PRE-CONSTRUCTION MEETING SHALL BE HELD AT LEAST TWO (2) WORKING DAYS IN ADVANCE OF BEGINNING COAXIAL CABLE WORK. THE DIVISION WILL VERIFY THE PLAN IN THIS AREA AND NOTIFY THE CONTRACTOR OF ANY SPECIAL CONDITIONS OR CORRECTIONS. IF THE CONTRACTOR FAILS TO DO SO AND IF UNFORESEEN CIRCUMSTANCES, SUCH AS UTILITY POLE RELOCATIONS, NECESSITATE CHANGES TO THE COAXIAL CABLE SYSTEM PLAN, ALL CHANGES NECESSARY FOR THE COAXIAL CABLE SYSTEM TO MEET THE APPROVAL OF THE DIVISION OF DESIGN AND CONSTRUCTION SIGNAL PLAN REVIEWER SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR AND AT THE EXPENSE OF THE CONTRACTOR.

THE EXISTING COAXIAL INTERCONNECT CABLE SHALL BE MAINTAINED AND REMAIN OPERATIONAL UNTIL IT IS DISCONNECTED AND THE NEW COAXIAL INTERCONNECT CABLE HAS BEEN CONNECTED INTO THE COAXIAL CABLE SYSTEM. THE CONTRACTOR SHALL UTILIZE A PROCEDURE WHICH WILL RETAIN CONTROL (ON-LINE STATUS) OF ANY EXISTING SIGNAL INTERCONNECT TO ANY SIGNAL(S). THE EXISTING COAXIAL INTERCONNECT CABLE SYSTEM SHALL BE FULLY OPERATIONAL DURING THE WEEKDAY HOURS OF 6:30 A.M. TO 9:00 A.M. AND 2:45 P.M. TO 6:00 P.M., MONDAY THROUGH FRIDAY. DEVIATION FROM THE ABOVE TIMES MUST BE APPROVED BY THE DIVISION OF DESIGN AND CONSTRUCTION SIGNAL PLAN REVIEWER PRIOR TO IMPLEMENTATION.

FOR CONNECTIONS OF NEW COAXIAL CABLE TO THE EXISTING COAXIAL CABLE SYSTEM, DIVISION OF PLANNING AND OPERATIONS PERSONNEL SHALL INSTALL ALL CONNECTORS AND MAKE ALL CONNECTIONS OF THE NEW COAXIAL CABLE TO THE EXISTING COAXIAL CABLE SYSTEM. THE CONTRACTOR SHALL CONTACT THE DIVISION OF DESIGN AND CONSTRUCTION PROJECT MANAGER AND SIGNAL PLAN REVIEWER BY EMAIL AT LEAST FORTY-EIGHT (48) HOURS, NOT INCLUDING SATURDAY AND SUNDAY, IN ADVANCE TO SCHEDULE THIS WORK. ALL OTHER CONNECTIONS OF COAXIAL CABLE AND EQUIPMENT INSTALLED OR RELOCATED ACCORDING TO THE COAXIAL CABLE SYSTEM PLAN SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR, UNLESS OTHERWISE SPECIFIED.

CABLE SYSTEM MATERIALS
ALL CABLE SYSTEM MATERIALS AND EQUIPMENT REQUIRED TO PROVIDE A FULLY OPERATIONAL AND COMPLETE COAXIAL CABLE INTERCONNECT SYSTEM SHALL BE FURNISHED BY THE CONTRACTOR, EXCEPT AS NOTED IN THE PLANS. ALL EQUIPMENT SHALL BE EQUIPPED WITH COAXIAL CABLE FITTINGS OF POSITIVE MOISTURE PROTECTION AND EFFECTIVE ELECTRICAL CONNECTION. MATERIALS AND EQUIPMENT INCLUDE, BUT ARE NOT LIMITED TO THE FOLLOWING:

A. SYSTEM PASSIVES
ALL DROPS SHALL BE GROUNDED IN CONFORMANCE WITH THE NATIONAL ELECTRICAL CODE, AND THE NATIONAL ELECTRICAL SAFETY CODE.

B. CONNECTORS
THE CONTRACTOR SHALL FURNISH AND INSTALL ALL CONNECTORS EXCEPT THE CONNECTORS ON COAXIAL RG-6 CABLE. ALL "F" SERIES MALE CONNECTORS FOR COAXIAL RG-6 CABLE SHALL BE SUPPLIED BY AND INSTALLED BY TRANSPORTATION DIVISION PERSONNEL. FOR THE FOLLOWING TYPES OF CONNECTIONS, THE CONNECTORS SHALL BE:

1. CABLE TO CABLE
   A) 0.750-INCH CABLE TO 0.750-INCH CABLE: GILBERT SPLICE CONNECTOR, PART NO. GRS-750-SP-DU-01.
   B) 0.750-INCH CABLE TO 0.500-INCH CABLE: GILBERT FEMALE SPLICE ADAPTER, PART NO. GKSKSFS, WITH A GILBERT PIN TYPE CONNECTOR, PART NO. GRS-750-CH-DU-01, AND A GILBERT SPLICE CONNECTOR, PART NO. GRS-500-SP-DU-03.
   C) 0.500-INCH CABLE TO 0.500-INCH CABLE: GILBERT SPLICE CONNECTOR, PART NO. GRS-500-SP-DU-03.
2. CABLE TO DEVICE HOUSING
   A) 0.750-INCH CABLE TO DEVICE HOUSING: GILBERT PIN TYPE CONNECTOR, PART NO. GRS-750-CH-DU-01.
   B) 0.500-INCH CABLE TO DEVICE HOUSING: GILBERT PIN TYPE CONNECTOR, PART NO. GRS-500-CH-DU-03.
3. DEVICE HOUSING TO DEVICE HOUSING: ROTATIONAL HOUSING-TO-HOUSING CONNECTOR, GILBERT PART NO. G-KS-KS-M-T
4. "F" CONNECTIONS
   A) 0.750-INCH CABLE TO "F" CONNECTOR: GILBERT PIN TYPE CONNECTOR, PART NO. GRS-750-CH-DU-01, AND GILBERT ADAPTER (CHASSIS MOUNTING CONNECTOR TO "F" SERIES FEMALE), PART NO. G-CH-BAFF-KS.
   B) 0.500-INCH CABLE TO "F" CONNECTOR: GILBERT PIN TYPE CONNECTOR, PART NO. GRS-500-CH-DU-03, AND GILBERT ADAPTER, (CHASSIS MOUNTING CONNECTOR TO "F" SERIES FEMALE), PART NO. G-CH-BAFF-KS.
   C) DEVICE HOUSING TO "F" CONNECTOR: GILBERT "F" FEMALE-'KS' ADAPTER [AC (60 HZ) POWER BLOCKING], PART NO. GF-625-CH-DCB FOR EQUIPMENT TO "F" CONNECTOR CONNECTIONS.
5. PORT TERMINATION
   a) PORT TERMINATION ON DEVICES: GILBERT 'KS' PORT TERMINATOR, PART NO. GTR-MPORT.
   b) PORT TERMINATION ON COMMUNICATIONS UNITS: GILBERT "F" SERIES RF TERMINATOR, PART NO. GTR-59-A.
   c) PORT TERMINATION ON TAPS: GILBERT "F" SERIES RF TERMINATOR, PART NO. GTR-59-A.

HEAT SHRINK TUBING WITH CATV SEALANT SHALL BE INSTALLED FOR ALL CABLE TO CABLE SPLICE CONNECTIONS AND ALL CABLE TO ACTIVE AND PASSIVE DEVICE HOUSING CONNECTIONS, EXCEPT THOSE LOCATED INSIDE A CABINET OR POLE ENCLOSURE, TO INSURE WATER-TIGHT INTEGRITY. THE HEAT SHRINK TUBING USED SHALL BE DSG-CANUSA PART NO. CFTV-1500 OR GILBERT PART NO. GC-HST-15. A 12-IN. LENGTH OF HEAT SHRINK TUBING SHALL BE USED FOR SPLICE CONNECTIONS. AN 8-IN. LENGTH OF HEAT SHRINK TUBING SHALL BE USED FOR PIN TYPE CONNECTOR TO DEVICE HOUSING CONNECTIONS. THE HEAT SHRINK TUBING COST IS INCIDENTAL TO THE COST OF THE COAXIAL CABLE AND EACH ACTIVE AND PASSIVE DEVICE INSTALLED.

FOR ALL CONNECTIONS OF FLOODED COAXIAL CABLE, CABLE CLAMPS, BREEZE PART NO. 3604, SHALL BE USED ON THE FLOODED COAXIAL CABLE TO PREVENT THE JACKET FROM SLIPPING BACK ON CABLE. THE CABLE CLAMPS SHALL BE INSTALLED PRIOR TO INSTALLATION OF THE HEAT SHRINK TUBING, AND THE HEAT SHRINK TUBING SHALL COMPLETELY COVER THE CLAMPS.

COLD SHRINK TAPE, AMP CST11 FUSION REPAIR TAPE, PART NO. 605262-1, SHALL BE USED ON ANY ADAPTER (CHASSIS MOUNTING CONNECTOR TO "F" SERIES FEMALE) CONNECTION NOT LOCATED INSIDE A CABINET OR POLE ENCLOSURE. APPLICATION OF THE COLD SHRINK TAPE SHALL BEGIN 0.5 IN. ON THE HEAT SHRINK TUBING, SO THAT IT COVERS THE ENTIRE LENGTH OF EXPOSED THREADS AT "F" MALE END OF ADAPTER, AND SHALL CONTINUE 1 IN. ONTO THE RG-6 DROP CABLE, SO THAT THE "F" CONNECTOR IS COMPLETELY COVERED.

COLD SHRINK TAPE, AMP CST11 FUSION REPAIR TAPE, PART NO. 605262-1, SHALL BE USED ON ANY ROTATIONAL CONNECTION NOT LOCATED INSIDE A CABINET OR POLE ENCLOSURE. THE COLD SHRINK TAPE SHALL BE APPLIED SO THAT THE ROTATIONAL IS COMPLETELY COVERED.

C.SUSPENSION CLAMPS
THE CONTRACTOR SHALL FURNISH AND INSTALL ALL SUSPENSION CLAMPS AS PER PLANS. ACCEPTABLE DEVICES SHALL BE 3 BOLT GROOVED SUSPENSION CLAMPS (CABLE TV SUPPLY PART # 551G, JOSLYN PART # J1096 OR NORTH ELECTRIC PART # S721046).

D.INCIDENTAL MATERIAL
ALL OTHER CABLE SYSTEM MATERIAL THAT IS REQUIRED AND NOT DESCRIBED IN THIS SPECIFICATION SHALL BE FURNISHED AND INSTALLED AS REQUIRED TO SATISFY THE CABLE DESIGN. THIS "INCIDENTAL MATERIAL" SHALL BE CONSIDERED AS PART OF THE RELATED BID ITEM DELIVERED AND NO ADDITIONAL COMPENSATION PROVIDED.

INSTALLATION OF COAXIAL CABLE AND EQUIPMENT
A.GENERAL
MESSENGER WIRE USED FOR INTERCONNECT WORK SHALL BE ATTACHED TO STEEL
POLES BY WRAP AROUND CLAMPS THAT ARE APPROVED BY THE TRANSPORTATION DIVISION. HOLES MAY NOT BE DRILLED OR BURNED IN ANY POLE WITHOUT THE PERMISSION OF THE DIVISION AND THEN APPROVAL WILL BE ON A POLE-BY-POLE BASIS. ANY PAINT DAMAGED BY BURNING SHALL BE CLEANED AND REPLACED WITH PAINT OF A MATCHING COLOR.

DAMAGE PREVENTION IS THE FIRST CONSIDERATION IN THE INSTALLATION OF CABLE. THE CABLE LASHER SHALL BE IN GOOD WORKING ORDER WITH NO SHARP EDGES THAT COULD DAMAGE THE OUTER SHIELD OF THE CABLE. CABLE ROLLERS SHALL BE USED TO KEEP THE CABLE WITHIN A FEW FEET OF THE MESSENGER WIRE. A CABLE ROLLER SHALL BE PLACED DIRECTLY IN FRONT OF THE LASHER TO ENSURE THAT THE CABLES WILL LAY STRAIGHT AND BE LASHED TO THE MESSENGER WIRE IN THE SAME POSITION. CABLE ROLLERS SHALL BE PLACED AT EACH POLE AS WELL AS ALL ACTIVE AND PASSIVE DEVICES.

DURING AND AFTER INSTALLATION, CABLE SHALL NOT BE ALLOWED TO RUB ON POLE HARDWARE, SPAN CLAMPS, LASHING WIRE CLAMPS, OR ANY OTHER HARD SURFACE. WHEN PLACING CABLES IN RISERS, THE CABLE SHALL NOT COME IN CONTACT WITH THE SHARP EDGES OF THE CONDUIT. BUSHINGS SHALL BE USED IN THESE LOCATIONS. AN EXPANSION LOOP SHALL BE PLACED AT EVERY POLE TO PROVIDE FOR EXPANSION AND CONTRACTION AND TO AVOID CONTACT WITH POLE HARDWARE. WHERE THE CABLE RUNS THROUGH TREES, TREE GUARDS MUST BE USED IF THE TREES CANNOT BE PROPERLY TRIMMED.

THERE SHALL BE NO SPLICES IN THE CABLE, EXCEPT AS DESIGNATED IN THE PLANS.

A.INSTALLATION OF ACTIVE AND PASSIVE EQUIPMENT
1. ALL ACTIVE AND PASSIVE EQUIPMENT SHALL BE MOUNTED BETWEEN 18 IN. AND 48 IN. FROM THE SUSPENSION CLAMP. NO EQUIPMENT SHALL BE MOUNTED MID-SPAN, UNLESS OTHERWISE STATED ON THE PLANS.
2. THE CENTER CONDUCTOR MUST BE THE EXACT LENGTH SPECIFIED BY THE MANUFACTURER OF THE EQUIPMENT BEING INSTALLED.
3. THE CABLE MUST BE PREPARED WITH THE PROPER CORING TOOL AND WIPED CLEAN OF ANY SHAVINGS.
4. WHEN PREPARING CABLE FOR INSTALLATION INTO THE EQUIPMENT, THERE SHALL BE NO MEASURABLE CHANGE IN THE INSIDE DIAMETER OF THE CABLE. USE OF THE CABLE PREPARATION TOOL FOR REMOVING THE ALUMINUM SHEATH IS REQUIRED.
5. THERE SHALL BE NO VISIBLE MARKS ON THE ALUMINUM SHEATH AFTER REMOVAL OF THE POLYETHYLENE JACKET. UTILITY TOOL NO. JST OR EQUIVALENT IS RECOMMENDED.
6. WHEN INSTALLING AN AMPLIFIER AND/OR SPLITTER, A HOUSING-TO-HOUSING CONNECTOR, RATHER THAN A CABLE JUMPER, SHALL BE USED BETWEEN THE TWO PIECES OF EQUIPMENT.
7. SILICONE LUBRICANT SHALL NOT BE USED ON ANY CONNECTOR.

C. SYSTEM BONDING AND GROUNDING
1. THE MESSENGER WIRE SHALL BE GROUNDED AT EACH AMPLIFIER AND POWER SUPPLY LOCATION AND OTHER LOCATIONS AS SPECIFIED IN 625.16 AND AS SHOWN IN TC-84.20 AND TC-84.21. GROUND RODS SHALL CONFORM TO 725.16. THE GROUND WIRE CABLE SHALL BE CROSS-LINKED POLYETHYLENE, #4 AWG COPPER, STRANDED, RHW INSULATED, 600 VOLT RATED. A 10-FT. PLASTIC SHIELD SHALL BE INSTALLED AT EACH LOCATION.
2. ON ALL BONDS, MESSENGER WIRE TO MESSENGER WIRE AND MESSENGER WIRE TO COPPER, THE CLAMP USED MUST BE OF A SUITABLE TYPE THAT WILL PREVENT CORROSIVE ACTION BETWEEN DISSIMILAR METALS.
3. THE CLAMP MUST BE INSTALLED IN THE MANNER PRESCRIBED BY THE MANUFACTURER.
4. WHEN INSTALLING THE CLAMP, THE CUT END OF THE CONDUCTOR MUST NOT PROTRUDE BEYOND THE EDGE OF THE CLAMP.
5. THE BONDING CLAMP MUST BE INSTALLED DIRECTLY TO THE MESSENGER WIRE AND NOT ON ANY PART OF THE DEAD-ENDING HARDWARE.
6. ALL BONDING AND GROUNDING CONDUCTORS MUST NOT HAVE ANY RIGHT ANGLE BENDS. ALL BENDS MUST BE AS GRADUAL AS POSSIBLE AND STILL MAINTAIN AN ORDERLY APPEARANCE.
7. ALL DEAD-END BONDS OR GROUNDS MUST BE COMPLETED ALONG WITH THE INSTALLATION OF MESSENGER WIRE.
8. THE MESSENGER WIRE MUST BE GROUNDED TO A LOW-IMPEDANCE GROUND (10 OHMS OR LESS) IF IT IS PLACED ON POLES CARRYING POWER WIRES OR IF IT CROSSES POWER WIRES. THIS PRECAUTION IS NECESSARY TO MINIMIZE THE POSSIBILITY OF ELECTRIC SHOCK, SHOULD THERE BE ACCIDENTAL CONTACT WITH POWER WIRES.
9. GROUNDING AT UTILITY POLES WITH SPARK GAPS, LIGHTNING ARRESTERS OR PRIMARY SWITCHING DEVICES SHALL NOT BE ACCEPTABLE.
10. LOCATION OF GROUND RODS SHALL BE AS SHOWN ON THE INTERCONNECT PLAN SHEETS. SHOULD THE LOCATION SO SPECIFIED BE IN CONFLICT WITH ANY OF THE OTHER PROVISIONS OF THIS SECTION, THE CONTRACTOR IS REQUIRED TO BRING THE SITUATION TO THE ATTENTION OF THE DIVISION'S SIGNAL PLAN REVIEWER.

D. CABLE INSTALLATION
1. THE CABLE SHALL BE LASHED TO THE MESSENGER WIRE USING 0.061 IN. STAINLESS LASHING WIRE, HAVING AN AVERAGE OF ONE WRAP PER LINEAR FOOT OF MESSENGER WIRE. DOUBLE LASHINGS SHALL BE USED.
2. LASHING WIRE SHALL MAINTAIN A CONSISTENT SPIRAL THROUGHOUT THE ENTIRE SPAN, WITHOUT EXCEPTION, AND MUST MAINTAIN A MINIMUM OF 40 LB. PULL DURING AND AFTER INSTALLATION.
3. THERE SHALL BE NO VISIBLE SEPARATION OF MESSENGER WIRE AND CABLE OR TRUNK AND FEEDER CABLE IN MID-SPAN LASHING.
4. TREE GUARDS SHALL BE INSTALLED ON CABLE AND MESSENGER WIRE WHERE LIMBS OR OTHER OBSTACLES ARE WITHIN 4 IN. OF CABLE. TREES WITHIN 2 IN. OF THE CABLE SHALL BE TRIMMED BACK TO 6 IN. FROM THE CABLE.
5. EXPANSION LOOPS SHALL BE OF THE TYPE AND AT THE LOCATION SPECIFIED BY THE TYPICAL DRAWINGS.
6. EXPANSION LOOPS SHALL BE PLACED IN THE FOLLOWING LOCATIONS RELATIVE TO POLES AND DEVICES:
   A) ON THE INPUT AND OUTPUT OF EACH ACTIVE AND PASSIVE DEVICE USED BY THE CONTRACTOR TO CONSTRUCT THE SYSTEM.
   B) AT EACH AND EVERY LOCATION WHERE OVERHEAD COAXIAL TRUNK OR FEEDER CABLE ENTERS A CONNECTOR OF ANY TYPE, EXCEPT A "F" CONNECTOR; AN EXPANSION LOOP SHALL NOT BE PLACED ON THE TRUNK CABLE AT A 0.750-IN. CABLE TO "F" CONNECTION OR ON THE FEEDER CABLE AT A 0.500-IN. CABLE TO "F" CONNECTION.
   C) AT EVERY POLE LOCATION.
   D) AT EVERY LOCATION WHERE THE CABLE IS BEING SECURED BY MEANS OF A SUPPORT STRAP OR CABLE CONNECTOR, THE CABLE MUST REMAIN PARALLEL TO THE MESSENGER WIRE FOR A MINIMUM OF 3 IN. FROM THE EDGE OF THE SUPPORT OR CONNECTOR.
7. EXPANSION LOOPS SHALL BE PLACED AT A MINIMUM OF 20 IN. FROM THE CENTER OF THE POLE, AND BE SUPPORTED WITH A STRAP AND SPACER ON EACH SIDE OF THE LOOP, WITHIN 6 IN. OF POINT OF CONTACT (SEE EXPANSION LOOP TYPICAL).
8. MINIMUM CABLE BENDING RADIUS SHALL BE AS SPECIFIED BY THE EXPANSION LOOP TYPICAL. FORMING BLOCKS OR EQUIVALENT SHALL BE USED WHEN CABLE IS TO BE BENT.
9. THE LASHED CABLE REQUIRES SUPPORT WHEN IT EXTENDS BEYOND THE POINTS OF TERMINATION OF THE LASHING WIRE. THIS SUPPORT IS NECESSARY TO KEEP THE CABLE IN PLACE AND TO MAINTAIN CLEARANCES BETWEEN THE CABLE SHEATH AND VARIOUS ITEMS OF HARDWARE. A POLYPROPYLENE AERIAL SUPPORT TIE WITH AN INTEGRAL 0.50-IN. SPACER, PANDUIT PART NO. AST20-5-C100, SHALL BE USED TO FASTEN THE CABLE TO THE SUPPORTING MESSENGER WIRE AND MAINTAIN SEPARATION BETWEEN THE CABLE AND MESSENGER WIRE.
10. FIFTEEN (15) FEET OF CABLE SHALL BE COILED IN ALL PULL BOXES WHERE ACTIVE AND PASSIVE DEVICES ARE INSTALLED.
11. WHEN CABLE IS INSTALLED UNDERGROUND INTO AN AMPLIFIER CABINET, 15 FEET OF CABLE SHALL BE COILED IN THE PULL BOX NEAREST TO THAT AMPLIFIER CABINET.
12. WHEN FEEDER CABLE IS INSTALLED UNDERGROUND INTO THE CONTROLLER CABINET, 15 FEET OF UNDERGROUND FEEDER CABLE SHALL BE COILED IN THE PULL BOX NEAREST TO THE CONTROLLER CABINET.
13. WHEN CABLE IS INSTALLED UNDERGROUND INTO A CONDUIT RISER, 15 FEET OF CABLE SHALL BE COILED IN THE PULL BOX NEAREST TO THAT CONDUIT RISER.

CABLE MARKERS
THE CONTRACTOR SHALL INSTALL CABLE MARKERS ON THE COAXIAL CABLE INSTALLED ON THIS PROJECT. THE CABLE MARKERS SHALL BE SUPPLIED BY THE DIVISION OF PLANNING AND OPERATIONS.

IN AERIAL INSTALLATIONS, IT SHALL BE NECESSARY TO INSTALL ONLY ONE CABLE MARKER ON ONE CABLE, EVEN IF THERE ARE MORE THAN ONE CABLE IN THE SAME BUNDLE. THERE SHALL BE A CABLE MARKER INSTALLED ON THE EXPANSION LOOP OF THE COAXIAL CABLE NEAREST EACH POLE ATTACHMENT.

IN UNDERGROUND INSTALLATIONS, A CABLE MARKER SHALL BE INSTALLED ON EACH CABLE IN EACH PULL BOX.

CALCULATED | CHECKED

TRAFFIC SIGNAL GENERAL NOTES

PROJECT NAME