ELECTRICAL SPECIFICATIONS

1. ALL WORK, MATERIAL AND EQUIPMENT SHALL COMPLY WITH THE LATEST NATIONAL ELECTRICAL CODE BEING USED BY THE LOCAL JURISDICTION AND SHALL COMPLY WITH ALL LOCAL CODES AND ORDINANCES.
2. MATERIALS AND EQUIPMENT SHALL BE NEW EXCEPT WHERE INDICATED OTHERWISE. ALL OTHER WIRING DEVICES, CONDUIT, WIRE, ETC. SHALL BE NEW UNLESS NOTED OTHERWISE.
3. ALL MATERIALS AND EQUIPMENT SHALL BEAR U.L. LISTING.
4. MAINTAIN GROUNDING CONTINUITY TO ALL DEVICES AND EQUIPMENT IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE.
5. WORK NOT SPECIFICALLY SPECIFIED OR INDICATED SHALL CONFORM WITH SPECIFICATIONS.
6. ALL CONDUITS SHALL BE RUN CONCEALED IN UNDER FLOOR DUCT.
7. ALL WIRE AND CABLE SHALL BE COPPER HAVING 600 VOLTS XHHW-2 OR RHW-2 INSULATIONS. PROVIDE #12 WIRE MINIMUM, UNLESS OTHERWISE NOTED. ALL CABLES SHALL BE LOW SMOKE ZERO HALOGEN CABLE.
8. THE CONTRACTOR SHALL VISIT THE SITE AND EXAMINE THE CONDITION OF THE PREMISES AND THE CHARACTER AND EXTENT OF WORK REQUIRED PRIOR TO SUBMISSION OF BIDS.
9. OBTAIN ALL PERMITS AND PAY ALL FEES NECESSARY FOR INSPECTIONS, TESTS & OTHER SERVICES REQUIRED FOR THE COMPLETION OF THIS WORK.
10. ALL WORK SHALL BE DONE AT SUCH TIMES AND IN SUCH A MANNER THAT WILL LEAST INTERFERE WITH THE MAINTENANCE AND OPERATION OF ALL RELATED OR AFFECTED SYSTEMS. COORDINATE ALL POWER OUTAGES WITH WMATA PROJECT MANAGER.
11. IT IS THE INTENT OF THESE DRAWINGS AND OTHER RELATED DOCUMENTS TO PRODUCE A COMPLETE AND FUNCTIONING ELECTRICAL SYSTEM. PROVIDE ALL LABOR, MATERIAL AND OTHER SERVICES NECESSARY TO ACHIEVE THIS PRODUCT. NOTIFY THE ENGINEER OF ANY DISCREPANCIES IN THE PLANS & SPECIFICATIONS THAT WILL AFFECT THE WORK, PRIOR TO SUBMISSION OF THE BID PRICE.
12. IF, DURING THE COURSE OF THE WORK, THE CONTRACTOR EXPERIENCES A CONFLICT RELATIVE TO THE PLANS AND SPECIFICATIONS, THE NEC OR OTHER APPLICABLE CODES AND GOVERNING DOCUMENTS, HE SHALL NOTIFY THE ENGINEER FOR DIRECTION PRIOR TO EXECUTION OF THIS WORK. ANY WORK INSTALLED IN VIOLATION OF THE CONTRACT DOCUMENT OR APPLICABLE CODES WHICH COULD HAVE BEEN AVOIDED BY CONTACTING THE ENGINEER SHALL BE RECTIFIED AT NO ADDITIONAL COST.
13. ELECTRICAL PLANS ARE DIAGRAMMATIC & INDICATE GENERAL ARRANGEMENT OF SYSTEMS AND WORK. CHECK DRAWINGS OF OTHER TRADES TO VERIFY SPACE CONDITIONS, ETC. MAINTAIN WORKING CLEARANCES.
14. CIRCUIT NUMBERS ARE FOR IDENTIFICATION PURPOSES ONLY. THE CONTRACTOR IS RESPONSIBLE FOR CORRECTLY PHASING THE CIRCUITS IN THE PANEL AND SHALL BALANCE THE LOAD ON THE PHASES UNDER NORMAL OPERATING CONDITIONS. PROVIDE TYPEWRITTEN PANELBOARD DIRECTORIES. BALANCE THE PHASE LOADS TO WITHIN 20 PERCENT OF EACH OTHER.
15. INCREASE ALL BRANCH CIRCUIT CONDUCTORS TO THE NEXT LARGER SIZE FROM THE PANEL TO THE FIRST OUTLET WHERE THE LENGTH OF THE HOMERUN EXCEEDS 100FT. ON 120/208V CIRCUITS.
16. PROVIDE A PULLWIRE OR FISHTAPE/CORD IN ALL EMPTY CONDUIT RUNS.
17. VERIFY WIRE SIZES, CIRCUIT BREAKERS AND FUSES RATINGS FOR ALL EQUIPMENT, AND NOTIFY THE ENGINEER OF ANY DISCREPANCIES AFFECTING THE WORK PRIOR TO PROCEEDING.
18. ALL PANELS IMPACTED BY THIS PROJECT SHALL BE PROVIDED WITH NEW, UPDATED TYPEWRITTEN PANEL SCHEDULES (FOR NEW AND EXISTING CIRCUITS) INDICATING THE FINAL ROOM NUMBER AND THE EQUIPMENT OR DEVICES SERVED BY THE CIRCUITS.
19. DEMOLITION OF EXISTING WORK SHALL BE PERFORMED AFTER HOURS. ELECTRICAL CONTRACTOR SHALL COORDINATE WITH THE WMATA PROJECT MANAGER PRIOR TO PERFORMING ALL THE WORK. THE TIME OF DAY OR EVENING SHALL BE DESIGNATED BY THE WMATA PROJECT MANAGER.
20. ALL WIRING SHALL BE IN CONDUIT, MINIMUM SIZE 3/4 INCH WITH LARGER SIZES AS INDICATED OR REQUIRED BY NEC. ALL CONDUITS SHALL BE RIGID GALVANIZED STEEL W/SCREW IN COUPLING FOR COMPLETE WATER PROOF INSTALLATION.
21. AT JOB COMPLETION, AND BEFORE FINAL ACCEPTANCE BY WMATA, TEST EACH RECEPTACLE AND PANELBOARD FOR PROPER OPERATION. WIRING SHALL BE TESTED FOR CONTINUITY, SHORTS, ETC... ALL WORK AREAS, ETC.. SHALL BE CLEANED AT THE COMPLETION OF THIS PROJECT.
22. FOR DEVICE IDENTIFICATION, THE ELECTRICAL CONTRACTOR SHALL LABEL ALL PANELBOARDS, JUNCTION BOXES, ETC..TO INDICATE THE NAME, VOLTAGE, SERVING EQUIPMENT AND ITEM SERVED ETC... LABELS FOR EMERGENCY CIRCUITS SHALL BE IN RED, NORMAL CIRCUITS SHALL BE IN BLACK. ALL DEVICES SHALL BE IDENTIFIED EITHER ON THE FACE OF THE COVERPLATE OR INSIDE PER WMATA PREFERENCE. ALL JUNCTION BOXES SHALL BE LABELED TO INDICATE THE CIRCUITS CONTAINED BY THE JUNCTION BOX.
23. THE CONTRACTOR SHALL UPDATE THE SCHEDULES OF ALL PANELBOARDS AFFECTED BY THIS PROJECT TO REFLECT CHANGES DUE TO THE PROJECT WORK. PANEL SCHEDULE LOAD DESCRIPTIONS ARE TO INCLUDE THE FINAL ROOM OR AREA NUMBERS.
24. INCLUDE GPR FOR ANY CORE DRILLS OR DRILLED PENETRATIONS IN ANY WALLS.
25. SEAL OFF ALL PENETRATIONS THRU WALLS/FLOORS.
26. THE CONTRACTOR SHALL BECOME FAMILIAR WITH WMATA DESIGN CRITERIA SECTION 4 AND SECTION 13; WMATA SPECIFICATION SECTION 16120, 16130, AND 16125. ALL INSTALLATION SHALL BE IN COMPLIANCE WITH THE NEC, WMATA DESIGN CRITERIA, AND SPECIFICATIONS.
27. THE CONTRACTOR SHALL IDENTIFY SPARE CIRCUIT WITH "RESERVED FOR AFC".
28. EXISTING SWITCHBOARDS, PANELBOARDS AND EQUIPMENT SHOWN IS BASED ON RECORD DRAWINGS AND CASUAL FIELD SURVEY. CONTRACTOR SHALL VERIFY ALL ELECTRICAL EQUIPMENT IN FIELD.
29. The conduit utilized for this project shall be 1-1/2" min. or larger as indicated. The liquid tight utilized for the kiosk shall be 1-1/2" from the entry to the 8x8 junction box, then 1" from the junction box to the quads. All boxes used in or on the kiosk shall be NEMA 4x.

ABBREVIATIONS

A, AMP	AMPERES
AC	ALTERNATING CURRENT
AEMS	AUTOMATED ENERGY MANAGEMENT SYSTEM
AF	AMPERE FRAME
AFC	AUTOMATED FARE COLLECTION SYSTEM
AFF	ABOVE FINISHED FLOOR
AIC	AMPERE INTERRUPTING CAPACITY
AT	AMPERE TRIP
ATS	AUTOMATIC TRANSFER SWITCH
BATT	BATTERY
BKR	BREAKER
℄	BASELINE
C	CONDUIT
CB	CIRCUIT BREAKER
CCT	CIRCUIT
℄	CENTER LINE
CLG	CEILING
CONST	CONSTRUCTION
DC	DIRECT CURRENT
DISC	DISCONNECT
E	ELECTRICAL
FLUOR.	FLUORESCENT
GND	GROUND
GPR	GROUND PENETRATING RADAR
IG	ISOLATED GROUND
JB	JUNCTION BOX
KAIC	THOUSAND AMPERE INTERRUPTING CAPACITY
KCMIL	THOUSAND CIRCULAR MILL
KVA	KILOVOLT AMPERE
MAX	MAXIMUM
MCA	MINIMUM CIRCUIT AMPERE
MCB	MAIN CIRCUIT BREAKER
MEZZ	MEZZANINE
MIN	MINIMUM
MLO	MAIN LUGS ONLY
MTD	MOUNTED OR MOUNTING
NEC	NATIONAL ELECTRIC CODE
NEMA	NATIONAL ELECTRICAL MANUFACTURER ASSOCIATION
P	POLE
PH	PHASE
PNL	PANELBOARD
PRI	PRIMARY
PROP	PROPOSED
RGS	RIGID GALVANIZED STEEL
SEC	SECONDARY
SHT	SHEET
STA	STATION
STD	STANDARD
SW	SWITCH
SWBD	SWITCHBOARD
TYP	TYPICAL
U/G	UNDER GROUND
U.L.	UNDERWRITERS LABORATORIES
UON	UNLESS OTHERWISE NOTED
VOLT	VOLTAGE
W	WATT
WMATA	WASHINGTON METROPOLITIAN AREA TRANSIT AUTHORITY
WP	WEATHERPROOF

DRAWING INDEX

ELECTRICAL SYMBOL LIST

- QUADRUPLEX RECEPTACLE OUTLET– 20A, 125V WALL MOUNTED.
- [J] JUNCTION BOX – SURFACE MOUNTED ON UNISTRUT CHANNEL
- CONDUIT – CONCEALED IN UNDER FLOOR DUCT U.O.N.
- #10-3/4 EF 3,5 HOMERUN TO PANEL, NUMBER OF ARROWHEADS INDICATES NUMBER OF CIRCUITS. CROSS HATCHING INDICATES NUMBER OF CONDUCTORS, NUMBER INDICATES SIZE OF CONDUCTOR AND SIZE OF CONDUIT
  - | – INDICATES GROUNDING WIRE TO GROUNDING BUS AT THE PANELBOARD
  - EF 1,3 – INDICATES CIRCUIT HOME RUN PANELBOARD AND CIRCUIT NUMBER IDENTIFICATION

CONTRACT NO. 14-FQ10060-CENI-24

DESIGNED C. NGO 08-14 DATE
DRAWN C. NGO 08-14 DATE
CHECKED B. IDILBI 08-14 DATE
APPROVED N/A DATE

REFERENCE DRAWINGS

NUMBER	DESCRIPTION

REVISIONS

DATE	BY	DESCRIPTION

WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY

DEPARTMENT OF TRANSIT INFRASTRUCTURE AND ENGINEERING SERVICES
OFFICE OF INFRASTRUCTURE RENEWAL PROGRAM

APPROVED _____

GFP A Gannett Fleming/Parsons JOINT VENTURE

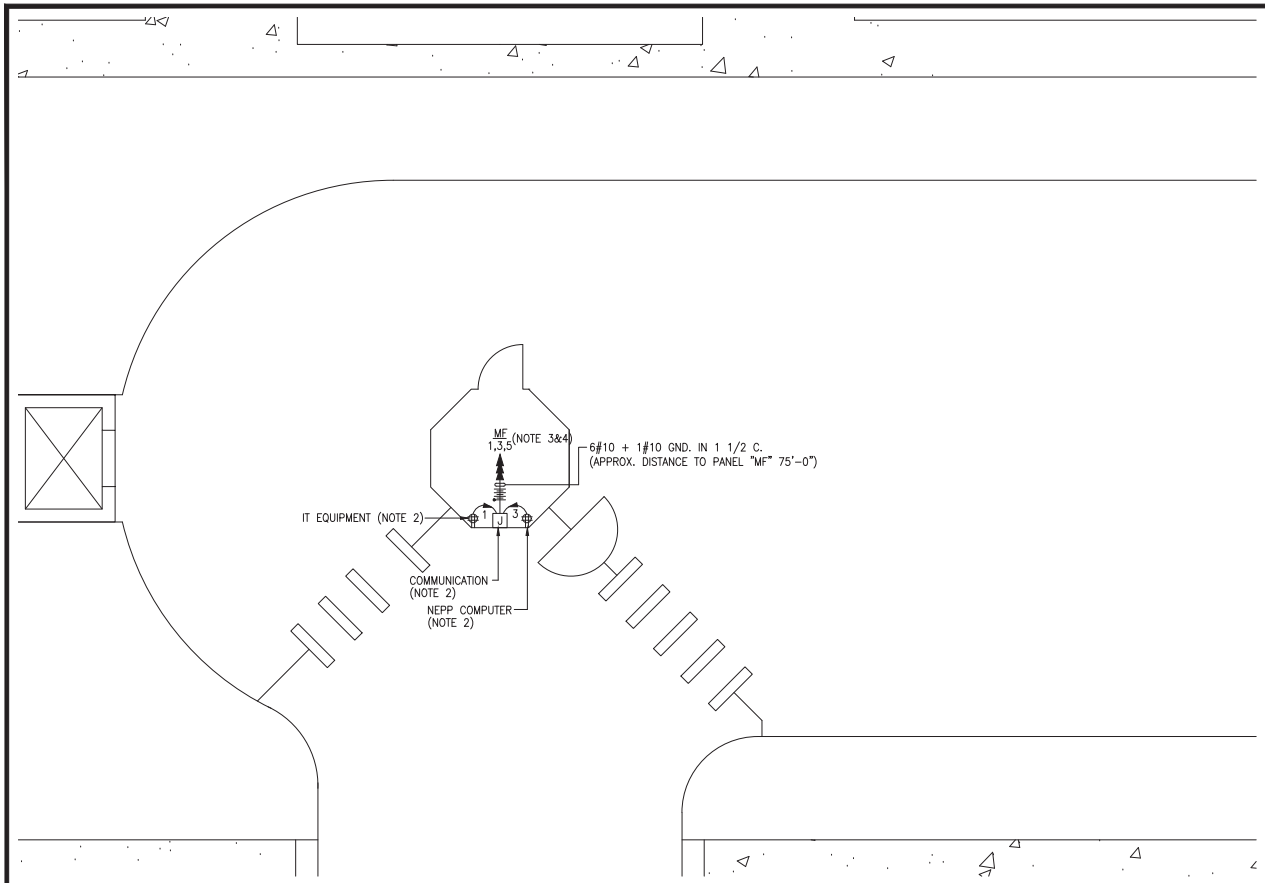
SUBMITTED _____ PROJECT MANAGER

NEW ELECTRONIC PAY PROGRAM (NEPP) IN METRORAIL STATIONS

ABBREVIATIONS, DRAWING INDEX, SPECIFICATIONS & SYMBOL LIST

SCALE NOT TO SCALE

DRAWING NO. F02-E-001



MEZZANINE KIOSK - POWER

SCALE: 1/4" = 1'- 0"

DRAWING NOTES:

1. CONTRACTOR TO REFER TO SUPPLEMENTAL MEZZANINE INSPECTION REPORT, VOLUME 4 FURNISHED UNDER THIS SOLICITATION PACKAGE TO BE INFORMED THAT THE TOTAL LENGTH OF THE MULTI WIRE BRANCH CIRCUIT DEPICTED IN THE ELCTRICAL PLAN MAY EITHER CONSIST OF EXISTING POWER UNDER FLOOR DUCTS; OR IT COULD BE ALL CONDUIT RUN USING RIGID GALVANIZED STEEL CONDUITS; OR A COMBINATION OF BOTH WHICH IS RIGID GALVANIZED STEEL CONDUITS AND FLOOR DUCTS AND/OR JUST USE OF POWER FLOOR DUCT OR AS REQUIRED IN THE REPORT.
2. COORDINATE WITH WMATA WHERE EXACTLY THE DUPLEX RECEPTACLE OUTLET AND JUNCTION BOX WILL BE INSTALLED IN THE KIOSK.
3. PROVIDE 3-NEW 20A, 1P CIRCUIT BREAKER AT EXISTING PANELBOARD AVAILABLE CIRCUIT BREAKER SPACES. NEW CIRCUIT BREAKERS SHALL MATCH EXISTING PANELBOARD CIRCUIT BREAKER AIC RATING. TERMINATE 2-NEW BRANCH CIRCUITS TO NEWLY INSTALLED CIRCUIT BREAKERS AND CONNECT PERMANENTLY TO QUAD RECEPTACLE OUTLETS LOCATED IN THE KIOSK. KEEP AND COILED REMAINING BRANCH CIRCUIT IN THE PANELBOARD AND INSIDE THE JUNCTION BOX AT THE KIOSK FOR FUTURE USE. UPDATE PANELBOARD DIRECTORY TO MANIFEST PANELBOARD ADDITIONAL LOADS.
4. THE REMAINING BRANCH CIRCUIT FOR FUTURE AFC FARE GATE APPLICATION SHALL BE SECURED, LABELED AND COILED AT THE KIOSK. THE LENGTH OF COILED PIGTAIL SHALL BE THE FARTHEST FARE GATE DISTANCE FROM KIOSK PLUS AN EXTRA 6'-0" CONDUCTOR.

SAFETY PRECAUTION:

1. ALL WORK SHALL COMPLY WITH WMATA SAFETY RULES, AND DE-ENERGIZATION POLICIES.

CONTRACT NO.
14-FQ10060-CENI-24

DESIGNED	C. NGO	08-14 DATE
DRAWN	C. NGO	08-14 DATE
CHECKED	B. IDILBI	08-14 DATE
APPROVED	N/A	DATE

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NUMBER	DESCRIPTION

REVISIONS		
DATE	BY	DESCRIPTION

WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY

DEPARTMENT OF TRANSIT INFRASTRUCTURE AND ENGINEERING SERVICES
OFFICE OF INFRASTRUCTURE RENEWAL PROGRAM

APPROVED

GFP A Gannett Fleming/Parsons JOINT VENTURE

SUBMITTED
PROJECT MANAGER

NEW ELECTRONIC PAY PROGRAM (NEPP) IN METRORAIL STATIONS

ARCHIVES
MEZZANINE KIOSK - POWER

SCALE	DRAWING NO.	
AS SHOWN	F02-E-101	

EXISTING PANEL "MF"

AMPERES: 225	VOLTS: 120/208	MOUNTING: SURFACE
MAINS: 225A MCB	PHASE: 3	LOCATION: ELECTRICAL EQUIPMENT RM. 203
RATING: 10K AIC	WIRE: 4	SECTION: 1 OF 1

		CKT BKRS		CKT.		CKT.	CKT BKRS			
LOAD DESCRIPTION	KVA	AMP	POLE	NO.		NO.	POLE	AMP	KVA	LOAD DESCRIPTION
NEW KIOSK RECEPT. (IT/NCS)	**0.8**	20	1	1	A - -	2	1	20	0.8	EXISTING VENDOR
NEW KIOSK RECEPT. (NEPP/SOC)	**0.8**	20	1	3	- B -	4	1	20	0.0	SPARE
FUTURE AFC FARE GATE	0.0	20	1	5	- - C	6	1	20	0.8	EXISTING VENDOR
EXISTING VENDOR	0.8	20	1	7	A - -	8	1	20	0.8	EXISTING VENDOR
EXISTING VENDOR	0.8	20	1	9	- B -	10	1	20	0.8	EXISTING VENDOR
EXISTING VENDOR	0.8	20	1	11	- - C	12	1	20	0.0	SPARE
EXISTING VENDOR	0.8	20	1	13	A - -	14	1	20	0.8	EXISTING VENDOR
EXISTING VENDOR	0.8	20	1	15	- B -	16	1	20	0.8	EXISTING VENDOR
EXISTING VENDOR	0.8	20	1	17	- - C	18	1	20	0.8	EXISTING VENDOR
EXISTING VENDOR	0.8	20	1	19	A - -	20	1	20	0.8	EXISTING VENDOR
SPARE	0.0	20	1	21	- B -	22	1	20	0.8	EXISTING VENDOR
SPARE	0.0	20	1	23	- - C	24	1	20	0.8	EXISTING VENDOR
SPACE	0.0	-	-	25	A - -	26	1	20	0.8	EXISTING VENDOR
SPACE	0.0	-	-	27	- B -	28	-	-	0.0	SPACE
SPARE	0.0	20	1	29	- - C	30	1	20	0.8	EXISTING VENDOR
EXISTING VENDOR	0.8	20	1	31	A - -	32	1	20	0.8	EXISTING VENDOR
EXISTING VENDOR	0.8	20	1	33	- B -	34	1	20	0.8	EXISTING VENDOR
EXISTING VENDOR	0.8	20	1	35	- - C	36	1	20	0.0	SPARE
EXISTING VENDOR	0.8	20	1	37	A - -	38	1	20	0.8	EXISTING VENDOR
SPARE	0.0	20	1	39	- B -	40	1	20	0.0	SPARE
SPACE	0.0	-	-	41	- - C	42	-	-	0.0	SPACE

LOAD SUMMARY

LIGHTS	0.0 x 125%		0.0 KVA
RECEPTACLES, FIRST 10 KVA	10.0 x 100%		10.0 KVA
RECEPTACLES	11.6 x 50%		5.8 KVA
MISC. APPLIANCES	0.0 x 100%		0.0 KVA
LARGEST MOTOR	0.0 x 125%		0.0 KVA
MOTORS	0.0 x 100%		0.0 KVA
HEAT	0.0 x 125%		0.0 KVA
AC	0.0 x 100%		0.0 KVA
WATER HEATING	0.0 x 125%		0.0 KVA
TOTAL CONNECTED LOAD	**21.6 KVA**	**TOTAL DEMAND KVA**	**15.8 KVA**
		TOTAL DEMAND AMPS	**43.9 AMPS**
CONNECTED LOAD PHASE SUMMARY			
PHASE A:	**10.4 KVA**		
PHASE B:	**6.4 KVA**		
PHASE C:	**5.6 KVA**		

CONTRACT NO.
14-FQ10060-CENI-24

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DRAWN C. NGO 08-14 DATE
CHECKED B. IDILBI 08-14 DATE
APPROVED N/A DATE

REFERENCE DRAWINGS

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WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY

DEPARTMENT OF TRANSIT INFRASTRUCTURE AND ENGINEERING SERVICES
OFFICE OF INFRASTRUCTURE RENEWAL PROGRAM

APPROVED

GFP A Gannett Fleming/Parsons JOINT VENTURE

SUBMITTED
PROJECT MANAGER

NEW ELECTRONIC PAY PROGRAM (NEPP) IN METRORAIL STATIONS
ARCHIVES
PANEL SCHEDULE

SCALE: NOT TO SCALE

DRAWING NO.: F02-E-102

ELECTRICAL SPECIFICATIONS

1. ALL WORK, MATERIAL AND EQUIPMENT SHALL COMPLY WITH THE LATEST NATIONAL ELECTRICAL CODE BEING USED BY THE LOCAL JURISDICTION AND SHALL COMPLY WITH ALL LOCAL CODES AND ORDINANCES.
2. MATERIALS AND EQUIPMENT SHALL BE NEW EXCEPT WHERE INDICATED OTHERWISE. ALL OTHER WIRING DEVICES, CONDUIT, WIRE, ETC. SHALL BE NEW UNLESS NOTED OTHERWISE.
3. ALL MATERIALS AND EQUIPMENT SHALL BEAR U.L. LISTING.
4. MAINTAIN GROUNDING CONTINUITY TO ALL DEVICES AND EQUIPMENT IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE.
5. WORK NOT SPECIFICALLY SPECIFIED OR INDICATED SHALL CONFORM WITH SPECIFICATIONS.
6. ALL CONDUITS SHALL BE RUN CONCEALED IN UNDER FLOOR DUCT.
7. ALL WIRE AND CABLE SHALL BE COPPER HAVING 600 VOLTS XHHW–2 OR RHW–2 INSULATIONS. PROVIDE #12 WIRE MINIMUM, UNLESS OTHERWISE NOTED. ALL CABLES SHALL BE LOW SMOKE ZERO HALOGEN CABLE.
8. THE CONTRACTOR SHALL VISIT THE SITE AND EXAMINE THE CONDITION OF THE PREMISES AND THE CHARACTER AND EXTENT OF WORK REQUIRED PRIOR TO SUBMISSION OF BIDS.
9. OBTAIN ALL PERMITS AND PAY ALL FEES NECESSARY FOR INSPECTIONS, TESTS & OTHER SERVICES REQUIRED FOR THE COMPLETION OF THIS WORK.
10. ALL WORK SHALL BE DONE AT SUCH TIMES AND IN SUCH A MANNER THAT WILL LEAST INTERFERE WITH THE MAINTENANCE AND OPERATION OF ALL RELATED OR AFFECTED SYSTEMS. COORDINATE ALL POWER OUTAGES WITH WMATA PROJECT MANAGER.
11. IT IS THE INTENT OF THESE DRAWINGS AND OTHER RELATED DOCUMENTS TO PRODUCE A COMPLETE AND FUNCTIONING ELECTRICAL SYSTEM. PROVIDE ALL LABOR, MATERIAL AND OTHER SERVICES NECESSARY TO ACHIEVE THIS PRODUCT. NOTIFY THE ENGINEER OF ANY DISCREPANCIES IN THE PLANS & SPECIFICATIONS THAT WILL AFFECT THE WORK, PRIOR TO SUBMISSION OF THE BID PRICE.
12. IF, DURING THE COURSE OF THE WORK, THE CONTRACTOR EXPERIENCES A CONFLICT RELATIVE TO THE PLANS AND SPECIFICATIONS, THE NEC OR OTHER APPLICABLE CODES AND GOVERNING DOCUMENTS, HE SHALL NOTIFY THE ENGINEER FOR DIRECTION PRIOR TO EXECUTION OF THIS WORK. ANY WORK INSTALLED IN VIOLATION OF THE CONTRACT DOCUMENT OR APPLICABLE CODES WHICH COULD HAVE BEEN AVOIDED BY CONTACTING THE ENGINEER SHALL BE RECTIFIED AT NO ADDITIONAL COST.
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14. CIRCUIT NUMBERS ARE FOR IDENTIFICATION PURPOSES ONLY. THE CONTRACTOR IS RESPONSIBLE FOR CORRECTLY PHASING THE CIRCUITS IN THE PANEL AND SHALL BALANCE THE LOAD ON THE PHASES UNDER NORMAL OPERATING CONDITIONS. PROVIDE TYPEWRITTEN PANELBOARD DIRECTORIES. BALANCE THE PHASE LOADS TO WITHIN 20 PERCENT OF EACH OTHER.
15. INCREASE ALL BRANCH CIRCUIT CONDUCTORS TO THE NEXT LARGER SIZE FROM THE PANEL TO THE FIRST OUTLET WHERE THE LENGTH OF THE HOMERUN EXCEEDS 100FT. ON 120/208V CIRCUITS.
16. PROVIDE A PULLWIRE OR FISHTAPE/CORD IN ALL EMPTY CONDUIT RUNS.
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18. ALL PANELS IMPACTED BY THIS PROJECT SHALL BE PROVIDED WITH NEW, UPDATED TYPEWRITTEN PANEL SCHEDULES (FOR NEW AND EXISTING CIRCUITS) INDICATING THE FINAL ROOM NUMBER AND THE EQUIPMENT OR DEVICES SERVED BY THE CIRCUITS.
19. DEMOLITION OF EXISTING WORK SHALL BE PERFORMED AFTER HOURS. ELECTRICAL CONTRACTOR SHALL COORDINATE WITH THE WMATA PROJECT MANAGER PRIOR TO PERFORMING ALL THE WORK. THE TIME OF DAY OR EVENING SHALL BE DESIGNATED BY THE WMATA PROJECT MANAGER.
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23. THE CONTRACTOR SHALL UPDATE THE SCHEDULES OF ALL PANELBOARDS AFFECTED BY THIS PROJECT TO REFLECT CHANGES DUE TO THE PROJECT WORK. PANEL SCHEDULE LOAD DESCRIPTIONS ARE TO INCLUDE THE FINAL ROOM OR AREA NUMBERS.
24. INCLUDE GPR FOR ANY CORE DRILLS OR DRILLED PENETRATIONS IN ANY WALLS.
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AIC	AMPERE INTERRUPTING CAPACITY
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U.L.	UNDERWRITERS LABORATORIES
UON	UNLESS OTHERWISE NOTED
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W	WATT
WMATA	WASHINGTON METROPOLITIAN AREA TRANSIT AUTHORITY
WP	WEATHERPROOF

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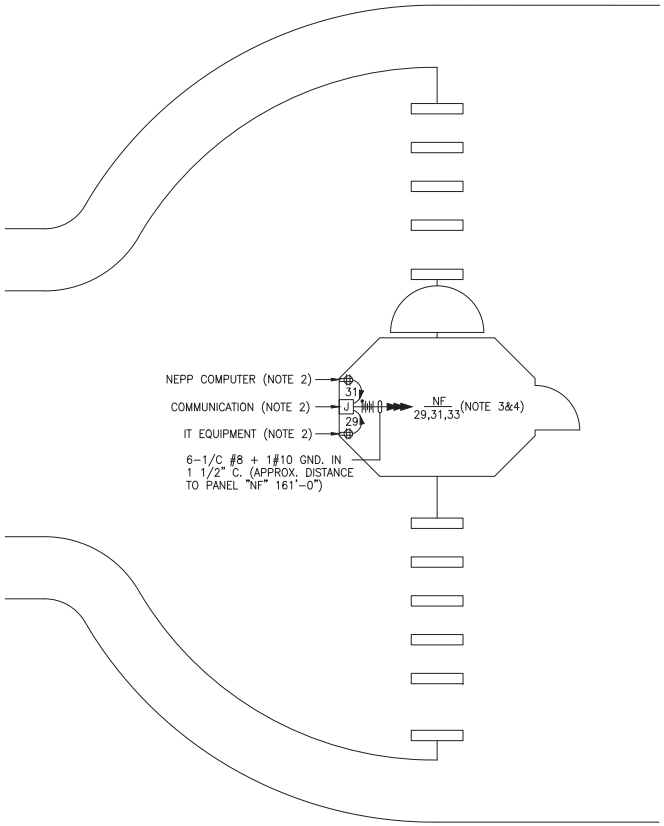
GFP A Gannett Fleming/Parsons JOINT VENTURE

SUBMITTED _____ PROJECT MANAGER

NEW ELECTRONIC PAY PROGRAM (NEPP) IN METRORAIL STATIONS
ABBREVIATIONS, DRAWING INDEX, SPECIFICATIONS & SYMBOL LIST

SCALE NOT TO SCALE

DRAWING NO. F03-E-001



NORTH MEZZANINE KIOSK - POWER

SCALE: 1/4" = 1'- 0"

DRAWING NOTES:

1. CONTRACTOR TO REFER TO SUPPLEMENTAL MEZZANINE INSPECTION REPORT, VOLUME 4 FURNISHED UNDER THIS SOLICITATION PACKAGE TO BE INFORMED THAT THE TOTAL LENGTH OF THE MULTI WIRE BRANCH CIRCUIT DEPICTED IN THE ELCTRICAL PLAN MAY EITHER CONSIST OF EXISTING POWER UNDER FLOOR DUCTS; OR IT COULD BE ALL CONDUIT RUN USING RIGID GALVANIZED STEEL CONDUITS; OR A COMBINATION OF BOTH WHICH IS RIGID GALVANIZED STEEL CONDUITS AND FLOOR DUCTS AND/OR JUST USE OF POWER FLOOR DUCT OR AS REQUIRED IN THE REPORT.
2. COORDINATE WITH WMATA WHERE EXACTLY THE DUPLEX RECEPTACLE OUTLET AND JUNCTION BOX WILL BE INSTALLED IN THE KIOSK.
3. PROVIDE 3-NEW 20A, 1P CIRCUIT BREAKER AT EXISTING PANELBOARD AVAILABLE CIRCUIT BREAKER SPACES. NEW CIRCUIT BREAKERS SHALL MATCH EXISTING PANELBOARD CIRCUIT BREAKER AIC RATING. TERMINATE 2-NEW BRANCH CIRCUITS TO NEWLY INSTALLED CIRCUIT BREAKERS AND CONNECT PERMANENTLY TO QUAD RECEPTACLE OUTLETS LOCATED IN THE KIOSK. KEEP AND COILED REMAINING BRANCH CIRCUIT IN THE PANELBOARD AND INSIDE THE JUNCTION BOX AT THE KIOSK FOR FUTURE USE. UPDATE PANELBOARD DIRECTORY TO MANIFEST PANELBOARD ADDITIONAL LOADS.
4. THE REMAINING BRANCH CIRCUIT FOR FUTURE AFC FARE GATE APPLICATION SHALL BE SECURED, LABELED AND COILED AT THE KIOSK. THE LENGTH OF COILED PIGTAIL SHALL BE THE FARTHEST FARE GATE DISTANCE FROM KIOSK PLUS AN EXTRA 6'-0" CONDUCTOR.

SAFETY PRECAUTION:

1. ALL WORK SHALL COMPLY WITH WMATA SAFETY RULES, AND DE-ENERGIZATION POLICIES.

CONTRACT NO.
14-FQ10060-CENI-24

DESIGNED	C. NGO	08-14 DATE
DRAWN	C. NGO	08-14 DATE
CHECKED	B. IDILBI	08-14 DATE
APPROVED	N/A	DATE

REFERENCE DRAWINGS

NUMBER	DESCRIPTION

REVISIONS

DATE	BY	DESCRIPTION

WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY

DEPARTMENT OF TRANSIT INFRASTRUCTURE AND ENGINEERING SERVICES
OFFICE OF INFRASTRUCTURE RENEWAL PROGRAM

APPROVED

GFP A Gannett Fleming/Parsons JOINT VENTURE

SUBMITTED
PROJECT MANAGER

NEW ELECTRONIC PAY PROGRAM (NEPP) IN METRORAIL STATIONS

L'ENFANT PLAZA - NORTH
MEZZANINE KIOSK - POWER

SCALE	DRAWING NO.	
AS SHOWN	F03-E-101	

EXISTING PANEL "NF"

AMPERES: 400	VOLTS: 120/208	MOUNTING: SURFACE
MAINS: 400A MLO	PHASE: 3	LOCATION: AC SWBD ROOM N104
RATING: 10K AIC	WIRE: 4	SECTION: 1 OF 1

		CKT BKRS		CKT.		CKT.	CKT BKRS			
LOAD DESCRIPTION	KVA	AMP	POLE	NO.		NO.	POLE	AMP	KVA	LOAD DESCRIPTION
EXISTING VENDOR	0.8	20	1	1	A - -	2	3	30	1.5	EXISTING CONDSING UNIT
EXISTING VENDOR	0.8	20	1	3	- B -	4	-	-	1.5	
EXISTING VENDOR	0.8	20	1	5	- - C	6	-	-	1.5	
EXISTING VENDOR	0.8	20	1	7	A - -	8	1	20	0.8	EXISTING VENDOR
EXISTING VENDOR	0.8	20	1	9	- B -	10	1	20	0.8	EXISTING VENDOR
EXISTING VENDOR	0.8	20	1	11	- - C	12	1	20	0.8	EXISTING VENDOR
EXISTING VENDOR	0.8	20	1	13	A - -	14	1	20	0.8	EXISTING VENDOR
EXISTING VENDOR	0.8	20	1	15	- B -	16	1	20	0.8	EXISTING VENDOR
EXISTING VENDOR	0.8	20	1	17	- - C	18	1	20	0.8	EXISTING VENDOR
EXISTING VENDOR	0.8	20	1	19	A - -	20	1	20	0.8	EXISTING VENDOR
EXISTING VENDOR	0.8	20	1	21	- B -	22	1	20	0.8	EXISTING VENDOR
SPACE	0.0	-	-	23	- - C	24	-	-	0.0	SPACE
EXISTING VENDOR	0.8	20	1	25	A - -	26	2	20	0.0	SPARE
EXISTING VENDOR	0.8	20	1	27	- B -	28	-	-	0.0	
NEW KIOSK RECEPT. (IT/NCS)	**0.8**	20	1	29	- - C	30	1	20	0.0	SPARE
NEW KIOSK RECEPT. (NEPP/SOC)	**0.8**	20	1	31	A - -	32	1	20	0.0	SPARE
FUTURE AFC FARE GATE	0.0	20	1	33	- B -	34	3	70	0.0	SPARE
EXISTING VENDOR	0.8	20	1	35	- - C	36	-	-	0.0	
SPARE	0.0	20	1	37	A - -	38	-	-	0.0	
SPARE	0.0	20	1	39	- B -	40	3	100	3.3	EXISTING LOAD CENTER "KES"
SPARE	0.0	20	1	41	- - C	42	-	-	2.5	
SPARE	0.0	20	1	43	A - -	44	-	-	2.5	

LOAD SUMMARY

LIGHTS	0.0 x 125%		0.0 KVA
RECEPTACLES, FIRST 10 KVA	10.0 x 100%		10.0 KVA
RECEPTACLES	9.2 x 50%		4.6 KVA
MISC. APPLIANCES	0.0 x 100%		0.0 KVA
LARGEST MOTOR	0.0 x 125%		0.0 KVA
MOTORS	0.0 x 100%		0.0 KVA
HEAT	3.0 x 125%		3.8 KVA
AC	9.0 x 100%		9.0 KVA
WATER HEATING	0.0 x 125%		0.0 KVA
TOTAL CONNECTED LOAD	**31.2 KVA**	**TOTAL DEMAND KVA**	**27.4 KVA**
		TOTAL DEMAND AMPS	**76.0 AMPS**

CONNECTED LOAD PHASE SUMMARY

PHASE A:	11.2 KVA
PHASE B:	11.2 KVA
PHASE C:	9.6 KVA

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WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY

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APPROVED

GFP A Gannett Fleming/Parsons JOINT VENTURE

SUBMITTED
PROJECT MANAGER

NEW ELECTRONIC PAY PROGRAM (NEPP) IN METRORAIL STATIONS
L'ENFANT PLAZA - NORTH
PANEL SCHEDULE

SCALE: NOT TO SCALE

DRAWING NO.: F03-E-102

ELECTRICAL SPECIFICATIONS

1. ALL WORK, MATERIAL AND EQUIPMENT SHALL COMPLY WITH THE LATEST NATIONAL ELECTRICAL CODE BEING USED BY THE LOCAL JURISDICTION AND SHALL COMPLY WITH ALL LOCAL CODES AND ORDINANCES.
2. MATERIALS AND EQUIPMENT SHALL BE NEW EXCEPT WHERE INDICATED OTHERWISE. ALL OTHER WIRING DEVICES, CONDUIT, WIRE, ETC. SHALL BE NEW UNLESS NOTED OTHERWISE.
3. ALL MATERIALS AND EQUIPMENT SHALL BEAR U.L. LISTING.
4. MAINTAIN GROUNDING CONTINUITY TO ALL DEVICES AND EQUIPMENT IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE.
5. WORK NOT SPECIFICALLY SPECIFIED OR INDICATED SHALL CONFORM WITH SPECIFICATIONS.
6. ALL CONDUITS SHALL BE RUN CONCEALED IN UNDER FLOOR DUCT.
7. ALL WIRE AND CABLE SHALL BE COPPER HAVING 600 VOLTS XHHW–2 OR RHW–2 INSULATIONS. PROVIDE #12 WIRE MINIMUM, UNLESS OTHERWISE NOTED. ALL CABLES SHALL BE LOW SMOKE ZERO HALOGEN CABLE.
8. THE CONTRACTOR SHALL VISIT THE SITE AND EXAMINE THE CONDITION OF THE PREMISES AND THE CHARACTER AND EXTENT OF WORK REQUIRED PRIOR TO SUBMISSION OF BIDS.
9. OBTAIN ALL PERMITS AND PAY ALL FEES NECESSARY FOR INSPECTIONS, TESTS & OTHER SERVICES REQUIRED FOR THE COMPLETION OF THIS WORK.
10. ALL WORK SHALL BE DONE AT SUCH TIMES AND IN SUCH A MANNER THAT WILL LEAST INTERFERE WITH THE MAINTENANCE AND OPERATION OF ALL RELATED OR AFFECTED SYSTEMS. COORDINATE ALL POWER OUTAGES WITH WMATA PROJECT MANAGER.
11. IT IS THE INTENT OF THESE DRAWINGS AND OTHER RELATED DOCUMENTS TO PRODUCE A COMPLETE AND FUNCTIONING ELECTRICAL SYSTEM. PROVIDE ALL LABOR, MATERIAL AND OTHER SERVICES NECESSARY TO ACHIEVE THIS PRODUCT. NOTIFY THE ENGINEER OF ANY DISCREPANCIES IN THE PLANS & SPECIFICATIONS THAT WILL AFFECT THE WORK, PRIOR TO SUBMISSION OF THE BID PRICE.
12. IF, DURING THE COURSE OF THE WORK, THE CONTRACTOR EXPERIENCES A CONFLICT RELATIVE TO THE PLANS AND SPECIFICATIONS, THE NEC OR OTHER APPLICABLE CODES AND GOVERNING DOCUMENTS, HE SHALL NOTIFY THE ENGINEER FOR DIRECTION PRIOR TO EXECUTION OF THIS WORK. ANY WORK INSTALLED IN VIOLATION OF THE CONTRACT DOCUMENT OR APPLICABLE CODES WHICH COULD HAVE BEEN AVOIDED BY CONTACTING THE ENGINEER SHALL BE RECTIFIED AT NO ADDITIONAL COST.
13. ELECTRICAL PLANS ARE DIAGRAMMATIC & INDICATE GENERAL ARRANGEMENT OF SYSTEMS AND WORK. CHECK DRAWINGS OF OTHER TRADES TO VERIFY SPACE CONDITIONS, ETC. MAINTAIN WORKING CLEARANCES.
14. CIRCUIT NUMBERS ARE FOR IDENTIFICATION PURPOSES ONLY. THE CONTRACTOR IS RESPONSIBLE FOR CORRECTLY PHASING THE CIRCUITS IN THE PANEL AND SHALL BALANCE THE LOAD ON THE PHASES UNDER NORMAL OPERATING CONDITIONS. PROVIDE TYPEWRITTEN PANELBOARD DIRECTORIES. BALANCE THE PHASE LOADS TO WITHIN 20 PERCENT OF EACH OTHER.
15. INCREASE ALL BRANCH CIRCUIT CONDUCTORS TO THE NEXT LARGER SIZE FROM THE PANEL TO THE FIRST OUTLET WHERE THE LENGTH OF THE HOMERUN EXCEEDS 100FT. ON 120/208V CIRCUITS.
16. PROVIDE A PULLWIRE OR FISHTAPE/CORD IN ALL EMPTY CONDUIT RUNS.
17. VERIFY WIRE SIZES, CIRCUIT BREAKERS AND FUSES RATINGS FOR ALL EQUIPMENT, AND NOTIFY THE ENGINEER OF ANY DISCREPANCIES AFFECTING THE WORK PRIOR TO PROCEEDING.
18. ALL PANELS IMPACTED BY THIS PROJECT SHALL BE PROVIDED WITH NEW, UPDATED TYPEWRITTEN PANEL SCHEDULES (FOR NEW AND EXISTING CIRCUITS) INDICATING THE FINAL ROOM NUMBER AND THE EQUIPMENT OR DEVICES SERVED BY THE CIRCUITS.
19. DEMOLITION OF EXISTING WORK SHALL BE PERFORMED AFTER HOURS. ELECTRICAL CONTRACTOR SHALL COORDINATE WITH THE WMATA PROJECT MANAGER PRIOR TO PERFORMING ALL THE WORK. THE TIME OF DAY OR EVENING SHALL BE DESIGNATED BY THE WMATA PROJECT MANAGER.
20. ALL WIRING SHALL BE IN CONDUIT, MINIMUM SIZE 3/4 INCH WITH LARGER SIZES AS INDICATED OR REQUIRED BY NEC. ALL CONDUITS SHALL BE RIGID GALVANIZED STEEL THREADED COUPLING FOR COMPLETE WATER PROOF INSTALLATION.
21. AT JOB COMPLETION, AND BEFORE FINAL ACCEPTANCE BY WMATA, TEST EACH RECEPTACLE AND PANELBOARD FOR PROPER OPERATION. WIRING SHALL BE TESTED FOR CONTINUITY, SHORTS, ETC... ALL WORK AREAS, ETC.. SHALL BE CLEANED AT THE COMPLETION OF THIS PROJECT.
22. FOR DEVICE IDENTIFICATION, THE ELECTRICAL CONTRACTOR SHALL LABEL ALL PANELBOARDS, JUNCTION BOXES, ETC..TO INDICATE THE NAME, VOLTAGE, SERVING EQUIPMENT AND ITEM SERVED ETC... LABELS FOR EMERGENCY CIRCUITS SHALL BE IN RED, NORMAL CIRCUITS SHALL BE IN BLACK. ALL DEVICES SHALL BE IDENTIFIED EITHER ON THE FACE OF THE COVERPLATE OR INSIDE PER WMATA PREFERENCE. ALL JUNCTION BOXES SHALL BE LABELED TO INDICATE THE CIRCUITS CONTAINED BY THE JUNCTION BOX.
23. THE CONTRACTOR SHALL UPDATE THE SCHEDULES OF ALL PANELBOARDS AFFECTED BY THIS PROJECT TO REFLECT CHANGES DUE TO THE PROJECT WORK. PANEL SCHEDULE LOAD DESCRIPTIONS ARE TO INCLUDE THE FINAL ROOM OR AREA NUMBERS.
24. INCLUDE GPR FOR ANY CORE DRILLS OR DRILLED PENETRATIONS IN ANY WALLS.
25. SEAL OFF ALL PENETRATIONS THRU WALLS/FLOORS.
26. THE CONTRACTOR SHALL BECOME FAMILIAR WITH WMATA DESIGN CRITERIA SECTION 4 AND SECTION 13; WMATA SPECIFICATION SECTION 16120, 16130, AND 16125. ALL INSTALLATION SHALL BE IN COMPLIANCE WITH THE NEC, WMATA DESIGN CRITERIA, AND SPECIFICATIONS.
27. THE CONTRACTOR SHALL IDENTIFY SPARE CIRCUIT WITH "RESERVED FOR AFC".
28. EXISTING SWITCHBOARDS, PANELBOARDS AND EQUIPMENT SHOWN IS BASED ON RECORD DRAWINGS AND CASUAL FIELD SURVEY. CONTRACTOR SHALL VERIFY ALL ELECTRICAL EQUIPMENT IN FIELD.

ABBREVIATIONS

A, AMP	AMPERES
AC	ALTERNATING CURRENT
AF	AMPERE FRAME
AFC	AUTOMATED FARE COLLECTION SYSTEM
AFF	ABOVE FINISHED FLOOR
AIC	AMPERE INTERRUPTING CAPACITY
AT	AMPERE TRIP
BKR	BREAKER
C	CONDUIT
CB	CIRCUIT BREAKER
CCT	CIRCUIT
℄	CENTER LINE
CLG	CEILING
CONST	CONSTRUCTION
DISC	DISCONNECT
E	ELECTRICAL
GND	GROUND
JB	JUNCTION BOX
KAIC	THOUSAND AMPERE INTERRUPTING CAPACITY
KCMIL	THOUSAND CIRCULAR MILL
KVA	KILOVOLT AMPERE
MAX	MAXIMUM
MCA	MINIMUM CIRCUIT AMPERE
MCB	MAIN CIRCUIT BREAKER
MEZZ	MEZZANINE
MIN	MINIMUM
MLO	MAIN LUGS ONLY
NEC	NATIONAL ELECTRIC CODE
P	POLE
PH	PHASE
PNL	PANELBOARD
PRI	PRIMARY
PROP	PROPOSED
RGS	RIGID GALVANIZED STEEL
SEC	SECONDARY
SHT	SHEET
SW	SWITCH
SWBD	SWITCHBOARD
TYP	TYPICAL
U/G	UNDER GROUND
U.L.	UNDERWRITERS LABORATORIES
UON	UNLESS OTHERWISE NOTED
VOLT	VOLTAGE
W	WATT
WMATA	WASHINGTON METROPOLITIAN AREA TRANSIT AUTHORITY
WP	WEATHERPROOF

DRAWING INDEX

ELECTRICAL SYMBOL LIST

- QUADRUPLEX RECEPTACLE OUTLET– 20A, 125V WALL MOUNTED.
- J — JUNCTION BOX – SURFACE MOUNTED ON UNISTRUT CHANNEL
- CONDUIT – CONCEALED IN UNDER FLOOR DUCT U.O.N.
- #10–3/4 EF 3,5 — HOMERUN TO PANEL, NUMBER OF ARROWHEADS INDICATES NUMBER OF CIRCUITS. CROSS HATCHING INDICATES NUMBER OF CONDUCTORS, NUMBER INDICATES SIZE OF CONDUCTOR AND SIZE OF CONDUIT
  - ↓ – INDICATES GROUNDING WIRE TO GROUNDING BUS AT THE PANELBOARD
  - EF 1,3 – INDICATES CIRCUIT HOME RUN PANELBOARD AND CIRCUIT NUMBER IDENTIFICATION

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APPROVED _____

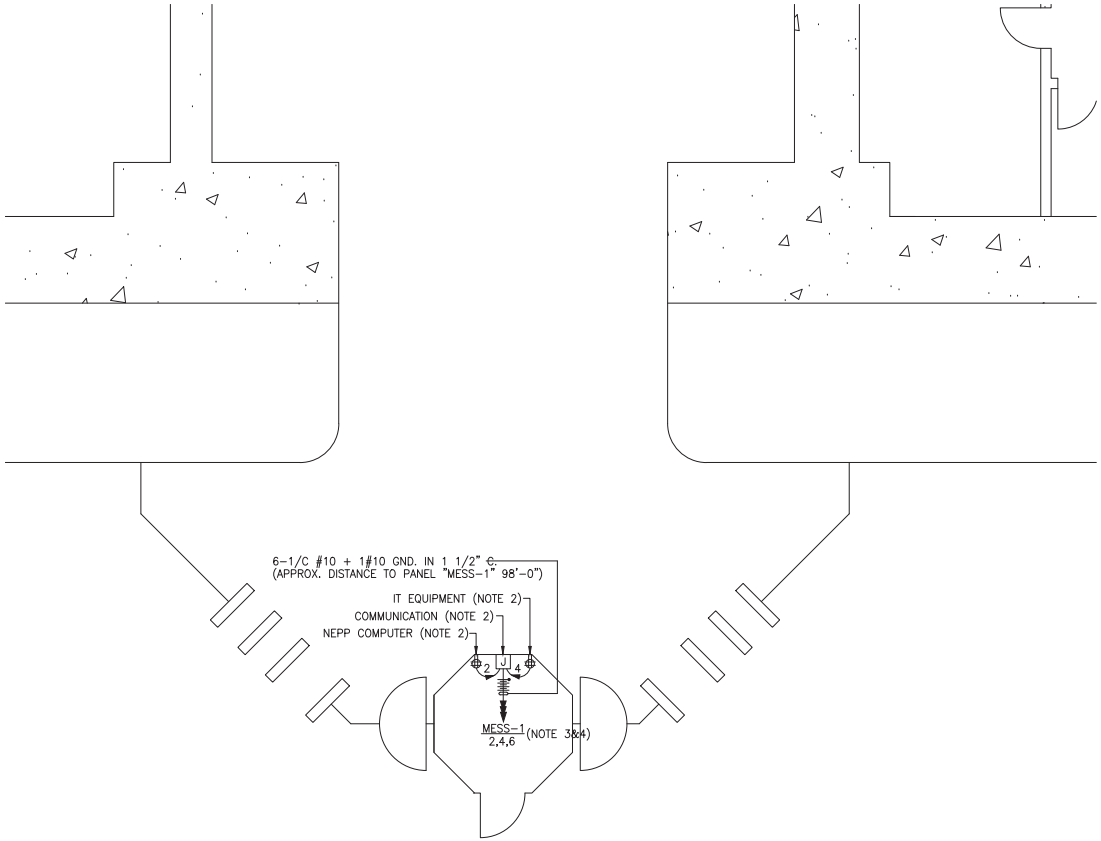
GFP A Gannett Fleming/Parsons JOINT VENTURE

SUBMITTED _____ PROJECT MANAGER

NEW ELECTRONIC PAY PROGRAM (NEPP) IN METRORAIL STATIONS
ABBREVIATIONS, DRAWING INDEX, SPECIFICATIONS & SYMBOL LIST

SCALE NOT TO SCALE

DRAWING NO. F04-E-001



MEZZANINE KIOSK - POWER

SCALE: 1/4" = 1'- 0"

DRAWING NOTES:

1. CONTRACTOR TO REFER TO SUPPLEMENTAL MEZZANINE INSPECTION REPORT, VOLUME 4 FURNISHED UNDER THIS SOLICITATION PACKAGE TO BE INFORMED THAT THE TOTAL LENGTH OF THE MULTI WIRE BRANCH CIRCUIT DEPICTED IN THE ELCTRICAL PLAN MAY EITHER CONSIST OF EXISTING POWER UNDER FLOOR DUCTS; OR IT COULD BE ALL CONDUIT RUN USING RIGID GALVANIZED STEEL CONDUITS; OR A COMBINATION OF BOTH WHICH IS RIGID GALVANIZED STEEL CONDUITS AND FLOOR DUCTS AND/OR JUST USE OF POWER FLOOR DUCT OR AS REQUIRED IN THE REPORT.
2. COORDINATE WITH WMATA WHERE EXACTLY THE DUPLEX RECEPTACLE OUTLET AND JUNCTION BOX WILL BE INSTALLED IN THE KIOSK.
3. PROVIDE 3-NEW 20A, 1P CIRCUIT BREAKER AT EXISTING PANELBOARD AVAILABLE CIRCUIT BREAKER SPACES. NEW CIRCUIT BREAKERS SHALL MATCH EXISTING PANELBOARD CIRCUIT BREAKER AIC RATING. TERMINATE 2-NEW BRANCH CIRCUITS TO NEWLY INSTALLED CIRCUIT BREAKERS AND CONNECT PERMANENTLY TO QUAD RECEPTACLE OUTLETS LOCATED IN THE KIOSK. KEEP AND COILED REMAINING BRANCH CIRCUIT IN THE PANELBOARD AND INSIDE THE JUNCTION BOX AT THE KIOSK FOR FUTURE USE. UPDATE PANELBOARD DIRECTORY TO MANIFEST PANELBOARD ADDITIONAL LOADS.
4. THE REMAINING BRANCH CIRCUIT FOR FUTURE AFC FARE GATE APPLICATION SHALL BE SECURED, LABELED AND COILED AT THE KIOSK. THE LENGTH OF COILED PIGTAIL SHALL BE THE FARTHEST FARE GATE DISTANCE FROM KIOSK PLUS AN EXTRA 6'-0" CONDUCTOR.

SAFETY PRECAUTION:

1. ALL WORK SHALL COMPLY WITH WMATA SAFETY RULES, AND DE-ENERGIZATION POLICIES.

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14-FQ10060-CENI-24

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NEW ELECTRONIC PAY PROGRAM (NEPP) IN METRORAIL STATIONS

WATERFRONT

MEZZANINE KIOSK - POWER

SCALE: AS SHOWN

DRAWING NO.: F04-E-101

EXISTING PANEL "MESS-1"

AMPERES: 250	VOLTS: 120/208	MOUNTING: SURFACE
MAINS: 250A MCB	PHASE: 3	LOCATION: MECH. EQUIPMENT ROOM C206
RATING: 10K AIC	WIRE: 4	SECTION: 1 OF 1

		CKT BKRS		CKT.		CKT.	CKT BKRS			
LOAD DESCRIPTION	KVA	AMP	POLE	NO.		NO.	POLE	AMP	KVA	LOAD DESCRIPTION
EXISTING VENDOR	0.8	20	1	1	A - -	2	1	20	**0.8**	**NEW KIOSK RECEPT. (IT/NCS)**
EXISTING VENDOR	0.8	20	1	3	- B -	4	1	20	**0.8**	**NEW KIOSK RECEPT. (NEPP/SOC)**
EXISTING VENDOR	0.8	20	1	5	- - C	6	1	20	0.0	**FUTURE AFC FARE GATE**
EXISTING VENDOR	0.8	20	1	7	A - -	8	1	20	0.8	EXISTING VENDOR
SPARE	0.0	20	1	9	- B -	10	1	20	0.8	EXISTING VENDOR
EXISTING VENDOR	0.8	20	1	11	- - C	12	1	20	0.8	EXISTING VENDOR
EXISTING VENDOR	0.8	20	1	13	A - -	14	1	20	0.0	SPARE
EXISTING VENDOR	0.8	20	1	15	- B -	16	1	20	0.0	SPARE
SPARE	0.0	20	1	17	- - C	18	1	20	0.0	SPARE
SPARE	0.0	20	1	19	A - -	20	1	20	0.0	SPARE
SPARE	0.0	20	1	21	- B -	22	1	20	0.8	EXISTING VENDOR
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SPARE	0.0	20	1	25	A - -	26	1	20	0.8	EXISTING VENDOR
SPARE	0.0	20	1	27	- B -	28	1	20	0.8	EXISTING VENDOR
SPARE	0.0	20	1	29	- - C	30	1	20	0.8	EXISTING VENDOR
SPARE	0.0	20	1	31	A - -	32	1	20	0.8	EXISTING VENDOR
SPARE	0.0	20	1	33	- B -	34	1	20	0.8	EXISTING VENDOR
EXIST. LOAD CENTER "KES"	2.9	30	3	35	- - C	36	1	20	0.8	EXISTING VENDOR
	2.5	-	-	37	A - -	38	-	-	0.0	SPACE
	2.5	-	-	39	- B -	40	-	-	0.0	SPACE
SPACE	0.0	-	-	41	- - C	42	-	-	0.0	SPACE

LOAD SUMMARY

LIGHTS	0.0 x 125%		0.0 KVA
RECEPTACLES, FIRST 10 KVA	10.0 x 100%		10.0 KVA
RECEPTACLES	7.2 x 50%		3.6 KVA
MISC. APPLIANCES	0.0 x 100%		0.0 KVA
LARGEST MOTOR	0.0 x 125%		0.0 KVA
MOTORS	0.0 x 100%		0.0 KVA
HEAT	3.0 x 125%		3.8 KVA
AC	4.5 x 100%		4.5 KVA
WATER HEATING	0.0 x 125%		0.0 KVA
TOTAL CONNECTED LOAD	**24.7 KVA**	**TOTAL DEMAND KVA**	**21.9 KVA**
		TOTAL DEMAND AMPS	**60.7 AMPS**
CONNECTED LOAD PHASE SUMMARY			
PHASE A:	**8.1 KVA**		
PHASE B:	**8.1 KVA**		
PHASE C:	**8.5 KVA**		

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SUBMITTED
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NEW ELECTRONIC PAY PROGRAM (NEPP) IN METRORAIL STATIONS
WATERFRONT
PANEL SCHEDULE

SCALE NOT TO SCALE

DRAWING NO. F04-E-102

50

ELECTRICAL SPECIFICATIONS

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12. IF, DURING THE COURSE OF THE WORK, THE CONTRACTOR EXPERIENCES A CONFLICT RELATIVE TO THE PLANS AND SPECIFICATIONS, THE NEC OR OTHER APPLICABLE CODES AND GOVERNING DOCUMENTS, HE SHALL NOTIFY THE ENGINEER FOR DIRECTION PRIOR TO EXECUTION OF THIS WORK. ANY WORK INSTALLED IN VIOLATION OF THE CONTRACT DOCUMENT OR APPLICABLE CODES WHICH COULD HAVE BEEN AVOIDED BY CONTACTING THE ENGINEER SHALL BE RECTIFIED AT NO ADDITIONAL COST.
13. ELECTRICAL PLANS ARE DIAGRAMMATIC & INDICATE GENERAL ARRANGEMENT OF SYSTEMS AND WORK. CHECK DRAWINGS OF OTHER TRADES TO VERIFY SPACE CONDITIONS, ETC. MAINTAIN WORKING CLEARANCES.
14. CIRCUIT NUMBERS ARE FOR IDENTIFICATION PURPOSES ONLY. THE CONTRACTOR IS RESPONSIBLE FOR CORRECTLY PHASING THE CIRCUITS IN THE PANEL AND SHALL BALANCE THE LOAD ON THE PHASES UNDER NORMAL OPERATING CONDITIONS. PROVIDE TYPEWRITTEN PANELBOARD DIRECTORIES. BALANCE THE PHASE LOADS TO WITHIN 20 PERCENT OF EACH OTHER.
15. INCREASE ALL BRANCH CIRCUIT CONDUCTORS TO THE NEXT LARGER SIZE FROM THE PANEL TO THE FIRST OUTLET WHERE THE LENGTH OF THE HOMERUN EXCEEDS 100FT. ON 120/208V CIRCUITS.
16. PROVIDE A PULLWIRE OR FISHTAPE/CORD IN ALL EMPTY CONDUIT RUNS.
17. VERIFY WIRE SIZES, CIRCUIT BREAKERS AND FUSES RATINGS FOR ALL EQUIPMENT, AND NOTIFY THE ENGINEER OF ANY DISCREPANCIES AFFECTING THE WORK PRIOR TO PROCEEDING.
18. ALL PANELS IMPACTED BY THIS PROJECT SHALL BE PROVIDED WITH NEW, UPDATED TYPEWRITTEN PANEL SCHEDULES (FOR NEW AND EXISTING CIRCUITS) INDICATING THE FINAL ROOM NUMBER AND THE EQUIPMENT OR DEVICES SERVED BY THE CIRCUITS.
19. DEMOLITION OF EXISTING WORK SHALL BE PERFORMED AFTER HOURS. ELECTRICAL CONTRACTOR SHALL COORDINATE WITH THE WMATA PROJECT MANAGER PRIOR TO PERFORMING ALL THE WORK. THE TIME OF DAY OR EVENING SHALL BE DESIGNATED BY THE WMATA PROJECT MANAGER.
20. ALL WIRING SHALL BE IN CONDUIT, MINIMUM SIZE 3/4 INCH WITH LARGER SIZES AS INDICATED OR REQUIRED BY NEC. ALL CONDUITS SHALL BE RIGID GALVANIZED STEEL THREADED COUPLING FOR COMPLETE WATER PROOF INSTALLATION.
21. AT JOB COMPLETION, AND BEFORE FINAL ACCEPTANCE BY WMATA, TEST EACH RECEPTACLE AND PANELBOARD FOR PROPER OPERATION. WIRING SHALL BE TESTED FOR CONTINUITY, SHORTS, ETC... ALL WORK AREAS, ETC.. SHALL BE CLEANED AT THE COMPLETION OF THIS PROJECT.
22. FOR DEVICE IDENTIFICATION, THE ELECTRICAL CONTRACTOR SHALL LABEL ALL PANELBOARDS, JUNCTION BOXES, ETC..TO INDICATE THE NAME, VOLTAGE, SERVING EQUIPMENT AND ITEM SERVED ETC... LABELS FOR EMERGENCY CIRCUITS SHALL BE IN RED, NORMAL CIRCUITS SHALL BE IN BLACK. ALL DEVICES SHALL BE IDENTIFIED EITHER ON THE FACE OF THE COVERPLATE OR INSIDE PER WMATA PREFERENCE. ALL JUNCTION BOXES SHALL BE LABELED TO INDICATE THE CIRCUITS CONTAINED BY THE JUNCTION BOX.
23. THE CONTRACTOR SHALL UPDATE THE SCHEDULES OF ALL PANELBOARDS AFFECTED BY THIS PROJECT TO REFLECT CHANGES DUE TO THE PROJECT WORK. PANEL SCHEDULE LOAD DESCRIPTIONS ARE TO INCLUDE THE FINAL ROOM OR AREA NUMBERS.
24. INCLUDE GPR FOR ANY CORE DRILLS OR DRILLED PENETRATIONS IN ANY WALLS.
25. SEAL OFF ALL PENETRATIONS THRU WALLS/FLOORS.
26. THE CONTRACTOR SHALL BECOME FAMILIAR WITH WMATA DESIGN CRITERIA SECTION 4 AND SECTION 13; WMATA SPECIFICATION SECTION 16120, 16130, AND 16125. ALL INSTALLATION SHALL BE IN COMPLIANCE WITH THE NEC, WMATA DESIGN CRITERIA, AND SPECIFICATIONS.
27. THE CONTRACTOR SHALL IDENTIFY SPARE CIRCUIT WITH "RESERVED FOR AFC".
28. EXISTING SWITCHBOARDS, PANELBOARDS AND EQUIPMENT SHOWN IS BASED ON RECORD DRAWINGS AND CASUAL FIELD SURVEY. CONTRACTOR SHALL VERIFY ALL ELECTRICAL EQUIPMENT IN FIELD.

ABBREVIATIONS

A, AMP	AMPERES
AC	ALTERNATING CURRENT
AF	AMPERE FRAME
AFC	AUTOMATED FARE COLLECTION SYSTEM
AFF	ABOVE FINISHED FLOOR
AIC	AMPERE INTERRUPTING CAPACITY
AT	AMPERE TRIP
BKR	BREAKER
C	CONDUIT
CB	CIRCUIT BREAKER
CCT	CIRCUIT
℄	CENTER LINE
CLG	CEILING
CONST	CONSTRUCTION
DISC	DISCONNECT
E	ELECTRICAL
GND	GROUND
JB	JUNCTION BOX
KAIC	THOUSAND AMPERE INTERRUPTING CAPACITY
KCMIL	THOUSAND CIRCULAR MILL
KVA	KILOVOLT AMPERE
MAX	MAXIMUM
MCA	MINIMUM CIRCUIT AMPERE
MCB	MAIN CIRCUIT BREAKER
MEZZ	MEZZANINE
MIN	MINIMUM
MLO	MAIN LUGS ONLY
NEC	NATIONAL ELECTRIC CODE
P	POLE
PH	PHASE
PNL	PANELBOARD
PRI	PRIMARY
PROP	PROPOSED
RGS	RIGID GALVANIZED STEEL
SEC	SECONDARY
SHT	SHEET
SW	SWITCH
SWBD	SWITCHBOARD
TYP	TYPICAL
U/G	UNDER GROUND
U.L.	UNDERWRITERS LABORATORIES
UON	UNLESS OTHERWISE NOTED
VOLT	VOLTAGE
W	WATT
WMATA	WASHINGTON METROPOLITIAN AREA TRANSIT AUTHORITY
WP	WEATHERPROOF

DRAWING INDEX

ELECTRICAL SYMBOL LIST

- QUADRUPLEX RECEPTACLE OUTLET– 20A, 125V WALL MOUNTED.
- J — JUNCTION BOX – SURFACE MOUNTED ON UNISTRUT CHANNEL
- CONDUIT – CONCEALED IN UNDER FLOOR DUCT U.O.N.
- #10–3/4 — HOMERUN TO PANEL, NUMBER OF ARROWHEADS INDICATES NUMBER OF CIRCUITS. CROSS HATCHING INDICATES NUMBER OF CONDUCTORS, NUMBER INDICATES SIZE OF CONDUCTOR AND SIZE OF CONDUIT
  - EF 3,5
  - I – INDICATES GROUNDING WIRE TO GROUNDING BUS AT THE PANELBOARD
  - EF 1,3 – INDICATES CIRCUIT HOME RUN PANELBOARD AND CIRCUIT NUMBER IDENTIFICATION

CONTRACT NO. 14-FQ10060-CENI-24

DESIGNED C. NGO 08–14 DATE
DRAWN C. NGO 08–14 DATE
CHECKED B. IDILBI 08–14 DATE
APPROVED N/A DATE

REFERENCE DRAWINGS

NUMBER	DESCRIPTION

REVISIONS

DATE	BY	DESCRIPTION

WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY

DEPARTMENT OF TRANSIT INFRASTRUCTURE AND ENGINEERING SERVICES
OFFICE OF INFRASTRUCTURE RENEWAL PROGRAM

APPROVED _____

GFP A Gannett Fleming/Parsons JOINT VENTURE

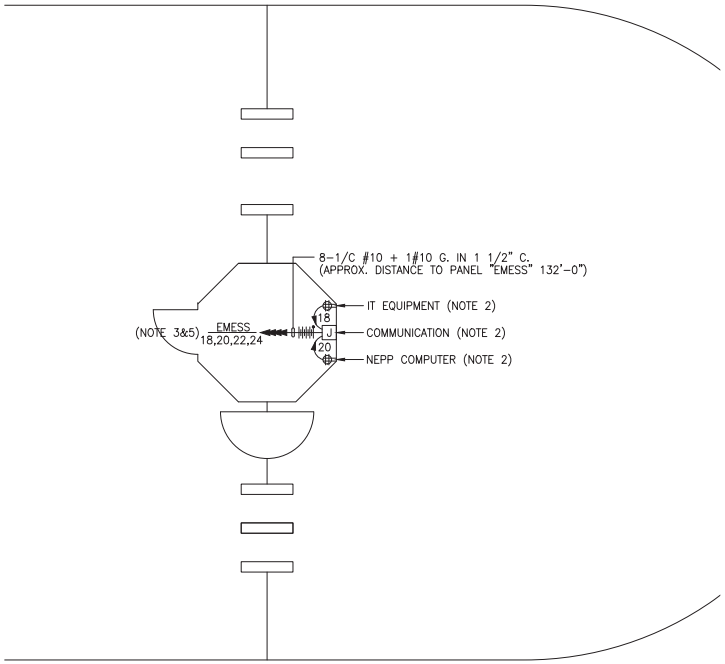
SUBMITTED _____ PROJECT MANAGER

NEW ELECTRONIC PAY PROGRAM (NEPP) IN METRORAIL STATIONS

ABBREVIATIONS, DRAWING INDEX, SPECIFICATIONS & SYMBOL LIST

SCALE NOT TO SCALE

DRAWING NO. F05-E-001



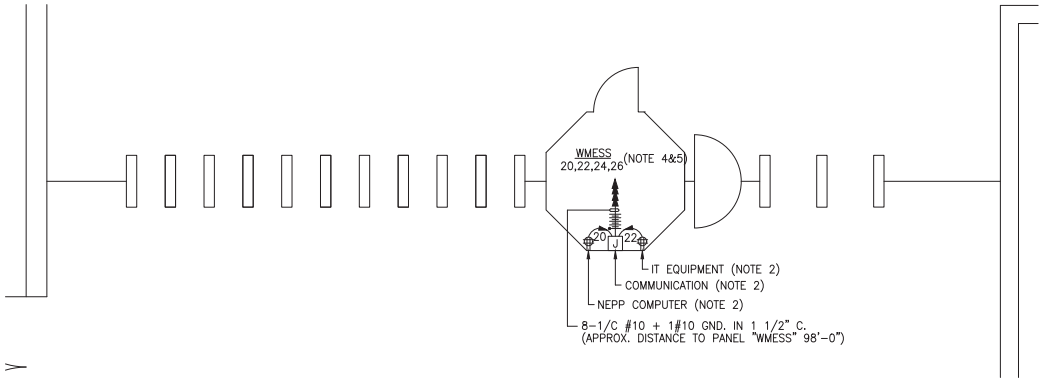
MEZZANINE KIOSK (EAST) - POWER
SCALE: 1/4" = 1'- 0"

DRAWING NOTES:

1. CONTRACTOR TO REFER TO SUPPLEMENTAL MEZZANINE INSPECTION REPORT, VOLUME 4 FURNISHED UNDER THIS SOLICITATION PACKAGE TO BE INFORMED THAT THE TOTAL LENGTH OF THE MULTI WIRE BRANCH CIRCUIT DEPICTED IN THE ELCTRICAL PLAN MAY EITHER CONSIST OF EXISTING POWER UNDER FLOOR DUCTS; OR IT COULD BE ALL CONDUIT RUN USING RIGID GALVANIZED STEEL CONDUITS; OR A COMBINATION OF BOTH WHICH IS RIGID GALVANIZED STEEL CONDUITS AND FLOOR DUCTS AND/OR JUST USE OF POWER FLOOR DUCT OR AS REQUIRED IN THE REPORT.
2. COORDINATE WITH WMATA WHERE EXACTLY THE DUPLEX RECEPTACLE OUTLET AND JUNCTION BOX WILL BE INSTALLED IN THE KIOSK.
3. PROVIDE 3-NEW 20A, 1P CIRCUIT BREAKER AT EXISTING PANELBOARD AVAILABLE CIRCUIT BREAKER SPACES. NEW CIRCUIT BREAKERS SHALL MATCH EXISTING PANELBOARD CIRCUIT BREAKER AIC RATING. TERMINATE 2-NEW BRANCH CIRCUITS TO NEWLY INSTALLED CIRCUIT BREAKERS AND CONNECT PERMANENTLY TO QUAD RECEPTACLE OUTLETS LOCATED IN THE KIOSK. KEEP AND COILED REMAINING BRANCH CIRCUIT IN THE PANELBOARD AND INSIDE THE JUNCTION BOX AT THE KIOSK FOR FUTURE USE. UPDATE PANELBOARD DIRECTORY TO MANIFEST PANELBOARD ADDITIONAL LOADS.
4. THE REMAINING BRANCH CIRCUIT FOR FUTURE AFC FARE GATE APPLICATION SHALL BE SECURED, LABELED AND COILED AT THE KIOSK. THE LENGTH OF COILED PIGTAIL SHALL BE THE FARTHEST FARE GATE DISTANCE FROM KIOSK PLUS AN EXTRA 6'-0" CONDUCTOR.

SAFETY PRECAUTION:

1. ALL WORK SHALL COMPLY WITH WMATA SAFETY RULES, AND DE-ENERGIZATION POLICIES.



KIOSK (WEST) - POWER
SCALE: 1/4" = 1'- 0"

CONTRACT NO.
14-FQ10060-CENI-24

DESIGNED	C. NGO	08-14 DATE
DRAWN	C. NGO	08-14 DATE
CHECKED	B. IDILBI	08-14 DATE
APPROVED	N/A	DATE

REFERENCE DRAWINGS	
NUMBER	DESCRIPTION

REVISIONS		
DATE	BY	DESCRIPTION

WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY
DEPARTMENT OF TRANSIT INFRASTRUCTURE AND ENGINEERING SERVICES
OFFICE OF INFRASTRUCTURE RENEWAL PROGRAM
APPROVED

GFP A Gannett Fleming/Parsons JOINT VENTURE
SUBMITTED
PROJECT MANAGER

NEW ELECTRONIC PAY PROGRAM (NEPP) IN METRORAIL STATIONS
NAVY YARD - EAST & WEST
MEZZANINE KIOSK - POWER

SCALE: AS SHOWN
DRAWING NO.: F05-E-101

EXISTING PANEL "EMESS" (East)

AMPERES: 150	VOLTS: 120/208	MOUNTING: SURFACE
MAINS: 150A MCB	PHASE: 3	LOCATION: ELEC. EQUIPMENT ROOM 204
RATING: 10K AIC	WIRE: 4	SECTION: 1 OF 1

		CKT BKRS		CKT.		CKT.	CKT BKRS			
LOAD DESCRIPTION	KVA	AMP	POLE	NO.		NO.	POLE	AMP	KVA	LOAD DESCRIPTION
EXISTING VENDOR	0.8	20	1	1	A - -	2	1	20	0.8	EXISTING VENDOR
EXISTING VENDOR	0.8	20	1	3	- B -	4	1	20	0.8	EXISTING VENDOR
EXISTING VENDOR	0.8	20	1	5	- - C	6	1	20	0.8	EXISTING VENDOR
EXISTING VENDOR	0.8	20	1	7	A - -	8	1	20	0.8	EXISTING VENDOR
EXISTING VENDOR	0.8	20	1	9	- B -	10	1	20	0.8	EXISTING VENDOR
EXISTING VENDOR	0.8	20	1	11	- - C	12	1	20	0.8	EXISTING VENDOR
EXISTING VENDOR	0.8	20	1	13	A - -	14	1	20	0.8	EXISTING VENDOR
EXISTING VENDOR	0.8	20	1	15	- B -	16	1	20	0.8	EXISTING VENDOR
SPARE	0.0	20	1	17	- - C	18	1	20	**0.8**	**NEW KIOSK RECEPT. (IT/NCS)**
SPARE	0.0	20	1	19	A - -	20	1	20	**0.8**	**NEW KIOSK RECEPT. (NEPP/SOC)**
EXISTING VENDOR	0.8	20	1	21	- B -	22	1	20	**0.0**	**FUTURE AFC FARE GATE**
EXISTING VENDOR	0.8	20	1	23	- - C	24	1	20	**0.0**	**SPARE (KIOSK)**
EXISTING VENDOR	0.8	20	1	25	A - -	26	1	20	0.0	SPARE
EXISTING VENDOR	0.8	20	1	27	- B -	28	1	20	0.0	SPARE
EXISTING VENDOR	0.8	20	1	29	- - C	30	1	20	0.0	SPARE
SPARE	0.0	20	1	31	A - -	32	1	20	0.0	SPARE
SPARE	0.0	20	1	33	- B -	34	1	20	0.0	SPARE
SPARE	0.0	20	1	35	- - C	36	1	20	0.0	SPARE
SPARE	0.0	20	1	37	A - -	38	3	30	2.9	EXIST. LOAD CENTER "KES"
SPARE	0.0	20	1	39	- B -	40	-	-	2.5	
SPARE	0.0	20	1	41	- - C	42	-	-	2.5	

LOAD SUMMARY

LIGHTS	0.0 x 125%		0.0 KVA
RECEPTACLES, FIRST 10 KVA	10.0 x 100%		10.0 KVA
RECEPTACLES	8.8 x 50%		4.4 KVA
MISC. APPLIANCES	0.0 x 100%		0.0 KVA
LARGEST MOTOR	0.0 x 125%		0.0 KVA
MOTORS	0.0 x 100%		0.0 KVA
HEAT	3.0 x 125%		3.8 KVA
AC	4.5 x 100%		4.5 KVA
WATER HEATING	0.0 x 125%		0.0 KVA
TOTAL CONNECTED LOAD	**26.3 KVA**	**TOTAL DEMAND KVA**	**22.7 KVA**
		TOTAL DEMAND AMPS	**62.9 AMPS**
CONNECTED LOAD PHASE SUMMARY			
PHASE A:	**9.3 KVA**		
PHASE B:	**8.9 KVA**		
PHASE C:	**8.1 KVA**		

EXISTING PANEL "WMESS" (West)

AMPERES: 225	VOLTS: 120/208	MOUNTING: SURFACE
MAINS: 225A MCB	PHASE: 3	LOCATION: ELEC. ROOM 401
RATING: 10K AIC	WIRE: 4	SECTION: 1 OF 1

		CKT BKRS		CKT.		CKT.	CKT BKRS			
LOAD DESCRIPTION	KVA	AMP	POLE	NO.		NO.	POLE	AMP	KVA	LOAD DESCRIPTION
EXISTING VENDOR	0.8	20	1	1	A - -	2	1	20	0.8	EXISTING VENDOR
EXISTING VENDOR	0.8	20	1	3	- B -	4	1	20	0.8	EXISTING VENDOR
EXISTING VENDOR	0.8	20	1	5	- - C	6	1	20	0.8	EXISTING VENDOR
EXISTING VENDOR	0.8	20	1	7	A - -	8	1	20	0.8	EXISTING VENDOR
EXISTING VENDOR	0.8	20	1	9	- B -	10	1	20	0.8	EXISTING VENDOR
EXISTING VENDOR	0.8	20	1	11	- - C	12	1	20	0.8	EXISTING VENDOR
EXISTING VENDOR	0.8	20	1	13	A - -	14	1	20	0.8	EXISTING VENDOR
EXISTING VENDOR	0.8	20	1	15	- B -	16	1	20	0.8	EXISTING VENDOR
EXISTING VENDOR	0.8	20	1	17	- - C	18	1	20	0.8	EXISTING VENDOR
EXISTING VENDOR	0.8	20	1	19	A - -	20	1	20	**0.8**	**NEW KIOSK RECEPT. (IT/NCS)**
EXISTING VENDOR	0.8	20	1	21	- B -	22	1	20	**0.8**	**NEW KIOSK RECEPT. (NEPP/SOC)**
EXISTING VENDOR	0.8	20	1	23	- - C	24	1	20	0.0	**FUTURE AFC FARE GATE**
EXISTING VENDOR	0.8	20	1	25	A - -	26	1	20	**0.0**	**SPARE (KIOSK)**
EXISTING VENDOR	0.8	20	1	27	- B -	28	1	20	0.8	EXISTING VENDOR
EXISTING VENDOR	0.8	20	1	29	- - C	30	1	20	0.8	EXISTING VENDOR
EXISTING VENDOR	0.8	20	1	31	A - -	32	1	20	0.8	EXISTING VENDOR
EXISTING VENDOR	0.8	20	1	33	- B -	34	1	20	0.8	EXISTING VENDOR
EXISTING VENDOR	0.8	20	1	35	- - C	36	1	20	0.0	SPARE
EXISTING VENDOR	0.8	20	1	37	A - -	38	3	40	2.9	EXIST. LOAD CENTER "KES"
EXISTING VENDOR	0.8	20	1	39	- B -	40	-	-	2.5	
SPACE	0.0	-	-	41	- - C	42	-	-	2.5	

LOAD SUMMARY

LIGHTS	0.0 x 125%		0.0 KVA
RECEPTACLES, FIRST 10 KVA	10.0 x 100%		10.0 KVA
RECEPTACLES	19.2 x 50%		9.6 KVA
MISC. APPLIANCES	0.0 x 100%		0.0 KVA
LARGEST MOTOR	0.0 x 125%		0.0 KVA
MOTORS	0.0 x 100%		0.0 KVA
HEAT	3.0 x 125%		3.8 KVA
AC	4.5 x 100%		4.5 KVA
WATER HEATING	0.0 x 125%		0.0 KVA
TOTAL CONNECTED LOAD	**36.7 KVA**	**TOTAL DEMAND KVA**	**27.9 KVA**
		TOTAL DEMAND AMPS	**77.4 AMPS**
CONNECTED LOAD PHASE SUMMARY			
PHASE A:	**12.5 KVA**		
PHASE B:	**12.9 KVA**		
PHASE C:	**10.5 KVA**		

CONTRACT NO. 14-FQ10060-CENI-24

DESIGNED C. NGO 08-14 DATE
DRAWN C. NGO 08-14 DATE
CHECKED B. IDILBI 08-14 DATE
APPROVED N/A DATE

REFERENCE DRAWINGS

NUMBER	DESCRIPTION

REVISIONS

DATE	BY	DESCRIPTION

WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY

DEPARTMENT OF TRANSIT INFRASTRUCTURE AND ENGINEERING SERVICES
OFFICE OF INFRASTRUCTURE RENEWAL PROGRAM

APPROVED

GFP A Gannett Fleming/Parsons JOINT VENTURE

SUBMITTED PROJECT MANAGER

NEW ELECTRONIC PAY PROGRAM (NEPP) IN METRORAIL STATIONS
NAVY YARD - EAST & WEST
PANEL SCHEDULES

SCALE: NOT TO SCALE

DRAWING NO. F05-E-102

ELECTRICAL SPECIFICATIONS

1. ALL WORK, MATERIAL AND EQUIPMENT SHALL COMPLY WITH THE LATEST NATIONAL ELECTRICAL CODE BEING USED BY THE LOCAL JURISDICTION AND SHALL COMPLY WITH ALL LOCAL CODES AND ORDINANCES.
2. MATERIALS AND EQUIPMENT SHALL BE NEW EXCEPT WHERE INDICATED OTHERWISE. ALL OTHER WIRING DEVICES, CONDUIT, WIRE, ETC. SHALL BE NEW UNLESS NOTED OTHERWISE.
3. ALL MATERIALS AND EQUIPMENT SHALL BEAR U.L. LISTING.
4. MAINTAIN GROUNDING CONTINUITY TO ALL DEVICES AND EQUIPMENT IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE.
5. WORK NOT SPECIFICALLY SPECIFIED OR INDICATED SHALL CONFORM WITH SPECIFICATIONS.
6. ALL CONDUITS SHALL BE RUN CONCEALED IN UNDER FLOOR DUCT.
7. ALL WIRE AND CABLE SHALL BE COPPER HAVING 600 VOLTS XHHW-2 OR RHW-2 INSULATIONS. PROVIDE #12 WIRE MINIMUM, UNLESS OTHERWISE NOTED. ALL CABLES SHALL BE LOW SMOKE ZERO HALOGEN CABLE.
8. THE CONTRACTOR SHALL VISIT THE SITE AND EXAMINE THE CONDITION OF THE PREMISES AND THE CHARACTER AND EXTENT OF WORK REQUIRED PRIOR TO SUBMISSION OF BIDS.
9. OBTAIN ALL PERMITS AND PAY ALL FEES NECESSARY FOR INSPECTIONS, TESTS & OTHER SERVICES REQUIRED FOR THE COMPLETION OF THIS WORK.
10. ALL WORK SHALL BE DONE AT SUCH TIMES AND IN SUCH A MANNER THAT WILL LEAST INTERFERE WITH THE MAINTENANCE AND OPERATION OF ALL RELATED OR AFFECTED SYSTEMS. COORDINATE ALL POWER OUTAGES WITH WMATA PROJECT MANAGER.
11. IT IS THE INTENT OF THESE DRAWINGS AND OTHER RELATED DOCUMENTS TO PRODUCE A COMPLETE AND FUNCTIONING ELECTRICAL SYSTEM. PROVIDE ALL LABOR, MATERIAL AND OTHER SERVICES NECESSARY TO ACHIEVE THIS PRODUCT. NOTIFY THE ENGINEER OF ANY DISCREPANCIES IN THE PLANS & SPECIFICATIONS THAT WILL AFFECT THE WORK, PRIOR TO SUBMISSION OF THE BID PRICE.
12. IF, DURING THE COURSE OF THE WORK, THE CONTRACTOR EXPERIENCES A CONFLICT RELATIVE TO THE PLANS AND SPECIFICATIONS, THE NEC OR OTHER APPLICABLE CODES AND GOVERNING DOCUMENTS, HE SHALL NOTIFY THE ENGINEER FOR DIRECTION PRIOR TO EXECUTION OF THIS WORK. ANY WORK INSTALLED IN VIOLATION OF THE CONTRACT DOCUMENT OR APPLICABLE CODES WHICH COULD HAVE BEEN AVOIDED BY CONTACTING THE ENGINEER SHALL BE RECTIFIED AT NO ADDITIONAL COST.
13. ELECTRICAL PLANS ARE DIAGRAMMATIC & INDICATE GENERAL ARRANGEMENT OF SYSTEMS AND WORK. CHECK DRAWINGS OF OTHER TRADES TO VERIFY SPACE CONDITIONS, ETC. MAINTAIN WORKING CLEARANCES.
14. CIRCUIT NUMBERS ARE FOR IDENTIFICATION PURPOSES ONLY. THE CONTRACTOR IS RESPONSIBLE FOR CORRECTLY PHASING THE CIRCUITS IN THE PANEL AND SHALL BALANCE THE LOAD ON THE PHASES UNDER NORMAL OPERATING CONDITIONS. PROVIDE TYPEWRITTEN PANELBOARD DIRECTORIES. BALANCE THE PHASE LOADS TO WITHIN 20 PERCENT OF EACH OTHER.
15. INCREASE ALL BRANCH CIRCUIT CONDUCTORS TO THE NEXT LARGER SIZE FROM THE PANEL TO THE FIRST OUTLET WHERE THE LENGTH OF THE HOMERUN EXCEEDS 100FT. ON 120/208V CIRCUITS.
16. PROVIDE A PULLWIRE OR FISHTAPE/CORD IN ALL EMPTY CONDUIT RUNS.
17. VERIFY WIRE SIZES, CIRCUIT BREAKERS AND FUSES RATINGS FOR ALL EQUIPMENT, AND NOTIFY THE ENGINEER OF ANY DISCREPANCIES AFFECTING THE WORK PRIOR TO PROCEEDING.
18. ALL PANELS IMPACTED BY THIS PROJECT SHALL BE PROVIDED WITH NEW, UPDATED TYPEWRITTEN PANEL SCHEDULES (FOR NEW AND EXISTING CIRCUITS) INDICATING THE FINAL ROOM NUMBER AND THE EQUIPMENT OR DEVICES SERVED BY THE CIRCUITS.
19. DEMOLITION OF EXISTING WORK SHALL BE PERFORMED AFTER HOURS. ELECTRICAL CONTRACTOR SHALL COORDINATE WITH THE WMATA PROJECT MANAGER PRIOR TO PERFORMING ALL THE WORK. THE TIME OF DAY OR EVENING SHALL BE DESIGNATED BY THE WMATA PROJECT MANAGER.
20. ALL WIRING SHALL BE IN CONDUIT, MINIMUM SIZE 3/4 INCH WITH LARGER SIZES AS INDICATED OR REQUIRED BY NEC. ALL CONDUITS SHALL BE RIGID GALVANIZED STEEL W/SCREW IN COUPLING FOR COMPLETE WATER PROOF INSTALLATION.
21. AT JOB COMPLETION, AND BEFORE FINAL ACCEPTANCE BY WMATA, TEST EACH RECEPTACLE AND PANELBOARD FOR PROPER OPERATION. WIRING SHALL BE TESTED FOR CONTINUITY, SHORTS, ETC... ALL WORK AREAS, ETC.. SHALL BE CLEANED AT THE COMPLETION OF THIS PROJECT.
22. FOR DEVICE IDENTIFICATION, THE ELECTRICAL CONTRACTOR SHALL LABEL ALL PANELBOARDS, JUNCTION BOXES, ETC..TO INDICATE THE NAME, VOLTAGE, SERVING EQUIPMENT AND ITEM SERVED ETC... LABELS FOR EMERGENCY CIRCUITS SHALL BE IN RED, NORMAL CIRCUITS SHALL BE IN BLACK. ALL DEVICES SHALL BE IDENTIFIED EITHER ON THE FACE OF THE COVERPLATE OR INSIDE PER WMATA PREFERENCE. ALL JUNCTION BOXES SHALL BE LABELED TO INDICATE THE CIRCUITS CONTAINED BY THE JUNCTION BOX.
23. THE CONTRACTOR SHALL UPDATE THE SCHEDULES OF ALL PANELBOARDS AFFECTED BY THIS PROJECT TO REFLECT CHANGES DUE TO THE PROJECT WORK. PANEL SCHEDULE LOAD DESCRIPTIONS ARE TO INCLUDE THE FINAL ROOM OR AREA NUMBERS.
24. INCLUDE GPR FOR ANY CORE DRILLS OR DRILLED PENETRATIONS IN ANY WALLS.
25. SEAL OFF ALL PENETRATIONS THRU WALLS/FLOORS.
26. THE CONTRACTOR SHALL BECOME FAMILIAR WITH WMATA DESIGN CRITERIA SECTION 4 AND SECTION 13; WMATA SPECIFICATION SECTION 16120, 16130, AND 16125. ALL INSTALLATION SHALL BE IN COMPLIANCE WITH THE NEC, WMATA DESIGN CRITERIA, AND SPECIFICATIONS.
27. THE CONTRACTOR SHALL IDENTIFY SPARE CIRCUIT WITH "RESERVED FOR AFC".
28. EXISTING SWITCHBOARDS, PANELBOARDS AND EQUIPMENT SHOWN IS BASED ON RECORD DRAWINGS AND CASUAL FIELD SURVEY. CONTRACTOR SHALL VERIFY ALL ELECTRICAL EQUIPMENT IN FIELD.
29. The conduit utilized for this project shall be 1-1/2" min. or larger as indicated. The liquid tight utilized for the kiosk shall be 1-1/2" from the entry to the 8x8 junction box, then 1" from the junction box to the quads. All boxes used in or on the kiosk shall be NEMA 4x.

ABBREVIATIONS

A, AMP	AMPERES
AC	ALTERNATING CURRENT
AEMS	AUTOMATED ENERGY MANAGEMENT SYSTEM
AF	AMPERE FRAME
AFC	AUTOMATED FARE COLLECTION SYSTEM
AFF	ABOVE FINISHED FLOOR
AIC	AMPERE INTERRUPTING CAPACITY
AT	AMPERE TRIP
ATS	AUTOMATIC TRANSFER SWITCH
BATT	BATTERY
BKR	BREAKER
℄	BASELINE
C	CONDUIT
CB	CIRCUIT BREAKER
CCT	CIRCUIT
℄	CENTER LINE
CLG	CEILING
CONST	CONSTRUCTION
DC	DIRECT CURRENT
DISC	DISCONNECT
E	ELECTRICAL
FLUOR.	FLUORESCENT
GND	GROUND
GPR	GROUND PENETRATING RADAR
IG	ISOLATED GROUND
JB	JUNCTION BOX
KAIC	THOUSAND AMPERE INTERRUPTING CAPACITY
KCMIL	THOUSAND CIRCULAR MILL
KVA	KILOVOLT AMPERE
MAX	MAXIMUM
MCA	MINIMUM CIRCUIT AMPERE
MCB	MAIN CIRCUIT BREAKER
MEZZ	MEZZANINE
MIN	MINIMUM
MLO	MAIN LUGS ONLY
MTD	MOUNTED OR MOUNTING
NEC	NATIONAL ELECTRIC CODE
NEMA	NATIONAL ELECTRICAL MANUFACTURER ASSOCIATION
P	POLE
PH	PHASE
PNL	PANELBOARD
PRI	PRIMARY
PROP	PROPOSED
RGS	RIGID GALVANIZED STEEL
SEC	SECONDARY
SHT	SHEET
STA	STATION
STD	STANDARD
SW	SWITCH
SWBD	SWITCHBOARD
TYP	TYPICAL
U/G	UNDER GROUND
U.L.	UNDERWRITERS LABORATORIES
UON	UNLESS OTHERWISE NOTED
VOLT	VOLTAGE
W	WATT
WMATA	WASHINGTON METROPOLITIAN AREA TRANSIT AUTHORITY
WP	WEATHERPROOF

DRAWING INDEX

ELECTRICAL SYMBOL LIST

- QUADRUPLEX RECEPTACLE OUTLET– 20A, 125V WALL MOUNTED.
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- CONDUIT – CONCEALED IN UNDER FLOOR DUCT U.O.N.
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  - | – INDICATES GROUNDING WIRE TO GROUNDING BUS AT THE PANELBOARD
  - EF 1,3 – INDICATES CIRCUIT HOME RUN PANELBOARD AND CIRCUIT NUMBER IDENTIFICATION

CONTRACT NO. 14-FQ10060-CENI-24

DESIGNED C. NGO 08-14 DATE
DRAWN C. NGO 08-14 DATE
CHECKED B. IDILBI 08-14 DATE
APPROVED N/A DATE

REFERENCE DRAWINGS

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REVISIONS

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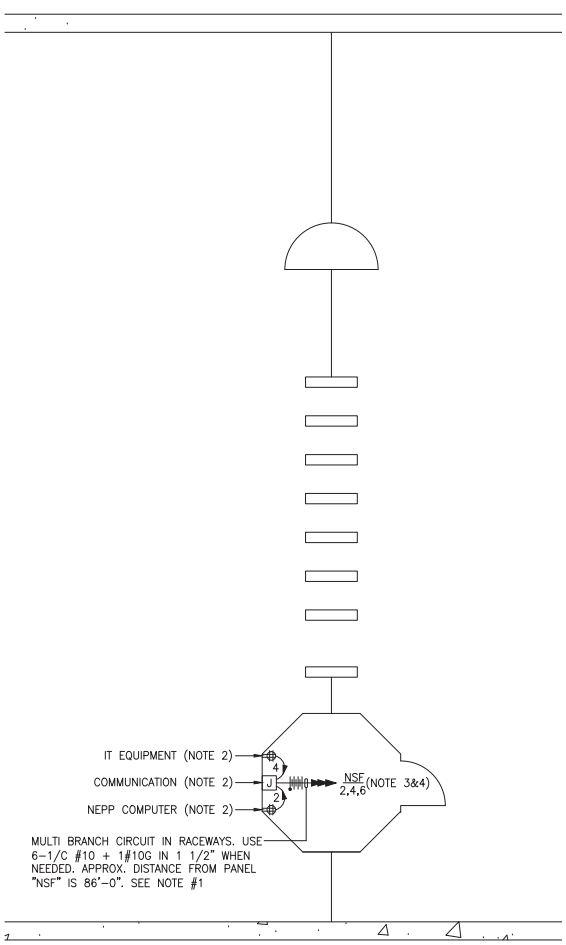
DEPARTMENT OF TRANSIT INFRASTRUCTURE AND ENGINEERING SERVICES
OFFICE OF INFRASTRUCTURE RENEWAL PROGRAM
APPROVED

GFP A Gannett Fleming/Parsons JOINT VENTURE
SUBMITTED
PROJECT MANAGER

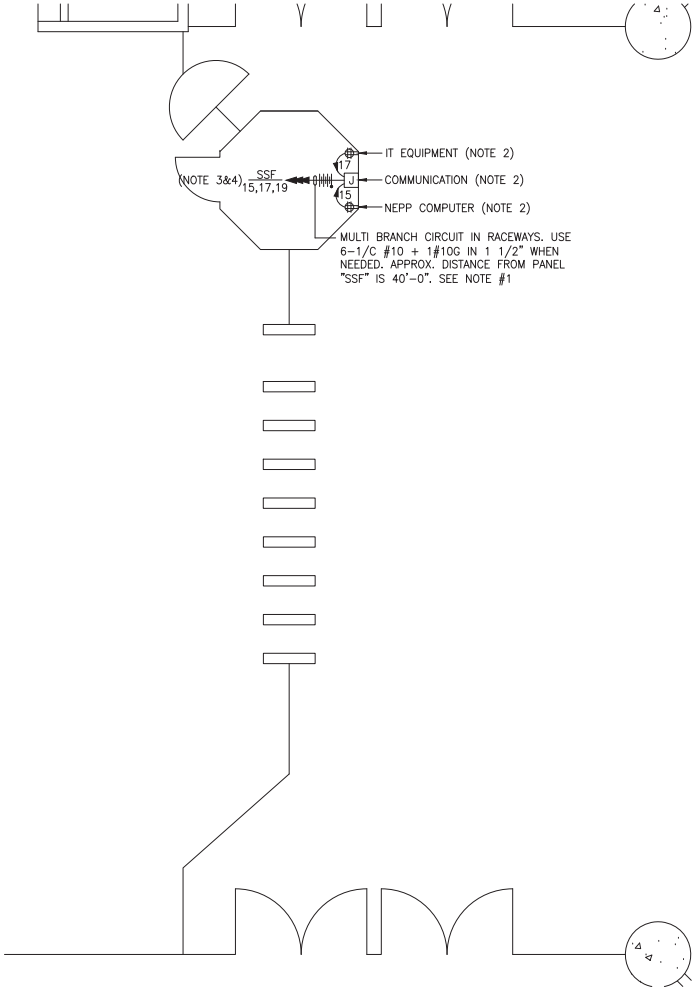
NEW ELECTRONIC PAY PROGRAM (NEPP) IN METRORAIL STATIONS
ABBREVIATIONS, DRAWING INDEX, SPECIFICATIONS & SYMBOL LIST

SCALE: NOT TO SCALE
DRAWING NO.: F06-E-001



NORTH KIOSK - POWER

SCALE: 1/4" = 1'- 0"



SOUTH KIOSK - POWER

SCALE: 1/4" = 1'- 0"

DRAWING NOTES:

1. CONTRACTOR TO REFER TO SUPPLEMENTAL MEZZANINE INSPECTION REPORT, VOLUME 4 FURNISHED UNDER THIS SOLICITATION PACKAGE TO BE INFORMED THAT THE TOTAL LENGTH OF THE MULTI WIRE BRANCH CIRCUIT DEPICTED IN THE ELCTRICAL PLAN MAY EITHER CONSIST OF EXISTING POWER UNDER FLOOR DUCTS; OR IT COULD BE ALL CONDUIT RUN USING RIGID GALVANIZED STEEL CONDUITS; OR A COMBINATION OF BOTH WHICH IS RIGID GALVANIZED STEEL CONDUITS AND FLOOR DUCTS AND/OR JUST USE OF POWER FLOOR DUCT OR DEEMED REQUIRED IN THE REPORT.
2. COORDINATE WITH WMATA WHERE EXACTLY THE DUPLEX RECEPTACLE OUTLET AND JUNCTION BOX WILL BE INSTALLED IN THE KIOSK.
3. PROVIDE 3-NEW 20A, 1P CIRCUIT BREAKER AT EXISTING PANELBOARD AVAILABLE CIRCUIT BREAKER SPACES. NEW CIRCUIT BREAKERS SHALL MATCH EXISTING PANELBOARD CIRCUIT BREAKER AIC RATING. TERMINATE 2-NEW BRANCH CIRCUITS TO NEWLY INSTALLED CIRCUIT BREAKERS AND CONNECT PERMANENTLY TO QUAD RECEPTACLE OUTLETS LOCATED IN THE KIOSK. KEEP AND COILED REMAINING BRANCH CIRCUIT IN THE PANELBOARD AND INSIDE THE JUNCTION BOX AT THE KIOSK FOR FUTURE USE. UPDATE PANELBOARD DIRECTORY TO MANIFEST PANELBOARD ADDITIONAL LOADS.
4. THE REMAINING BRANCH CIRCUIT FOR FUTURE AFC FARE GATE APPLICATION SHALL BE SECURED, LABELED AND COILED AT THE KIOSK. THE LENGTH OF COILED PIGTAIL SHALL BE THE FARTHEST FARE GATE DISTANCE FROM KIOSK PLUS AN EXTRA 6'-0" CONDUCTOR.

SAFETY PRECAUTION:

1. ALL WORK SHALL COMPLY WITH WMATA SAFETY RULES, AND DE-ENERGIZATION POLICIES.

CONTRACT NO. 14-FQ10060-CENI-24

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APPROVED

GFP A Gannett Fleming/Parsons JOINT VENTURE

SUBMITTED PROJECT MANAGER

NEW ELECTRONIC PAY PROGRAM (NEPP) IN METRORAIL STATIONS

ANACOSTIA - NORTH & SOUTH
KIOSK - POWER

SCALE	DRAWING NO.	
AS SHOWN	F06-E-101	55

EXISTING PANEL "NSF"

AMPERES: 175	VOLTS: 120/208	MOUNTING: SURFACE	
MAINS: 175A MCB	PHASE: 3	LOCATION: ELEC. EQUIPMENT RM. 301	
RATING: 10K AIC	WIRE: 4	SECTION: 1 OF 1	

		CKT BKRS		CKT.		CKT.	CKT BKRS			
LOAD DESCRIPTION	KVA	AMP	POLE	NO.		NO.	POLE	AMP	KVA	LOAD DESCRIPTION
EXISTING VENDOR	0.8	20	1	1	A - -	2	1	20	**0.8**	**NEW KIOSK RECEPT. (IT/NCS)**
EXISTING VENDOR	0.8	20	1	3	- B -	4	1	20	**0.8**	**NEW KIOSK RECEPT. (NEPP/SOC)**
EXISTING VENDOR	0.8	20	1	5	- - C	6	1	20	0.0	**FUTURE AFC FARE GATE**
EXISTING VENDOR	0.8	20	1	7	A - -	8	1	20	0.8	EXISTING VENDOR
EXISTING VENDOR	0.8	20	1	9	- B -	10	1	20	0.8	EXISTING VENDOR
EXISTING VENDOR	0.8	20	1	11	- - C	12	1	20	0.8	EXISTING VENDOR
EXISTING VENDOR	0.8	20	1	13	A - -	14	1	20	0.0	SPARE
EXISTING VENDOR	0.8	20	1	15	- B -	16	1	20	0.8	EXISTING VENDOR
EXISTING VENDOR	0.8	20	1	17	- - C	18	1	20	0.8	EXISTING VENDOR
EXISTING VENDOR	0.8	20	1	19	A - -	20	1	20	0.0	SPARE
SPARE	0.0	20	1	21	- B -	22	1	20	0.8	EXISTING VENDOR
SPARE	0.0	20	1	23	- - C	24	-	-	0.0	SPACE
EXISTING VENDOR	0.8	20	1	25	A - -	26	-	-	0.0	SPACE
EXISTING VENDOR	0.8	20	1	27	- B -	28	1	20	0.8	EXISTING VENDOR
SPARE	0.0	20	1	29	- - C	30	1	20	0.0	SPARE
SPARE	0.0	20	1	31	A - -	32	3	50	2.9	EXIST. LOAD CENTER "KES"
EXISTING VENDOR	0.8	20	1	33	- B -	34	-	-	2.5	
EXISTING VENDOR	0.8	20	1	35	- - C	36	-	-	2.5	

LOAD SUMMARY

LIGHTS	0.0 x 125%		0.0 KVA
RECEPTACLES, FIRST 10 KVA	10.0 x 100%		10.0 KVA
RECEPTACLES	8.0 x 50%		4.0 KVA
MISC. APPLIANCES	0.0 x 100%		0.0 KVA
LARGEST MOTOR	0.0 x 125%		0.0 KVA
MOTORS	0.0 x 100%		0.0 KVA
HEAT	3.0 x 125%		3.8 KVA
AC	4.5 x 100%		4.5 KVA
WATER HEATING	0.0 x 125%		0.0 KVA
TOTAL CONNECTED LOAD	**25.5 KVA**	**TOTAL DEMAND KVA**	**22.3 KVA**
		TOTAL DEMAND AMPS	**61.8 AMPS**
CONNECTED LOAD PHASE SUMMARY			
PHASE A:	**8.5 KVA**		
PHASE B:	**10.5 KVA**		
PHASE C:	**7.3 KVA**		

EXISTING PANEL "SSF"

AMPERES: 175	VOLTS: 120/208	MOUNTING: SURFACE	
MAINS: 175A MCB	PHASE: 3	LOCATION: ELEC. EQUIPMENT ROOM 302	
RATING: 10K AIC	WIRE: 4	SECTION: 1 OF 1	

		CKT BKRS		CKT.		CKT.	CKT BKRS			
LOAD DESCRIPTION	KVA	AMP	POLE	NO.		NO.	POLE	AMP	KVA	LOAD DESCRIPTION
EXISTING VENDOR	0.8	20	1	1	A - -	2	1	20	0.8	EXISTING VENDOR
EXISTING VENDOR	0.8	20	1	3	- B -	4	1	20	0.8	EXISTING VENDOR
EXISTING VENDOR	0.8	20	1	5	- - C	6	1	20	0.8	EXISTING VENDOR
EXISTING VENDOR	0.8	20	1	7	A - -	8	1	20	0.8	EXISTING VENDOR
EXISTING VENDOR	0.8	20	1	9	- B -	10	1	20	0.8	EXISTING VENDOR
EXISTING VENDOR	0.8	20	1	11	- - C	12	1	20	0.8	EXISTING VENDOR
EXISTING VENDOR	0.8	20	1	13	A - -	14	1	20	0.8	EXISTING VENDOR
NEW KIOSK RECEPT. (IT/NCS)	**0.8**	20	1	15	- B -	16	1	20	0.8	EXISTING VENDOR
NEW KIOSK RECEPT. (NEPP/SOC)	**0.8**	20	1	17	- - C	18	1	20	0.8	EXISTING VENDOR
FUTURE AFC FARE GATE	0.0	20	1	19	A - -	20	1	20	0.8	EXISTING VENDOR
SPARE	0.0	20	1	21	- B -	22	1	20	0.0	SPARE
SPARE	0.0	20	1	23	- - C	24	1	20	0.0	SPARE
EXISTING VENDOR	0.8	20	1	25	A - -	26	3	50	2.9	EXISTING LOAD CENTER "KES"
SPARE	0.0	20	1	27	- B -	28	-	-	2.5	
EXISTING VENDOR	0.8	20	1	29	- - C	30	-	-	2.5	
SPARE	0.0	20	1	31	A - -	32	-	-	0.0	SPACE
SPARE	0.0	20	1	33	- B -	34	-	-	0.0	SPACE
SPACE	0.0	-	-	35	- - C	36	-	-	0.0	SPACE
SPACE	0.0	-	-	37	A - -	38	-	-	0.0	SPACE
SPACE	0.0	-	-	39	- B -	40	-	-	0.0	SPACE
SPACE	0.0	-	-	41	- - C	42	-	-	0.0	SPACE

LOAD SUMMARY

LIGHTS	0.0 x 125%		0.0 KVA
RECEPTACLES, FIRST 10 KVA	10.0 x 100%		10.0 KVA
RECEPTACLES	6.4 x 50%		3.2 KVA
MISC. APPLIANCES	0.0 x 100%		0.0 KVA
LARGEST MOTOR	0.0 x 125%		0.0 KVA
MOTORS	0.0 x 100%		0.0 KVA
HEAT	3.0 x 125%		3.8 KVA
AC	4.5 x 100%		4.5 KVA
WATER HEATING	0.0 x 125%		0.0 KVA
TOTAL CONNECTED LOAD	**23.9 KVA**	**TOTAL DEMAND KVA**	**21.5 KVA**
		TOTAL DEMAND AMPS	**59.6 AMPS**
CONNECTED LOAD PHASE SUMMARY			
PHASE A:	**9.3 KVA**		
PHASE B:	**7.3 KVA**		
PHASE C:	**8.1 KVA**		

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OFFICE OF INFRASTRUCTURE RENEWAL PROGRAM

APPROVED

GFP A Gannett Fleming/Parsons JOINT VENTURE

SUBMITTED
PROJECT MANAGER

NEW ELECTRONIC PAY PROGRAM (NEPP) IN METRORAIL STATIONS

ANACOSTIA - NORTH & SOUTH
PANEL SCHEDULES

SCALE: NOT TO SCALE

DRAWING NO.: F06-E-102

ELECTRICAL SPECIFICATIONS

1. ALL WORK, MATERIAL AND EQUIPMENT SHALL COMPLY WITH THE LATEST NATIONAL ELECTRICAL CODE BEING USED BY THE LOCAL JURISDICTION AND SHALL COMPLY WITH ALL LOCAL CODES AND ORDINANCES.
2. MATERIALS AND EQUIPMENT SHALL BE NEW EXCEPT WHERE INDICATED OTHERWISE. ALL OTHER WIRING DEVICES, CONDUIT, WIRE, ETC. SHALL BE NEW UNLESS NOTED OTHERWISE.
3. ALL MATERIALS AND EQUIPMENT SHALL BEAR U.L. LISTING.
4. MAINTAIN GROUNDING CONTINUITY TO ALL DEVICES AND EQUIPMENT IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE.
5. WORK NOT SPECIFICALLY SPECIFIED OR INDICATED SHALL CONFORM WITH SPECIFICATIONS.
6. ALL CONDUITS SHALL BE RUN CONCEALED IN UNDER FLOOR DUCT.
7. ALL WIRE AND CABLE SHALL BE COPPER HAVING 600 VOLTS XHHW-2 OR RHW-2 INSULATIONS. PROVIDE #12 WIRE MINIMUM, UNLESS OTHERWISE NOTED. ALL CABLES SHALL BE LOW SMOKE ZERO HALOGEN CABLE.
8. THE CONTRACTOR SHALL VISIT THE SITE AND EXAMINE THE CONDITION OF THE PREMISES AND THE CHARACTER AND EXTENT OF WORK REQUIRED PRIOR TO SUBMISSION OF BIDS.
9. OBTAIN ALL PERMITS AND PAY ALL FEES NECESSARY FOR INSPECTIONS, TESTS & OTHER SERVICES REQUIRED FOR THE COMPLETION OF THIS WORK.
10. ALL WORK SHALL BE DONE AT SUCH TIMES AND IN SUCH A MANNER THAT WILL LEAST INTERFERE WITH THE MAINTENANCE AND OPERATION OF ALL RELATED OR AFFECTED SYSTEMS. COORDINATE ALL POWER OUTAGES WITH WMATA PROJECT MANAGER.
11. IT IS THE INTENT OF THESE DRAWINGS AND OTHER RELATED DOCUMENTS TO PRODUCE A COMPLETE AND FUNCTIONING ELECTRICAL SYSTEM. PROVIDE ALL LABOR, MATERIAL AND OTHER SERVICES NECESSARY TO ACHIEVE THIS PRODUCT. NOTIFY THE ENGINEER OF ANY DISCREPANCIES IN THE PLANS & SPECIFICATIONS THAT WILL AFFECT THE WORK, PRIOR TO SUBMISSION OF THE BID PRICE.
12. IF, DURING THE COURSE OF THE WORK, THE CONTRACTOR EXPERIENCES A CONFLICT RELATIVE TO THE PLANS AND SPECIFICATIONS, THE NEC OR OTHER APPLICABLE CODES AND GOVERNING DOCUMENTS, HE SHALL NOTIFY THE ENGINEER FOR DIRECTION PRIOR TO EXECUTION OF THIS WORK. ANY WORK INSTALLED IN VIOLATION OF THE CONTRACT DOCUMENT OR APPLICABLE CODES WHICH COULD HAVE BEEN AVOIDED BY CONTACTING THE ENGINEER SHALL BE RECTIFIED AT NO ADDITIONAL COST.
13. ELECTRICAL PLANS ARE DIAGRAMMATIC & INDICATE GENERAL ARRANGEMENT OF SYSTEMS AND WORK. CHECK DRAWINGS OF OTHER TRADES TO VERIFY SPACE CONDITIONS, ETC. MAINTAIN WORKING CLEARANCES.
14. CIRCUIT NUMBERS ARE FOR IDENTIFICATION PURPOSES ONLY. THE CONTRACTOR IS RESPONSIBLE FOR CORRECTLY PHASING THE CIRCUITS IN THE PANEL AND SHALL BALANCE THE LOAD ON THE PHASES UNDER NORMAL OPERATING CONDITIONS. PROVIDE TYPEWRITTEN PANELBOARD DIRECTORIES. BALANCE THE PHASE LOADS TO WITHIN 20 PERCENT OF EACH OTHER.
15. INCREASE ALL BRANCH CIRCUIT CONDUCTORS TO THE NEXT LARGER SIZE FROM THE PANEL TO THE FIRST OUTLET WHERE THE LENGTH OF THE HOMERUN EXCEEDS 100FT. ON 120/208V CIRCUITS.
16. PROVIDE A PULLWIRE OR FISHTAPE/CORD IN ALL EMPTY CONDUIT RUNS.
17. VERIFY WIRE SIZES, CIRCUIT BREAKERS AND FUSES RATINGS FOR ALL EQUIPMENT, AND NOTIFY THE ENGINEER OF ANY DISCREPANCIES AFFECTING THE WORK PRIOR TO PROCEEDING.
18. ALL PANELS IMPACTED BY THIS PROJECT SHALL BE PROVIDED WITH NEW, UPDATED TYPEWRITTEN PANEL SCHEDULES (FOR NEW AND EXISTING CIRCUITS) INDICATING THE FINAL ROOM NUMBER AND THE EQUIPMENT OR DEVICES SERVED BY THE CIRCUITS.
19. DEMOLITION OF EXISTING WORK SHALL BE PERFORMED AFTER HOURS. ELECTRICAL CONTRACTOR SHALL COORDINATE WITH THE WMATA PROJECT MANAGER PRIOR TO PERFORMING ALL THE WORK. THE TIME OF DAY OR EVENING SHALL BE DESIGNATED BY THE WMATA PROJECT MANAGER.
20. ALL WIRING SHALL BE IN CONDUIT, MINIMUM SIZE 3/4 INCH WITH LARGER SIZES AS INDICATED OR REQUIRED BY NEC. ALL CONDUITS SHALL BE RIGID GALVANIZED STEEL W/SCREW IN COUPLING FOR COMPLETE WATER PROOF INSTALLATION.
21. AT JOB COMPLETION, AND BEFORE FINAL ACCEPTANCE BY WMATA, TEST EACH RECEPTACLE AND PANELBOARD FOR PROPER OPERATION. WIRING SHALL BE TESTED FOR CONTINUITY, SHORTS, ETC... ALL WORK AREAS, ETC.. SHALL BE CLEANED AT THE COMPLETION OF THIS PROJECT.
22. FOR DEVICE IDENTIFICATION, THE ELECTRICAL CONTRACTOR SHALL LABEL ALL PANELBOARDS, JUNCTION BOXES, ETC..TO INDICATE THE NAME, VOLTAGE, SERVING EQUIPMENT AND ITEM SERVED ETC... LABELS FOR EMERGENCY CIRCUITS SHALL BE IN RED, NORMAL CIRCUITS SHALL BE IN BLACK. ALL DEVICES SHALL BE IDENTIFIED EITHER ON THE FACE OF THE COVERPLATE OR INSIDE PER WMATA PREFERENCE. ALL JUNCTION BOXES SHALL BE LABELED TO INDICATE THE CIRCUITS CONTAINED BY THE JUNCTION BOX.
23. THE CONTRACTOR SHALL UPDATE THE SCHEDULES OF ALL PANELBOARDS AFFECTED BY THIS PROJECT TO REFLECT CHANGES DUE TO THE PROJECT WORK. PANEL SCHEDULE LOAD DESCRIPTIONS ARE TO INCLUDE THE FINAL ROOM OR AREA NUMBERS.
24. INCLUDE GPR FOR ANY CORE DRILLS OR DRILLED PENETRATIONS IN ANY WALLS.
25. SEAL OFF ALL PENETRATIONS THRU WALLS/FLOORS.
26. THE CONTRACTOR SHALL BECOME FAMILIAR WITH WMATA DESIGN CRITERIA SECTION 4 AND SECTION 13; WMATA SPECIFICATION SECTION 16120, 16130, AND 16125. ALL INSTALLATION SHALL BE IN COMPLIANCE WITH THE NEC, WMATA DESIGN CRITERIA, AND SPECIFICATIONS.
27. THE CONTRACTOR SHALL IDENTIFY SPARE CIRCUIT WITH "RESERVED FOR AFC".
28. EXISTING SWITCHBOARDS, PANELBOARDS AND EQUIPMENT SHOWN IS BASED ON RECORD DRAWINGS AND CASUAL FIELD SURVEY. CONTRACTOR SHALL VERIFY ALL ELECTRICAL EQUIPMENT IN FIELD.
29. The conduit utilized for this project shall be 1-1/2" min. or larger as indicated. The liquid tight utilized for the kiosk shall be 1-1/2" from the entry to the 8x8 junction box, then 1" from the junction box to the quads. All boxes used in or on the kiosk shall be NEMA 4x.

ABBREVIATIONS

A, AMP	AMPERES
AC	ALTERNATING CURRENT
AEMS	AUTOMATED ENERGY MANAGEMENT SYSTEM
AF	AMPERE FRAME
AFC	AUTOMATED FARE COLLECTION SYSTEM
AFF	ABOVE FINISHED FLOOR
AIC	AMPERE INTERRUPTING CAPACITY
AT	AMPERE TRIP
ATS	AUTOMATIC TRANSFER SWITCH
BATT	BATTERY
BKR	BREAKER
℄	BASELINE
C	CONDUIT
CB	CIRCUIT BREAKER
CCT	CIRCUIT
℄	CENTER LINE
CLG	CEILING
CONST	CONSTRUCTION
DC	DIRECT CURRENT
DISC	DISCONNECT
E	ELECTRICAL
FLUOR.	FLUORESCENT
GND	GROUND
GPR	GROUND PENETRATING RADAR
IG	ISOLATED GROUND
JB	JUNCTION BOX
KAIC	THOUSAND AMPERE INTERRUPTING CAPACITY
KCMIL	THOUSAND CIRCULAR MILL
KVA	KILOVOLT AMPERE
MAX	MAXIMUM
MCA	MINIMUM CIRCUIT AMPERE
MCB	MAIN CIRCUIT BREAKER
MEZZ	MEZZANINE
MIN	MINIMUM
MLO	MAIN LUGS ONLY
MTD	MOUNTED OR MOUNTING
NEC	NATIONAL ELECTRIC CODE
NEMA	NATIONAL ELECTRICAL MANUFACTURER ASSOCIATION
P	POLE
PH	PHASE
PNL	PANELBOARD
PRI	PRIMARY
PROP	PROPOSED
RGS	RIGID GALVANIZED STEEL
SEC	SECONDARY
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U.L.	UNDERWRITERS LABORATORIES
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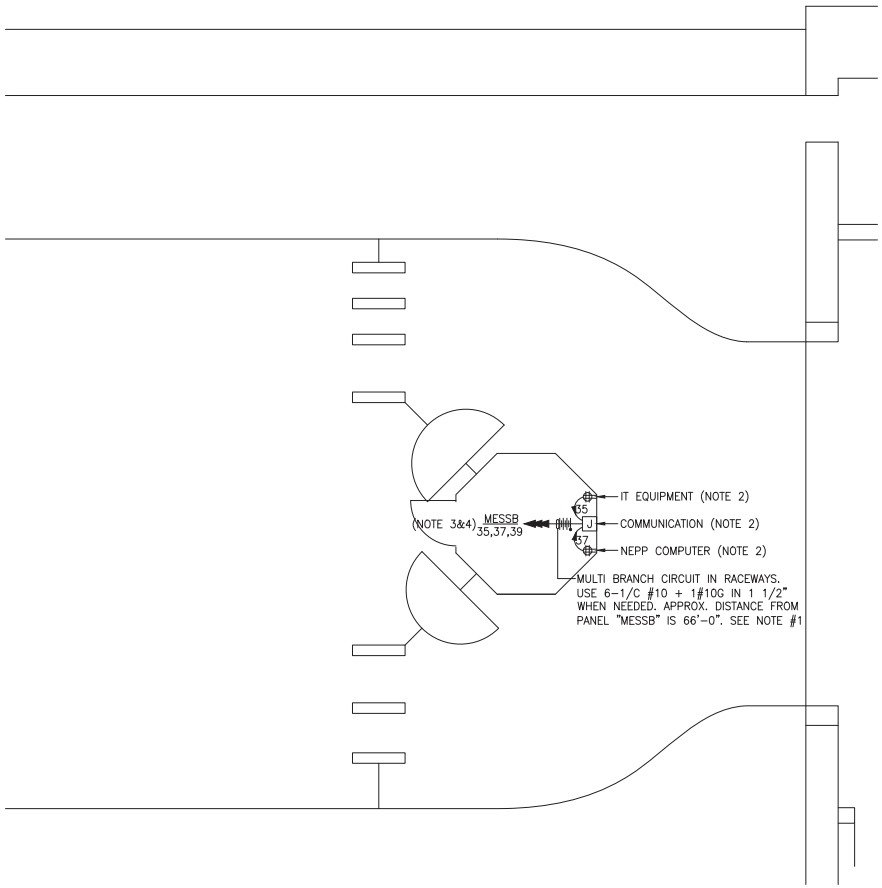
NOT TO SCALE	F07-E-001



MEZZANINE KIOSK - POWER

SCALE: 1/4" = 1'- 0"

DRAWING NOTES:

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APPROVED

GFP A Gannett Fleming/Parsons JOINT VENTURE

SUBMITTED PROJECT MANAGER

NEW ELECTRONIC PAY PROGRAM (NEPP) IN METRORAIL STATIONS

CONGRESS HEIGHTS
MEZZANINE KIOSK - POWER

SCALE	DRAWING NO.
AS SHOWN	F07-E-101

EXISTING PANEL "MESS"

AMPERES: 250	VOLTS: 120/208	MOUNTING: SURFACE	
MAINS: 250A MCB	PHASE: 3	LOCATION: ELEC. ROOM C205	
RATING: 10K AIC	WIRE: 4	SECTION: 1 OF 1	

		CKT BKRS		CKT.		CKT.	CKT BKRS			
LOAD DESCRIPTION	KVA	AMP	POLE	NO.		NO.	POLE	AMP	KVA	LOAD DESCRIPTION
EXIST. LOAD CENTER "KES"	2.9	30	3	1	A - -	2	3	30	0.0	SPARE
	2.5	-	-	3	- B -	4	-	-	0.0	
	2.5	-	-	5	- - C	6	-	-	0.0	
EXISTING VENDOR	0.8	20	1	7	A - -	8	1	20	0.8	EXISTING VENDOR
EXISTING VENDOR	0.8	20	1	9	- B -	10	1	20	0.8	EXISTING VENDOR
EXISTING VENDOR	0.8	20	1	11	- - C	12	1	20	0.8	EXISTING VENDOR
EXISTING VENDOR	0.8	20	1	13	A - -	14	1	20	0.8	EXISTING VENDOR
EXISTING VENDOR	0.8	20	1	15	- B -	16	1	20	0.8	EXISTING VENDOR
EXISTING VENDOR	0.8	20	1	17	- - C	18	1	20	0.8	SPARE
SPARE	0.0	20	1	19	A - -	20	3	30	1.0	EXISTING VENDOR
EXISTING VENDOR	0.8	20	1	21	- B -	22	-	-	1.0	
EXISTING VENDOR	0.8	20	1	23	- - C	24	-	-	1.0	
EXISTING VENDOR	0.8	20	1	25	A - -	26	3	30	1.0	EXISTING VENDOR
EXISTING VENDOR	0.8	20	1	27	- B -	28	-	-	1.0	
EXISTING VENDOR	0.8	20	1	29	- - C	30	-	-	1.0	
EXISTING VENDOR	0.8	20	1	31	A - -	32	1	20	0.8	EXISTING VENDOR
EXISTING VENDOR	0.8	20	1	33	- B -	34	1	20	0.0	SPARE
NEW KIOSK RECEPT. (IT/NCS)	**0.8**	20	1	35	- - C	36	1	20	0.0	SPARE
NEW KIOSK RECEPT. (NEPP/SOC)	**0.8**	20	1	37	A - -	38	1	20	0.0	SPARE
FUTURE AFC FARE GATE	0.0	20	1	39	- B -	40	1	20	0.0	SPARE
SPARE	0.0	20	1	41	- - C	42	1	20	0.0	SPARE

LOAD SUMMARY

LIGHTS	0.0 x 125%		0.0 KVA
RECEPTACLES, FIRST 10 KVA	10.0 x 100%		10.0 KVA
RECEPTACLES	13.2 x 50%		6.6 KVA
MISC. APPLIANCES	0.0 x 100%		0.0 KVA
LARGEST MOTOR	0.0 x 125%		0.0 KVA
MOTORS	0.0 x 100%		0.0 KVA
HEAT	3.0 x 125%		3.8 KVA
AC	4.5 x 100%		4.5 KVA
WATER HEATING	0.0 x 125%		0.0 KVA
TOTAL CONNECTED LOAD	**30.7 KVA**	**TOTAL DEMAND KVA**	**24.9 KVA**
		TOTAL DEMAND AMPS	**69.0 AMPS**

CONNECTED LOAD PHASE SUMMARY

PHASE A:	**11.3 KVA**
PHASE B:	**10.1 KVA**
PHASE C:	**10.1 KVA**

CONTRACT NO.
14-FQ10060-CENI-24

DESIGNED C. NGO 08-14 DATE
DRAWN C. NGO 08-14 DATE
CHECKED B. IDILBI 08-14 DATE
APPROVED N/A DATE

REFERENCE DRAWINGS

NUMBER	DESCRIPTION

REVISIONS

DATE	BY	DESCRIPTION

WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY

DEPARTMENT OF TRANSIT INFRASTRUCTURE AND ENGINEERING SERVICES
OFFICE OF INFRASTRUCTURE RENEWAL PROGRAM

APPROVED

GFP A Gannett Fleming/Parsons JOINT VENTURE

SUBMITTED
PROJECT MANAGER

NEW ELECTRONIC PAY PROGRAM (NEPP) IN METRORAIL STATIONS
CONGRESS HEIGHTS
PANEL SCHEDULE

SCALE: NOT TO SCALE

DRAWING NO.: F07-E-102

ELECTRICAL SPECIFICATIONS

1. ALL WORK, MATERIAL AND EQUIPMENT SHALL COMPLY WITH THE LATEST NATIONAL ELECTRICAL CODE BEING USED BY THE LOCAL JURISDICTION AND SHALL COMPLY WITH ALL LOCAL CODES AND ORDINANCES.
2. MATERIALS AND EQUIPMENT SHALL BE NEW EXCEPT WHERE INDICATED OTHERWISE. ALL OTHER WIRING DEVICES, CONDUIT, WIRE, ETC. SHALL BE NEW UNLESS NOTED OTHERWISE.
3. ALL MATERIALS AND EQUIPMENT SHALL BEAR U.L. LISTING.
4. MAINTAIN GROUNDING CONTINUITY TO ALL DEVICES AND EQUIPMENT IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE.
5. WORK NOT SPECIFICALLY SPECIFIED OR INDICATED SHALL CONFORM WITH SPECIFICATIONS.
6. ALL CONDUITS SHALL BE RUN CONCEALED IN UNDER FLOOR DUCT.
7. ALL WIRE AND CABLE SHALL BE COPPER HAVING 600 VOLTS XHHW-2 OR RHW-2 INSULATIONS. PROVIDE #12 WIRE MINIMUM, UNLESS OTHERWISE NOTED. ALL CABLES SHALL BE LOW SMOKE ZERO HALOGEN CABLE.
8. THE CONTRACTOR SHALL VISIT THE SITE AND EXAMINE THE CONDITION OF THE PREMISES AND THE CHARACTER AND EXTENT OF WORK REQUIRED PRIOR TO SUBMISSION OF BIDS.
9. OBTAIN ALL PERMITS AND PAY ALL FEES NECESSARY FOR INSPECTIONS, TESTS & OTHER SERVICES REQUIRED FOR THE COMPLETION OF THIS WORK.
10. ALL WORK SHALL BE DONE AT SUCH TIMES AND IN SUCH A MANNER THAT WILL LEAST INTERFERE WITH THE MAINTENANCE AND OPERATION OF ALL RELATED OR AFFECTED SYSTEMS. COORDINATE ALL POWER OUTAGES WITH WMATA PROJECT MANAGER.
11. IT IS THE INTENT OF THESE DRAWINGS AND OTHER RELATED DOCUMENTS TO PRODUCE A COMPLETE AND FUNCTIONING ELECTRICAL SYSTEM. PROVIDE ALL LABOR, MATERIAL AND OTHER SERVICES NECESSARY TO ACHIEVE THIS PRODUCT. NOTIFY THE ENGINEER OF ANY DISCREPANCIES IN THE PLANS & SPECIFICATIONS THAT WILL AFFECT THE WORK, PRIOR TO SUBMISSION OF THE BID PRICE.
12. IF, DURING THE COURSE OF THE WORK, THE CONTRACTOR EXPERIENCES A CONFLICT RELATIVE TO THE PLANS AND SPECIFICATIONS, THE NEC OR OTHER APPLICABLE CODES AND GOVERNING DOCUMENTS, HE SHALL NOTIFY THE ENGINEER FOR DIRECTION PRIOR TO EXECUTION OF THIS WORK. ANY WORK INSTALLED IN VIOLATION OF THE CONTRACT DOCUMENT OR APPLICABLE CODES WHICH COULD HAVE BEEN AVOIDED BY CONTACTING THE ENGINEER SHALL BE RECTIFIED AT NO ADDITIONAL COST.
13. ELECTRICAL PLANS ARE DIAGRAMMATIC & INDICATE GENERAL ARRANGEMENT OF SYSTEMS AND WORK. CHECK DRAWINGS OF OTHER TRADES TO VERIFY SPACE CONDITIONS, ETC. MAINTAIN WORKING CLEARANCES.
14. CIRCUIT NUMBERS ARE FOR IDENTIFICATION PURPOSES ONLY. THE CONTRACTOR IS RESPONSIBLE FOR CORRECTLY PHASING THE CIRCUITS IN THE PANEL AND SHALL BALANCE THE LOAD ON THE PHASES UNDER NORMAL OPERATING CONDITIONS. PROVIDE TYPEWRITTEN PANELBOARD DIRECTORIES. BALANCE THE PHASE LOADS TO WITHIN 20 PERCENT OF EACH OTHER.
15. INCREASE ALL BRANCH CIRCUIT CONDUCTORS TO THE NEXT LARGER SIZE FROM THE PANEL TO THE FIRST OUTLET WHERE THE LENGTH OF THE HOMERUN EXCEEDS 100FT. ON 120/208V CIRCUITS.
16. PROVIDE A PULLWIRE OR FISHTAPE/CORD IN ALL EMPTY CONDUIT RUNS.
17. VERIFY WIRE SIZES, CIRCUIT BREAKERS AND FUSES RATINGS FOR ALL EQUIPMENT, AND NOTIFY THE ENGINEER OF ANY DISCREPANCIES AFFECTING THE WORK PRIOR TO PROCEEDING.
18. ALL PANELS IMPACTED BY THIS PROJECT SHALL BE PROVIDED WITH NEW, UPDATED TYPEWRITTEN PANEL SCHEDULES (FOR NEW AND EXISTING CIRCUITS) INDICATING THE FINAL ROOM NUMBER AND THE EQUIPMENT OR DEVICES SERVED BY THE CIRCUITS.
19. DEMOLITION OF EXISTING WORK SHALL BE PERFORMED AFTER HOURS. ELECTRICAL CONTRACTOR SHALL COORDINATE WITH THE WMATA PROJECT MANAGER PRIOR TO PERFORMING ALL THE WORK. THE TIME OF DAY OR EVENING SHALL BE DESIGNATED BY THE WMATA PROJECT MANAGER.
20. ALL WIRING SHALL BE IN CONDUIT, MINIMUM SIZE 3/4 INCH WITH LARGER SIZES AS INDICATED OR REQUIRED BY NEC. ALL CONDUITS SHALL BE RIGID GALVANIZED STEEL THREADED COUPLING FOR COMPLETE WATER PROOF INSTALLATION.
21. AT JOB COMPLETION, AND BEFORE FINAL ACCEPTANCE BY WMATA, TEST EACH RECEPTACLE AND PANELBOARD FOR PROPER OPERATION. WIRING SHALL BE TESTED FOR CONTINUITY, SHORTS, ETC... ALL WORK AREAS, ETC.. SHALL BE CLEANED AT THE COMPLETION OF THIS PROJECT.
22. FOR DEVICE IDENTIFICATION, THE ELECTRICAL CONTRACTOR SHALL LABEL ALL PANELBOARDS, JUNCTION BOXES, ETC..TO INDICATE THE NAME, VOLTAGE, SERVING EQUIPMENT AND ITEM SERVED ETC... LABELS FOR EMERGENCY CIRCUITS SHALL BE IN RED, NORMAL CIRCUITS SHALL BE IN BLACK. ALL DEVICES SHALL BE IDENTIFIED EITHER ON THE FACE OF THE COVERPLATE OR INSIDE PER WMATA PREFERENCE. ALL JUNCTION BOXES SHALL BE LABELED TO INDICATE THE CIRCUITS CONTAINED BY THE JUNCTION BOX.
23. THE CONTRACTOR SHALL UPDATE THE SCHEDULES OF ALL PANELBOARDS AFFECTED BY THIS PROJECT TO REFLECT CHANGES DUE TO THE PROJECT WORK. PANEL SCHEDULE LOAD DESCRIPTIONS ARE TO INCLUDE THE FINAL ROOM OR AREA NUMBERS.
24. INCLUDE GPR FOR ANY CORE DRILLS OR DRILLED PENETRATIONS IN ANY WALLS.
25. SEAL OFF ALL PENETRATIONS THRU WALLS/FLOORS.
26. THE CONTRACTOR SHALL BECOME FAMILIAR WITH WMATA DESIGN CRITERIA SECTION 4 AND SECTION 13; WMATA SPECIFICATION SECTION 16120, 16130, AND 16125. ALL INSTALLATION SHALL BE IN COMPLIANCE WITH THE NEC, WMATA DESIGN CRITERIA, AND SPECIFICATIONS.
27. THE CONTRACTOR SHALL IDENTIFY SPARE CIRCUIT WITH "RESERVED FOR AFC".
28. EXISTING SWITCHBOARDS, PANELBOARDS AND EQUIPMENT SHOWN IS BASED ON RECORD DRAWINGS AND CASUAL FIELD SURVEY. CONTRACTOR SHALL VERIFY ALL ELECTRICAL EQUIPMENT IN FIELD.

ABBREVIATIONS

A, AMP	AMPERES
AC	ALTERNATING CURRENT
AF	AMPERE FRAME
AFC	AUTOMATED FARE COLLECTION SYSTEM
AFF	ABOVE FINISHED FLOOR
AIC	AMPERE INTERRUPTING CAPACITY
AT	AMPERE TRIP
BKR	BREAKER
C	CONDUIT
CB	CIRCUIT BREAKER
CCT	CIRCUIT
℄	CENTER LINE
CLG	CEILING
CONST	CONSTRUCTION
DISC	DISCONNECT
E	ELECTRICAL
GND	GROUND
JB	JUNCTION BOX
KAIC	THOUSAND AMPERE INTERRUPTING CAPACITY
KCMIL	THOUSAND CIRCULAR MILL
KVA	KILOVOLT AMPERE
MAX	MAXIMUM
MCA	MINIMUM CIRCUIT AMPERE
MCB	MAIN CIRCUIT BREAKER
MEZZ	MEZZANINE
MIN	MINIMUM
MLO	MAIN LUGS ONLY
NEC	NATIONAL ELECTRIC CODE
P	POLE
PH	PHASE
PNL	PANELBOARD
PRI	PRIMARY
PROP	PROPOSED
RGS	RIGID GALVANIZED STEEL
SEC	SECONDARY
SHT	SHEET
SW	SWITCH
SWBD	SWITCHBOARD
TYP	TYPICAL
U/G	UNDER GROUND
U.L.	UNDERWRITERS LABORATORIES
UON	UNLESS OTHERWISE NOTED
VOLT	VOLTAGE
W	WATT
WMATA	WASHINGTON METROPOLITIAN AREA TRANSIT AUTHORITY
WP	WEATHERPROOF

DRAWING INDEX

ELECTRICAL SYMBOL LIST

- QUADRUPLEX RECEPTACLE OUTLET– 20A, 125V WALL MOUNTED.
- J — JUNCTION BOX – SURFACE MOUNTED ON UNISTRUT CHANNEL
- CONDUIT – CONCEALED IN UNDER FLOOR DUCT U.O.N.
- #10-3/4 EF 3,5 — HOMERUN TO PANEL, NUMBER OF ARROWHEADS INDICATES NUMBER OF CIRCUITS. CROSS HATCHING INDICATES NUMBER OF CONDUCTORS, NUMBER INDICATES SIZE OF CONDUCTOR AND SIZE OF CONDUIT
  - ⏚ – INDICATES GROUNDING WIRE TO GROUNDING BUS AT THE PANELBOARD
  - EF 1,3 – INDICATES CIRCUIT HOME RUN PANELBOARD AND CIRCUIT NUMBER IDENTIFICATION

CONTRACT NO. 14-FQ10060-CENI-24

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APPROVED N/A DATE

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APPROVED _____

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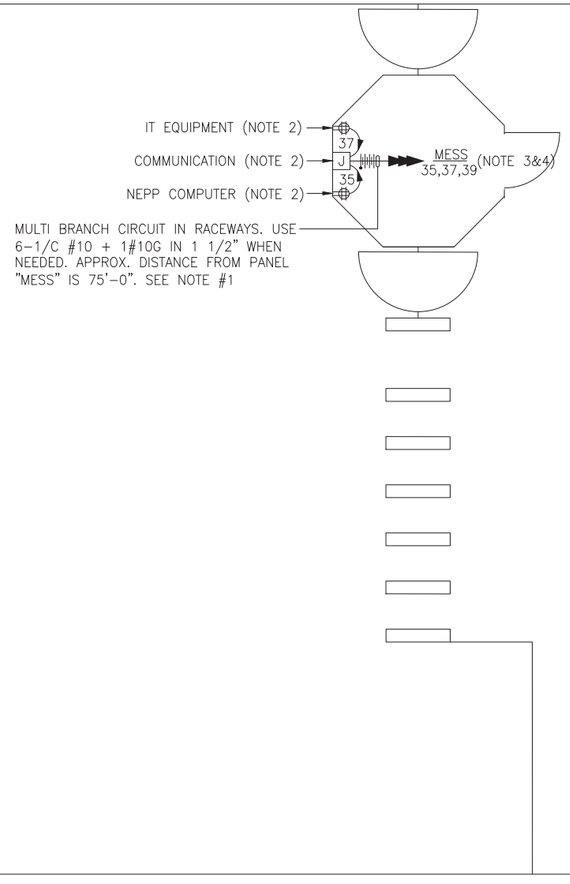
SUBMITTED _____ PROJECT MANAGER

NEW ELECTRONIC PAY PROGRAM (NEPP) IN METRORAIL STATIONS

ABBREVIATIONS, DRAWING INDEX, SPECIFICATIONS & SYMBOL LIST

SCALE NOT TO SCALE

DRAWING NO. F08-E-001



MEZZANINE KIOSK - POWER

SCALE: 1/4" = 1'- 0"

DRAWING NOTES:

1. CONTRACTOR TO REFER TO SUPPLEMENTAL MEZZANINE INSPECTION REPORT, VOLUME 4 FURNISHED UNDER THIS SOLICITATION PACKAGE TO BE INFORMED THAT THE TOTAL LENGTH OF THE MULTI WIRE BRANCH CIRCUIT DEPICTED IN THE ELCTRICAL PLAN MAY EITHER CONSIST OF EXISTING POWER UNDER FLOOR DUCTS; OR IT COULD BE ALL CONDUIT RUN USING RIGID GALVANIZED STEEL CONDUITS; OR A COMBINATION OF BOTH WHICH IS RIGID GALVANIZED STEEL CONDUITS AND FLOOR DUCTS AND/OR JUST USE OF POWER FLOOR DUCT OR DEEMED REQUIRED IN THE REPORT.
2. COORDINATE WITH WMATA WHERE EXACTLY THE DUPLEX RECEPTACLE OUTLET AND JUNCTION BOX WILL BE INSTALLED IN THE KIOSK.
3. PROVIDE 3-NEW 20A, 1P CIRCUIT BREAKER AT EXISTING PANELBOARD AVAILABLE CIRCUIT BREAKER SPACES. NEW CIRCUIT BREAKERS SHALL MATCH EXISTING PANELBOARD CIRCUIT BREAKER AIC RATING. TERMINATE 2-NEW BRANCH CIRCUITS TO NEWLY INSTALLED CIRCUIT BREAKERS AND CONNECT PERMANENTLY TO QUAD RECEPTACLE OUTLETS LOCATED IN THE KIOSK. KEEP AND COILED REMAINING BRANCH CIRCUIT IN THE PANELBOARD AND INSIDE THE JUNCTION BOX AT THE KIOSK FOR FUTURE USE. UPDATE PANELBOARD DIRECTORY TO MANIFEST PANELBOARD ADDITIONAL LOADS.
4. THE REMAINING BRANCH CIRCUIT FOR FUTURE AFC FARE GATE APPLICATION SHALL BE SECURED, LABELED AND COILED AT THE KIOSK. THE LENGTH OF COILED PIGTAIL SHALL BE THE FARTHEST FARE GATE DISTANCE FROM KIOSK PLUS AN EXTRA 6'-0" CONDUCTOR.

SAFETY PRECAUTION:

1. ALL WORK SHALL COMPLY WITH WMATA SAFETY RULES, AND DE-ENERGIZATION POLICIES.

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NEW ELECTRONIC PAY PROGRAM (NEPP) IN METRORAIL STATIONS

SOUTHERN AVENUE
MEZZANINE KIOSK - POWER

SCALE: AS SHOWN

DRAWING NO. F08-E-101

EXISTING PANEL "MESS"

AMPERES: 250	VOLTS: 120/208	MOUNTING: SURFACE
MAINS: 250A MCB	PHASE: 3	LOCATION: ELEC. ROOM C205
RATING: 10K AIC	WIRE: 4	SECTION: 1 OF 1

		CKT BKRS		CKT.		CKT.	CKT BKRS			
LOAD DESCRIPTION	KVA	AMP	POLE	NO.		NO.	POLE	AMP	KVA	LOAD DESCRIPTION
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	2.5	-	-	5	- - C	6	-	-	0.0	
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		TOTAL DEMAND AMPS	**69.0 AMPS**
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PHASE A:	**11.3 KVA**		
PHASE B:	**10.1 KVA**		
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CONTRACT NO.
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NEW ELECTRONIC PAY PROGRAM (NEPP)
IN METRORAIL STATIONS
SOUTHERN AVENUE
PANEL SCHEDULE

SCALE NOT TO SCALE

DRAWING NO. F08-E-102

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8. THE CONTRACTOR SHALL VISIT THE SITE AND EXAMINE THE CONDITION OF THE PREMISES AND THE CHARACTER AND EXTENT OF WORK REQUIRED PRIOR TO SUBMISSION OF BIDS.
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22. FOR DEVICE IDENTIFICATION, THE ELECTRICAL CONTRACTOR SHALL LABEL ALL PANELBOARDS, JUNCTION BOXES, ETC..TO INDICATE THE NAME, VOLTAGE, SERVING EQUIPMENT AND ITEM SERVED ETC... LABELS FOR EMERGENCY CIRCUITS SHALL BE IN RED, NORMAL CIRCUITS SHALL BE IN BLACK. ALL DEVICES SHALL BE IDENTIFIED EITHER ON THE FACE OF THE COVERPLATE OR INSIDE PER WMATA PREFERENCE. ALL JUNCTION BOXES SHALL BE LABELED TO INDICATE THE CIRCUITS CONTAINED BY THE JUNCTION BOX.
23. THE CONTRACTOR SHALL UPDATE THE SCHEDULES OF ALL PANELBOARDS AFFECTED BY THIS PROJECT TO REFLECT CHANGES DUE TO THE PROJECT WORK. PANEL SCHEDULE LOAD DESCRIPTIONS ARE TO INCLUDE THE FINAL ROOM OR AREA NUMBERS.
24. INCLUDE GPR FOR ANY CORE DRILLS OR DRILLED PENETRATIONS IN ANY WALLS.
25. SEAL OFF ALL PENETRATIONS THRU WALLS/FLOORS.
26. THE CONTRACTOR SHALL BECOME FAMILIAR WITH WMATA DESIGN CRITERIA SECTION 4 AND SECTION 13; WMATA SPECIFICATION SECTION 16120, 16130, AND 16125. ALL INSTALLATION SHALL BE IN COMPLIANCE WITH THE NEC, WMATA DESIGN CRITERIA, AND SPECIFICATIONS.
27. THE CONTRACTOR SHALL IDENTIFY SPARE CIRCUIT WITH "RESERVED FOR AFC".
28. EXISTING SWITCHBOARDS, PANELBOARDS AND EQUIPMENT SHOWN IS BASED ON RECORD DRAWINGS AND CASUAL FIELD SURVEY. CONTRACTOR SHALL VERIFY ALL ELECTRICAL EQUIPMENT IN FIELD.

ABBREVIATIONS

A, AMP	AMPERES
AC	ALTERNATING CURRENT
AF	AMPERE FRAME
AFC	AUTOMATED FARE COLLECTION SYSTEM
AFF	ABOVE FINISHED FLOOR
AIC	AMPERE INTERRUPTING CAPACITY
AT	AMPERE TRIP
BKR	BREAKER
C	CONDUIT
CB	CIRCUIT BREAKER
CCT	CIRCUIT
℄	CENTER LINE
CLG	CEILING
CONST	CONSTRUCTION
DISC	DISCONNECT
E	ELECTRICAL
GND	GROUND
JB	JUNCTION BOX
KAIC	THOUSAND AMPERE INTERRUPTING CAPACITY
KCMIL	THOUSAND CIRCULAR MILL
KVA	KILOVOLT AMPERE
MAX	MAXIMUM
MCA	MINIMUM CIRCUIT AMPERE
MCB	MAIN CIRCUIT BREAKER
MEZZ	MEZZANINE
MIN	MINIMUM
MLO	MAIN LUGS ONLY
NEC	NATIONAL ELECTRIC CODE
P	POLE
PH	PHASE
PNL	PANELBOARD
PRI	PRIMARY
PROP	PROPOSED
RGS	RIGID GALVANIZED STEEL
SEC	SECONDARY
SHT	SHEET
SW	SWITCH
SWBD	SWITCHBOARD
TYP	TYPICAL
U/G	UNDER GROUND
U.L.	UNDERWRITERS LABORATORIES
UON	UNLESS OTHERWISE NOTED
VOLT	VOLTAGE
W	WATT
WMATA	WASHINGTON METROPOLITIAN AREA TRANSIT AUTHORITY
WP	WEATHERPROOF

DRAWING INDEX

ELECTRICAL SYMBOL LIST

- QUADRUPLEX RECEPTACLE OUTLET– 20A, 125V WALL MOUNTED.
- J — JUNCTION BOX – SURFACE MOUNTED ON UNISTRUT CHANNEL
- CONDUIT – CONCEALED IN UNDER FLOOR DUCT U.O.N.
- #10-3/4, EF 3,5 — HOMERUN TO PANEL, NUMBER OF ARROWHEADS INDICATES NUMBER OF CIRCUITS. CROSS HATCHING INDICATES NUMBER OF CONDUCTORS, NUMBER INDICATES SIZE OF CONDUCTOR AND SIZE OF CONDUIT
  - ⏚ – INDICATES GROUNDING WIRE TO GROUNDING BUS AT THE PANELBOARD
  - EF 1,3 – INDICATES CIRCUIT HOME RUN PANELBOARD AND CIRCUIT NUMBER IDENTIFICATION

CONTRACT NO. 14-FQ10060-CENI-24

DESIGNED C. NGO 08-14 DATE
DRAWN C. NGO 08-14 DATE
CHECKED B. IDILBI 08-14 DATE
APPROVED N/A DATE

REFERENCE DRAWINGS

NUMBER	DESCRIPTION

REVISIONS

DATE	BY	DESCRIPTION

WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY

DEPARTMENT OF TRANSIT INFRASTRUCTURE AND ENGINEERING SERVICES
OFFICE OF INFRASTRUCTURE RENEWAL PROGRAM

APPROVED _____

GFP A Gannett Fleming/Parsons JOINT VENTURE

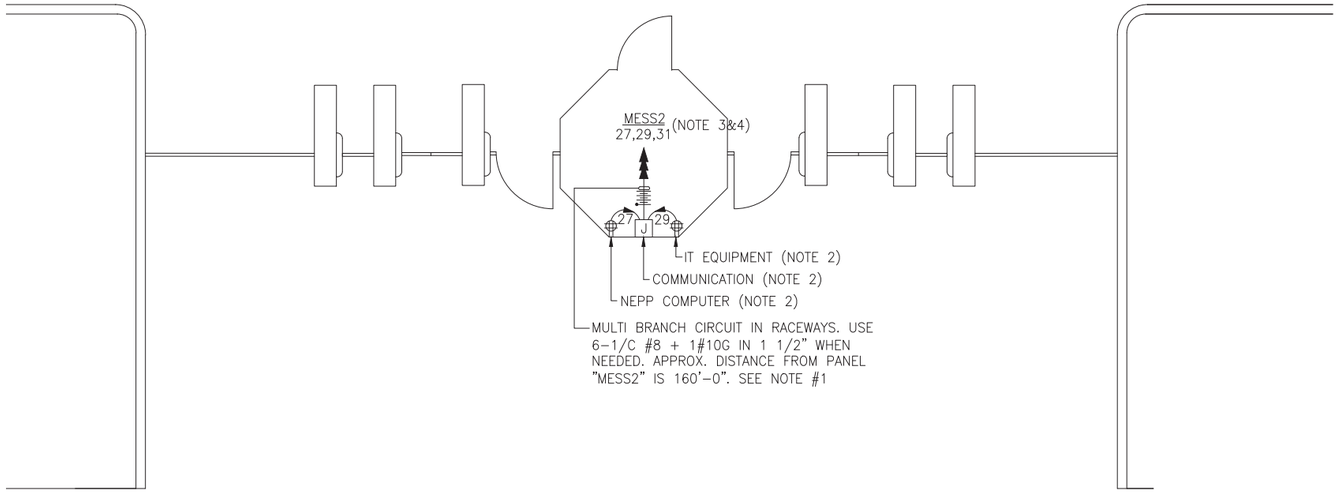
SUBMITTED _____ PROJECT MANAGER

NEW ELECTRONIC PAY PROGRAM (NEPP) IN METRORAIL STATIONS

ABBREVIATIONS, DRAWING INDEX, SPECIFICATIONS & SYMBOL LIST

SCALE: NOT TO SCALE

DRAWING NO.: F09-E-001



KIOSK - POWER

SCALE: 1/4" = 1'- 0"

DRAWING NOTES:

1. CONTRACTOR TO REFER TO SUPPLEMENTAL MEZZANINE INSPECTION REPORT, VOLUME 4 FURNISHED UNDER THIS SOLICITATION PACKAGE TO BE INFORMED THAT THE TOTAL LENGTH OF THE MULTI WIRE BRANCH CIRCUIT DEPICTED IN THE ELCTRICAL PLAN MAY EITHER CONSIST OF EXISTING POWER UNDER FLOOR DUCTS; OR IT COULD BE ALL CONDUIT RUN USING RIGID GALVANIZED STEEL CONDUITS; OR A COMBINATION OF BOTH WHICH IS RIGID GALVANIZED STEEL CONDUITS AND FLOOR DUCTS AND/OR JUST USE OF POWER FLOOR DUCT OR DEEMED REQUIRED IN THE REPORT.
2. COORDINATE WITH WMATA WHERE EXACTLY THE DUPLEX RECEPTACLE OUTLET AND JUNCTION BOX WILL BE INSTALLED IN THE KIOSK.
3. PROVIDE 3-NEW 20A, 1P CIRCUIT BREAKER AT EXISTING PANELBOARD AVAILABLE CIRCUIT BREAKER SPACES. NEW CIRCUIT BREAKERS SHALL MATCH EXISTING PANELBOARD CIRCUIT BREAKER AIC RATING. TERMINATE 2-NEW BRANCH CIRCUITS TO NEWLY INSTALLED CIRCUIT BREAKERS AND CONNECT PERMANENTLY TO QUAD RECEPTACLE OUTLETS LOCATED IN THE KIOSK. KEEP AND COILED REMAINING BRANCH CIRCUIT IN THE PANELBOARD AND INSIDE THE JUNCTION BOX AT THE KIOSK FOR FUTURE USE. UPDATE PANELBOARD DIRECTORY TO MANIFEST PANELBOARD ADDITIONAL LOADS.
4. THE REMAINING BRANCH CIRCUIT FOR FUTURE AFC FARE GATE APPLICATION SHALL BE SECURED, LABELED AND COILED AT THE KIOSK. THE LENGTH OF COILED PIGTAIL SHALL BE THE FARTHEST FARE GATE DISTANCE FROM KIOSK PLUS AN EXTRA 6'-0" CONDUCTOR.

SAFETY PRECAUTION:

1. ALL WORK SHALL COMPLY WITH WMATA SAFETY RULES, AND DE-ENERGIZATION POLICIES.

CONTRACT NO. 14-FQ10060-CENI-24

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CHECKED B. IDILBI 08-14 DATE
APPROVED N/A DATE

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WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY

DEPARTMENT OF TRANSIT INFRASTRUCTURE AND ENGINEERING SERVICES
OFFICE OF INFRASTRUCTURE RENEWAL PROGRAM

APPROVED

GFP A Gannett Fleming/Parsons JOINT VENTURE

SUBMITTED
PROJECT MANAGER

NEW ELECTRONIC PAY PROGRAM (NEPP) IN METRORAIL STATIONS

NAYLOR ROAD
KIOSK - POWER

SCALE: AS SHOWN

DRAWING NO. F09-E-101

EXISTING PANEL "MESS2"

AMPERES: 250	VOLTS: 120/208	MOUNTING: SURFACE	
MAINS: 250A MCB	PHASE: 3	LOCATION: ELEC. EQUIPMENT RM. 126	
RATING: 10K AIC	WIRE: 4	SECTION: 1 OF 1	

		CKT BKRS		CKT.		CKT.	CKT BKRS			
LOAD DESCRIPTION	KVA	AMP	POLE	NO.		NO.	POLE	AMP	KVA	LOAD DESCRIPTION
EXIST. LOAD CENTER "KES"	2.9	30	3	1	A - -	2	1	20	0.8	EXISTING VENDOR
	2.5	-	-	3	- B -	4	1	20	0.8	EXISTING VENDOR
	2.5	-	-	5	- - C	6	1	20	0.8	EXISTING VENDOR
EXISTING VENDOR	0.8	20	1	7	A - -	8	1	20	0.0	SPARE
EXISTING VENDOR	0.8	20	1	9	- B -	10	1	20	0.0	SPARE
EXISTING VENDOR	0.8	20	1	11	- - C	12	1	20	0.8	EXISTING VENDOR
EXISTING VENDOR	0.8	20	1	13	A - -	14	1	20	0.8	EXISTING VENDOR
EXISTING VENDOR	0.8	20	1	15	- B -	16	1	20	0.8	EXISTING VENDOR
EXISTING VENDOR	0.8	20	1	17	- - C	18	1	20	0.8	EXISTING VENDOR
EXISTING VENDOR	0.8	20	1	19	A - -	20	1	20	0.8	EXISTING VENDOR
EXISTING VENDOR	0.8	20	1	21	- B -	22	1	20	0.0	SPARE
EXISTING VENDOR	0.8	20	1	23	- - C	24	1	20	0.0	SPARE
EXISTING VENDOR	0.8	20	1	25	A - -	26	1	20	0.0	SPARE
NEW KIOSK RECEPT. (IT/NCS)	**0.8**	20	1	27	- B -	28	1	20	0.0	SPARE
NEW KIOSK RECEPT. (NEPP/SOC)	**0.8**	20	1	29	- - C	30	1	20	0.0	SPARE
FUTURE AFC FARE GATE	0.0	20	1	31	A - -	32	1	20	0.0	SPARE
SPARE	0.0	20	1	33	- B -	34	1	20	0.0	SPARE
SPARE	0.0	20	1	35	- - C	36	1	20	0.0	SPARE
SPARE	0.0	20	1	37	A - -	38	1	20	0.0	SPARE
SPARE	0.0	20	1	39	- B -	40	1	20	0.0	SPARE
SPACE	0.0	-	-	41	- - C	42	1	20	0.0	SPARE

LOAD SUMMARY

LIGHTS	0.0 x 125%		0.0 KVA
RECEPTACLES, FIRST 10 KVA	10.0 x 100%		10.0 KVA
RECEPTACLES	5.6 x 50%		2.8 KVA
MISC. APPLIANCES	0.0 x 100%		0.0 KVA
LARGEST MOTOR	0.0 x 125%		0.0 KVA
MOTORS	0.0 x 100%		0.0 KVA
HEAT	3.0 x 125%		3.8 KVA
AC	4.5 x 100%		4.5 KVA
WATER HEATING	0.0 x 125%		0.0 KVA
TOTAL CONNECTED LOAD	**23.1 KVA**	**TOTAL DEMAND KVA**	**21.1 KVA**
		TOTAL DEMAND AMPS	**58.5 AMPS**
CONNECTED LOAD PHASE SUMMARY			
PHASE A:	**8.5 KVA**		
PHASE B:	**7.3 KVA**		
PHASE C:	**8.1 KVA**		

CONTRACT NO.
14-FQ10060-CENI-24

DESIGNED C. NGO 08–14 DATE
DRAWN C. NGO 08–14 DATE
CHECKED B. IDILBI 08–14 DATE
APPROVED N/A DATE

REFERENCE DRAWINGS

NUMBER	DESCRIPTION

REVISIONS

DATE	BY	DESCRIPTION

WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY

DEPARTMENT OF TRANSIT INFRASTRUCTURE
AND ENGINEERING SERVICES
OFFICE OF INFRASTRUCTURE RENEWAL PROGRAM

APPROVED

GFP A Gannett Fleming/Parsons JOINT VENTURE

SUBMITTED
PROJECT MANAGER

NEW ELECTRONIC PAY PROGRAM (NEPP) IN METRORAIL STATIONS
NAYLOR ROAD
PANEL SCHEDULE

SCALE NOT TO SCALE

DRAWING NO. F09-E-102

ELECTRICAL SPECIFICATIONS

1. ALL WORK, MATERIAL AND EQUIPMENT SHALL COMPLY WITH THE LATEST NATIONAL ELECTRICAL CODE BEING USED BY THE LOCAL JURISDICTION AND SHALL COMPLY WITH ALL LOCAL CODES AND ORDINANCES.
2. MATERIALS AND EQUIPMENT SHALL BE NEW EXCEPT WHERE INDICATED OTHERWISE. ALL OTHER WIRING DEVICES, CONDUIT, WIRE, ETC. SHALL BE NEW UNLESS NOTED OTHERWISE.
3. ALL MATERIALS AND EQUIPMENT SHALL BEAR U.L. LISTING.
4. MAINTAIN GROUNDING CONTINUITY TO ALL DEVICES AND EQUIPMENT IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE.
5. WORK NOT SPECIFICALLY SPECIFIED OR INDICATED SHALL CONFORM WITH SPECIFICATIONS.
6. ALL CONDUITS SHALL BE RUN CONCEALED IN UNDER FLOOR DUCT.
7. ALL WIRE AND CABLE SHALL BE COPPER HAVING 600 VOLTS XHHW-2 OR RHW-2 INSULATIONS. PROVIDE #12 WIRE MINIMUM, UNLESS OTHERWISE NOTED. ALL CABLES SHALL BE LOW SMOKE ZERO HALOGEN CABLE.
8. THE CONTRACTOR SHALL VISIT THE SITE AND EXAMINE THE CONDITION OF THE PREMISES AND THE CHARACTER AND EXTENT OF WORK REQUIRED PRIOR TO SUBMISSION OF BIDS.
9. OBTAIN ALL PERMITS AND PAY ALL FEES NECESSARY FOR INSPECTIONS, TESTS & OTHER SERVICES REQUIRED FOR THE COMPLETION OF THIS WORK.
10. ALL WORK SHALL BE DONE AT SUCH TIMES AND IN SUCH A MANNER THAT WILL LEAST INTERFERE WITH THE MAINTENANCE AND OPERATION OF ALL RELATED OR AFFECTED SYSTEMS. COORDINATE ALL POWER OUTAGES WITH WMATA PROJECT MANAGER.
11. IT IS THE INTENT OF THESE DRAWINGS AND OTHER RELATED DOCUMENTS TO PRODUCE A COMPLETE AND FUNCTIONING ELECTRICAL SYSTEM. PROVIDE ALL LABOR, MATERIAL AND OTHER SERVICES NECESSARY TO ACHIEVE THIS PRODUCT. NOTIFY THE ENGINEER OF ANY DISCREPANCIES IN THE PLANS & SPECIFICATIONS THAT WILL AFFECT THE WORK, PRIOR TO SUBMISSION OF THE BID PRICE.
12. IF, DURING THE COURSE OF THE WORK, THE CONTRACTOR EXPERIENCES A CONFLICT RELATIVE TO THE PLANS AND SPECIFICATIONS, THE NEC OR OTHER APPLICABLE CODES AND GOVERNING DOCUMENTS, HE SHALL NOTIFY THE ENGINEER FOR DIRECTION PRIOR TO EXECUTION OF THIS WORK. ANY WORK INSTALLED IN VIOLATION OF THE CONTRACT DOCUMENT OR APPLICABLE CODES WHICH COULD HAVE BEEN AVOIDED BY CONTACTING THE ENGINEER SHALL BE RECTIFIED AT NO ADDITIONAL COST.
13. ELECTRICAL PLANS ARE DIAGRAMMATIC & INDICATE GENERAL ARRANGEMENT OF SYSTEMS AND WORK. CHECK DRAWINGS OF OTHER TRADES TO VERIFY SPACE CONDITIONS, ETC. MAINTAIN WORKING CLEARANCES.
14. CIRCUIT NUMBERS ARE FOR IDENTIFICATION PURPOSES ONLY. THE CONTRACTOR IS RESPONSIBLE FOR CORRECTLY PHASING THE CIRCUITS IN THE PANEL AND SHALL BALANCE THE LOAD ON THE PHASES UNDER NORMAL OPERATING CONDITIONS. PROVIDE TYPEWRITTEN PANELBOARD DIRECTORIES. BALANCE THE PHASE LOADS TO WITHIN 20 PERCENT OF EACH OTHER.
15. INCREASE ALL BRANCH CIRCUIT CONDUCTORS TO THE NEXT LARGER SIZE FROM THE PANEL TO THE FIRST OUTLET WHERE THE LENGTH OF THE HOMERUN EXCEEDS 100FT. ON 120/208V CIRCUITS.
16. PROVIDE A PULLWIRE OR FISHTAPE/CORD IN ALL EMPTY CONDUIT RUNS.
17. VERIFY WIRE SIZES, CIRCUIT BREAKERS AND FUSES RATINGS FOR ALL EQUIPMENT, AND NOTIFY THE ENGINEER OF ANY DISCREPANCIES AFFECTING THE WORK PRIOR TO PROCEEDING.
18. ALL PANELS IMPACTED BY THIS PROJECT SHALL BE PROVIDED WITH NEW, UPDATED TYPEWRITTEN PANEL SCHEDULES (FOR NEW AND EXISTING CIRCUITS) INDICATING THE FINAL ROOM NUMBER AND THE EQUIPMENT OR DEVICES SERVED BY THE CIRCUITS.
19. DEMOLITION OF EXISTING WORK SHALL BE PERFORMED AFTER HOURS. ELECTRICAL CONTRACTOR SHALL COORDINATE WITH THE WMATA PROJECT MANAGER PRIOR TO PERFORMING ALL THE WORK. THE TIME OF DAY OR EVENING SHALL BE DESIGNATED BY THE WMATA PROJECT MANAGER.
20. ALL WIRING SHALL BE IN CONDUIT, MINIMUM SIZE 3/4 INCH WITH LARGER SIZES AS INDICATED OR REQUIRED BY NEC. ALL CONDUITS SHALL BE RIGID GALVANIZED STEEL W/SCREW IN COUPLING FOR COMPLETE WATER PROOF INSTALLATION.
21. AT JOB COMPLETION, AND BEFORE FINAL ACCEPTANCE BY WMATA, TEST EACH RECEPTACLE AND PANELBOARD FOR PROPER OPERATION. WIRING SHALL BE TESTED FOR CONTINUITY, SHORTS, ETC... ALL WORK AREAS, ETC.. SHALL BE CLEANED AT THE COMPLETION OF THIS PROJECT.
22. FOR DEVICE IDENTIFICATION, THE ELECTRICAL CONTRACTOR SHALL LABEL ALL PANELBOARDS, JUNCTION BOXES, ETC..TO INDICATE THE NAME, VOLTAGE, SERVING EQUIPMENT AND ITEM SERVED ETC... LABELS FOR EMERGENCY CIRCUITS SHALL BE IN RED, NORMAL CIRCUITS SHALL BE IN BLACK. ALL DEVICES SHALL BE IDENTIFIED EITHER ON THE FACE OF THE COVERPLATE OR INSIDE PER WMATA PREFERENCE. ALL JUNCTION BOXES SHALL BE LABELED TO INDICATE THE CIRCUITS CONTAINED BY THE JUNCTION BOX.
23. THE CONTRACTOR SHALL UPDATE THE SCHEDULES OF ALL PANELBOARDS AFFECTED BY THIS PROJECT TO REFLECT CHANGES DUE TO THE PROJECT WORK. PANEL SCHEDULE LOAD DESCRIPTIONS ARE TO INCLUDE THE FINAL ROOM OR AREA NUMBERS.
24. INCLUDE GPR FOR ANY CORE DRILLS OR DRILLED PENETRATIONS IN ANY WALLS.
25. SEAL OFF ALL PENETRATIONS THRU WALLS/FLOORS.
26. THE CONTRACTOR SHALL BECOME FAMILIAR WITH WMATA DESIGN CRITERIA SECTION 4 AND SECTION 13; WMATA SPECIFICATION SECTION 16120, 16130, AND 16125. ALL INSTALLATION SHALL BE IN COMPLIANCE WITH THE NEC, WMATA DESIGN CRITERIA, AND SPECIFICATIONS.
27. THE CONTRACTOR SHALL IDENTIFY SPARE CIRCUIT WITH "RESERVED FOR AFC".
28. EXISTING SWITCHBOARDS, PANELBOARDS AND EQUIPMENT SHOWN IS BASED ON RECORD DRAWINGS AND CASUAL FIELD SURVEY. CONTRACTOR SHALL VERIFY ALL ELECTRICAL EQUIPMENT IN FIELD.
29. The conduit utilized for this project shall be 1-1/2" min. or larger as indicated. The liquid tight utilized for the kiosk shall be 1-1/2" from the entry to the 8x8 junction box, then 1" from the junction box to the quads. All boxes used in or on the kiosk shall be NEMA 4x.

ABBREVIATIONS

A, AMP	AMPERES
AC	ALTERNATING CURRENT
AEMS	AUTOMATED ENERGY MANAGEMENT SYSTEM
AF	AMPERE FRAME
AFC	AUTOMATED FARE COLLECTION SYSTEM
AFF	ABOVE FINISHED FLOOR
AIC	AMPERE INTERRUPTING CAPACITY
AT	AMPERE TRIP
ATS	AUTOMATIC TRANSFER SWITCH
BATT	BATTERY
BKR	BREAKER
℄	BASELINE
C	CONDUIT
CB	CIRCUIT BREAKER
CCT	CIRCUIT
℄	CENTER LINE
CLG	CEILING
CONST	CONSTRUCTION
DC	DIRECT CURRENT
DISC	DISCONNECT
E	ELECTRICAL
FLUOR.	FLUORESCENT
GND	GROUND
GPR	GROUND PENETRATING RADAR
IG	ISOLATED GROUND
JB	JUNCTION BOX
KAIC	THOUSAND AMPERE INTERRUPTING CAPACITY
KCMIL	THOUSAND CIRCULAR MILL
KVA	KILOVOLT AMPERE
MAX	MAXIMUM
MCA	MINIMUM CIRCUIT AMPERE
MCB	MAIN CIRCUIT BREAKER
MEZZ	MEZZANINE
MIN	MINIMUM
MLO	MAIN LUGS ONLY
MTD	MOUNTED OR MOUNTING
NEC	NATIONAL ELECTRIC CODE
NEMA	NATIONAL ELECTRICAL MANUFACTURER ASSOCIATION
P	POLE
PH	PHASE
PNL	PANELBOARD
PRI	PRIMARY
PROP	PROPOSED
RGS	RIGID GALVANIZED STEEL
SEC	SECONDARY
SHT	SHEET
STA	STATION
STD	STANDARD
SW	SWITCH
SWBD	SWITCHBOARD
TYP	TYPICAL
U/G	UNDER GROUND
U.L.	UNDERWRITERS LABORATORIES
UON	UNLESS OTHERWISE NOTED
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WMATA	WASHINGTON METROPOLITIAN AREA TRANSIT AUTHORITY
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DRAWING INDEX

ELECTRICAL SYMBOL LIST

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- J — JUNCTION BOX – SURFACE MOUNTED ON UNISTRUT CHANNEL
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- #10-3/4, EF 3,5 — HOMERUN TO PANEL, NUMBER OF ARROWHEADS INDICATES NUMBER OF CIRCUITS. CROSS HATCHING INDICATES NUMBER OF CONDUCTORS, NUMBER INDICATES SIZE OF CONDUCTOR AND SIZE OF CONDUIT
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CONTRACT NO.
14-FQ10060-CENI-24

DESIGNED	C. NGO	08-14 DATE
DRAWN	C. NGO	08-14 DATE
CHECKED	B. IDILBI	08-14 DATE
APPROVED	N/A	DATE

REFERENCE DRAWINGS

NUMBER	DESCRIPTION

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WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY

DEPARTMENT OF TRANSIT INFRASTRUCTURE AND ENGINEERING SERVICES
OFFICE OF INFRASTRUCTURE RENEWAL PROGRAM

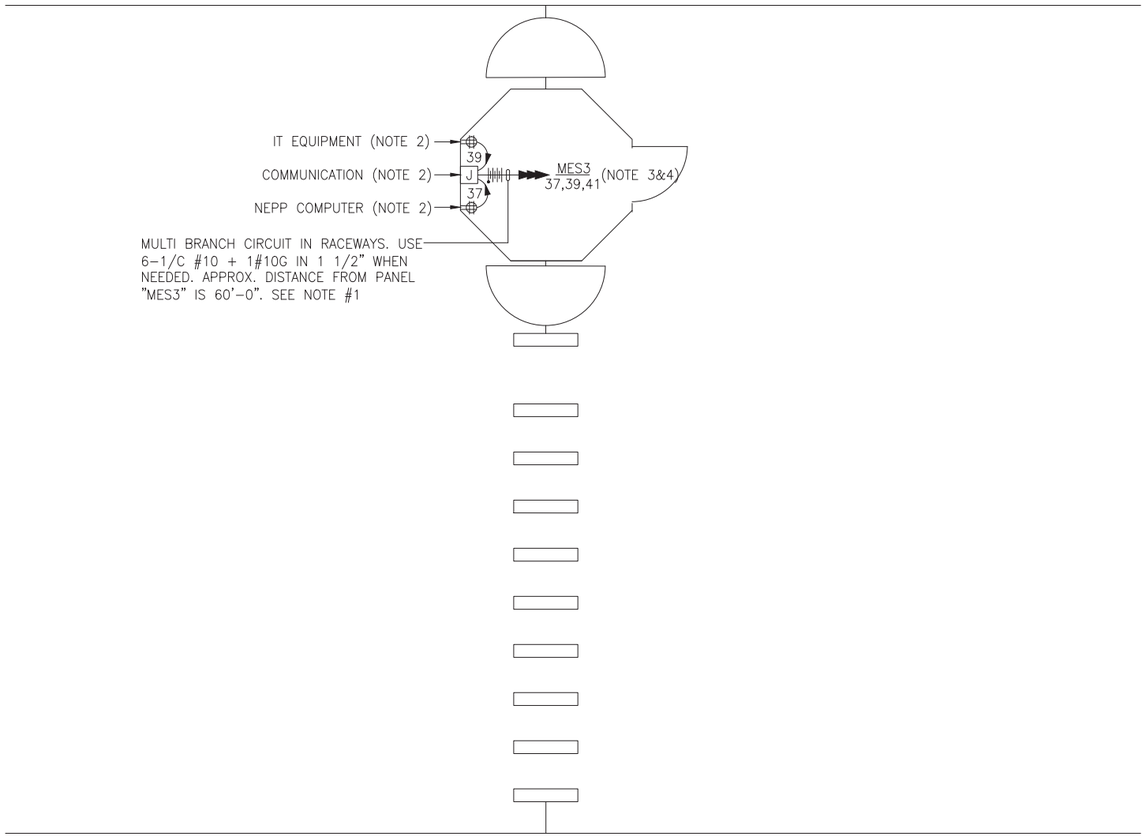
APPROVED _____

GFP A Gannett Fleming/Parsons JOINT VENTURE

SUBMITTED _____ PROJECT MANAGER

NEW ELECTRONIC PAY PROGRAM (NEPP) IN METRORAIL STATIONS
ABBREVIATIONS, DRAWING INDEX, SPECIFICATIONS & SYMBOL LIST

SCALE	DRAWING NO.
NOT TO SCALE	F11-E-001



MEZZANINE KIOSK - POWER

SCALE: 1/4" = 1'- 0"

DRAWING NOTES:

1. CONTRACTOR TO REFER TO SUPPLEMENTAL MEZZANINE INSPECTION REPORT, VOLUME 4 FURNISHED UNDER THIS SOLICITATION PACKAGE TO BE INFORMED THAT THE TOTAL LENGTH OF THE MULTI WIRE BRANCH CIRCUIT DEPICTED IN THE ELCTRICAL PLAN MAY EITHER CONSIST OF EXISTING POWER UNDER FLOOR DUCTS; OR IT COULD BE ALL CONDUIT RUN USING RIGID GALVANIZED STEEL CONDUITS; OR A COMBINATION OF BOTH WHICH IS RIGID GALVANIZED STEEL CONDUITS AND FLOOR DUCTS AND/OR JUST USE OF POWER FLOOR DUCT OR DEEMED REQUIRED IN THE REPORT.
2. COORDINATE WITH WMATA WHERE EXACTLY THE DUPLEX RECEPTACLE OUTLET AND JUNCTION BOX WILL BE INSTALLED IN THE KIOSK.
3. PROVIDE 3-NEW 20A, 1P CIRCUIT BREAKER AT EXISTING PANELBOARD AVAILABLE CIRCUIT BREAKER SPACES. NEW CIRCUIT BREAKERS SHALL MATCH EXISTING PANELBOARD CIRCUIT BREAKER AIC RATING. TERMINATE 2-NEW BRANCH CIRCUITS TO NEWLY INSTALLED CIRCUIT BREAKERS AND CONNECT PERMANENTLY TO QUAD RECEPTACLE OUTLETS LOCATED IN THE KIOSK. KEEP AND COILED REMAINING BRANCH CIRCUIT IN THE PANELBOARD AND INSIDE THE JUNCTION BOX AT THE KIOSK FOR FUTURE USE. UPDATE PANELBOARD DIRECTORY TO MANIFEST PANELBOARD ADDITIONAL LOADS.
4. THE REMAINING BRANCH CIRCUIT FOR FUTURE AFC FARE GATE APPLICATION SHALL BE SECURED, LABELED AND COILED AT THE KIOSK. THE LENGTH OF COILED PIGTAIL SHALL BE THE FARTHEST FARE GATE DISTANCE FROM KIOSK PLUS AN EXTRA 6'-0" CONDUCTOR.

SAFETY PRECAUTION:

1. ALL WORK SHALL COMPLY WITH WMATA SAFETY RULES, AND DE-ENERGIZATION POLICIES.

CONTRACT NO. 14-FQ10060-CENI-24

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APPROVED

GFP A Gannett Fleming/Parsons JOINT VENTURE

SUBMITTED
PROJECT MANAGER

NEW ELECTRONIC PAY PROGRAM (NEPP) IN METRORAIL STATIONS
BRANCH AVENUE
MEZZANINE KIOSK - POWER

SCALE: AS SHOWN

DRAWING NO. F11-E-101

EXISTING PANEL "MES3"

AMPERES: 400	VOLTS: 120/208	MOUNTING: SURFACE
MAINS: 250A MCB	PHASE: 3	LOCATION: ELEC. ROOM C203
RATING: 10K AIC	WIRE: 4	SECTION: 1 OF 1

		CKT BKRS		CKT.		CKT.	CKT BKRS			
LOAD DESCRIPTION	KVA	AMP	POLE	NO.		NO.	POLE	AMP	KVA	LOAD DESCRIPTION
EXIST. LOAD CENTER "KES"	2.9	30	3	1	A - -	2	1	20	0.8	EXISTING VENDOR
	2.5	-	-	3	- B -	4	1	20	0.8	EXISTING VENDOR
	2.5	-	-	5	- - C	6	1	20	0.0	SPARE
EXISTING VENDOR	0.8	20	1	7	A - -	8	1	20	0.0	SPARE
EXISTING VENDOR	0.8	20	1	9	- B -	10	1	20	0.8	EXISTING VENDOR
EXISTING VENDOR	0.8	20	1	11	- - C	12	1	20	0.8	EXISTING VENDOR
EXISTING VENDOR	0.8	20	1	13	A - -	14	1	20	0.8	EXISTING VENDOR
EXISTING VENDOR	0.8	20	1	15	- B -	16	1	20	0.8	EXISTING VENDOR
EXISTING VENDOR	0.8	20	1	17	- - C	18	1	20	0.8	EXISTING VENDOR
EXISTING VENDOR	0.8	20	1	19	A - -	20	1	20	0.8	EXISTING VENDOR
EXISTING VENDOR	0.8	20	1	21	- B -	22	1	20	0.8	EXISTING VENDOR
SPARE	0.0	30	3	23	- - C	24	1	20	0.8	EXISTING VENDOR
	0.0	-	-	25	A - -	26	1	20	0.8	EXISTING VENDOR
	0.0	-	-	27	- B -	28	1	20	0.0	SPARE
SPARE	0.0	20	1	29	- - C	30	1	20	0.0	SPARE
EXISTING VENDOR	0.8	20	1	31	A - -	32	1	20	0.8	EXISTING VENDOR
EXISTING VENDOR	0.8	20	1	33	- B -	34	1	20	0.8	EXISTING VENDOR
EXISTING VENDOR	0.8	20	1	35	- - C	36	1	20	0.8	EXISTING VENDOR
NEW KIOSK RECEPT. (IT/NCS)	**0.8**	20	1	37	A - -	38	1	20	0.0	SPARE
NEW KIOSK RECEPT. (NEPP/SOC)	**0.8**	20	1	39	- B -	40	1	20	0.0	SPARE
FUTURE AFC FARE GATE	0.0	20	1	41	- - C	42	1	20	0.8	EXISTING VENDOR

LOAD SUMMARY

LIGHTS	0.0 x 125%		0.0 KVA
RECEPTACLES, FIRST 10 KVA	10.0 x 100%		10.0 KVA
RECEPTACLES	12.0 x 50%		6.0 KVA
MISC. APPLIANCES	0.0 x 100%		0.0 KVA
LARGEST MOTOR	0.0 x 125%		0.0 KVA
MOTORS	0.0 x 100%		0.0 KVA
HEAT	3.0 x 125%		3.8 KVA
AC	4.5 x 100%		4.5 KVA
WATER HEATING	0.0 x 125%		0.0 KVA
TOTAL CONNECTED LOAD	**29.5 KVA**	**TOTAL DEMAND KVA**	**24.3 KVA**
		TOTAL DEMAND AMPS	**67.4 AMPS**
CONNECTED LOAD PHASE SUMMARY			
PHASE A:	**10.9 KVA**		
PHASE B:	**10.5 KVA**		
PHASE C:	**8.9 KVA**		

CONTRACT NO.
14-FQ10060-CENI-24

DESIGNED C. NGO 08-14 DATE
DRAWN C. NGO 08-14 DATE
CHECKED B. IDILBI 08-14 DATE
APPROVED N/A DATE

REFERENCE DRAWINGS

NUMBER	DESCRIPTION

REVISIONS

DATE	BY	DESCRIPTION

WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY

DEPARTMENT OF TRANSIT INFRASTRUCTURE
AND ENGINEERING SERVICES
OFFICE OF INFRASTRUCTURE RENEWAL PROGRAM

APPROVED

GFP A Gannett Fleming/Parsons JOINT VENTURE

SUBMITTED
PROJECT MANAGER

NEW ELECTRONIC PAY PROGRAM (NEPP) IN METRORAIL STATIONS

BRANCH AVENUE
PANEL SCHEDULE

SCALE
NOT TO SCALE

DRAWING NO.
F11-E-102

ELECTRICAL SPECIFICATIONS

1. ALL WORK, MATERIAL AND EQUIPMENT SHALL COMPLY WITH THE LATEST NATIONAL ELECTRICAL CODE BEING USED BY THE LOCAL JURISDICTION AND SHALL COMPLY WITH ALL LOCAL CODES AND ORDINANCES.
2. MATERIALS AND EQUIPMENT SHALL BE NEW EXCEPT WHERE INDICATED OTHERWISE. ALL OTHER WIRING DEVICES, CONDUIT, WIRE, ETC. SHALL BE NEW UNLESS NOTED OTHERWISE.
3. ALL MATERIALS AND EQUIPMENT SHALL BEAR U.L. LISTING.
4. MAINTAIN GROUNDING CONTINUITY TO ALL DEVICES AND EQUIPMENT IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE.
5. WORK NOT SPECIFICALLY SPECIFIED OR INDICATED SHALL CONFORM WITH SPECIFICATIONS.
6. ALL CONDUITS SHALL BE RUN CONCEALED IN UNDER FLOOR DUCT.
7. ALL WIRE AND CABLE SHALL BE COPPER HAVING 600 VOLTS XHHW-2 OR RHW-2 INSULATIONS. PROVIDE #12 WIRE MINIMUM, UNLESS OTHERWISE NOTED. ALL CABLES SHALL BE LOW SMOKE ZERO HALOGEN CABLE.
8. THE CONTRACTOR SHALL VISIT THE SITE AND EXAMINE THE CONDITION OF THE PREMISES AND THE CHARACTER AND EXTENT OF WORK REQUIRED PRIOR TO SUBMISSION OF BIDS.
9. OBTAIN ALL PERMITS AND PAY ALL FEES NECESSARY FOR INSPECTIONS, TESTS & OTHER SERVICES REQUIRED FOR THE COMPLETION OF THIS WORK.
10. ALL WORK SHALL BE DONE AT SUCH TIMES AND IN SUCH A MANNER THAT WILL LEAST INTERFERE WITH THE MAINTENANCE AND OPERATION OF ALL RELATED OR AFFECTED SYSTEMS. COORDINATE ALL POWER OUTAGES WITH WMATA PROJECT MANAGER.
11. IT IS THE INTENT OF THESE DRAWINGS AND OTHER RELATED DOCUMENTS TO PRODUCE A COMPLETE AND FUNCTIONING ELECTRICAL SYSTEM. PROVIDE ALL LABOR, MATERIAL AND OTHER SERVICES NECESSARY TO ACHIEVE THIS PRODUCT. NOTIFY THE ENGINEER OF ANY DISCREPANCIES IN THE PLANS & SPECIFICATIONS THAT WILL AFFECT THE WORK, PRIOR TO SUBMISSION OF THE BID PRICE.
12. IF, DURING THE COURSE OF THE WORK, THE CONTRACTOR EXPERIENCES A CONFLICT RELATIVE TO THE PLANS AND SPECIFICATIONS, THE NEC OR OTHER APPLICABLE CODES AND GOVERNING DOCUMENTS, HE SHALL NOTIFY THE ENGINEER FOR DIRECTION PRIOR TO EXECUTION OF THIS WORK. ANY WORK INSTALLED IN VIOLATION OF THE CONTRACT DOCUMENT OR APPLICABLE CODES WHICH COULD HAVE BEEN AVOIDED BY CONTACTING THE ENGINEER SHALL BE RECTIFIED AT NO ADDITIONAL COST.
13. ELECTRICAL PLANS ARE DIAGRAMMATIC & INDICATE GENERAL ARRANGEMENT OF SYSTEMS AND WORK. CHECK DRAWINGS OF OTHER TRADES TO VERIFY SPACE CONDITIONS, ETC. MAINTAIN WORKING CLEARANCES.
14. CIRCUIT NUMBERS ARE FOR IDENTIFICATION PURPOSES ONLY. THE CONTRACTOR IS RESPONSIBLE FOR CORRECTLY PHASING THE CIRCUITS IN THE PANEL AND SHALL BALANCE THE LOAD ON THE PHASES UNDER NORMAL OPERATING CONDITIONS. PROVIDE TYPEWRITTEN PANELBOARD DIRECTORIES. BALANCE THE PHASE LOADS TO WITHIN 20 PERCENT OF EACH OTHER.
15. INCREASE ALL BRANCH CIRCUIT CONDUCTORS TO THE NEXT LARGER SIZE FROM THE PANEL TO THE FIRST OUTLET WHERE THE LENGTH OF THE HOMERUN EXCEEDS 100FT. ON 120/208V CIRCUITS.
16. PROVIDE A PULLWIRE OR FISHTAPE/CORD IN ALL EMPTY CONDUIT RUNS.
17. VERIFY WIRE SIZES, CIRCUIT BREAKERS AND FUSES RATINGS FOR ALL EQUIPMENT, AND NOTIFY THE ENGINEER OF ANY DISCREPANCIES AFFECTING THE WORK PRIOR TO PROCEEDING.
18. ALL PANELS IMPACTED BY THIS PROJECT SHALL BE PROVIDED WITH NEW, UPDATED TYPEWRITTEN PANEL SCHEDULES (FOR NEW AND EXISTING CIRCUITS) INDICATING THE FINAL ROOM NUMBER AND THE EQUIPMENT OR DEVICES SERVED BY THE CIRCUITS.
19. DEMOLITION OF EXISTING WORK SHALL BE PERFORMED AFTER HOURS. ELECTRICAL CONTRACTOR SHALL COORDINATE WITH THE WMATA PROJECT MANAGER PRIOR TO PERFORMING ALL THE WORK. THE TIME OF DAY OR EVENING SHALL BE DESIGNATED BY THE WMATA PROJECT MANAGER.
20. ALL WIRING SHALL BE IN CONDUIT, MINIMUM SIZE 3/4 INCH WITH LARGER SIZES AS INDICATED OR REQUIRED BY NEC. ALL CONDUITS SHALL BE RIGID GALVANIZED STEEL THREADED COUPLING FOR COMPLETE WATER PROOF INSTALLATION.
21. AT JOB COMPLETION, AND BEFORE FINAL ACCEPTANCE BY WMATA, TEST EACH RECEPTACLE AND PANELBOARD FOR PROPER OPERATION. WIRING SHALL BE TESTED FOR CONTINUITY, SHORTS, ETC... ALL WORK AREAS, ETC.. SHALL BE CLEANED AT THE COMPLETION OF THIS PROJECT.
22. FOR DEVICE IDENTIFICATION, THE ELECTRICAL CONTRACTOR SHALL LABEL ALL PANELBOARDS, JUNCTION BOXES, ETC..TO INDICATE THE NAME, VOLTAGE, SERVING EQUIPMENT AND ITEM SERVED ETC... LABELS FOR EMERGENCY CIRCUITS SHALL BE IN RED, NORMAL CIRCUITS SHALL BE IN BLACK. ALL DEVICES SHALL BE IDENTIFIED EITHER ON THE FACE OF THE COVERPLATE OR INSIDE PER WMATA PREFERENCE. ALL JUNCTION BOXES SHALL BE LABELED TO INDICATE THE CIRCUITS CONTAINED BY THE JUNCTION BOX.
23. THE CONTRACTOR SHALL UPDATE THE SCHEDULES OF ALL PANELBOARDS AFFECTED BY THIS PROJECT TO REFLECT CHANGES DUE TO THE PROJECT WORK. PANEL SCHEDULE LOAD DESCRIPTIONS ARE TO INCLUDE THE FINAL ROOM OR AREA NUMBERS.
24. INCLUDE GPR FOR ANY CORE DRILLS OR DRILLED PENETRATIONS IN ANY WALLS.
25. SEAL OFF ALL PENETRATIONS THRU WALLS/FLOORS.
26. THE CONTRACTOR SHALL BECOME FAMILIAR WITH WMATA DESIGN CRITERIA SECTION 4 AND SECTION 13; WMATA SPECIFICATION SECTION 16120, 16130, AND 16125. ALL INSTALLATION SHALL BE IN COMPLIANCE WITH THE NEC, WMATA DESIGN CRITERIA, AND SPECIFICATIONS.
27. THE CONTRACTOR SHALL IDENTIFY SPARE CIRCUIT WITH "RESERVED FOR AFC".
28. EXISTING SWITCHBOARDS, PANELBOARDS AND EQUIPMENT SHOWN IS BASED ON RECORD DRAWINGS AND CASUAL FIELD SURVEY. CONTRACTOR SHALL VERIFY ALL ELECTRICAL EQUIPMENT IN FIELD.
29. The conduit utilized for this project shall be 1-1/2" min. or larger as indicated. The liquid tight utilized for the kiosk shall be 1-1/2" from the entry to the 8x8 junction box, then 1" from the junction box to the quads. All boxes used in or on the kiosk shall be NEMA 4x.

ABBREVIATIONS

A, AMP	AMPERES
AC	ALTERNATING CURRENT
AF	AMPERE FRAME
AFC	AUTOMATED FARE COLLECTION SYSTEM
AFF	ABOVE FINISHED FLOOR
AIC	AMPERE INTERRUPTING CAPACITY
AT	AMPERE TRIP
BKR	BREAKER
C	CONDUIT
CB	CIRCUIT BREAKER
CCT	CIRCUIT
℄	CENTER LINE
CLG	CEILING
CONST	CONSTRUCTION
DISC	DISCONNECT
E	ELECTRICAL
GND	GROUND
JB	JUNCTION BOX
KAIC	THOUSAND AMPERE INTERRUPTING CAPACITY
KCMIL	THOUSAND CIRCULAR MILL
KVA	KILOVOLT AMPERE
MAX	MAXIMUM
MCA	MINIMUM CIRCUIT AMPERE
MCB	MAIN CIRCUIT BREAKER
MEZZ	MEZZANINE
MIN	MINIMUM
MLO	MAIN LUGS ONLY
NEC	NATIONAL ELECTRIC CODE
P	POLE
PH	PHASE
PNL	PANELBOARD
PRI	PRIMARY
PROP	PROPOSED
RGS	RIGID GALVANIZED STEEL
SEC	SECONDARY
SHT	SHEET
SW	SWITCH
SWBD	SWITCHBOARD
TYP	TYPICAL
U/G	UNDER GROUND
U.L.	UNDERWRITERS LABORATORIES
UON	UNLESS OTHERWISE NOTED
VOLT	VOLTAGE
W	WATT
WMATA	WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY
WP	WEATHERPROOF

DRAWING INDEX

ELECTRICAL SYMBOL LIST

- QUADRUPLEX RECEPTACLE OUTLET– 20A, 125V WALL MOUNTED.
- J — JUNCTION BOX – SURFACE MOUNTED ON UNISTRUT CHANNEL
- CONDUIT – CONCEALED IN UNDER FLOOR DUCT U.O.N.
- #10-3/4 EE 3,5 — HOMERUN TO PANEL, NUMBER OF ARROWHEADS INDICATES NUMBER OF CIRCUITS. CROSS HATCHING INDICATES NUMBER OF CONDUCTORS, NUMBER INDICATES SIZE OF CONDUCTOR AND SIZE OF CONDUIT
- ⏚ – INDICATES GROUNDING WIRE TO GROUNDING BUS AT THE PANELBOARD
- EE 1,3 – INDICATES CIRCUIT HOME RUN PANELBOARD AND CIRCUIT NUMBER IDENTIFICATION

CONTRACT NO.
14-FQ10060-CENI-24

DESIGNED	C. NGO	07-14 DATE
DRAWN	C. NGO	07-14 DATE
CHECKED	B. IDLISI	07-14 DATE
APPROVED	N/A	DATE

REFERENCE DRAWINGS

NUMBER	DESCRIPTION

REVISIONS

DATE	BY	DESCRIPTION

WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY

DEPARTMENT OF TRANSIT INFRASTRUCTURE AND ENGINEERING SERVICES
OFFICE OF INFRASTRUCTURE RENEWAL PROGRAM

APPROVED

GFP A Gannett Fleming/Parsons JOINT VENTURE

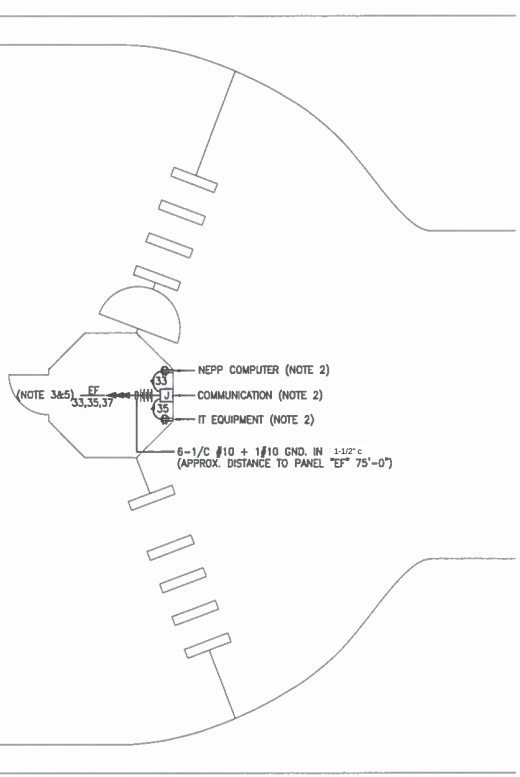
SUBMITTED
PROJECT MANAGER

NEW ELECTRONIC PAY PROGRAM (NEPP) IN METRORAIL STATIONS

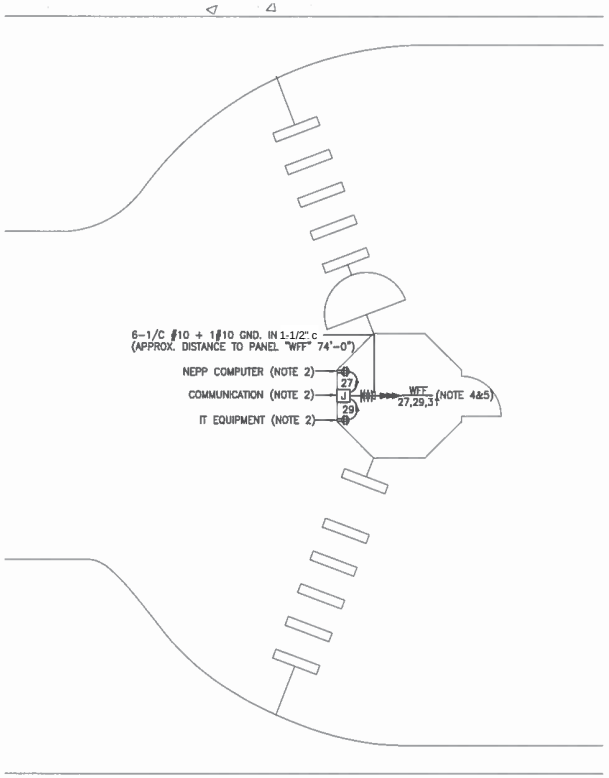
ABBREVIATIONS, DRAWING INDEX, SPECIFICATIONS & SYMBOL LIST

SCALE: NOT TO SCALE

DRAWING NO.: A01-E-001



EAST MEZZANINE KIOSK - POWER
SCALE: 1/4" = 1'- 0"



WEST MEZZANINE KIOSK - POWER
SCALE: 1/4" = 1'- 0"

DRAWING NOTES:

1. USE EXISTING UNDER FLOOR DUCT FOR POWER WIRING. ALL OUTSIDE FLOOR DUCT WIRING SHALL BE IN CONDUIT.
2. VERIFY WITH WMATA PERSONNEL FOR LOCATION OF RECEPTACLES & JUNCTION BOXES.
3. AT AVAILABLE SPACE CIRCUIT #33, #35 & #37 PROVIDE 3-NEW 20A, 1P CIRCUIT BREAKERS IN THE EXISTING AVAILABLE SPACE, NEW CB SHALL MATCH EXISTING CB IN EXISTING PANEL "EF", CONNECT NEW CIRCUITS TO THESE BREAKERS. SEE PANEL SCHEDULE ON DWG. A01-E-102.
4. CONNECT CIRCUIT #27, #29 & #31 TO EXISTING 20A, 1P SPARE CIRCUIT BREAKERS IN THE EXISTING PANEL "WFF". SEE PANEL SCHEDULE ON DWG. A01-E-102.
5. PROVIDE A ROUGH-IN CIRCUIT FOR FUTURE AFC FARE GATE COILED AT THE KIOSK. THE LENGTH OF COILED PIGTAIL SHALL BE THE FARTHEST FARE GATE DISTANCE FROM KIOSK PLUS AN EXTRA 6'0" CONDUCTOR.

SAFETY PRECAUTION:

1. ALL WORK SHALL COMPLY WITH WMATA SAFETY RULES, AND DE-ENERGIZATION POLICIES.

CONTRACT NO.
14-FQ10060-CENI-24

DESIGNED C. NGO	07-14 DATE	
DRAWN C. NGO	07-14 DATE	
CHECKED B. IDILBI	07-14 DATE	
APPROVED N/A	DATE	

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WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY
DEPARTMENT OF TRANSIT INFRASTRUCTURE AND ENGINEERING SERVICES
OFFICE OF INFRASTRUCTURE RENEWAL PROGRAM
APPROVED

GFP A Gannett Fleming/Parsons JOINT VENTURE
SUBMITTED PROJECT MANAGER

NEW ELECTRONIC PAY PROGRAM (NEPP) IN METRORAIL STATIONS
METRO CENTER - EAST & WEST
MEZZANINE KIOSK - POWER

SCALE: NOT TO SCALE
DRAWING NO.: A01-E-101

EXISTING PANEL "EF"

AMPERES: 225	VOLTS: 120/208	MOUNTING: SURFACE	
MAINS: 225A MLO	PHASE: 3	LOCATION: ROOM E200	
RATING: 10K AIC	WIRE: 4	SECTION: 1 OF 1	

		CKT BKRS		CKT.		CKT.	CKT BKRS			
LOAD DESCRIPTION	KVA	AMP	POLE	NO.		NO.	POLE	AMP	KVA	LOAD DESCRIPTION
SPACE	0.0	-	-	1	A	2	1	20	0.8	EXISTING VENDOR
EXISTING VENDOR	0.8	20	1	3	B	4	1	20	0.8	EXISTING VENDOR
EXISTING VENDOR	0.8	20	1	5	C	6	1	20	0.8	EXISTING VENDOR
EXISTING VENDOR	0.8	20	1	7	A	8	1	20	0.8	EXISTING VENDOR
EXISTING VENDOR	0.8	20	1	9	B	10	1	20	0.8	EXISTING VENDOR
EXISTING VENDOR	0.8	20	1	11	C	12	1	20	0.8	EXISTING VENDOR
EXISTING VENDOR	0.8	20	1	13	A	14	1	20	0.8	EXISTING VENDOR
EXISTING VENDOR	0.8	20	1	15	B	16	1	20	0.8	EXISTING VENDOR
EXISTING VENDOR	0.8	20	1	17	C	18	1	20	0.8	EXISTING VENDOR
EXISTING VENDOR	0.8	20	1	19	A	20	1	20	0.8	EXISTING VENDOR
SPACE	0.0	-	-	21	B	22	-	-	0.0	SPACE
EXISTING VENDOR	0.8	20	1	23	C	24	1	20	0.8	EXISTING VENDOR
EXISTING VENDOR	0.8	20	1	25	A	26	1	20	0.8	EXISTING VENDOR
EXISTING VENDOR	0.8	20	1	27	B	28	1	30	1.0	EXISTING VENDOR
EXISTING VENDOR	0.8	20	1	29	C	30	1	30	1.0	EXISTING VENDOR
EXISTING VENDOR	0.8	20	1	31	A	32	2	30	1.6	EXISTING VENDOR
NEW KIOSK RECEPT. (IT & NCS)	**0.8**	**20**	1	33	B	34	-	-	1.6	
NEW KIOSK RECEPT. (NEPP&SOC)	**0.8**	**20**	1	35	C	36	-	-	0.0	SPACE
FUTURE AFC FARE GATE	0.0	**20**	1	37	A	38	-	-	0.0	SPACE
SPACE	0.0	-	-	39	B	40	-	-	0.0	SPACE
SPACE	0.0	-	-	41	C	42	-	-	0.0	SPACE

LOAD SUMMARY

LIGHTS	0.0 x 125%		0.0 KVA
RECEPTACLES, FIRST 10 KVA	10.0 x 100%		10.0 KVA
RECEPTACLES	16.8 x 50%		8.4 KVA
MISC. APPLIANCES	0.0 x 100%		0.0 KVA
LARGEST MOTOR	0.0 x 125%		0.0 KVA
MOTORS	0.0 x 100%		0.0 KVA
HEAT	0.0 x 125%		0.0 KVA
AC	0.0 x 100%		0.0 KVA
WATER HEATING	0.0 x 125%		0.0 KVA
TOTAL CONNECTED LOAD	**26.8 KVA**	**TOTAL DEMAND KVA**	**18.4 KVA**
		TOTAL DEMAND AMPS	**51.1 AMPS**
CONNECTED LOAD PHASE SUMMARY			
PHASE A:	9.6 KVA		
PHASE B:	9.0 KVA		
PHASE C:	9.0 KVA		

NOTES: A. EXISTING PANEL "EF" IS FED FROM 277/480V, 3ø, 4W EXISTING SWBD. "EGB" LOCATED IN AC SWBD ROOM E102, CIRCUIT (A01-EGB-02) #2-100/3P VIA 75KVA TRANSFORMER (SEE ATTACHED DWG. MM-A-E05).

B. EXISTING WIRING FED FROM TOP OF PANEL BY:
- 3-3/4" C. (WIRING FILL >40%).

EXISTING WIRING FED FROM BOTTOM OF PANEL BY:
- 2-1 1/2" C. (WIRING FILL >40%).

EXISTING PANEL "WFF"

AMPERES: 225	VOLTS: 120/208	MOUNTING: SURFACE	
MAINS: 225A	PHASE: 3	LOCATION: ROOM W200	
RATING: 10K AIC	WIRE: 4	SECTION: 1 OF 1	

		CKT BKRS		CKT.		CKT.	CKT BKRS			
LOAD DESCRIPTION	KVA	AMP	POLE	NO.		NO.	POLE	AMP	KVA	LOAD DESCRIPTION
EXISTING VENDOR	0.8	20	1	1	A - -	2	1	20	0.8	EXISTING VENDOR
EXISTING VENDOR	0.8	20	1	3	- B -	4	1	20	0.8	EXISTING VENDOR
EXISTING VENDOR	0.8	20	1	5	- - C	6	1	20	0.8	EXISTING VENDOR
EXISTING VENDOR	0.8	20	1	7	A - -	8	1	20	0.8	EXISTING VENDOR
SPARE (DEFECT)	0.0	20	1	9	- B -	10	1	20	0.8	EXISTING VENDOR
EXISTING VENDOR	0.8	20	1	11	- - C	12	1	20	0.8	EXISTING VENDOR
EXISTING VENDOR	0.8	20	1	13	A - -	14	1	20	0.8	EXISTING VENDOR
EXISTING VENDOR	0.8	20	1	15	- B -	16	1	20	0.8	EXISTING VENDOR
EXISTING VENDOR	0.8	20	1	17	- - C	18	1	20	0.0	SPARE
EXISTING VENDOR	0.8	20	1	19	A - -	20	1	20	0.8	EXISTING VENDOR
SPACE	0.0	-	-	21	- B -	22	-	-	0.0	SPACE
EXISTING VENDOR	0.8	20	1	23	- - C	24	1	20	0.8	EXISTING VENDOR
EXISTING VENDOR	0.8	20	1	25	A - -	26	1	20	0.8	EXISTING VENDOR
NEW KIOSK RECEPT. (IT & NCS)	**0.8**	20	1	27	- B -	28	1	20	0.0	SPARE
NEW KIOSK RECEPT. (NEPP &SOC)	**0.8**	20	1	29	- - C	30	1	20	0.8	EXISTING VENDOR
FUTURE AFC FARE GATE	0.0	20	1	31	A - -	32	1	20	0.8	EXISTING VENDOR
SPARE	0.0	20	1	33	- B -	34	-	-	0.0	SPACE
SPACE	0.0	-	-	35	- - C	36	-	-	0.0	SPACE
SPACE	0.0	-	-	37	A - -	38	-	-	0.0	SPACE
SPACE	0.0	-	-	39	- B -	40	-	-	0.0	SPACE
SPACE	0.0	-	-	41	- - C	42	-	-	0.0	SPACE

LOAD SUMMARY

LIGHTS	0.0 x 125%		0.0 KVA
RECEPTACLES, FIRST 10 KVA	10.0 x 100%		10.0 KVA
RECEPTACLES	10.8 x 50%		5.4 KVA
MISC. APPLIANCES	0.0 x 100%		0.0 KVA
LARGEST MOTOR	0.0 x 125%		0.0 KVA
MOTORS	0.0 x 100%		0.0 KVA
HEAT	0.0 x 125%		0.0 KVA
AC	0.0 x 100%		0.0 KVA
WATER HEATING	0.0 x 125%		0.0 KVA
TOTAL CONNECTED LOAD	**20.8 KVA**	**TOTAL DEMAND KVA**	**15.4 KVA**
		TOTAL DEMAND AMPS	**42.8 AMPS**
CONNECTED LOAD PHASE SUMMARY			
PHASE A:	8.8 KVA		
PHASE B:	4.8 KVA		
PHASE C:	7.2 KVA		

NOTES: A. EXISTING PANEL "WFF" IS FED FROM 277/480V, 3ø, 4W EXISTING SWBD. "WGB" LOCATED IN AC SWBD ROOM W107, CIRCUIT (A01-WGB-10) #10-70A/3P VIA 45KVA TRANSFORMER (SEE ATTACHED DWG. MM-A-E05).

B. EXISTING WIRING FED FROM TOP OF PANEL BY:
- 1-3/4" C. (WIRING FILL >40%).

EXISTING WIRING FED FROM BOTTOM OF PANEL BY:
- 1-2" C. (WIRING FILL >40%).

EXISTING WIRING FED FROM RIGHT SIDE OF PANEL BY:
- 1-2" C. TO TRANSFORMER (WIRING FILL >40%).

CONTRACT NO. 14-FQ10060-CENI-24

DESIGNED C. NGO 07-14 DATE
DRAWN C. NGO 07-14 DATE
CHECKED B. IDLBI 07-14 DATE
APPROVED N/A DATE

REFERENCE DRAWINGS	
NUMBER	DESCRIPTION

REVISIONS		
DATE	BY	DESCRIPTION

WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY

DEPARTMENT OF TRANSIT INFRASTRUCTURE AND ENGINEERING SERVICES
OFFICE OF INFRASTRUCTURE RENEWAL PROGRAM
APPROVED

GFP A Gannett Fleming/Parsons JOINT VENTURE
SUBMITTED PROJECT MANAGER

NEW ELECTRONIC PAY PROGRAM (NEPP) IN METRORAIL STATIONS
METRO CENTER - EAST & WEST
PANEL SCHEDULES

SCALE: NOT TO SCALE
DRAWING NO.: A01-E-102

EXISTING PANEL "EF"

EXISTING PANEL "EF"

EXISTING PANEL "EF"

DESIGNED C. NGO 07-14 DATE DRAWN C. NGO 07-14 DATE CHECKED B. IDILBI 07-14 DATE APPROVED N/A DATE	REFERENCE DRAWINGS NUMBER / DESCRIPTION	REVISIONS DATE / BY / DESCRIPTION	WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY DEPARTMENT OF TRANSIT INFRASTRUCTURE AND ENGINEERING SERVICES OFFICE OF INFRASTRUCTURE RENEWAL PROGRAM APPROVED	GFP A Gannett Fleming/Parsons JOINT VENTURE SUBMITTED PROJECT MANAGER	NEW ELECTRONIC PAY PROGRAM (NEPP) IN METRORAIL STATIONS METRO CENTER - EAST & WEST PANELBOARD IMAGE	CONTRACT NO. 14-FQ10060-CENI-24 SCALE NOT TO SCALE DRAWING NO. A01-E-301

EXISTING PANEL "WFF"

EXISTING PANEL "WFF"

EXISTING PANEL "WFF"

DESIGNED C. NGO 07-14 DATE	REFERENCE DRAWINGS	REVISIONS	WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY
DRAWN C. NGO 07-14 DATE	NUMBER / DESCRIPTION	DATE / BY / DESCRIPTION	DEPARTMENT OF TRANSIT INFRASTRUCTURE AND ENGINEERING SERVICES
CHECKED B. IDILBI 07-14 DATE			OFFICE OF INFRASTRUCTURE RENEWAL PROGRAM
APPROVED N/A DATE			APPROVED / SUBMITTED PROJECT MANAGER

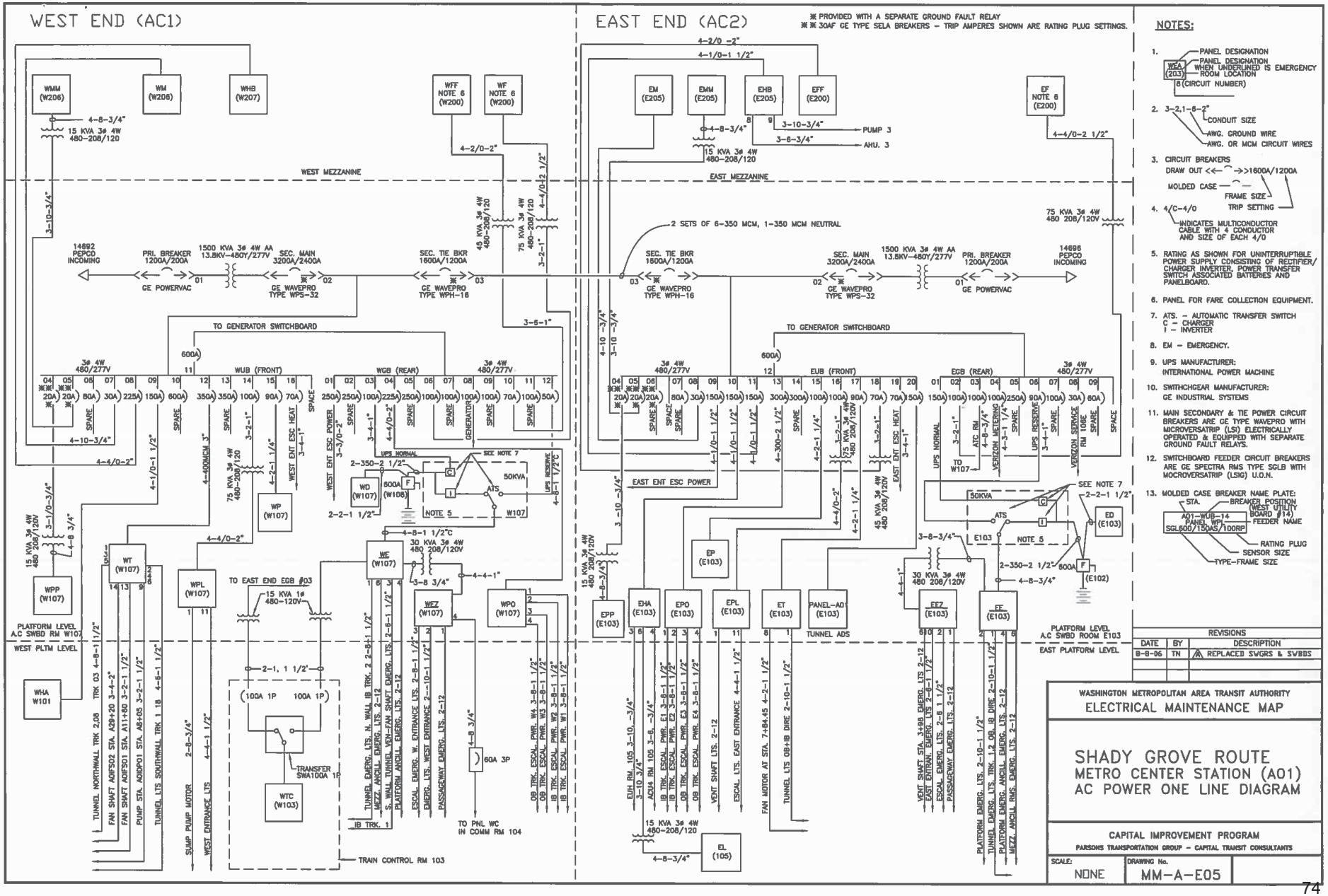
GFP A Gannett Fleming/Parsons JOINT VENTURE

CONTRACT NO. 14-FQ10060-CENI-24

NEW ELECTRONIC PAY PROGRAM (NEPP)
IN METRORAIL STATIONS
METRO CENTER - EAST & WEST
PANELBOARD IMAGE

SCALE: NOT TO SCALE

DRAWING NO.: A01-E-302


WEST END (AC1)
EAST END (AC2)
※ PROVIDED WITH A SEPARATE GROUND FAULT RELAY
※※ 30AF GE TYPE SELA BREAKERS – TRIP AMPERES SHOWN ARE RATING PLUG SETTINGS.
NOTES:
1. PANEL DESIGNATION
PANEL DESIGNATION WHEN UNDERLINED IS EMERGENCY ROOM LOCATION
CIRCUIT NUMBER)
2. CONDUIT SIZE
AWG. GROUND WIRE
AWG. OR MCM CIRCUIT WIRES
3. CIRCUIT BREAKERS
DRAW OUT
MOLDED CASE
FRAME SIZE
TRIP SETTING
4. INDICATES MULTICONDUCTOR CABLE WITH 4 CONDUCTOR AND SIZE OF EACH 4/0
5. RATING AS SHOWN FOR UNINTERRUPTIBLE POWER SUPPLY CONSISTING OF RECTIFIER/ CHARGER INVERTER, POWER TRANSFER SWITCH ASSOCIATED BATTERIES AND PANELBOARD.
6. PANEL FOR FARE COLLECTION EQUIPMENT.
7. ATS. – AUTOMATIC TRANSFER SWITCH
C – CHARGER
I – INVERTER
8. EM – EMERGENCY.
9. UPS MANUFACTURER:
INTERNATIONAL POWER MACHINE
10. SWITCHGEAR MANUFACTURER:
GE INDUSTRIAL SYSTEMS
11. MAIN SECONDARY & TIE POWER CIRCUIT BREAKERS ARE GE TYPE WAVEPRO WITH MICROVERSATRIP (LSI) ELECTRICALLY OPERATED & EQUIPPED WITH SEPARATE GROUND FAULT RELAYS.
12. SWITCHBOARD FEEDER CIRCUIT BREAKERS ARE GE SPECTRA RMS TYPE SGLB WITH MOCROVERSATRIP (LSIG) U.O.N.
13. MOLDED CASE BREAKER NAME PLATE:
STA.
BREAKER POSITION (WEST UTILITY BOARD #14)
PANEL WP1
FEEDER NAME
RATING PLUG
SENSOR SIZE
TYPE-FRAME SIZE
WEST MEZZANINE
EAST MEZZANINE
WEST PLTM LEVEL
EAST PLATFORM LEVEL
PLATFORM LEVEL A.C SWBD RM W102
PLATFORM LEVEL A.C SWBD ROOM E103
TRAIN CONTROL RM 103
TUNNEL ADS
TO PNL WC IN COMM RM 104
TO EAST END EGB #03
TO GENERATOR SWITCHBOARD
WUB (FRONT)
WGB (REAR)
EUB (FRONT)
EGB (REAR)
REVISIONS
DATE BY DESCRIPTION
8-8-96 TN REPLACED SWGRS & SWBDS
WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY
ELECTRICAL MAINTENANCE MAP
SHADY GROVE ROUTE
METRO CENTER STATION (A01)
AC POWER ONE LINE DIAGRAM
CAPITAL IMPROVEMENT PROGRAM
PARSONS TRANSPORTATION GROUP – CAPITAL TRANSIT CONSULTANTS
SCALE: NONE
DRAWING No. MM-A-E05

ELECTRICAL SPECIFICATIONS

1. ALL WORK, MATERIAL AND EQUIPMENT SHALL COMPLY WITH THE LATEST NATIONAL ELECTRICAL CODE BEING USED BY THE LOCAL JURISDICTION AND SHALL COMPLY WITH ALL LOCAL CODES AND ORDINANCES.
2. MATERIALS AND EQUIPMENT SHALL BE NEW EXCEPT WHERE INDICATED OTHERWISE. ALL OTHER WIRING DEVICES, CONDUIT, WIRE, ETC. SHALL BE NEW UNLESS NOTED OTHERWISE.
3. ALL MATERIALS AND EQUIPMENT SHALL BEAR U.L. LISTING.
4. MAINTAIN GROUNDING CONTINUITY TO ALL DEVICES AND EQUIPMENT IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE.
5. WORK NOT SPECIFICALLY SPECIFIED OR INDICATED SHALL CONFORM WITH SPECIFICATIONS.
6. ALL CONDUITS SHALL BE RUN CONCEALED IN UNDER FLOOR DUCT.
7. ALL WIRE AND CABLE SHALL BE COPPER HAVING 600 VOLTS XHHW-2 OR RHW-2 INSULATIONS. PROVIDE #12 WIRE MINIMUM, UNLESS OTHERWISE NOTED. ALL CABLES SHALL BE LOW SMOKE ZERO HALOGEN CABLE.
8. THE CONTRACTOR SHALL VISIT THE SITE AND EXAMINE THE CONDITION OF THE PREMISES AND THE CHARACTER AND EXTENT OF WORK REQUIRED PRIOR TO SUBMISSION OF BIDS.
9. OBTAIN ALL PERMITS AND PAY ALL FEES NECESSARY FOR INSPECTIONS, TESTS & OTHER SERVICES REQUIRED FOR THE COMPLETION OF THIS WORK.
10. ALL WORK SHALL BE DONE AT SUCH TIMES AND IN SUCH A MANNER THAT WILL LEAST INTERFERE WITH THE MAINTENANCE AND OPERATION OF ALL RELATED OR AFFECTED SYSTEMS. COORDINATE ALL POWER OUTAGES WITH WMATA PROJECT MANAGER.
11. IT IS THE INTENT OF THESE DRAWINGS AND OTHER RELATED DOCUMENTS TO PRODUCE A COMPLETE AND FUNCTIONING ELECTRICAL SYSTEM. PROVIDE ALL LABOR, MATERIAL AND OTHER SERVICES NECESSARY TO ACHIEVE THIS PRODUCT. NOTIFY THE ENGINEER OF ANY DISCREPANCIES IN THE PLANS & SPECIFICATIONS THAT WILL AFFECT THE WORK, PRIOR TO SUBMISSION OF THE BID PRICE.
12. IF, DURING THE COURSE OF THE WORK, THE CONTRACTOR EXPERIENCES A CONFLICT RELATIVE TO THE PLANS AND SPECIFICATIONS, THE NEC OR OTHER APPLICABLE CODES AND GOVERNING DOCUMENTS, HE SHALL NOTIFY THE ENGINEER FOR DIRECTION PRIOR TO EXECUTION OF THIS WORK. ANY WORK INSTALLED IN VIOLATION OF THE CONTRACT DOCUMENT OR APPLICABLE CODES WHICH COULD HAVE BEEN AVOIDED BY CONTACTING THE ENGINEER SHALL BE RECTIFIED AT NO ADDITIONAL COST.
13. ELECTRICAL PLANS ARE DIAGRAMMATIC & INDICATE GENERAL ARRANGEMENT OF SYSTEMS AND WORK. CHECK DRAWINGS OF OTHER TRADES TO VERIFY SPACE CONDITIONS, ETC. MAINTAIN WORKING CLEARANCES.
14. CIRCUIT NUMBERS ARE FOR IDENTIFICATION PURPOSES ONLY. THE CONTRACTOR IS RESPONSIBLE FOR CORRECTLY PHASING THE CIRCUITS IN THE PANEL AND SHALL BALANCE THE LOAD ON THE PHASES UNDER NORMAL OPERATING CONDITIONS. PROVIDE TYPEWRITTEN PANELBOARD DIRECTORIES. BALANCE THE PHASE LOADS TO WITHIN 20 PERCENT OF EACH OTHER.
15. INCREASE ALL BRANCH CIRCUIT CONDUCTORS TO THE NEXT LARGER SIZE FROM THE PANEL TO THE FIRST OUTLET WHERE THE LENGTH OF THE HOMERUN EXCEEDS 100FT. ON 120/208V CIRCUITS.
16. PROVIDE A PULLWIRE OR FISHTAPE/CORD IN ALL EMPTY CONDUIT RUNS.
17. VERIFY WIRE SIZES, CIRCUIT BREAKERS AND FUSES RATINGS FOR ALL EQUIPMENT, AND NOTIFY THE ENGINEER OF ANY DISCREPANCIES AFFECTING THE WORK PRIOR TO PROCEEDING.
18. ALL PANELS IMPACTED BY THIS PROJECT SHALL BE PROVIDED WITH NEW, UPDATED TYPEWRITTEN PANEL SCHEDULES (FOR NEW AND EXISTING CIRCUITS) INDICATING THE FINAL ROOM NUMBER AND THE EQUIPMENT OR DEVICES SERVED BY THE CIRCUITS.
19. DEMOLITION OF EXISTING WORK SHALL BE PERFORMED AFTER HOURS. ELECTRICAL CONTRACTOR SHALL COORDINATE WITH THE WMATA PROJECT MANAGER PRIOR TO PERFORMING ALL THE WORK. THE TIME OF DAY OR EVENING SHALL BE DESIGNATED BY THE WMATA PROJECT MANAGER.
20. ALL WIRING SHALL BE IN CONDUIT, MINIMUM SIZE 3/4 INCH WITH LARGER SIZES AS INDICATED OR REQUIRED BY NEC. ALL CONDUITS SHALL BE RIGID GALVANIZED STEEL THREADED COUPLING FOR COMPLETE WATER PROOF INSTALLATION.
21. AT JOB COMPLETION, AND BEFORE FINAL ACCEPTANCE BY WMATA, TEST EACH RECEPTACLE AND PANELBOARD FOR PROPER OPERATION. WIRING SHALL BE TESTED FOR CONTINUITY, SHORTS, ETC... ALL WORK AREAS, ETC.. SHALL BE CLEANED AT THE COMPLETION OF THIS PROJECT.
22. FOR DEVICE IDENTIFICATION, THE ELECTRICAL CONTRACTOR SHALL LABEL ALL PANELBOARDS, JUNCTION BOXES, ETC..TO INDICATE THE NAME, VOLTAGE, SERVING EQUIPMENT AND ITEM SERVED ETC... LABELS FOR EMERGENCY CIRCUITS SHALL BE IN RED, NORMAL CIRCUITS SHALL BE IN BLACK. ALL DEVICES SHALL BE IDENTIFIED EITHER ON THE FACE OF THE COVERPLATE OR INSIDE PER WMATA PREFERENCE. ALL JUNCTION BOXES SHALL BE LABELED TO INDICATE THE CIRCUITS CONTAINED BY THE JUNCTION BOX.
23. THE CONTRACTOR SHALL UPDATE THE SCHEDULES OF ALL PANELBOARDS AFFECTED BY THIS PROJECT TO REFLECT CHANGES DUE TO THE PROJECT WORK. PANEL SCHEDULE LOAD DESCRIPTIONS ARE TO INCLUDE THE FINAL ROOM OR AREA NUMBERS.
24. INCLUDE GPR FOR ANY CORE DRILLS OR DRILLED PENETRATIONS IN ANY WALLS.
25. SEAL OFF ALL PENETRATIONS THRU WALLS/FLOORS.
26. THE CONTRACTOR SHALL BECOME FAMILIAR WITH WMATA DESIGN CRITERIA SECTION 4 AND SECTION 13; WMATA SPECIFICATION SECTION 16120, 16130, AND 16125. ALL INSTALLATION SHALL BE IN COMPLIANCE WITH THE NEC, WMATA DESIGN CRITERIA, AND SPECIFICATIONS.
27. THE CONTRACTOR SHALL IDENTIFY SPARE CIRCUIT WITH "RESERVED FOR AFC".
28. EXISTING SWITCHBOARDS, PANELBOARDS AND EQUIPMENT SHOWN IS BASED ON RECORD DRAWINGS AND CASUAL FIELD SURVEY. CONTRACTOR SHALL VERIFY ALL ELECTRICAL EQUIPMENT IN FIELD.
29. The conduit utilized for this project shall be 1-1/2" min. or larger as indicated. The liquid tight utilized for the kiosk shall be 1-1/2" from the entry to the 8x8 junction box, then 1" from the junction box to the quads. All boxes used in or on the kiosk shall be NEMA 4x.

ABBREVIATIONS

A, AMP	AMPERES
AC	ALTERNATING CURRENT
AF	AMPERE FRAME
AFC	AUTOMATED FARE COLLECTION SYSTEM
AFF	ABOVE FINISHED FLOOR
AIC	AMPERE INTERRUPTING CAPACITY
AT	AMPERE TRIP
BKR	BREAKER
C	CONDUIT
CB	CIRCUIT BREAKER
CCT	CIRCUIT
℄	CENTER LINE
CLG	CEILING
CONST	CONSTRUCTION
DISC	DISCONNECT
E	ELECTRICAL
GND	GROUND
JB	JUNCTION BOX
KAIC	THOUSAND AMPERE INTERRUPTING CAPACITY
KCMIL	THOUSAND CIRCULAR MILL
KVA	KILOVOLT AMPERE
MAX	MAXIMUM
MCA	MINIMUM CIRCUIT AMPERE
MCB	MAIN CIRCUIT BREAKER
MEZZ	MEZZANINE
MIN	MINIMUM
MLO	MAIN LUGS ONLY
NEC	NATIONAL ELECTRIC CODE
P	POLE
PH	PHASE
PNL	PANELBOARD
PRI	PRIMARY
PROP	PROPOSED
RGS	RIGID GALVANIZED STEEL
SEC	SECONDARY
SHT	SHEET
SW	SWITCH
SWBD	SWITCHBOARD
TYP	TYPICAL
U/G	UNDER GROUND
U.L.	UNDERWRITERS LABORATORIES
UON	UNLESS OTHERWISE NOTED
VOLT	VOLTAGE
W	WATT
WMATA	WASHINGTON METROPOLITIAN AREA TRANSIT AUTHORITY
WP	WEATHERPROOF

DRAWING INDEX

ELECTRICAL SYMBOL LIST

- QUADRUPLEX RECEPTACLE OUTLET– 20A, 125V WALL MOUNTED.
- J — JUNCTION BOX – SURFACE MOUNTED ON UNISTRUT CHANNEL
- CONDUIT – CONCEALED IN UNDER FLOOR DUCT U.O.N.
- #10-3/4 / EF 3,5 — HOMERUN TO PANEL, NUMBER OF ARROWHEADS INDICATES NUMBER OF CIRCUITS. CROSS HATCHING INDICATES NUMBER OF CONDUCTORS, NUMBER INDICATES SIZE OF CONDUCTOR AND SIZE OF CONDUIT
  - ↓ – INDICATES GROUNDING WIRE TO GROUNDING BUS AT THE PANELBOARD
  - EF 1,3 – INDICATES CIRCUIT HOME RUN PANELBOARD AND CIRCUIT NUMBER IDENTIFICATION

CONTRACT NO. 14-FQ10060-CENI-24

DESIGNED	C. NGO	07-14	DATE
DRAWN	C. NGO	07-14	DATE
CHECKED	B. IDILBI	07-14	DATE
APPROVED	N/A		DATE

REFERENCE DRAWINGS

NUMBER	DESCRIPTION

REVISIONS

DATE	BY	DESCRIPTION

WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY

DEPARTMENT OF TRANSIT INFRASTRUCTURE AND ENGINEERING SERVICES
OFFICE OF INFRASTRUCTURE RENEWAL PROGRAM

APPROVED _____

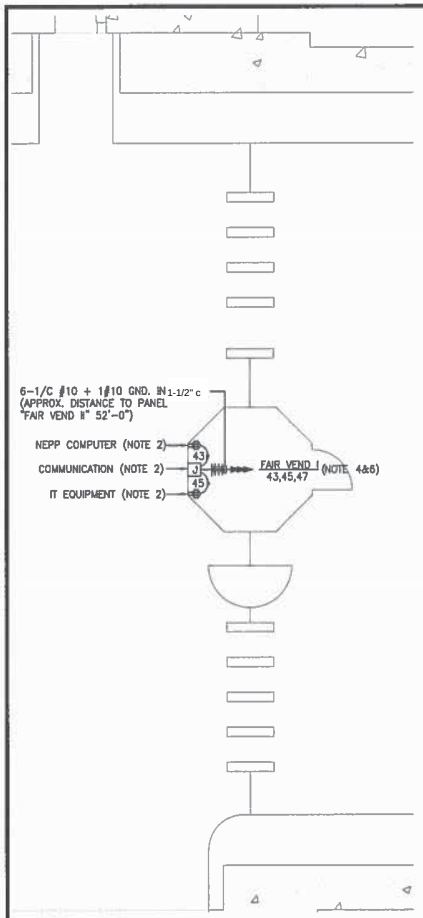
GFP A Gannett Fleming/Parsons JOINT VENTURE

SUBMITTED _____ PROJECT MANAGER

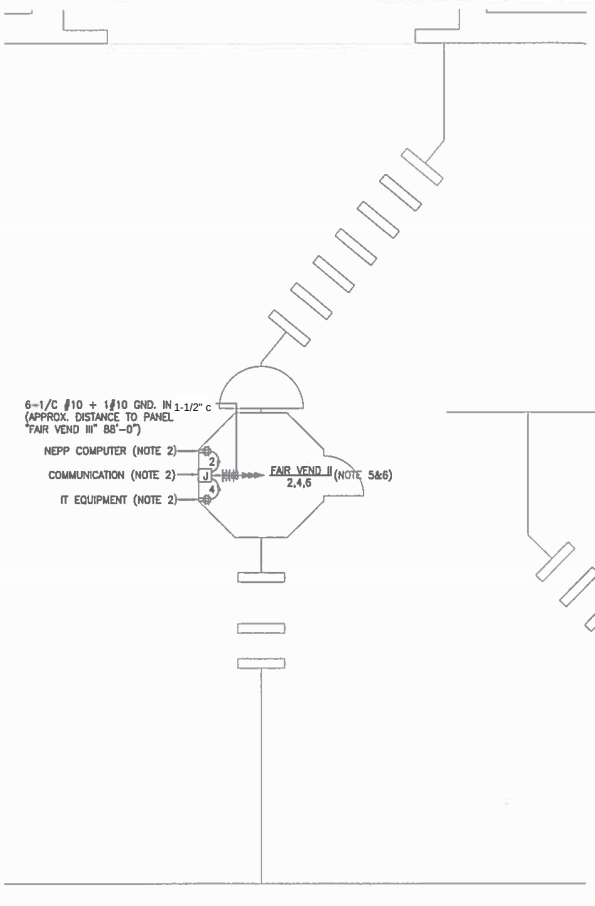
NEW ELECTRONIC PAY PROGRAM (NEPP) IN METRORAIL STATIONS

ABBREVIATIONS, DRAWING INDEX, SPECIFICATIONS & SYMBOL LIST

SCALE	DRAWING NO.
NOT TO SCALE	A02-E-001



NORTH WEST MEZZANINE KIOSK - POWER
SCALE: 1/4" = 1'- 0"



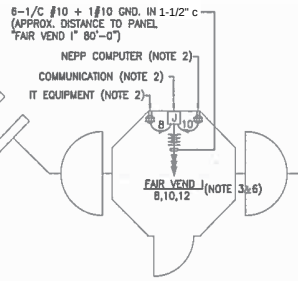
NORTH EAST MEZZANINE KIOSK - POWER
SCALE: 1/4" = 1'- 0"

DRAWING NOTES:

1. USE EXISTING UNDER FLOOR DUCT FOR POWER WIRING. ALL OUTSIDE FLOOR DUCT WIRING SHALL BE IN CONDUIT.
2. VERIFY WITH WMATA PERSONNEL FOR LOCATION OF RECEPTACLES & JUNCTION BOXES.
3. CONNECT CIRCUIT #8 #10 & #12 TO NEW 20A, 1P CIRCUIT BREAKERS IN THE EXISTING PANEL "FAIR VEND I", NEW CIRCUIT BREAKER TO MATCH EXISTING CIRCUIT BREAKER PHYSICAL & TECHNICAL RATING. SEE PANEL SCHEDULE ON DWG. A02-E-102.
4. CONNECT CIRCUIT #43 #45 & #47 TO EXISTING 20A, 1P SPARE CIRCUIT BREAKERS IN THE EXISTING PANEL "FAIR VEND II", SEE PANEL SCHEDULE ON DWG. A02-E-102.
5. CONNECT CIRCUIT #2 #4 & #6 TO EXISTING 20A, 1P SPARE CIRCUIT BREAKERS IN THE EXISTING PANEL "FAIR VEND III", SEE PANEL SCHEDULE ON DWG. A02-E-103.
6. PROVIDE A ROUGHIN CIRCUIT FOR FUTURE AFC FARE GATE COILED AT THE KIOSK. THE LENGTH OF COILED PIGTAIL SHALL BE THE FARTHEST FARE GATE DISTANCE FROM KIOSK PLUS AN EXTRA 6'0" CONDUCTOR.

SAFETY PRECAUTION:

1. ALL WORK SHALL COMPLY WITH WMATA SAFETY RULES, AND DE-ENERGIZATION POLICIES.



SOUTH EAST MEZZANINE KIOSK - POWER
SCALE: 1/4" = 1'- 0"

CONTRACT NO.
14-FQ10060-CENI-24

DESIGNED C. NGO 07-14 DATE	REFERENCE DRAWINGS	REVISIONS
DRAWN C. NGO 07-14 DATE	NUMBER / DESCRIPTION	DATE / BY / DESCRIPTION
CHECKED B. IDLEBI 07-14 DATE		
APPROVED N/A DATE		

WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY
DEPARTMENT OF TRANSIT INFRASTRUCTURE AND ENGINEERING SERVICES
OFFICE OF INFRASTRUCTURE RENEWAL PROGRAM
APPROVED

GFP A Gannett Fleming/Parsons JOINT VENTURE
SUBMITTED PROJECT MANAGER

NEW ELECTRONIC PAY PROGRAM (NEPP) IN METRORAIL STATIONS
FARRAGUT NORTH - NORTHWEST, NORTHEAST & SOUTHEAST MEZZANINE KIOSK - POWER

SCALE: AS SHOWN
DRAWING NO: A02-E-101

EXISTING PANEL "FAIR VEND I"

AMPERES: 225		VOLTS: 120/208			MOUNTING: SURFACE					
MAINS: 150A MCB		PHASE: 3			LOCATION: AC SWBD RM 256					
RATING: 10K AIC		WIRE: 4			SECTION: 1 OF 1					
		CKT BKRS		CKT.		CKT.	CKT BKRS			
LOAD DESCRIPTION	KVA	AMP	POLE	NO.		NO.	POLE	AMP	KVA	LOAD DESCRIPTION
EXISTING VENDOR	0.8	20	1	1	A - -	2	1	20	0.8	EXISTING VENDOR
EXISTING VENDOR	0.8	20	1	3	- B -	4	1	20	0.8	EXISTING VENDOR
SPARE	0.0	20	1	5	- - C	6	1	20	0.8	EXISTING VENDOR
EXISTING VENDOR	0.8	20	1	7	A - -	8	1	20	0.8	NEW KIOSK RECEPT. (IT&NCS)
SPACE	0.0			9	- B -	10	1	20	0.8	NEW KIOSK RECEPT. (NEPP/SOC)
SPACE	0.0			11	- - C	12	1	20	0.0	FUTURE AFC FARE GATE
SPACE	0.0			13	A - -	14			0.0	SPACE
SPACE	0.0			15	- B -	16			0.0	SPACE
EXISTING VENDOR	0.8	20	1	17	- - C	18	1	20	0.8	EXISTING VENDOR
EXISTING VENDOR	0.8	20	1	19	A - -	20	1	20	0.8	EXISTING VENDOR
EXISTING VENDOR	0.8	20	1	21	- B -	22	1	20	0.8	EXISTING VENDOR
EXISTING VENDOR	0.8	20	1	23	- - C	24	1	20	0.8	EXISTING VENDOR
EXISTING VENDOR	0.8	20	1	25	A - -	26	1	20	0.8	EXISTING VENDOR
EXISTING VENDOR	0.8	20	1	27	- B -	28	1	20	0.8	EXISTING VENDOR
EXISTING VENDOR	0.8	20	1	29	- - C	30	1	20	0.8	EXISTING VENDOR
EXISTING VENDOR	0.8	20	1	31	A - -	32	1	20	0.8	EXISTING VENDOR
EXISTING VENDOR	0.8	20	1	33	- B -	34	1	20	0.0	SPACE
EXISTING VENDOR	0.8	20	1	35	- - C	36	1	20	0.0	SPACE
EXISTING VENDOR	0.8	20	1	37	A - -	38	1	20	0.8	EXISTING VENDOR
EXISTING VENDOR	0.8	20	1	39	- B -	40	1	20	0.8	EXISTING VENDOR
EXISTING VENDOR	0.8	20	1	41	- - C	42	1	20	0.8	EXISTING VENDOR
SPARE	0.0	20	1	43	A - -	44	1	20	0.0	SPARE
SPARE	0.0	20	1	45	- B -	46	1	20	0.0	SPARE
SPARE	0.0	20	1	47	- - C	48	1	20	0.0	SPARE

LOAD SUMMARY

LIGHTS	0.0 x 125%		0.0 KVA
RECEPTACLES, FIRST 10 KVA	10.0 x 100%		10.0 KVA
RECEPTACLES	14.8 x 50%		7.4 KVA
MISC. APPLIANCES	0.0 x 100%		0.0 KVA
LARGEST MOTOR	0.0 x 125%		0.0 KVA
MOTORS	0.0 x 100%		0.0 KVA
HEAT	0.0 x 125%		0.0 KVA
AC	0.0 x 100%		0.0 KVA
WATER HEATING	0.0 x 125%		0.0 KVA
TOTAL CONNECTED LOAD	**24.8 KVA**	**TOTAL DEMAND KVA**	**17.4 KVA**
		TOTAL DEMAND AMPS	**48.3 AMPS**
CONNECTED LOAD PHASE SUMMARY			
PHASE A:	9.6 KVA		
PHASE B:	8.0 KVA		
PHASE C:	8.0 KVA		

NOTES: A. EXISTING PANEL "FAIR VEND I" IS FED FROM 277/480V, 3ø, 4W EXISTING SWITCHBOARD "NGB" LOCATED IN AC SWBD. RM. 256, CIRCUIT (A02-NGB-04) #4-100A/3P VIA 75KVA TRANSFORMER (SEE ATTACHED DWG. MM-A-E06).

B. EXISTING WIRING FED FROM TOP OF PANEL BY:
- 6-1" C. (4-WIRING FILL >40%)(2-WIRING FILL >20%).

EXISTING WIRING FED FROM LEFT SIDE OF PANEL BY:
- 1-3" C. TO TRANSFORMER (WIRING FILL >40%).
- 1-3/4" C. (WIRING FILL >40%).

EXISTING PANEL "FAIR VEND II"

AMPERES: 225		VOLTS: 120/208			MOUNTING: SURFACE					
MAINS: 150A MCB		PHASE: 3			LOCATION: ROOM 206					
RATING: 10K AIC		WIRE: 4			SECTION: 1 OF 1					
		CKT BKRS		CKT.		CKT.	CKT BKRS			
LOAD DESCRIPTION	KVA	AMP	POLE	NO.		NO.	POLE	AMP	KVA	LOAD DESCRIPTION
EXISTING VENDOR	1.0	30	2	1	A - -	2	1	20	0.8	EXISTING VENDOR
EXISTING VENDOR	1.0	-	-	3	- B -	4	1	20	0.8	EXISTING VENDOR
SPACE	0.0			5	- - C	6			0.0	SPACE
EXISTING VENDOR	0.8	20	1	7	A - -	8			0.0	SPACE
SPACE	0.0			9	- B -	10			0.0	SPACE
SPACE	0.0			11	- - C	12			0.0	SPACE
SPACE	0.0			13	A - -	14			0.0	SPACE
SPACE	0.0			15	- B -	16			0.0	SPACE
EXISTING VENDOR	0.8	20	1	17	- - C	18	1	20	0.8	EXISTING VENDOR
EXISTING VENDOR	0.8	20	1	19	A - -	20	1	20	0.8	EXISTING VENDOR
EXISTING VENDOR	0.8	20	1	21	- B -	22	1	20	0.8	EXISTING VENDOR
EXISTING VENDOR	0.8	20	1	23	- - C	24	1	20	0.8	EXISTING VENDOR
EXISTING VENDOR	0.8	20	1	25	A - -	26	1	20	0.8	EXISTING VENDOR
EXISTING VENDOR	0.8	20	1	27	- B -	28	1	20	0.8	EXISTING VENDOR
EXISTING VENDOR	0.8	20	1	29	- - C	30	1	20	0.8	EXISTING VENDOR
EXISTING VENDOR	0.8	20	1	31	A - -	32	1	20	0.8	EXISTING VENDOR
EXISTING VENDOR	0.8	20	1	33	- B -	34	1	20	0.8	EXISTING VENDOR
EXISTING VENDOR	0.8	20	1	35	- - C	36	1	20	0.0	EXISTING VENDOR
EXISTING VENDOR	0.8	20	1	37	A - -	38	1	20	0.0	SPARE
EXISTING VENDOR	0.8	20	1	39	- B -	40	1	20	0.8	EXISTING VENDOR
EXISTING VENDOR	0.8	20	1	41	- - C	42	1	20	0.0	SPARE
NEW KIOSK RECEPT. (IT & NCS)	0.8	20	1	43	A - -	44	1	20	0.0	SPARE
NEW KIOSK RECEPT. (NEPP/SOC)	0.8	20	1	45	- B -	46	1	20	0.8	EXISTING VENDOR
FUTURE AFC FARE GATE	0.0	20	1	47	- - C	48	1	20	0.8	EXISTING VENDOR

LOAD SUMMARY

LIGHTS	0.0 x 125%		0.0 KVA
RECEPTACLES, FIRST 10 KVA	10.0 x 100%		10.0 KVA
RECEPTACLES	15.2 x 50%		7.6 KVA
MISC. APPLIANCES	0.0 x 100%		0.0 KVA
LARGEST MOTOR	0.0 x 125%		0.0 KVA
MOTORS	0.0 x 100%		0.0 KVA
HEAT	0.0 x 125%		0.0 KVA
AC	0.0 x 100%		0.0 KVA
WATER HEATING	0.0 x 125%		0.0 KVA
TOTAL CONNECTED LOAD	**25.2 KVA**	**TOTAL DEMAND KVA**	**17.6 KVA**
		TOTAL DEMAND AMPS	**48.9 AMPS**
CONNECTED LOAD PHASE SUMMARY			
PHASE A:	9.0 KVA		
PHASE B:	9.8 KVA		
PHASE C:	16.2 KVA		

NOTES: A. EXISTING PANEL "FAIR VEND II" IS FED FROM 277/480V, 3ø, 4W EXISTING SWITCHBOARD "SGB" LOCATED IN AC SWBD. RM. 209, CIRCUIT (A02-SGB-02) #5-125A/3P VIA 75KVA TRANSFORMER (SEE ATTACHED DWG. MM-A-E07).

B. EXISTING WIRING FED FROM TOP OF PANEL BY:
- 6-1" C. (4-WIRING FILL >40%)(2-WIRING FILL >20%).

EXISTING WIRING FED FROM LEFT SIDE OF PANEL BY:
- 1-3" C. TO TRANSFORMER (WIRING FILL >40%).

CONTRACT NO. 14-FQ10060-CENI-24

DESIGNED C. NGO 07-14 DATE
DRAWN C. NGO 07-14 DATE
CHECKED B. IDILBI 07-14 DATE
APPROVED N/A DATE

REFERENCE DRAWINGS	
NUMBER	DESCRIPTION

REVISIONS		
DATE	BY	DESCRIPTION

WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY

DEPARTMENT OF TRANSIT INFRASTRUCTURE AND ENGINEERING SERVICES
OFFICE OF INFRASTRUCTURE RENEWAL PROGRAM

APPROVED

GFP A Gannett Fleming/Parsons JOINT VENTURE

SUBMITTED PROJECT MANAGER

NEW ELECTRONIC PAY PROGRAM (NEPP) IN METRORAIL STATIONS
FARRAGUT NORTH - NORTHEAST & SOUTHEAST PANEL SCHEDULES

SCALE: NOT TO SCALE

DRAWING NO.: A02-E-102

EXISTING PANEL "FAIR VEND III"

AMPERES: 225	VOLTS: 120/208			MOUNTING: SURFACE						
MAINS: 150A MCB	PHASE: 3			LOCATION: CLEANER ROOM 206						
RATING: 10K A/C	WIRE: 4			SECTION: 1 OF 1						
		CKT BKRS		CKT.		CKT.	CKT BKRS			
LOAD DESCRIPTION	KVA	AMP	POLE	NO.		NO.	POLE	AMP	KVA	LOAD DESCRIPTION
EXISTING CIRCUIT	1.0	30	2	1	A - -	2	1	20	**0.8**	**NEW KIOSK RECEPT. (IT & NCS)**
	1.0	-	-	3	- B -	4	1	20	**0.8**	**NEW KIOSK RECEPT. (NEPP/SOC)**
SPARE	0.0	20	1	5	- - C	6	1	20	**0.0**	**FUTURE AFC FARE GATE**
SPARE	0.0	20	1	7	A - -	8	1	20	0.8	EXISTING VENDOR
SPACE	0.0	-	-	9	- B -	10	1	20	0.8	EXISTING VENDOR
SPACE	0.0	-	-	11	- - C	12	-	-	0.0	SPACE
SPACE	0.0	-	-	13	A - -	14	-	-	0.0	SPACE
SPACE	0.0	-	-	15	- B -	16	-	-	0.0	SPACE
SPACE	0.0	-	-	17	- - C	18	-	-	0.0	SPACE
SPARE	0.0	20	1	19	A - -	20	1	20	0.8	EXISTING VENDOR
EXISTING VENDOR	0.8	20	1	21	- B -	22	1	20	0.8	EXISTING VENDOR
EXISTING VENDOR	0.8	20	1	23	- - C	24	1	20	0.8	EXISTING VENDOR
EXISTING VENDOR	0.8	20	1	25	A - -	26	1	20	0.8	EXISTING VENDOR
EXISTING VENDOR	0.8	20	1	27	- B -	28	1	20	0.8	EXISTING VENDOR
EXISTING VENDOR	0.8	20	1	29	- - C	30	1	20	0.8	EXISTING VENDOR
EXISTING VENDOR	0.8	20	1	31	A - -	32	1	20	0.8	EXISTING VENDOR
EXISTING VENDOR	0.8	20	1	33	- B -	34	1	20	0.8	EXISTING VENDOR
EXISTING VENDOR	0.8	20	1	35	- - C	36	1	20	0.0	SPARE
SPARE	0.0	20	1	37	A - -	38	1	20	0.0	SPARE
SPARE	0.0	20	1	39	- B -	40	1	20	0.0	SPARE
EXISTING VENDOR	0.8	20	1	41	- - C	42	1	20	0.8	EXISTING VENDOR
SPARE	0.0	20	1	43	A - -	44	1	20	0.0	SPARE
SPARE	0.0	20	1	45	- B -	46	1	20	0.0	SPARE
SPARE	0.0	20	1	47	- - C	48	1	20	0.0	SPARE

LOAD SUMMARY

LIGHTS	0.0 x 125%		0.0 KVA
RECEPTACLES, FIRST 10 KVA	10.0 x 100%		10.0 KVA
RECEPTACLES	6.8 x 50%		3.4 KVA
MISC. APPLIANCES	0.0 x 100%		0.0 KVA
LARGEST MOTOR	0.0 x 125%		0.0 KVA
MOTORS	0.0 x 100%		0.0 KVA
HEAT	2.0 x 125%		2.5 KVA
AC	0.0 x 100%		0.0 KVA
WATER HEATING	0.0 x 125%		0.0 KVA
TOTAL CONNECTED LOAD	**18.8 KVA**	**TOTAL DEMAND KVA**	**15.9 KVA**
		TOTAL DEMAND AMPS	**44.2 AMPS**
CONNECTED LOAD PHASE SUMMARY			
PHASE A:	6.6 KVA		
PHASE B:	7.4 KVA		
PHASE C:	5.6 KVA		

NOTES: A. EXISTING PANEL "FAIR VEND III" IS FED FROM 277/480V, 3ø, 4W EXISTING SWITCHBOARD "SGB" LOCATED IN AC SWBD. RM. 209, CIRCUIT (A02-SGB-02) #6-125A/3P VIA 75KVA TRANSFORMER (SEE ATTACHED DWG. MM-A-E07).

B. EXISTING WIRING FED FROM TOP OF PANEL BY:
- 1-3/4" C. (WIRING FILL >30%).
- 6-1" C. (WIRING FILL >40%).

EXISTING WIRING FED FROM LEFT SIDE OF PANEL BY:
- 1-4" C. TO TRANSFORMER (WIRING FILL >40%).
- 1-12"x 10'0" WIRE TROUGH W/3"x12" OPENING (WIRING FILL >30%).

CONTRACT NO. 14-FQ10060-CENI-24

DESIGNED C. NGO 07-14 DATE
DRAWN C. NGO 07-14 DATE
CHECKED B. IDILBI 07-14 DATE
APPROVED N/A DATE

REFERENCE DRAWINGS		REVISIONS		
NUMBER	DESCRIPTION	DATE	BY	DESCRIPTION

WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY

DEPARTMENT OF TRANSIT INFRASTRUCTURE AND ENGINEERING SERVICES
OFFICE OF INFRASTRUCTURE RENEWAL PROGRAM

APPROVED _____

GFP A Gannett Fleming/Parsons JOINT VENTURE

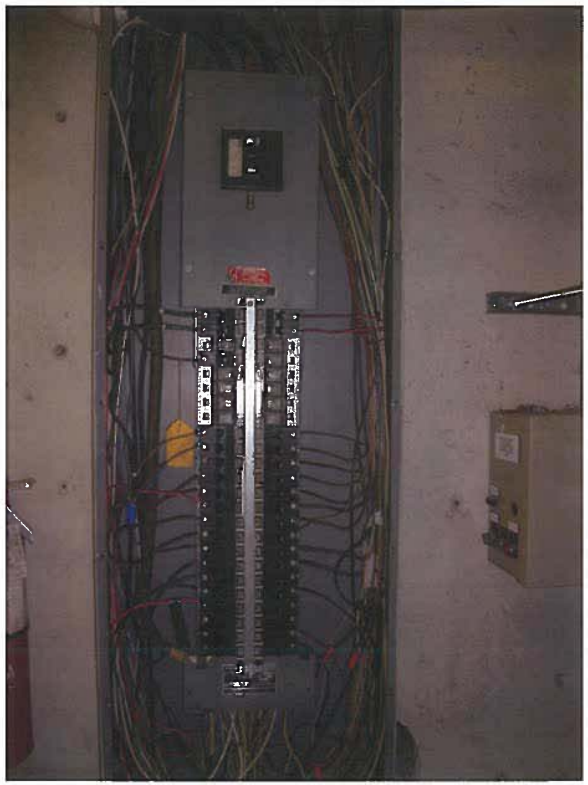
SUBMITTED _____ PROJECT MANAGER

NEW ELECTRONIC PAY PROGRAM (NEPP) IN METRORAIL STATIONS
FARRAGUT NORTH - NORTHWEST
PANEL SCHEDULE

SCALE NOT TO SCALE | DRAWING NO. A02-E-103

EXISTING PANEL "FAIR VEND II"

EXISTING PANEL "FAIR VEND II"



EXISTING PANEL "FAIR VEND II"

CONTRACT NO.
14-FQ10060-CENI-24

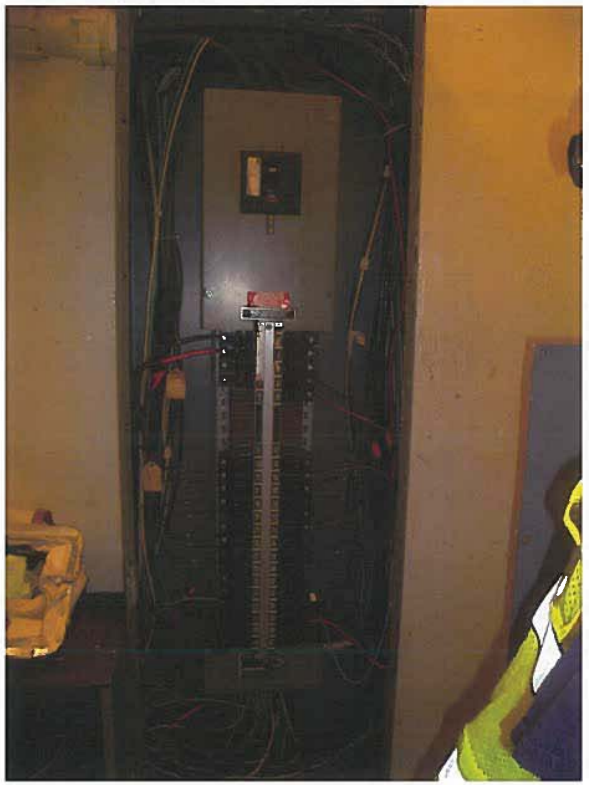
DESIGNED C. NGO 07-14 DATE	REFERENCE DRAWINGS	REVISIONS	WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY
DRAWN C. NGO 07-14 DATE	NUMBER / DESCRIPTION	DATE / BY / DESCRIPTION	DEPARTMENT OF TRANSIT INFRASTRUCTURE AND ENGINEERING SERVICES OFFICE OF INFRASTRUCTURE RENEWAL PROGRAM
CHECKED B. IDILBI 07-14 DATE			APPROVED _____
APPROVED N/A DATE			GFP A Gannett Fleming/Parsons JOINT VENTURE SUBMITTED _____ PROJECT MANAGER

NEW ELECTRONIC PAY PROGRAM (NEPP) IN METRORAIL STATIONS
FARRAGUT NORTH - SOUTHEAST
PANELBOARD IMAGE

SCALE: NOT TO SCALE
DRAWING NO.: A02-E-302

EXISTING PANEL "FAIR VEND III"

EXISTING PANEL "FAIR VEND III"



EXISTING PANEL "FAIR VEND III"

CONTRACT NO.
14-FQ10060-CENI-24

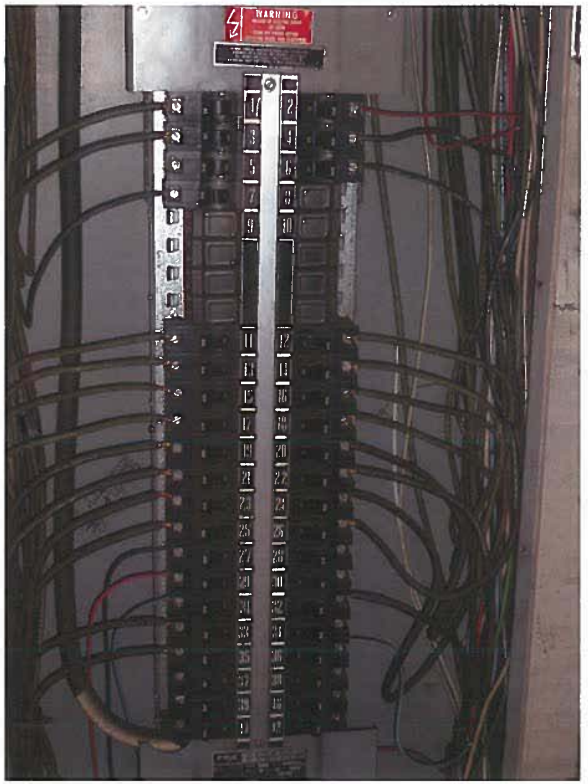
DESIGNED C. NGO 07-14 DATE	REFERENCE DRAWINGS	REVISIONS	WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY
DRAWN C. NGO 07-14 DATE	NUMBER / DESCRIPTION	DATE / BY / DESCRIPTION	DEPARTMENT OF TRANSIT INFRASTRUCTURE AND ENGINEERING SERVICES OFFICE OF INFRASTRUCTURE RENEWAL PROGRAM
CHECKED B. IDILBI 07-14 DATE			APPROVED _____
APPROVED N/A DATE			GFP A Gannett Fleming/Parsons JOINT VENTURE SUBMITTED _____ PROJECT MANAGER

NEW ELECTRONIC PAY PROGRAM (NEPP)
IN METRORAIL STATIONS
FARRAGUT NORTH - NORTHWEST
PANELBOARD IMAGE

SCALE: NOT TO SCALE
DRAWING NO.: A02-E-303

EXISTING PANEL "FAIR VEND I"

EXISTING PANEL "FAIR VEND I"



EXISTING PANEL "FAIR VEND I"

CONTRACT NO.
14-FQ10060-CENI-24

DESIGNED C. NGO 07-14 DATE	REFERENCE DRAWINGS	REVISIONS	WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY
DRAWN C. NGO 07-14 DATE	NUMBER / DESCRIPTION	DATE / BY / DESCRIPTION	DEPARTMENT OF TRANSIT INFRASTRUCTURE AND ENGINEERING SERVICES
CHECKED B. IDRIS 07-14 DATE			OFFICE OF INFRASTRUCTURE RENEWAL PROGRAM
APPROVED N/A DATE			APPROVED _____

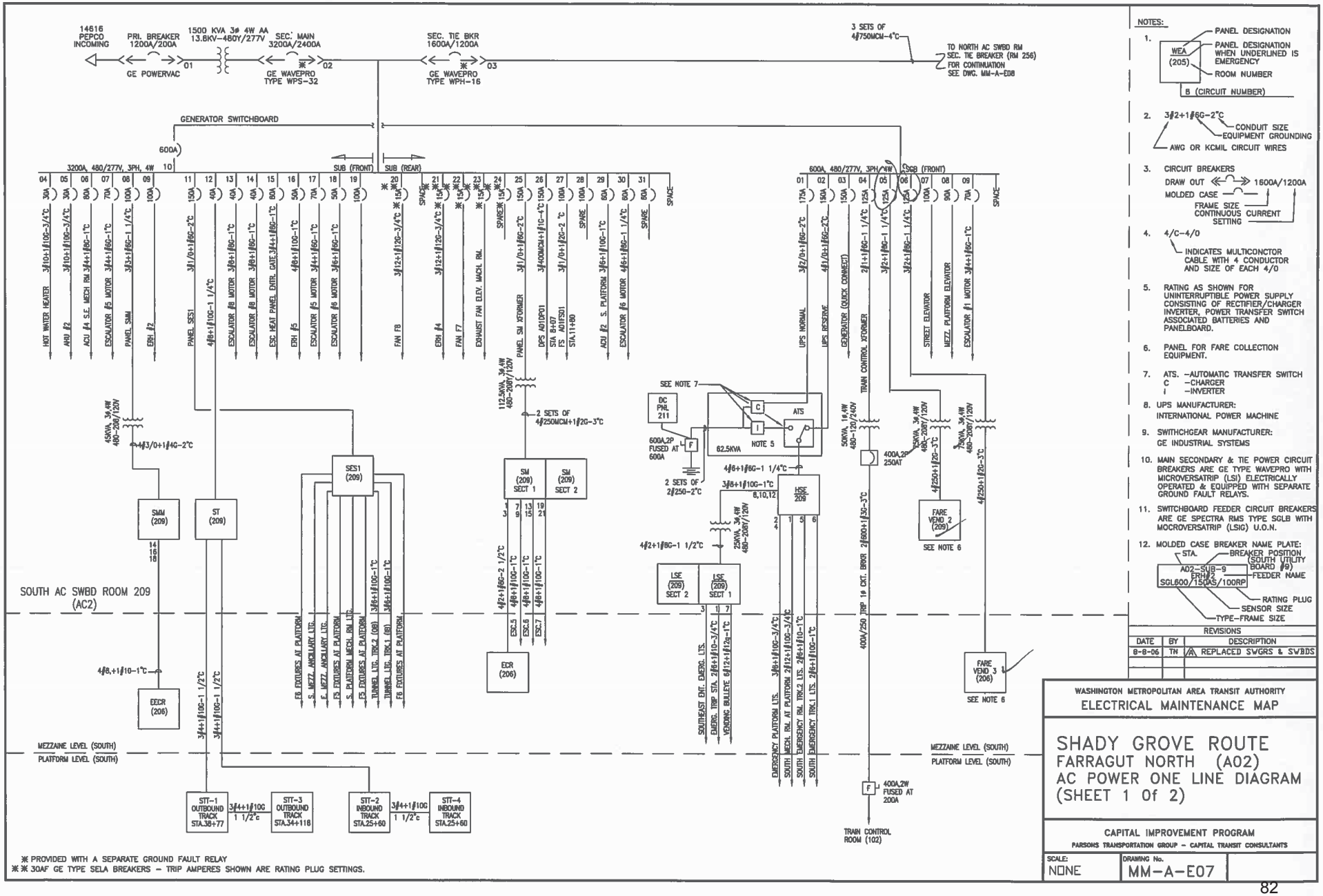
GFP A Gannett Fleming/Parsons JOINT VENTURE

SUBMITTED _____ PROJECT MANAGER

NEW ELECTRONIC PAY PROGRAM (NEPP)
IN METRORAIL STATIONS
FARRAGUT NORTH - NORTHEAST
PANELBOARD IMAGE

SCALE: NOT TO SCALE

DRAWING NO.: A02-E-301



NOTES:

1. PANEL DESIGNATION
   WEA (205) B
   WEA: PANEL DESIGNATION; WEA: PANEL DESIGNATION WHEN UNDERLINED IS EMERGENCY; (205): ROOM NUMBER; B: (CIRCUIT NUMBER)
2. 3#2+1#6G–2"C
   3#2: AWG OR KCMIL CIRCUIT WIRES; 1#6G: EQUIPMENT GROUNDING; 2": CONDUIT SIZE
3. CIRCUIT BREAKERS
   DRAW OUT; MOLDED CASE; 1600A/1200A: FRAME SIZE; CONTINUOUS CURRENT SETTING
4. 4/C–4/0
   INDICATES MULTICONCTOR CABLE WITH 4 CONDUCTOR AND SIZE OF EACH 4/0
5. RATING AS SHOWN FOR UNINTERRUPTIBLE POWER SUPPLY CONSISTING OF RECTIFIER/CHARGER INVERTER, POWER TRANSFER SWITCH ASSOCIATED BATTERIES AND PANELBOARD.
6. PANEL FOR FARE COLLECTION EQUIPMENT.
7. ATS. –AUTOMATIC TRANSFER SWITCH
   C –CHARGER
   I –INVERTER
8. UPS MANUFACTURER: INTERNATIONAL POWER MACHINE
9. SWITCHGEAR MANUFACTURER: GE INDUSTRIAL SYSTEMS
10. MAIN SECONDARY & TIE POWER CIRCUIT BREAKERS ARE GE TYPE WAVEPRO WITH MICROVERSATRIP (LSI) ELECTRICALLY OPERATED & EQUIPPED WITH SEPARATE GROUND FAULT RELAYS.
11. SWITCHBOARD FEEDER CIRCUIT BREAKERS ARE GE SPECTRA RMS TYPE SGLB WITH MOCROVERSATRIP (LSIG) U.O.N.
12. MOLDED CASE BREAKER NAME PLATE:
    STA.; BREAKER POSITION (SOUTH UTILITY BOARD #9); A02–SUB–9 ERH#2; FEEDER NAME; SGL600/150AS/100RP; RATING PLUG; SENSOR SIZE; TYPE–FRAME SIZE

REVISIONS		
DATE	BY	DESCRIPTION
8-8-06	TN	A REPLACED SWGRS & SWBDS

WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY

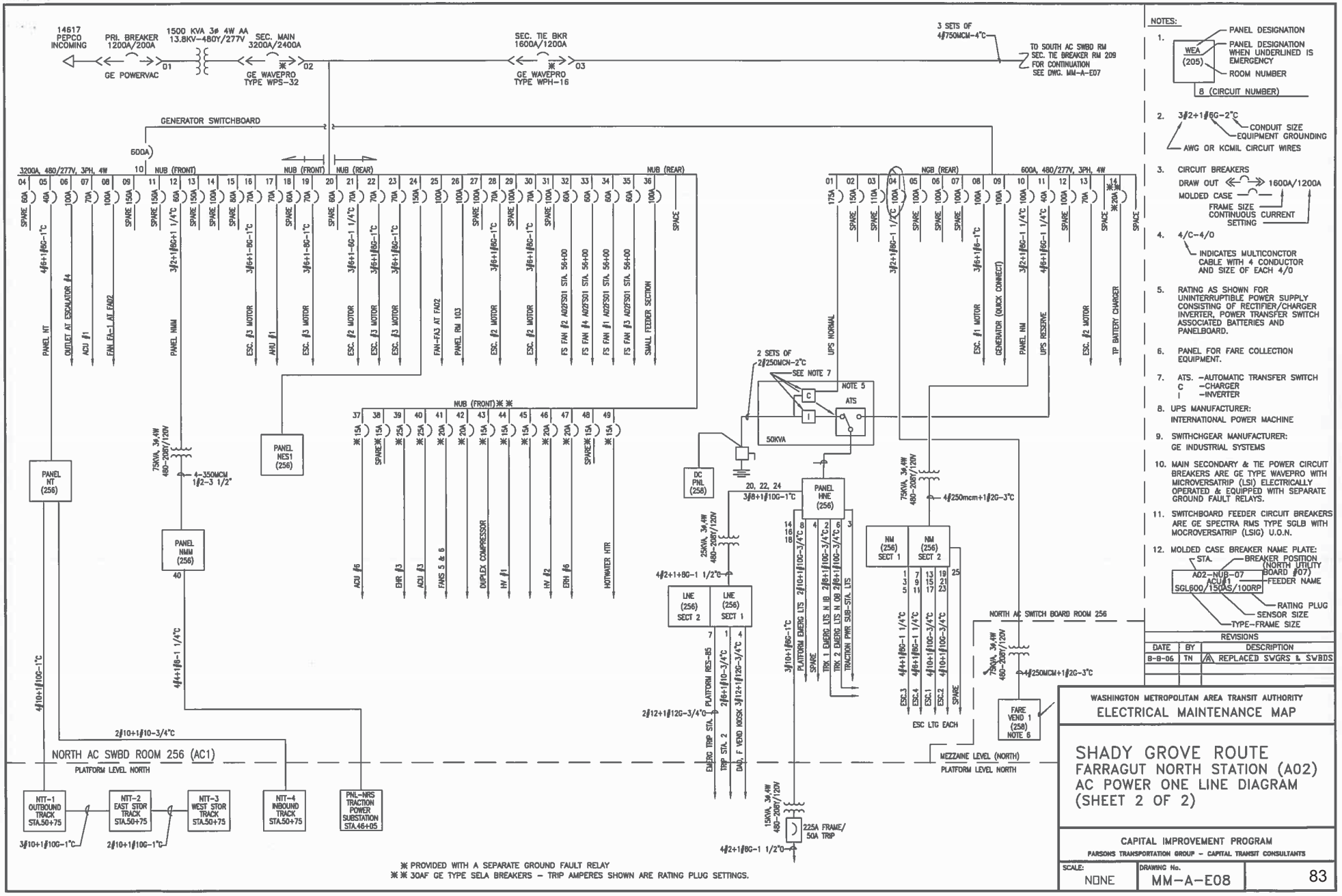
ELECTRICAL MAINTENANCE MAP

SHADY GROVE ROUTE
FARRAGUT NORTH (A02)
AC POWER ONE LINE DIAGRAM (SHEET 1 Of 2)

CAPITAL IMPROVEMENT PROGRAM

PARSONS TRANSPORTATION GROUP – CAPITAL TRANSIT CONSULTANTS

SCALE:	DRAWING No.	
NONE	MM–A–E07	



NOTES:

1. PANEL DESIGNATION
   WEA (205) 8 (CIRCUIT NUMBER)
   PANEL DESIGNATION WHEN UNDERLINED IS EMERGENCY
   ROOM NUMBER
2. 3#2+1#8G–2"C
   CONDUIT SIZE
   EQUIPMENT GROUNDING
   AWG OR KCMIL CIRCUIT WIRES
3. CIRCUIT BREAKERS
   DRAW OUT 1600A/1200A
   MOLDED CASE
   FRAME SIZE
   CONTINUOUS CURRENT SETTING
4. 4/C–4/0
   INDICATES MULTICONCTOR CABLE WITH 4 CONDUCTOR AND SIZE OF EACH 4/0
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11. SWITCHBOARD FEEDER CIRCUIT BREAKERS ARE GE SPECTRA RMS TYPE SGLB WITH MOCROVERSATRIP (LSIG) U.O.N.
12. MOLDED CASE BREAKER NAME PLATE:
    STA. BREAKER POSITION (NORTH UTILITY BOARD #07)
    A02–NUB–07
    ACU#1 FEEDER NAME
    SGL600/150AS/100RP
    RATING PLUG
    SENSOR SIZE
    TYPE–FRAME SIZE

REVISIONS		
DATE	BY	DESCRIPTION
8-8-06	TN	A REPLACED SWGRS & SWBDS

* PROVIDED WITH A SEPARATE GROUND FAULT RELAY
** 3OAF GE TYPE SELA BREAKERS – TRIP AMPERES SHOWN ARE RATING PLUG SETTINGS.

WASHINGTON METROPOLITAN AREA TRANSIT AUTHORITY

ELECTRICAL MAINTENANCE MAP

SHADY GROVE ROUTE
FARRAGUT NORTH STATION (A02)
AC POWER ONE LINE DIAGRAM (SHEET 2 OF 2)

CAPITAL IMPROVEMENT PROGRAM

PARSONS TRANSPORTATION GROUP – CAPITAL TRANSIT CONSULTANTS

SCALE:	DRAWING No.	
NONE	MM–A–E08	83