

File No. 190385

Committee Item No. 2

Board Item No. \_\_\_\_\_

### COMMITTEE/BOARD OF SUPERVISORS

#### AGENDA PACKET CONTENTS LIST

Committee: Budget & Finance Sub-Committee

Date May 1, 2019

Board of Supervisors Meeting

Date \_\_\_\_\_

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Completed by: Linda Wong

Date April 26, 2019

Completed by: Linda Wong

Date \_\_\_\_\_

1 [Airport Professional Services Agreement - Bombardier Transportation (Holdings) USA, Inc -  
2 AirTrain Operation and Maintenance Services - Not to Exceed \$219,541,698]

3 **Resolution approving an agreement of the Airport Contract No. 50175, AirTrain**  
4 **Operation and Maintenance, between Bombardier Transportation (Holdings) USA, Inc.,**  
5 **and the City and County of San Francisco, acting by and through its Airport**  
6 **Commission, for a term of ten years to commence on July 1, 2019, through June 30,**  
7 **2029, with one five-year option to renew, for a total contract amount not to exceed**  
8 **\$219,541,698 pursuant to Charter, Section 9.118(b).**

9  
10 WHEREAS, On April 2, 2019, pursuant to Resolution No. 19-0076, the Airport  
11 Commission awarded the Professional Services Agreement (PSA) for Airport Contract  
12 No. 50175 for AirTrain Operations and Maintenance to Bombardier Transportation (Holdings)  
13 USA, Inc., for a ten year initial term with one five-year option, to be exercised at the discretion  
14 of the Airport Commission, in an amount of \$218,541,698 with a contingency budget of  
15 \$1,000,000 to cover the replacement of obsolete AirTrain equipment and to provide a  
16 contingency fund for the replacement of any additional equipment for an initial not-to-exceed  
17 amount of \$219,541,698; and

18 WHEREAS, On March 1, 2019, the Office of Contract Administration approved  
19 Proprietary Article No. 12 for this Agreement for the procurement of repairs for equipment,  
20 including service and parts when repairs must be done by the manufacturer of the system  
21 when repairs by others would void the warranty, under Administrative Code, Chapter 21.5(d);  
22 and

23 WHEREAS, Charter, Section 9.118(b), provides that agreements entered into by a  
24 department, board or commission requiring anticipated expenditures by the City and County  
25

1 of ten million dollars, or a modification to such an agreement having an impact of more than  
2 \$500,000, shall be subject to approval by the Board of Supervisors by resolution; and

3 WHEREAS, The Contract is on file with the Clerk of the Board of Supervisors in File  
4 No. 190385, which is hereby declared to be a part of this Resolution as if set forth fully herein;  
5 now, therefore, be it

6 RESOLVED, That the Board of Supervisors hereby approves Airport Contract No.  
7 50175, AirTrain Operations and Maintenance, with Bombardier Transportation (Holdings)  
8 USA, Inc., for a ten year initial term of July 1, 2019, through June 30, 2029, at an initial not to  
9 exceed amount of \$219,541,698; and, be it

10 FURTHER RESOLVED, That within thirty (30) days of the Contract being fully  
11 executed by all parties, the Airport Commission shall provide a copy to the Clerk of the Board  
12 for inclusion in the official file.

<p><b>Item 2</b> <b>File 19-0385</b></p>	<p><b>Department:</b> San Francisco International Airport (Airport)</p>
<p><b>EXECUTIVE SUMMARY</b></p>	
<p style="text-align: center;"><b>Legislative Objectives</b></p>	
<ul style="list-style-type: none"> <li>• The proposed resolution would approve the new contract between the San Francisco International Airport and Bombardier Transportation (Holdings) USA, Inc. (Bombardier), for AirTrain Operation and Maintenance for a total contract amount not to exceed \$219,541,698 for a term of ten years from July 1, 2019 through June 30, 2029. The contract has one (1) five-year option to renew through June 30, 2034.</li> </ul>	
<p style="text-align: center;"><b>Key Points</b></p>	
<ul style="list-style-type: none"> <li>• In March 1998, the Airport entered into a contract with Bombardier to (a) design and install the light rail air train system (AirTrain) and (b) operate and maintain the AirTrain system. In 2008, as a result of a lawsuit against Bombardier by the Airport, the Airport approved a new contract with Bombardier to operate and maintain the AirTrain system from through February 2014. In December 2018, the Board of Supervisors approved the fifth and final modification to the existing contract to extend through June 30, 2019.</li> <li>• In March 2019, the Office of Contract Administration waived the competitive solicitation requirement for the proposed new contract under Administrative Code Section 21.5(d).</li> <li>• The proposed contract includes nonstandard language approved by the City’s Risk Manager that limits Bombardier’s liability for incidental and consequential damages. The proposed contract has two modifications of the standard terms related to the Airport’s liabilities and risk, but the Airport considers that all the contract’s provisions in total expose the Airport to a minimum amount of risk.</li> </ul>	
<p style="text-align: center;"><b>Fiscal Impact</b></p>	
<ul style="list-style-type: none"> <li>• The proposed contract with Bombardier consists of \$200,409,236 for maintenance and operations, including achievement based bonuses, for a ten year period, as well as an additional \$18,132,462 in capital plan expenditures, for a total of \$219,541,698.</li> <li>• The proposed resolution should be amended to clarify that the option to extend the contract by five years is subject to Board of Supervisors approval.</li> </ul>	
<p style="text-align: center;"><b>Policy Consideration</b></p>	
<ul style="list-style-type: none"> <li>• The Airport will monitor Bombardier’s performance through (1) a computer-based maintenance system; (2) daily observations and inspections; and (3) monthly reports provided by Bombardier.</li> </ul>	
<p style="text-align: center;"><b>Recommendations</b></p>	
<ul style="list-style-type: none"> <li>• Amend the proposed resolution to clarify that the option to extend the contract is subject to Board of Supervisors approval in accordance with Charter Section 9.118(b).</li> <li>• Approve the proposed resolution</li> </ul>	



**MANDATE STATEMENT**

City Charter Section 9.118(b) states that any contract entered into by a department, board or commission that (1) has a term of more than ten years, (2) requires expenditures of \$10 million or more, or (3) requires a modification of more than \$500,000 is subject to Board of Supervisors approval.

Administrative Code Section 21.5 (d) provides for the Director of the Office of Contract Administration (OCA) to authorize procurement of goods and services without undergoing a competitive process, in accordance with regulations set by the OCA Director, for proprietary goods and services.

**BACKGROUND**

In March 1998, the Airport entered into a two-phase contract with Bombardier Transportation (Holdings) USA Inc. (Bombardier), based on a competitive Request for Proposals process, to (a) design, construct, and install the light rail air train system (AirTrain) (Phase I) and (b) operate and maintain the AirTrain system through February 2009 (Phase II).

In December 2004, the Airport filed a lawsuit against Bombardier for contract delays and property damages, which was settled in April 2008. The settlement included a provision that allowed the Airport to recover costs if Bombardier did not meet performance incentives, and the Airport would approve a five-year contract for Bombardier to operate and maintain the AirTrain system from March 2009 through February 2014. The Board of Supervisors approved the contract in November 2008 (File 08-0942) and exempted the contract from a competitive request for proposal process because the contract was awarded as a result of a legal settlement.

The new five-year contract included one option to extend the term of the contract by three years through February 2017, which was mandatory if Bombardier met performance benchmarks, and two additional one-year options to extend the term of the contract through February 2019 at the sole discretion of the Airport. The new five-year contract was for an amount not-to-exceed \$56,500,000. Since then, the Airport has modified the contract five times. In December 2018, the Board of Supervisors approved the fifth and final modification to the existing contract between the Airport and Bombardier to (a) extend the contract by four months from March 1, 2019 through June 30, 2019, and (b) increase the contract not-to-exceed amount to \$135,442,464 (File 18-1063).

On March 1, 2019, the Office of Contract Administration waived the competitive solicitation requirement for the proposed new contract under Administrative Code Section 21.5(d). On April 2, 2019, the Airport Commission approved a new agreement with Bombardier for the operation and maintenance of the AirTrain System, pending Board of Supervisors approval.

## DETAILS OF PROPOSED LEGISLATION

The proposed resolution would approve the new contract between the San Francisco International Airport and Bombardier Transportation (Holdings) USA, Inc., for AirTrain Operation and Maintenance for a total contract amount not to exceed \$219,541,698 for a term of ten years from July 1, 2019 through June 30, 2029. The contract has a one (1) five-year option to renew through June 30, 2034.

According to Ms. Cynthia Avakian, Director of Contracts at the Airport, the Airport chose a term of ten years in order to ensure a fixed price over a longer term. The previous contracts with Bombardier were for five years or less.

### Limiting Bombardier's liability for incidental and consequential damage

The proposed contract includes nonstandard language approved by the City's Risk Manager that limits Bombardier's liability for incidental and consequential damages. Specifically, the agreement provides for a cap on incidental and consequential damages of \$1,000,000 annually and \$10,000,000 for the term. Damages for personal injury, wrongful death, or cost of repair or replacement of property are not subject to the cap.

Administrative Code Section 21.23 states that the City may waive future rights to incidental and consequential damages, or limit damages caused by the contractor's negligence to a specified amount. The factors to be evaluated in determining whether damages should be waived or capped in a particular case shall include but are not limited to:

- (a) Whether, in light of insurance and bond requirements, the performance of the contract is likely to create undue risk of damages to the City;
- (b) Whether the language proposed in the contract waiving future claims to incidental and consequential damages or limiting the contractor's liability for damages caused by the contractor's negligence is standard in the industry to which the contract relates;
- (c) The best interests of the City.

According to Ms. Stephanie Williams, Airport Risk and Loss Services Manager, the insurance requirements in the proposed contract meet standard requirements for a contract of this type and scope. The proposed contract has two modifications of the standard terms related to the Airport's liabilities and risk, but the Airport considers that all the contract's provisions in total expose the Airport to a minimum amount of risk.

## FISCAL IMPACT

The proposed contract with Bombardier consists of \$200,409,236 for maintenance and operations, including achievement based bonuses, for a ten year period, as well as an additional \$18,132,462 in capital plan expenditures, for a total of \$219,541,698. The maintenance and operations budget for the initial ten years and the one (1) five-year option to extend is \$323,261,078, as shown in Table 1 below.

**Table 1: Annual Operations and Maintenance Budget by Year**

Contract Year	Base Price	Potential Bonuses (1%)	Total Per Year	Percent Annual Increase
1	\$17,550,278	\$175,503	\$17,725,781	n/a
2	17,969,130	179,691	18,148,821	2%
3	18,466,770	184,668	18,651,438	3%
4	18,978,514	189,785	19,168,299	3%
5	19,504,767	195,048	19,699,815	3%
6	20,045,950	200,460	20,246,410	3%
7	20,602,493	206,025	20,808,518	3%
8	21,174,841	211,748	21,386,589	3%
9	21,763,451	217,635	21,981,086	3%
<u>10</u>	<u>22,368,792</u>	<u>223,688</u>	<u>22,592,480</u>	3%
Subtotal	\$198,424,986	\$1,984,250	\$200,409,236	
11	22,991,351	229,914	23,221,265	3%
12	23,631,624	236,316	23,867,940	3%
13	24,290,125	242,901	24,533,026	3%
14	24,967,383	249,674	25,217,057	3%
<u>15</u>	<u>25,755,004</u>	<u>257,550</u>	<u>26,012,554</u>	3%
Subtotal	\$121,635,487	\$1,216,355	\$122,851,842	
<b>Total</b>	<b>\$320,060,473</b>	<b>\$3,200,605</b>	<b>\$323,261,078</b>	

**Renewal Option**

The contract provides for one five-year option, as noted above. The proposed resolution should be amended to clarify that the option to extend the contract by five years is subject to Board of Supervisors approval in accordance with Charter Section 9.118(b).

**Third Party Assessment**

Prior to beginning negotiations for a new contract, the Airport hired a third party consultant, PGH Wong Engineering, to gather data from similar transit systems across the United States in order to perform a cost analysis of maintenance and operations. The analysis was completed on November 23, 2018. The consultants examined people mover systems at the Atlanta Hartsfield-Jackson International Airport, Denver International Airport, and Dallas/Fort Worth International Airport. The consultants found the current average annual cost to those airports for the operation and maintenance of their systems to be \$18,700,000 per year. As shown in Table 1 above, the cost for maintenance and operations under the proposed resolution would be \$17,725,781, including all bonuses, in year one.

**Capital assets replacement projects**

In addition to the annual maintenance and operations, the proposed contract contains additional services related to capital asset replacement projects. The total cost of the capital asset replacement projects is \$18,132,462, and is detailed in Table 2 below.

**Table 2: Capital assets replacement projects**

Vehicle Coupler Replacement	\$5,106,182
Vehicle HVAC Replacement	6,268,958
Vehicle LCD Dynamic and Advertising Display System	2,905,575
Station Door System Repair Kit	1,700,000
Vehicle Roof Wrap	301,747
<u>Replacement of Maintenance Radio System and Operational Radio System</u>	<u>1,850,000</u>
<b>Total</b>	<b>\$18,132,462</b>

Funds for the Bombardier agreement will come from the Airport’s annual operating funds.

**POLICY CONSIDERATION**

The Airport will monitor Bombardier’s performance through (1) a computer-based maintenance system that monitors system availability and preventative maintenance programs; (2) daily observations and inspections; and (3) monthly reports provided by Bombardier. The proposed agreement provides that the City’s obligation to Bombardier cannot at any time exceed the amount certified by City's Controller for the purpose and period stated in such certification.

**RECOMMENDATIONS**

1. Amend the proposed resolution to clarify that the option to extend the contract by five years is subject to Board of Supervisors approval in accordance with Charter Section 9.118(b).
2. Approve the proposed resolution

**City and County of San Francisco  
Airport Commission  
P.O. Box 8097  
San Francisco, California 94128**

**Agreement between the City and County of San Francisco and**

**Bombardier Transportation (Holdings) USA Inc.**

**Contract No. 50175**

This Agreement is made this 2<sup>nd</sup> day of April, 2019, in the City and County of San Francisco, State of California, by and between: Bombardier Transportation (Holdings) USA Inc., 1501 Lebanon Church Road, Pittsburgh, PA 15236 (the “Contractor”) and the City and County of San Francisco, a municipal corporation (the “City”), acting by and through its Airport Commission (the “Commission”).

**Recitals**

- A. The Commission wishes to provide operation and maintenance services for the AirTrain system at San Francisco International Airport (the “Airport” or “SFO”); and,
- B. The Commission is authorized to enter into all contracts which relate to matters under its jurisdiction; and
- C. On March 1, 2019, the Office of Contract Administration approved Proprietary Article No. 12 for this Agreement for the procurement of repairs for equipment, including service and parts when repairs must be done by the manufacturer of the system when repairs by others would void the warranty, under San Francisco Administrative Code Chapter 21.5(d); and
- D. On April 2, 2019 by Resolution No. 19-0076 the Commission awarded this Agreement to the Contractor \$219,541,698 for a term of ten years; and
- E. On \_\_\_\_\_, by Resolution No. \_\_\_\_\_, the Board of Supervisors approved the Agreement under San Francisco Charter Section 9.118; and
- F. There is a 5% Local Business Entity (“LBE”) subcontracting participation requirement for this Agreement; and
- G. Approval for this Agreement was obtained when the Civil Service Commission approved PSC No. 48319-18/19 on March 18, 2019; and
- H. The Contractor represents and warrants that it is qualified to perform the services required by City under this Agreement;

Now, THEREFORE, the parties agree as follows:

## **Article 1      Definitions**

The following definitions apply to this Agreement:

1.1 "Agreement" means this contract document, including all attached appendices, and all applicable City Ordinances and Mandatory City Requirements which are specifically incorporated by reference into this Agreement.

1.2 "City" or "the City" means the City and County of San Francisco, a municipal corporation, acting by and through both its Director of the Office of Contract Administration, referred to as "Purchasing," or the Director's designated agent, Airport Commission.

1.3 "CMD" means the Contract Monitoring Division of the City.

1.4 "Contractor" or "Consultant" means Bombardier Transportation (Holdings) USA Inc., 1501 Lebanon Church Road, Pittsburgh, PA 15236.

1.5 "Deliverables" means Contractor's work product resulting from the Services that are provided by Contractor to City during the course of Contractor's performance of the Agreement, including without limitation, the work product described in the "Scope of Services" attached as Appendix A.

1.6 "Effective Date" means the date upon which the City's Controller certifies the availability of funds for this Agreement as provided in Section 3.1.

1.7 "Mandatory City Requirements" means those City laws set forth in the San Francisco Municipal Code, including the duly authorized rules, regulations, and guidelines implementing such laws that impose specific duties and obligations upon Contractor.

1.8 "Party" and "Parties" mean the City and Contractor either collectively or individually.

1.9 "Services" means the work performed by Contractor under this Agreement as specifically described in the "Scope of Services" attached as Appendix A, including all services, labor, supervision, materials, equipment, actions and other requirements to be performed and furnished by Contractor under this Agreement.

## **Article 2      Term of the Agreement**

2.1 The term of this Agreement shall commence on July 1, 2019 and expire on June 30, 2029, unless terminated earlier as otherwise provided in this Agreement.

2.2 The City has one option to renew the Agreement for a period of five years. The City may extend this Agreement beyond the expiration date by exercising the option at the City's sole and absolute discretion. City may modify this Agreement as provided in Section 11.5, "Modification of this Agreement," provided that the Contractor meets all contractual obligations under the Agreement and the following performance criteria measured ninety (90) days prior to the end of the current contract term: (i) average system availability rating of ninety-nine and one-half percent (99.5%) or higher for the prior twelve (12) month period, (ii) verification that all Airport owned spares, tools and equipment, as identified in "Appendix E – Spares, Tools, and Equipment" and as amended from time to time during the active term of the Contract, are accounted for and in good working condition, (iii) training certifications

are up-to-date for appropriate Contractor's staff, and (iv) the preventative maintenance program meets or exceeds the requirements as stated in "Appendix A, Section A2.0 – "Operations and Maintenance Administration and Management."

2.3 If the Contractor fails to meet the above criteria, the Airport shall have the option, at its sole discretion, to either extend, modify or terminate the Contract by giving written notice thereof to the Contractor at least ninety (90) days prior to the end of the original or extended term.

2.4 The annual amount to be paid amount shall be those included in Appendix F, Base Contract Price Breakdown, attached hereto and incorporated by reference as though fully set forth herein, for this Agreement.

### **Article 3 Financial Matters**

3.1 **Certification of Funds; Budget and Fiscal Provisions; Termination in the Event of Non-Appropriation.** This Agreement is subject to the budget and fiscal provisions of the City's Charter. Charges will accrue only after prior written authorization certified by the Controller, and the amount of City's obligation under this Agreement shall not at any time exceed the amount certified for the purpose and period stated in such advance authorization. This Agreement will terminate without penalty, liability or expense of any kind to City at the end of any fiscal year if funds are not appropriated for the next succeeding fiscal year. If funds are appropriated for a portion of the fiscal year, this Agreement will terminate, without penalty, liability or expense of any kind at the end of the term for which funds are appropriated. City has no obligation to make appropriations for this Agreement in lieu of appropriations for new or other agreements. City budget decisions are subject to the discretion of the Mayor and the Board of Supervisors. Contractor's assumption of risk of possible non-appropriation is part of the consideration for this Agreement.

THIS SECTION CONTROLS AGAINST ANY AND ALL OTHER PROVISIONS OF THIS AGREEMENT.

3.2 **Guaranteed Maximum Costs.** The City's payment obligation to Contractor cannot at any time exceed the amount certified by City's Controller for the purpose and period stated in such certification. Absent an authorized Emergency per the City Charter or applicable Code, no City representative is authorized to offer or promise, nor is the City required to honor, any offered or promised payments to Contractor under this Agreement in excess of the certified maximum amount without the Controller having first certified the additional promised amount and the Parties having modified this Agreement as provided in Section 11.5, "Modification of this Agreement."

#### **3.3 Compensation.**

3.3.1 **Payment.** Contractor shall submit to the Airport two (2) invoices covering the preceding month for the services performed according to the calculations and conditions specified in Appendix B, "Calculation of Charges." Invoices will be submitted for the first (1) through fifteenth (15) day of the month and for the sixteenth (16) to the end of the month within fifteen (15) calendar days of the final day covered on each invoice. The invoice covering the first part of the month will only include fifty percent (50%) of the monthly base contract rate. All additions and subtractions to the monthly payment shall be made to the second invoice of the month. The invoice for the second part of the month shall be transmitted with a cover letter and a System Monthly Summary Report as outlined in Appendix A, Section A2.7, "System Reports and Records"; the format of Contractor's invoice shall be subject to the Airport's Representative's review and approval. Compensation shall be made for Services identified in

the invoice that the Airport Director, in his or her sole discretion, concludes have been satisfactorily performed. Payment shall be made within 30 calendar days of receipt of the invoice, unless the City notifies the Contractor that a dispute as to the invoice exists. In no event shall the amount of this Agreement exceed Two Hundred Eighteen Million Five Hundred Forty One Thousand Six Hundred Ninety Eight Dollars (\$218,541,698) including One Million Dollars (\$1,000,000) for Airport requested as-needed services for a total not-to-exceed amount of Two Hundred Nineteen Million Five Hundred Forty One Thousand Six Hundred Ninety Eight Dollars (\$219,541,698). In no event shall City be liable for interest or late charges for any late payments. At the end of the Original term at the Airport Commission's sole discretion, Contractor shall enter into a five (5) year extension with the City at the base contract amount of One Hundred Twenty Two Million Eight Hundred Fifty One Thousand Eight Hundred Forty Two Dollars (\$122,851,842).

**3.3.2 Payment Limited to Satisfactory Services.** Contractor is not entitled to any payments from City until Airport Commission approves Services, including any furnished Deliverables, as satisfying all of the requirements of this Agreement. Payments to Contractor by City shall not excuse Contractor from its obligation to replace unsatisfactory Deliverables, including equipment, components, materials, or Services even if the unsatisfactory character of such Deliverables, equipment, components, materials, or Services may not have been apparent or detected at the time such payment was made. The City may reject Deliverables, equipment, components, materials and Services that do not conform to the requirements of this Agreement and in such case must be replaced by Contractor without delay at no cost to the City.

**3.3.3 Withhold Payments.** If Contractor fails to provide Services consistent with Contractor's obligations under this Agreement, the City may withhold any and all payments due Contractor until such failure to perform is cured, and Contractor shall not stop work as a result of City's withholding of payments as provided in this Agreement.

**3.3.4 Invoice Format.** Invoices furnished by Contractor under this Agreement must be in a form acceptable to the Controller and City, and must include a unique invoice number. Payment shall be made by City as specified in 3.3.6, or in such alternate manner as the Parties have mutually agreed upon in writing.

**3.3.5 LBE Payment and Utilization Tracking** – Contractor must submit all required payment information using the City's Financial System as required by CMD to enable the City to monitor Contractor's compliance with the LBE subcontracting commitments in this Agreement. Contractor shall pay its LBE subcontractors within three working days after receiving payment from the City, except as otherwise authorized by the LBE Ordinance. The Controller is not authorized to pay invoices submitted by Contractor prior to Contractor's submission of all required CMD payment information. Failure to submit all required payment information to the City's Financial System with each payment request may result in the Controller withholding 20% of the payment due pursuant to that invoice until the required payment information is provided. Following City's payment of an invoice, Contractor has ten calendar days to acknowledge using the City's Financial System that all subcontractors have been paid. Self-Service Training for suppliers is located at this link: <https://sfcitypartner.sfgov.org/Training> .

**3.3.6 Getting paid for goods and/or services from the City.**

(a) All City suppliers receiving new contracts, contract renewals, or contract extensions must sign up to receive electronic payments through the City's third party service that provides Automated Clearing House (ACH) payments. Electronic payments are processed every business day and are safe and secure. To sign up for electronic payments, visit [www.sfgov.org/ach](http://www.sfgov.org/ach) .



(b) The following information is required to sign up: (i) The enroller must be their company's authorized financial representative, (ii) the company's legal name, main telephone number and all physical and remittance addresses used by the company, (iii) the company's U.S. federal employer identification number (EIN) or Social Security number (if they are a sole proprietor), and (iv) the company's bank account information, including routing and account numbers.

**3.4 Audit and Inspection of Records.** Contractor agrees to maintain and make available to the City, during regular business hours, accurate books and accounting records relating to its Services. Contractor will permit City to audit, examine and make excerpts and transcripts from such books and records, and to make audits of all invoices, materials, payrolls, records or personnel and other data related to all other matters covered by this Agreement, whether funded in whole or in part under this Agreement. Contractor shall maintain such data and records in an accessible location and condition for a period of not fewer than five years after final payment under this Agreement or until after final audit has been resolved, whichever is later. The State of California or any Federal agency having an interest in the subject matter of this Agreement shall have the same rights as conferred upon City by this Section. Contractor shall include the same audit and inspection rights and record retention requirements in all subcontracts.

**3.5 Submitting False Claims.** The full text of San Francisco Administrative Code §21.35, including the enforcement and penalty provisions, is incorporated into this Agreement. Under San Francisco Administrative Code §21.35, any contractor, subcontractor or consultant who submits a false claim shall be liable to the City for the statutory penalties set forth in that section. A contractor, subcontractor or consultant will be deemed to have submitted a false claim to the City if the contractor, subcontractor or consultant: (a) knowingly presents or causes to be presented to an officer or employee of the City a false claim or request for payment or approval; (b) knowingly makes, uses, or causes to be made or used a false record or statement to get a false claim paid or approved by the City; (c) conspires to defraud the City by getting a false claim allowed or paid by the City; (d) knowingly makes, uses, or causes to be made or used a false record or statement to conceal, avoid, or decrease an obligation to pay or transmit money or property to the City; or (e) is a beneficiary of an inadvertent submission of a false claim to the City, subsequently discovers the falsity of the claim, and fails to disclose the false claim to the City within a reasonable time after discovery of the false claim.

### **3.6 Payment of Prevailing Wages**

**3.6.1 Covered Services.** Services to be performed by Contractor under this Agreement may involve the performance of trade work covered by the provisions of Section 6.22(e) [Prevailing Wages] of the Administrative Code (collectively, "Covered Services"). The provisions of Section 6.22(e) of the Administrative Code are incorporated as provisions of this Agreement as if fully set forth herein and will apply to any Covered Services performed by Contractor and its subcontractors.

**3.6.2 Wage Rates.** The latest prevailing wage rates for private employment on public contracts as determined by the San Francisco Board of Supervisors and the Director of the California Department of Industrial Relations, as such prevailing wage rates may be changed during the term of this Agreement, are hereby incorporated as provisions of this Agreement. Copies of the prevailing wage rates as fixed and determined by the Board of Supervisors are available from the Office of Labor Standards and Enforcement ("OLSE") and are also available on the Internet at <http://www.dir.ca.gov/DLSR/PWD>. Contractor agrees that it shall pay not less than the prevailing wage rates, as fixed and determined by the Board, to all workers employed by Contractor who perform Covered Services under this Agreement. Contractor further agrees as follows:

3.6.3 **Subcontract Requirements.** As required by Section 6.22(e)(5) of the Administrative Code, Contractor shall insert in every subcontract or other arrangement, which it may make for the performance of Covered Services under this Agreement, a provision that said subcontractor shall pay to all persons performing labor in connection with Covered Services under said subcontract or other arrangement not less than the highest general prevailing rate of wages as fixed and determined by the Board of Supervisors for such labor or services.

3.6.4 **Posted Notices.** As required by Section 1771.4 of the California Labor Code, Contractor shall post job site notices prescribed by the California Department of Industrial Relations ("DIR") at all job sites where Covered Services are to be performed.

3.6.5 **Payroll Records.** As required by Section 6.22(e)(6) of the Administrative Code and Section 1776 of the California Labor Code, Contractor shall keep or cause to be kept complete and accurate payroll records for all trade workers performing Covered Services. Such records shall include the name, address and social security number of each worker who provided Covered Services on the project, including apprentices, his or her classification, a general description of the services each worker performed each day, the rate of pay (including rates of contributions for, or costs assumed to provide fringe benefits), daily and weekly number of hours worked, deductions made and actual wages paid. Every subcontractor who shall undertake the performance of any part of Covered Services shall keep a like record of each person engaged in the execution of Covered Services under the subcontract. All such records shall at all times be available for inspection of and examination by the City and its authorized representatives and the DIR.

3.6.6 **Certified Payrolls.** Certified payrolls shall be prepared pursuant to Administrative Code Section 6.22(e)(6) and California Labor Code Section 1776 for the period involved for all employees, including those of subcontractors, who performed labor in connection with Covered Services. Contractor and each subcontractor performing Covered Services shall submit certified payrolls to the City and to the DIR electronically. Contractor shall submit payrolls to the City via the reporting system selected by the City. The DIR will specify how to submit certified payrolls to it. The City will provide basic training in the use of the reporting system at a scheduled training session. Contractor and all subcontractors that will perform Covered Services must attend the training session. Contractor and applicable subcontractors shall comply with electronic certified payroll requirements (including training) at no additional cost to the City.

3.6.7 **Compliance Monitoring.** Covered Services to be performed under this Agreement are subject to compliance monitoring and enforcement of prevailing wage requirements by the DIR and /or the OLSE. Contractor and any subcontractors performing Covered Services will cooperate fully with the DIR and/or the OLSE and other City employees and agents authorized to assist in the administration and enforcement of the prevailing wage requirements, and agrees to take the specific steps and actions as required by Section 6.22(e)(7) of the Administrative Code. Steps and actions include but are not limited to requirements that: (A) the Contractor will cooperate fully with the Labor Standards Enforcement Officer and other City employees and agents authorized to assist in the administration and enforcement of the Prevailing Wage requirements and other labor standards imposed on Public Works Contractor by the Charter and Chapter 6 of the San Francisco Administrative Code; (B) the Contractor agrees that the Labor Standards Enforcement Officer and his or her designees, in the performance of their duties, shall have the right to engage in random inspections of job sites and to have access to the employees of the Contractor, employee time sheets, inspection logs, payroll records and employee paychecks; (C) the contractor shall maintain a sign-in and sign-out sheet showing which employees are present on the job site; (D) the Contractor shall prominently post at each job-site a sign informing employees that the project is subject to the City's Prevailing Wage requirements and that these requirements are enforced by the Labor Standards Enforcement Officer; and (E) that the Labor Standards Enforcement Officer may audit such records of the Contractor as he or she reasonably deems necessary to determine compliance with the Prevailing Wage

and other labor standards imposed by the Charter and this Chapter on Public Works Contractors. Failure to comply with these requirements may result in penalties and forfeitures consistent with analogous provisions of the California Labor Code, including Section 1776(g), as amended from time to time.

3.6.8 **Remedies.** Should Contractor, or any subcontractor who shall undertake the performance of any Covered Services, fail or neglect to pay to the persons who perform Covered Services under this Contract, subcontract or other arrangement for the Covered Services, the general prevailing rate of wages as herein specified, Contractor shall forfeit, and in the case of any subcontractor so failing or neglecting to pay said wage, Contractor and the subcontractor shall jointly and severally forfeit, back wages due plus the penalties set forth in Administrative Code Section 6.22 (e) and/or California Labor Code Section 1775. The City, when certifying any payment which may become due under the terms of this Agreement, shall deduct from the amount that would otherwise be due on such payment the amount of said forfeiture.

#### **Article 4 Services and Resources**

4.1 **Services Contractor Agrees to Perform.** Contractor agrees to perform the Services provided for in Appendix A, "Scope of Services." Officers and employees of the City are not authorized to request, and the City is not required to reimburse the Contractor for, Services beyond the Scope of Services listed in Appendix A, unless Appendix A is modified as provided in Section 11.5, "Modification of this Agreement."

Appendix A, Section A10.0 "Capital Asset Replacement Projects" includes additional services that shall be requested by the City through the issuance of a written task order signed by City and Contractor. The task order shall be made a part of and incorporated into the Agreement as though fully set forth in this Agreement, without the need for a formal amendment to the Agreement. The task order shall include a detailed project scope, list of material, installation and commissioning schedule, payment terms and any penalties associated with non-deliverables.

4.2 **Qualified Personnel.** Contractor shall utilize only competent personnel under the supervision of, and in the employment of, Contractor (or Contractor's authorized subcontractors) to perform the Services. Contractor will comply with City's reasonable requests regarding assignment and/or removal of personnel, but all personnel, including those assigned at City's request, must be supervised by Contractor. Contractor shall commit adequate resources to allow timely completion within the project schedule specified in this Agreement.

#### **4.3 Subcontracting.**

4.3.1 Contractor may subcontract portions of the Services only upon prior written approval of City. Contractor is responsible for its subcontractors throughout the course of the work required to perform the Services. All Subcontracts must incorporate the terms of Article 10 "Additional Requirements Incorporated by Reference" of this Agreement, unless inapplicable. Neither Party shall, on the basis of this Agreement, contract on behalf of, or in the name of, the other Party. Any agreement made in violation of this provision shall be null and void.

4.3.2 City's execution of this Agreement constitutes its approval of the following subcontractor: Everyday Janitorial Services dba Your All Day Everyday Construction.

#### **4.4 Independent Contractor; Payment of Employment Taxes and Other Expenses.**

4.4.1 **Independent Contractor.** For the purposes of this Article 4, "Contractor" shall be deemed to include not only Contractor, but also any agent or employee of Contractor. Contractor

acknowledges and agrees that at all times, Contractor or any agent or employee of Contractor shall be deemed at all times to be an independent contractor and is wholly responsible for the manner in which it performs the services and work requested by City under this Agreement. Contractor, its agents, and employees will not represent or hold themselves out to be employees of the City at any time. Contractor or any agent or employee of Contractor shall not have employee status with City, nor be entitled to participate in any plans, arrangements, or distributions by City pertaining to or in connection with any retirement, health or other benefits that City may offer its employees. Contractor or any agent or employee of Contractor is liable for the acts and omissions of itself, its employees and its agents. Contractor shall be responsible for all obligations and payments, whether imposed by federal, state or local law, including, but not limited to, FICA, income tax withholdings, unemployment compensation, insurance, and other similar responsibilities related to Contractor's performing services and work, or any agent or employee of Contractor providing same. Nothing in this Agreement shall be construed as creating an employment or agency relationship between City and Contractor or any agent or employee of Contractor. Any terms in this Agreement referring to direction from City shall be construed as providing for direction as to policy and the result of Contractor's work only, and not as to the means by which such a result is obtained. City does not retain the right to control the means or the method by which Contractor performs work under this Agreement. Contractor agrees to maintain and make available to City, upon request and during regular business hours, accurate books and accounting records demonstrating Contractor's compliance with this section. Should City determine that Contractor, or any agent or employee of Contractor, is not performing consistent with the requirements of this Agreement, City shall provide Contractor with written notice of such failure. Within five (5) business days of Contractor's receipt of such notice, and consistent with Contractor policy and procedure, Contractor shall remedy the deficiency. If City believes that an action of Contractor, or any agent or employee of Contractor, warrants immediate remedial action by Contractor, City shall contact Contractor and provide Contractor in writing with the reason for requesting such immediate action.

**4.4.2 Payment of Employment Taxes and Other Expenses.** Should City, in its discretion, or a relevant taxing authority such as the Internal Revenue Service or the State Employment Development Division, or both, determine that Contractor is an employee for purposes of collection of any employment taxes, the amounts payable under this Agreement shall be reduced by amounts equal to both the employee and employer portions of the tax due (and offsetting any credits for amounts already paid by Contractor which can be applied against this liability). City shall then forward those amounts to the relevant taxing authority. Should a relevant taxing authority determine a liability for past services performed by Contractor for City, upon notification of such fact by City, Contractor shall promptly remit such amount due or arrange with City to have the amount due withheld from future payments to Contractor under this Agreement (again, offsetting any amounts already paid by Contractor which can be applied as a credit against such liability). A determination of employment status pursuant to the preceding two paragraphs shall be solely for the purposes of the particular tax in question, and for all other purposes of this Agreement, Contractor shall not be considered an employee of City. Notwithstanding the foregoing, Contractor agrees to indemnify and save harmless City and its officers, agents and employees from, and, if requested, shall defend them against any and all claims, losses, costs, damages, and expenses, including attorneys' fees, arising from this section.

**4.5 Assignment.** The Services to be performed by Contractor are personal in character and neither this Agreement nor any duties or obligations may be assigned or delegated by Contractor unless first approved by City by written instrument executed and approved in the same manner as this Agreement. Any purported assignment made in violation of this provision shall be null and void.

**4.6 Warranty.** Contractor warrants to City that the Services will be performed with the degree of skill and care that is required by current, good and sound professional procedures and practices, and in conformance with generally accepted professional standards prevailing at the time the Services are

performed so as to ensure that all Services performed are correct and appropriate for the purposes contemplated in this Agreement.

4.7 **Liquidated Damages - Not applicable**

4.8 **Bonding Requirements – Not applicable.**

## **Article 5 Insurance and Indemnity**

5.1 **Insurance.**

5.1.1 **Required Coverages.** Without in any way limiting Contractor's liability pursuant to the "Indemnification" section of this Agreement, Contractor must maintain in force, during the full term of the Agreement, insurance in the following amounts and coverages:

(a) Workers' Compensation, in statutory amounts, with Employers' Liability Limits not less than \$1,000,000 each accident, injury, or illness; and

(b) Commercial General Liability Insurance with limits not less than \$5,000,000 each occurrence Combined Single Limit for Bodily Injury and Property Damage, including Contractual Liability, Personal Injury, Products and Completed Operations; and

(c) Commercial Automobile Liability Insurance with limits not less than \$1,000,000 each occurrence Combined Single Limit for Bodily Injury and Property Damage, including Owned, Non-Owned and Hired auto coverage, as applicable.

(d) Technology Errors and Omissions Liability coverage, with limits of \$2,000,000 each occurrence and each loss, and \$2,000,000 general aggregate. The policy shall at a minimum cover professional misconduct or lack of the requisite skill required for the performance of services defined in the contract and also provide coverage for the following risks:

(i) Liability arising from theft, dissemination, and /or disclosure of confidential information, including hackers attack; and

(ii) Liability arising from the introduction of any form of malicious software including computer viruses into, or otherwise causing damage to the City's or third person's computer, computer system, network, or similar computer related property and the data, software, and programs thereon.

5.1.2 Commercial General Liability and Commercial Automobile Liability Insurance policies must be endorsed to provide:

(a) Name as Additional Insured the City and County of San Francisco, its Officers, Agents, and Employees.

(b) That such policies are primary insurance to any other insurance available to the Additional Insureds, with respect to any claims arising out of this Agreement, and that insurance applies separately to each insured against whom claim is made or suit is brought.

5.1.3 All policies shall be endorsed to provide thirty (30) days' advance written notice to the City of cancellation for any reason, intended non-renewal, or reduction in coverages. Notices shall be sent to the City address set forth in Section 11.1, entitled "Notices to the Parties."

5.1.4 Should any of the required insurance be provided under a claims-made form, Contractor shall maintain such coverage continuously throughout the term of this Agreement and, without lapse, for a period of three years beyond the expiration of this Agreement, to the effect that, should occurrences during the contract term give rise to claims made after expiration of the Agreement, such claims shall be covered by such claims-made policies.

5.1.5 Should any of the required insurance be provided under a form of coverage that includes a general annual aggregate limit or provides that claims investigation or legal defense costs be included in such general annual aggregate limit, such general annual aggregate limit shall be double the occurrence or claims limits specified above.

5.1.6 Should any required insurance lapse during the term of this Agreement, requests for payments originating after such lapse shall not be processed until the City receives satisfactory evidence of reinstated coverage as required by this Agreement, effective as of the lapse date. If insurance is not reinstated, the City may, at its sole option, terminate this Agreement effective on the date of such lapse of insurance.

5.1.7 Before commencing any Services, Contractor shall furnish to City certificates of insurance and additional insured policy endorsements with insurers with ratings comparable to A-, VIII or higher, that are authorized to do business in the State of California, and that are satisfactory to City, in form evidencing all coverages set forth above. Approval of the insurance by City shall not relieve or decrease Contractor's liability hereunder.

5.1.8 The Workers' Compensation policy(ies) shall be endorsed with a waiver of subrogation in favor of the City for all work performed by the Contractor, its employees, agents and subcontractors.

5.1.9 If Contractor will use any subcontractor(s) to provide Services, Contractor shall require the subcontractor(s) to provide all necessary insurance and to name the City and County of San Francisco, its officers, agents and employees and the Contractor as additional insureds.

5.2 **Indemnification.** Contractor shall indemnify and hold harmless City and its officers, agents and employees from, and, if requested, shall defend them from and against any and all claims, demands, losses, damages, costs, expenses, and liability (legal, contractual, or otherwise) to the extent arising from Contractor's performance of this Agreement including, but not limited to, Contractor's use of facilities or equipment provided by City or others: (i) injury to or death of a person, including employees of City or Contractor; (ii) loss of or damage to property; (iii) violation of local, state, or federal common law, statute or regulation, including but not limited to privacy or personally identifiable information, health information, disability and labor laws or regulations; (iv) strict liability imposed by any law or regulation; or (v) losses arising from Contractor's execution of subcontracts not in accordance with the requirements of this Agreement applicable to subcontractors; so long as such injury, violation, loss, or strict liability (as set forth in subsections (i) – (v) above) arises directly or indirectly from Contractor's performance of this Agreement, including, but not limited to, Contractor's use of facilities or equipment provided by City or others, regardless of the negligence of, and regardless of whether liability without fault is imposed or sought to be imposed on City, except to the extent that such indemnity is void or otherwise unenforceable under applicable law, and except where such loss, damage, injury, liability or claim is the result of the active negligence or willful misconduct of City and is not contributed to by any

act of, or by any omission to perform some duty imposed by law or agreement on Contractor, its subcontractors, or either's agent or employee. The foregoing indemnity shall include, without limitation, reasonable fees of attorneys, consultants and experts and related costs and City's costs of investigating any claims against the City.

In addition to Contractor's obligation to indemnify City, Contractor specifically acknowledges and agrees that it has an immediate and independent obligation to defend City from any claim which actually or potentially falls within this indemnification provision, even if the allegations are or may be groundless, false or fraudulent, which obligation arises at the time such claim is tendered to Contractor by City and continues at all times thereafter.

Contractor shall indemnify and hold City harmless from all loss and liability, including attorneys' fees, court costs and all other litigation expenses for any infringement of the patent rights, copyright, trade secret or any other proprietary right or trademark, and all other intellectual property claims of any person or persons arising directly or indirectly from the receipt by City, or any of its officers or agents, of Contractor's Services.

## **Article 6      Liability of the Parties**

**6.1      Liability of City.** CITY'S PAYMENT OBLIGATIONS UNDER THIS AGREEMENT SHALL BE LIMITED TO THE PAYMENT OF THE COMPENSATION PROVIDED FOR IN SECTION 3.3.1, "PAYMENT," OF THIS AGREEMENT. NOTWITHSTANDING ANY OTHER PROVISION OF THIS AGREEMENT, IN NO EVENT SHALL CITY BE LIABLE, REGARDLESS OF WHETHER ANY CLAIM IS BASED ON CONTRACT OR TORT, FOR ANY SPECIAL, CONSEQUENTIAL, INDIRECT OR INCIDENTAL DAMAGES, INCLUDING, BUT NOT LIMITED TO, LOST PROFITS, ARISING OUT OF OR IN CONNECTION WITH THIS AGREEMENT OR THE SERVICES PERFORMED IN CONNECTION WITH THIS AGREEMENT.

**6.2      Liability for Use of Equipment.** City shall not be liable for any damage to persons or property as a result of the use, misuse or failure of any equipment used by Contractor, or any of its subcontractors, or by any of their employees, even though such equipment is furnished, rented or loaned by City.

**6.3      Liability for Incidental and Consequential Damages & Limitation of Contractor's Liability.**

6.3.1 Contractor shall be responsible for incidental and consequential damages resulting in whole or in part from Contractor's acts or omissions. The Contractor's liability for incidental and/or consequential damages will be limited, in the aggregate, to One Million Dollars (\$1,000,000) in any calendar year during the entire term of this Agreement. The Contractor agrees that it will be responsible for any claim initiated by the Airport for costs incurred to operate bus services resulting from a loss of use of the AirTrain for any single incident exceeding four (4) hours to the extent arising from the Contractor's performance of this Agreement and that such claim is subject to the One Million Dollar (\$1,000,000) cap on incidental and/or consequential damages. Further, except claims for personal injury, including wrongful death, and the costs of repair or replacement of damaged property of third parties, and costs of repair or replacement of damaged property of the Airport the Contractor's liability under this agreement will be limited, in the aggregate, to Ten Million Dollars (\$10,000,000).

6.3.2 To the extent of a failure caused from the Contractor's performance of services under this Agreement that renders the system unavailable for revenue service for more than fifteen (15) consecutive days, the Airport may suspend payment to the Contractor. The Airport shall resume payment to the Contractor once the system is returned to revenue service; however, the Airport shall not be responsible for reimbursing any cost or expense whatsoever to the Contractor during the time that the

system was unavailable. Any moneys withheld pursuant to this paragraph are subject to the [Ten Million Dollar (\$10,000,000)] cap on the Contractor's liability identified in Article .6.3.1 above.

## **Article 7      Payment of Taxes**

7.1      Except for any applicable California sales and use taxes charged by Contractor to City, Contractor shall pay all taxes, including possessory interest taxes levied upon or as a result of this Agreement, or the Services delivered under this Agreement. Contractor shall remit to the State of California any sales or use taxes paid by City to Contractor under this Agreement. Contractor agrees to promptly provide information requested by the City to verify Contractor's compliance with any State requirements for reporting sales and use tax paid by City under this Agreement.

7.2      Contractor acknowledges that this Agreement may create a "possessory interest" for property tax purposes. Generally, such a possessory interest is not created unless the Agreement entitles the Contractor to possession, occupancy, or use of City property for private gain. If such a possessory interest is created, then the following shall apply:

7.2.1    Contractor, on behalf of itself and any permitted successors and assigns, recognizes and understands that Contractor, and any permitted successors and assigns, may be subject to real property tax assessments on the possessory interest.

7.2.2    Contractor, on behalf of itself and any permitted successors and assigns, recognizes and understands that the creation, extension, renewal, or assignment of this Agreement may result in a "change in ownership" for purposes of real property taxes, and therefore may result in a revaluation of any possessory interest created by this Agreement. Contractor agrees on behalf of itself and its permitted successors and assigns to report on behalf of the City to the County Assessor the information required by Revenue and Taxation Code section 480.5, as amended from time to time, and any successor provision.

7.2.3    Contractor, on behalf of itself and any permitted successors and assigns, recognizes and understands that other events also may cause a change of ownership of the possessory interest and result in the revaluation of the possessory interest. (see, e.g., Rev. & Tax. Code section 64, as amended from time to time). Contractor agrees on behalf of itself and its permitted successors and assigns to report any change in ownership to the County Assessor, the State Board of Equalization or other public agency as required by law.

7.2.4    Contractor further agrees to provide such other information as may be requested by the City to enable the City to comply with any reporting requirements for possessory interests that are imposed by applicable law.

## **Article 8      Termination and Default**

### **8.1      Termination for Convenience**

8.1.1    City shall have the option, in its sole discretion, to terminate this Agreement, at any time during the term hereof, for convenience and without cause. City shall exercise this option by giving Contractor at least thirty (30) days written notice of termination. The notice shall specify the date on which termination shall become effective.

8.1.2    Upon receipt of the notice of termination, Contractor shall commence and perform, with diligence, all actions necessary on the part of Contractor to effect the termination of this



Agreement on the date specified by City and to minimize the liability of Contractor and City to third parties as a result of termination. All such actions shall be subject to the prior approval of City. Such actions shall include, without limitation:

(a) Halting the performance of all Services under this Agreement on the date(s) and in the manner specified by City.

(b) Terminating all existing orders and subcontracts, and not placing any further orders or subcontracts for materials, Services, equipment or other items.

(c) At City's direction, assigning to City any or all of Contractor's right, title, and interest under the orders and subcontracts terminated. Upon such assignment, City shall have the right, in its sole discretion, to settle or pay any or all claims arising out of the termination of such orders and subcontracts.

(d) Subject to City's approval, settling all outstanding liabilities and all claims arising out of the termination of orders and subcontracts.

(e) Completing performance of any Services that City designates to be completed prior to the date of termination specified by City.

(f) Taking such action as may be necessary, or as the City may direct, for the protection and preservation of any property related to this Agreement which is in the possession of Contractor and in which City has or may acquire an interest.

8.1.3 Within 30 days after the specified termination date, Contractor shall submit to City an invoice, which shall set forth each of the following as a separate line item:

(a) The reasonable cost to Contractor, without profit, for all Services prior to the specified termination date, for which Services City has not already tendered payment. Reasonable costs may include a reasonable allowance for actual overhead, not to exceed a total of 10% of Contractor's direct costs for Services. Any overhead allowance shall be separately itemized. Contractor may also recover the reasonable cost of preparing the invoice.

(b) A reasonable allowance for profit on the cost of the Services described in the immediately preceding subsection (a), provided that Contractor can establish, to the satisfaction of City, that Contractor would have made a profit had all Services under this Agreement been completed, and provided further, that the profit allowed shall in no event exceed 10% of such cost.

(c) The reasonable cost to Contractor of handling material or equipment returned to the supplier, delivered to the City or otherwise disposed of as directed by the City.

(d) A deduction for the cost of materials to be retained by Contractor, amounts realized from the sale of materials and not otherwise recovered by or credited to City, and any other appropriate credits to City against the cost of the Services or other work.

8.1.4 In no event shall City be liable for costs incurred by Contractor or any of its subcontractors after the termination date specified by City, except for those costs specifically enumerated and described in Section 8.1.3. which shall include post-termination employee salaries and post-termination administrative expenses and overhead, in accordance with but not exceeding those amounts required to be paid by the Contractor to its employees, as per the Contractor's Collective Bargaining

Agreement and the Contractor's Employee Severance Program. Such non-recoverable costs include, but are not limited to, anticipated profits on the Services under this Agreement, post-termination employee salaries, post-termination administrative expenses, post-termination overhead or unabsorbed overhead, attorneys' fees or other costs relating to the prosecution of a claim or lawsuit, prejudgment interest, or any other expense which is not reasonable or authorized under Section 8.1.3.

8.1.5 In arriving at the amount due to Contractor under this Section, City may deduct: (i) all payments previously made by City for Services covered by Contractor's final invoice; (ii) any claim which City may have against Contractor in connection with this Agreement; (iii) any invoiced costs or expenses excluded pursuant to the immediately preceding subsection 8.1.4; and (iv) in instances in which, in the opinion of the City, the cost of any Service performed under this Agreement is excessively high due to costs incurred to remedy or replace defective or rejected Services, the difference between the invoiced amount and City's estimate of the reasonable cost of performing the invoiced Services in compliance with the requirements of this Agreement.

8.1.6 City's payment obligation under this Section shall survive termination of this Agreement.

## 8.2 Termination for Default; Remedies.

8.2.1 Each of the following shall constitute an immediate event of default ("Event of Default") under this Agreement:

(a) Contractor fails or refuses to perform or observe any term, covenant or condition contained in any of the following Sections of this Agreement:

3.5	Submitting False Claims.	10.10	Alcohol and Drug-Free Workplace
4.5	Assignment	10.13	Working with Minors
Article 5	Insurance and Indemnity	11.10	Compliance with Laws
Article 7	Payment of Taxes	13.1	Nondisclosure of Private, Proprietary or Confidential Information

(b) Contractor fails or refuses to perform or observe any other term, covenant or condition contained in this Agreement, including any obligation imposed by ordinance or statute and incorporated into this Agreement by reference, and such default continues for a period of ten days after written notice thereof from City to Contractor.

(c) Contractor (i) is generally not paying its debts as they become due; (ii) files, or consents by answer or otherwise to the filing against it of a petition for relief or reorganization or arrangement or any other petition in bankruptcy or for liquidation or to take advantage of any bankruptcy, insolvency or other debtors' relief law of any jurisdiction; (iii) makes an assignment for the benefit of its creditors; (iv) consents to the appointment of a custodian, receiver, trustee or other officer with similar powers of Contractor or of any substantial part of Contractor's property; or (v) takes action for the purpose of any of the foregoing.

(d) A court or government authority enters an order (i) appointing a custodian, receiver, trustee or other officer with similar powers with respect to Contractor or with respect to any substantial part of Contractor's property, (ii) constituting an order for relief or approving a petition for relief or reorganization or arrangement or any other petition in bankruptcy or for liquidation or to take

advantage of any bankruptcy, insolvency or other debtors' relief law of any jurisdiction or (iii) ordering the dissolution, winding-up or liquidation of Contractor.

8.2.2 The Contractor shall first be given an opportunity to cure any Event of Default. The Contractor shall have ten (10) days in which to cure the Event of Default or propose a plan for cure if a ten (10) day period is not a reasonable time to cure. If the Contractor fails to cure the Event of Default or if the City is not satisfied with the Contractor's proposed plan for curing the Default, City shall have the right to exercise its legal and equitable remedies, including, without limitation, the right to terminate this Agreement or to seek specific performance of all or any part of this Agreement. In addition, where applicable, City shall have the right (but no obligation) to cure (or cause to be cured) on behalf of Contractor any Event of Default; Contractor shall pay to City on demand all costs and expenses incurred by City in effecting such cure, with interest thereon from the date of incurrence at the maximum rate then permitted by law. City shall have the right to offset from any amounts due to Contractor under this Agreement or any other agreement between City and Contractor: (i) all damages, losses, costs or expenses incurred by City as a result of an Event of Default; and (ii) any liquidated damages levied upon Contractor pursuant to the terms of this Agreement; and (iii), any damages imposed by any ordinance or statute that is incorporated into this Agreement by reference, or into any other agreement with the City.

8.2.3 All remedies provided for in this Agreement may be exercised individually or in combination with any other remedy available hereunder or under applicable laws, rules and regulations. The exercise of any remedy shall not preclude or in any way be deemed to waive any other remedy. Nothing in this Agreement shall constitute a waiver or limitation of any rights that City may have under applicable law.

8.2.4 Any notice of default must be sent by registered mail to the address set forth in Article 11.

8.3 **Non-Waiver of Rights.** The omission by either party at any time to enforce any default or right reserved to it, or to require performance of any of the terms, covenants, or provisions hereof by the other party at the time designated, shall not be a waiver of any such default or right to which the party is entitled, nor shall it in any way affect the right of the party to enforce such provisions.

8.4 **Rights and Duties upon Termination or Expiration.**

8.4.1 This Section and the following Sections of this Agreement listed below, shall survive termination or expiration of this Agreement:

3.3.2	Payment Limited to Satisfactory Services	9.1	Ownership of Results
3.3.7(a)	Grant Funded Contracts - Disallowance	9.2	Works for Hire
3.4	Audit and Inspection of Records	11.6	Dispute Resolution Procedure
3.5	Submitting False Claims	11.7	Agreement Made in California; Venue
Article 5	Insurance and Indemnity	11.8	Construction
6.1	Liability of City	11.9	Entire Agreement
6.3	Liability for Incidental and Consequential Damages	11.10	Compliance with Laws
Article 7	Payment of Taxes	11.11	Severability
8.1.6	Payment Obligation	13.1	Nondisclosure of Private, Proprietary or Confidential Information

8.4.2 Subject to the survival of the Sections identified in Section 8.4.1, above, if this Agreement is terminated prior to expiration of the term specified in Article 2, this Agreement shall be of no further force or effect. Contractor shall transfer title to City, and deliver in the manner, at the times, and to the extent, if any, directed by City, any work in progress, completed work, supplies, equipment, and other materials produced as a part of, or acquired in connection with the performance of this Agreement, and any completed or partially completed work which, if this Agreement had been completed, would have been required to be furnished to City.

## **Article 9      Rights In Deliverables**

**9.1      Ownership of Results; Confidential Information.** Any interest of Contractor or its subcontractors, in the Deliverables, including any drawings, plans, specifications, blueprints, studies, reports, memoranda, computation sheets, computer files and media or other documents prepared by Contractor or its subcontractors for the purposes of this agreement, shall become the property of and will be transmitted to City. The Parties understand and agree that, in the performance of the work or services under this Agreement or in planning or contemplation of such work or services, one Party may have access to private or confidential information which may be owned or controlled by the other Party and that such information may contain proprietary or confidential details, the disclosure of which to third parties may be damaging to the owner of the information. The Parties therefore agree that all information disclosed by one Party to the other shall be held in confidence and used only in performance of the Agreement. The Parties shall exercise the same reasonable standard of care to protect such information as they would use to protect their own proprietary data. Prior to submitting any confidential information to the City, Contractor shall identify or stamp each page as confidential. The City shall have the non-exclusive right to use or permit the use of the Information only for the sole purpose of operating and maintaining the System, without additional compensation. The City's compliance with public record disclosure laws and/or court order shall not be considered a breach of this provision. In the event, however, that the City is required to disclose potentially proprietary or confidential information of Contractor, the City will make best efforts to provide Contractor with an opportunity to seek a protective order from a court of competent jurisdiction. Unless expressly prohibited elsewhere in this Agreement, Contractor may retain and use copies for reference and as documentation of its experience and capabilities.

**9.2      Works for Hire.** If, in connection with Services, Contractor or its subcontractors creates Deliverables including, without limitation, artwork, copy, posters, billboards, photographs, videotapes, audiotapes, systems designs, software, reports, diagrams, surveys, blueprints, source codes, or any other original works of authorship, whether in digital or any other format, such works of authorship shall not be considered works for hire as defined under Title 17 of the United States Code; rather, such Works shall be considered instruments of service of the Contractor and Contractor shall grant to the City a non-exclusive, royalty-free license to use the Contractor's Works. It is expressly agreed that any such use of the Contractor's Works by the City shall be limited to the sole purpose of operating and maintaining the System. All copyrights in these Works shall remain with the Contractor.

**9.3      Intellectual Property; Licenses; Escrow.** As provided in Contract 10504.77 Design-Build Services for AirTrain Systems Extensions and Train Controls, Contractor shall retain the legal and beneficial ownership of all Intellectual Property Rights, including Know-How, Documentation, Software, artwork, copy, posters, billboards, photographs, videotapes, audiotapes, systems designs, software, diagrams, surveys, blueprints, source codes or any other original works of authorship that Contractor has supplied to the City for that Project.

9.3.1 Contractor grants to the City a perpetual, irrevocable, royalty-free, non-exclusive, non-transferable license to use the Contractor's Intellectual Property Rights, Know-How,

Documentation, and Software ("IPR") solely for the purpose of operation, maintenance and repair of the APM System provided under this Agreement.

9.3.2 Any IPR of the Contractor that is required to be provided to the City under the Agreement must be placed in escrow in accordance with mutually agreeable terms and conditions between the Contractor, the City, and the escrow agent.

9.3.3 Annual fees pertaining to the escrow of the IPR shall be paid by Contractor.

9.3.4 The escrow agreement shall provide for the release of the IPR only upon the occurrence of any of the following conditions: (1) Contractor is declared insolvent or; if any proceedings are commenced or taken for the dissolution, liquidation, or winding up of Contractor, or if a trustee, custodian or other person with similar powers is appointed in respect of Contractor or in respect of all or a substantial portion of its property or assets; (2) BT Group ceases to carry on all of its business; (3) The City terminates the Agreement for material breach of Contractor, in accordance with the provisions of the Agreement; or, (4) The contracting parties to the escrow agreement agree on the release.

9.3.5 Upon the release of the IPR to the City due to the occurrence of any of the situations reflected in Contract 10504.77, Subparagraphs 3.18(F)(4)(a) to (d) the City may only use the IPR in accordance with, and for the allowable purposes indicated in the license above (i.e., operation, maintenance, and repair of the Works) except however, if Contractor did not complete the Works prior to the termination of the Agreement, then Contractor shall grant the City an additional license to use the IPR to complete construction of the Works.

9.3.6 The term of the escrow agreement shall be the shorter of the design life of the products to which the IPR pertains or 20 years after the date of complete execution of such agreement. At the end of the escrow term, the IPR shall be returned to Contractor.

9.3.7 Contractor shall provide all licenses from original equipment manufacturers that have been granted to Contractor to the City upon written request.

## **Article 10 Additional Requirements Incorporated by Reference**

10.1 **Laws Incorporated by Reference.** The full text of the laws listed in this Article 10, including enforcement and penalty provisions, are incorporated by reference into this Agreement. The full text of the San Francisco Municipal Code provisions incorporated by reference in this Article and elsewhere in the Agreement ("Mandatory City Requirements") are available at [http://www.amlegal.com/codes/client/san-francisco\\_ca/](http://www.amlegal.com/codes/client/san-francisco_ca/).

10.2 **Conflict of Interest.** By executing this Agreement, Contractor certifies that it does not know of any fact which constitutes a violation of Section 15.103 of the City's Charter; Article III, Chapter 2 of City's Campaign and Governmental Conduct Code; Title 9, Chapter 7 of the California Government Code (Section 87100 *et seq.*), or Title 1, Division 4, Chapter 1, Article 4 of the California Government Code (Section 1090 *et seq.*), and further agrees promptly to notify the City if it becomes aware of any such fact during the term of this Agreement. The Contractor, its subcontractors/sub-consultants at any tier and any employees are prohibited from engaging in any business or transaction or professional activity or incurring any obligation of any nature that is in conflict with the proper discharge of their respective duties under or pursuant to the Contract.

10.3 **Prohibition on Use of Public Funds for Political Activity.** In performing the Services, Contractor shall comply with San Francisco Administrative Code Chapter 12G, which prohibits funds

appropriated by the City for this Agreement from being expended to participate in, support, or attempt to influence any political campaign for a candidate or for a ballot measure. Contractor is subject to the enforcement and penalty provisions in Chapter 12G.

10.4 **Reserved.**

10.5 **Nondiscrimination Requirements**

10.5.1 **Nondiscrimination in Contracts.** Contractor shall comply with the provisions of Chapters 12B and 12C of the San Francisco Administrative Code. Contractor shall incorporate by reference in all subcontracts the provisions of Sections 12B.2(a), 12B.2(c)-(k), and 12C.3 of the San Francisco Administrative Code and shall require all subcontractors to comply with such provisions. Contractor is subject to the enforcement and penalty provisions in Chapters 12B and 12C.

10.5.2 **Nondiscrimination in the Provision of Employee Benefits.** San Francisco Administrative Code 12B.2. Contractor does not as of the date of this Agreement, and will not during the term of this Agreement, in any of its operations in San Francisco, on real property owned by San Francisco, or where work is being performed for the City elsewhere in the United States, discriminate in the provision of employee benefits between employees with domestic partners and employees with spouses and/or between the domestic partners and spouses of such employees, subject to the conditions set forth in San Francisco Administrative Code Section 12B.2.

10.6 **Local Business Enterprise and Non-Discrimination in Contracting Ordinance.** Contractor shall comply with all applicable provisions of Chapter 14B ("LBE Ordinance"). Contractor is subject to the enforcement and penalty provisions in Chapter 14B. Contractor shall utilize LBE Subcontractors for at least 5% of the Services except as otherwise authorized in writing by the Director of CMD. Contractor shall incorporate the requirements of the LBE Ordinance in each subcontract made in the fulfillment of Contractor's LBE subcontracting commitments.

10.7 **Minimum Compensation Ordinance.** Contractor shall pay covered employees no less than the minimum compensation required by San Francisco Administrative Code Chapter 12P. Contractor is subject to the enforcement and penalty provisions in Chapter 12P. By signing and executing this Agreement, Contractor certifies that it is in compliance with Chapter 12P.

10.8 **Health Care Accountability Ordinance.** Contractor shall comply with San Francisco Administrative Code Chapter 12Q. Contractor shall choose and perform one of the Health Care Accountability options set forth in San Francisco Administrative Code Chapter 12Q.3. Contractor is subject to the enforcement and penalty provisions in Chapter 12Q.

10.9 **First Source Hiring Program.** Contractor must comply with all of the provisions of the First Source Hiring Program, Chapter 83 of the San Francisco Administrative Code, that apply to this Agreement, and Contractor is subject to the enforcement and penalty provisions in Chapter 83.

10.10 **Alcohol and Drug-Free Workplace.** City reserves the right to deny access to, or require Contractor to remove from, City facilities personnel of any Contractor or subcontractor who City has reasonable grounds to believe has engaged in alcohol abuse or illegal drug activity which in any way impairs City's ability to maintain safe work facilities or to protect the health and well-being of City employees and the general public. City shall have the right of final approval for the entry or re-entry of any such person previously denied access to, or removed from, City facilities. Illegal drug activity means possessing, furnishing, selling, offering, purchasing, using or being under the influence of illegal drugs or other controlled substances for which the individual lacks a valid prescription. Alcohol abuse means

possessing, furnishing, selling, offering, or using alcoholic beverages, or being under the influence of alcohol. The Contractor must have a drug and alcohol program that conforms with the current System Safety Program Plan (SSPP).

**10.11 Limitations on Contributions.** By executing this Agreement, Contractor acknowledges that it is familiar with section 1.126 of the City's Campaign and Governmental Conduct Code, which prohibits any person who contracts with the City for the rendition of personal services, for the furnishing of any material, supplies or equipment, for the sale or lease of any land or building, or for a grant, loan or loan guarantee, from making any campaign contribution to (1) an individual holding a City elective office if the contract must be approved by the individual, a board on which that individual serves, or the board of a state agency on which an appointee of that individual serves, (2) a candidate for the office held by such individual, or (3) a committee controlled by such individual, at any time from the commencement of negotiations for the contract until the later of either the termination of negotiations for such contract or six months after the date the contract is approved. The prohibition on contributions applies to each prospective party to the contract; each member of Contractor's board of directors; Contractor's chairperson, chief executive officer, chief financial officer and chief operating officer; any person with an ownership interest of more than 20 percent in Contractor; any subcontractor listed in the bid or contract; and any committee that is sponsored or controlled by Contractor. Contractor must inform each such person of the limitation on contributions imposed by Section 1.126 and provide the names of the persons required to be informed to City.

**10.12 Slavery Era Disclosure – Not applicable.**

**10.13 Working with Minors – Not applicable.**

**10.14 Consideration of Criminal History in Hiring and Employment Decisions**

10.14.1 Contractor agrees to comply fully with and be bound by all of the provisions of Chapter 12T, "City Contractor/Subcontractor Consideration of Criminal History in Hiring and Employment Decisions," of the San Francisco Administrative Code ("Chapter 12T"), including the remedies provided, and implementing regulations, as may be amended from time to time. The provisions of Chapter 12T are incorporated by reference and made a part of this Agreement. The text of the Chapter 12T is available on the web at <http://sfgov.org/olse/fco>. A partial listing of some of Contractor's obligations under Chapter 12T is set forth in this Section. Contractor is required to comply with all of the applicable provisions of 12T, irrespective of the listing of obligations in this Section. Capitalized terms used in this Section and not defined in this Agreement shall have the meanings assigned to such terms in Chapter 12T.

10.14.2 The requirements of Chapter 12T shall only apply to a Contractor's or Subcontractor's operations to the extent those operations are in furtherance of the performance of this Agreement, shall apply only to applicants and employees who would be or are performing work in furtherance of this Agreement, and shall apply when the physical location of the employment or prospective employment of an individual is wholly or substantially within the City of San Francisco which excludes Airport property. Chapter 12T shall not apply when the application in a particular context would conflict with federal or state law or with a requirement of a government agency implementing federal or state law.

**10.15 Public Access to Nonprofit Records and Meetings – Not applicable.**

10.16 **Food Service Waste Reduction Requirements.** Contractor shall comply with the Food Service Waste Reduction Ordinance, as set forth in San Francisco Environment Code Chapter 16, including but not limited to the provided remedies for noncompliance.

10.17 **Sugar-Sweetened Beverage Prohibition.** Contractor agrees that it will not sell, provide, or otherwise distribute Sugar-Sweetened Beverages, as defined by San Francisco Administrative Code Chapter 101, as part of its performance of this Agreement.

10.18 **Tropical Hardwood and Virgin Redwood Ban.** Under San Francisco Environment Code Section 804(b), the City urges Contractor not to import, purchase, obtain, or use for any purpose, any tropical hardwood, tropical hardwood wood product, virgin redwood or virgin redwood wood product.

10.19 **Preservative Treated Wood Products – Not applicable.**

## **Article 11      General Provisions**

11.1 **Notices to the Parties.** Unless otherwise indicated in this Agreement, all written communications sent by the Parties may be by U.S. mail or e-mail, and shall be addressed as follows:

To City:            Lee Mitchell, SFO AirTrain Manager, Operations & Security  
San Francisco International Airport, P.O. Box 8097, San Francisco, CA 94128  
[Lee.Mitchell@flysfo.com](mailto:Lee.Mitchell@flysfo.com) , 650-821-7661

To Contractor:    Alfredo Hinojosa, SDC Site Director  
Bombardier Transportation (Holdings) USA Inc.,  
679 N McDonnell Rd, San Francisco, CA 94128  
[Alfredo.Hinojosa@us.transport.bombardier.com](mailto:Alfredo.Hinojosa@us.transport.bombardier.com) , 650-821-7346

Any notice of default must be sent by registered mail. Either Party may change the address to which notice is to be sent by giving written notice thereof to the other Party. If email notification is used, the sender must specify a receipt notice.

11.2 **Compliance with Americans with Disabilities Act.** Contractor shall provide the Services in a manner that complies with the Americans with Disabilities Act (ADA), including but not limited to Title II's program access requirements, and all other applicable federal, state and local disability rights legislation.

11.3 **Reserved.**

11.4 **Sunshine Ordinance.** Contractor acknowledges that this Agreement and all records related to its formation, Contractor's performance of Services, and City's payment are subject to the California Public Records Act, (California Government Code §6250 *et. seq.*), and the San Francisco Sunshine Ordinance, (San Francisco Administrative Code Chapter 67). Such records are subject to public inspection and copying unless exempt from disclosure under federal, state or local law.

11.5 **Modification of this Agreement.** This Agreement may not be modified, nor may compliance with any of its terms be waived, except as noted in Section 11.1, "Notices to Parties," regarding change in personnel or place, and except by written instrument executed and approved in the same manner as this Agreement. Contractor shall cooperate with Department to submit to the Director of



CMD any amendment, modification, supplement or change order that would result in a cumulative increase of the original amount of this Agreement by more than 20% (CMD Contract Modification Form).

## 11.6 **Dispute Resolution Procedure.**

11.6.1 **Negotiation; Alternative Dispute Resolution.** The Parties will attempt in good faith to resolve any dispute or controversy arising out of or relating to the performance of services under this Agreement. If the Parties are unable to resolve the dispute, then, under San Francisco Administrative Code Section 21.36, Contractor may submit to the Contracting Officer a written request for administrative review and documentation of the Contractor's claim(s). Upon such request, the Contracting Officer shall promptly issue an administrative decision in writing, stating the reasons for the action taken and informing the Contractor of its right to judicial review. If agreed by both Parties in writing, the Parties may resolve disputes by a mutually agreed-upon alternative dispute resolution process. If the parties do not mutually agree to an alternative dispute resolution process or such efforts do not resolve the dispute, then either Party may pursue any remedy available under California law. The status of any dispute or controversy notwithstanding, Contractor shall proceed diligently with the performance of its obligations consistent with the Agreement and the written directions of the City. Neither Party will be entitled to legal fees or costs for matters resolved under this section.

11.6.2 **Government Code Claim Requirement.** No suit for money or damages may be brought against the City until a written claim has first been presented to and rejected by the City in conformity with the provisions of San Francisco Administrative Code Chapter 10 and California Government Code Section 900, et seq. Nothing set forth in this Agreement shall operate to toll, waive or excuse Contractor's compliance with the California Government Code Claim requirements set forth in San Francisco Administrative Code Chapter 10 and California Government Code Section 900, et seq.

11.7 **Agreement Made in California; Venue.** The formation, interpretation and performance of this Agreement shall be governed by the laws of the State of California. Venue for all litigation relative to the formation, interpretation and performance of this Agreement shall be in San Francisco.

11.8 **Construction.** All paragraph captions are for reference only and shall not be considered in construing this Agreement.

11.9 **Entire Agreement.** This contract sets forth the entire Agreement between the parties, and supersedes all other oral or written provisions. This Agreement may be modified only as provided in Section 11.5, "Modification of this Agreement."

11.10 **Compliance with Laws.** Contractor shall keep itself fully informed of the City's Charter, codes, ordinances and duly adopted rules and regulations of the City and of all state, and federal laws in any manner affecting the performance of this Agreement, and must at all times comply with such local codes, ordinances, and regulations and all applicable laws as they may be amended from time to time.

11.11 **Severability.** Should the application of any provision of this Agreement to any particular facts or circumstances be found by a court of competent jurisdiction to be invalid or unenforceable, then (a) the validity of other provisions of this Agreement shall not be affected or impaired thereby, and (b) such provision shall be enforced to the maximum extent possible so as to effect the intent of the parties and shall be reformed without further action by the parties to the extent necessary to make such provision valid and enforceable.

11.12 **Cooperative Drafting.** This Agreement has been drafted through a cooperative effort of City and Contractor, and both Parties have had an opportunity to have the Agreement reviewed and

revised by legal counsel. No Party shall be considered the drafter of this Agreement, and no presumption or rule that an ambiguity shall be construed against the Party drafting the clause shall apply to the interpretation or enforcement of this Agreement.

11.13 **Order of Precedence.** Contractor agrees to perform the services described below consistent with the terms and conditions of this Agreement and implementing future task orders.

11.14 **Force Majeure.** Neither Party under this Agreement shall be liable to the other for any failure, delay or interruption of the performance of its obligations hereunder due to causes or conditions beyond the control of that Party, including, without limitation, acts of God, explosions, fire and other accidents, including those resulting from seismic activity. The Contractor shall have the ability to request an equitable adjustment for both time and cost as it relates to an event of force majeure and the City's approval of such equitable adjustment shall not be unreasonably withheld.

11.15 **Change in Law.** If during the term of this Contract any unforeseeable changes in laws, ordinances, rules and regulations, or orders occur which result in actual increased costs to the Contractor, the Contractor may submit to the City a written request for a contract modification to account for such actual additional costs. The request shall include documentation of the costs claimed by Contractor, identification of the change in law, ordinance, rule, regulation or order which caused the increased costs and a statement of the reasons why the change was not reasonably foreseeable and the reasons why the change caused the increased costs. The City will exercise reasonable discretion to grant or deny a contract modification after review of the information submitted by the Contractor.

## **Article 12 Requirements For Airport Contracts**

12.1 **Airport Commission Rules and Regulations.** Contractor agrees to comply with the Airport Commission's Rules and Regulations for the San Francisco International Airport as amended from time to time. A copy of the current Rules and Regulations can be found at: <http://www.flysfo.com/about-sfo/the-organization/rules-and-regulations>.

12.2 **Airport Intellectual Property.** Pursuant to Resolution No. 01-0118, adopted by the Airport Commission on April 18, 2001, the Airport Commission affirmed that it will not tolerate the unauthorized use of its intellectual property, including the SFO logo, CADD designs, and copyrighted publications. All proposers, bidders, contractors, tenants, permittees, and others doing business with or at the Airport (including subcontractors and subtenants) may not use the Airport intellectual property, or any intellectual property confusingly similar to the Airport intellectual property, without the Airport Director's prior consent.

12.3 **Labor Peace / Card Check Rule.** Without limiting the generality of other provisions in this Agreement requiring Contractor to comply with all Airport Rules, Contractor shall comply with the Airport's Labor Peace / Card Check Rule, adopted on February 1, 2000, pursuant to Airport Commission Resolution No. 00-0049 (the "Labor Peace / Card Check Rule"). Capitalized terms not defined in this provision are defined in the Labor Peace/Card Check Rule. To comply with the Labor Peace/Card Check Rule, Contractor shall, among other actions: (a) Enter into a Labor Peace/Card Check Rule Agreement with any Labor Organization which requests such an agreement and which has registered with the Airport Director or his / her designee, within thirty (30) days after Labor Peace/Card Check Rule Agreement has been requested; (b) Not less than thirty (30) days prior to the modification of this Agreement, Contractor shall provide notice by mail to any Labor Organization or federation of labor organizations which have registered with the Airport Director or his / her designee (registered labor organization"), that Contractor is seeking to modify or extend this Agreement; (c) Upon issuing any request for proposals, invitations to bid, or similar notice, or in any event not less than thirty (30) days prior to entering into any Subcontract,

Contractor shall provide notice to all registered Labor Organizations that Contractor is seeking to enter into such Subcontract; and (d) Contractor shall include in any subcontract with a Subcontractor performing services pursuant to any covered Contract, a provision requiring the Subcontractor performing services pursuant to any covered Contract, a provision requiring the Subcontractor to comply with the requirements of the Labor Peace/Card Check Rule. If Airport Director determines that Contractor violated the Labor Peace/Card Check Rule, Airport Director shall have the option to terminate this Agreement, in addition to exercising all other remedies available to him / her.

**12.4 Federal Fair Labor Standards Act.** This Agreement incorporates by reference the provisions of 29 USC §201, the Federal Fair Labor Standards Act (FLSA), with the same force and effect as if given in full text. The FLSA sets minimum wage, overtime pay, recordkeeping, and child labor standards for full and part time workers. Contractor has full responsibility to monitor compliance to the referenced statute or regulation. Contractor must address any claims or disputes that arise from this requirement directly with the U.S. Department of Labor – Wage and Hour Division.

**12.5 Occupational Safety and Health Act of 1970.** This Agreement incorporates by reference the requirements of 29 CFR §1910 with the same force and effect as if given in full text. Contractor must provide a work environment that is free from recognized hazards that may cause death or serious physical harm to the employee. Contractor retains full responsibility to monitor its compliance and their subcontractor's compliance with the applicable requirements of the Occupational Safety and Health Act of 1970 (29 CFR §1910). Contractor must address any claims or disputes that pertain to a referenced requirement directly with the U.S. Department of Labor – Occupational Safety and Health Administration.

**12.6 Federal Nondiscrimination Requirements.** During the performance of this Agreement, Contractor, for itself, its assignees, and successors in interest (hereinafter referred to as "Contractor") agrees as follows:

**12.6.1 Compliance with Regulations.** Contractor (hereinafter includes consultants) will comply with the Title VI List of Pertinent Nondiscrimination Acts And Authorities, as they may be amended from time to time, which are herein incorporated by reference and made a part of this Agreement.

**12.6.2 Nondiscrimination.** Contractor, with regard to the work performed by it during the Agreement, will not discriminate on the grounds of race, color, or national origin in the selection and retention of subcontractors, including procurements of materials and leases of equipment. Contractor will not participate directly or indirectly in the discrimination prohibited by the Nondiscrimination Acts and Authorities, including employment practices when the Agreement covers any activity, project, or program set forth in Appendix B of 49 CFR §21.

**12.6.3 Solicitations for Subcontracts.** Including Procurements of Materials and Equipment: In all solicitations, either by competitive bidding, or negotiation made by Contractor for work to be performed under a subcontract, including procurements of materials, or leases of equipment, each potential subcontractor or supplier will be notified by Contractor of Contractor's obligations under this Agreement and the Nondiscrimination Acts And Authorities on the grounds of race, color, or national origin.

**12.6.4 Information and Reports.** Contractor will provide all information and reports required by the Acts, the Regulations, and directives issued pursuant thereto and will permit access to its books, records, accounts, other sources of information, and its facilities as may be determined by the Airport or the Federal Aviation Administration to be pertinent to ascertain compliance with such

Nondiscrimination Acts and Authorities and instructions. Where any information required of a contractor is in the exclusive possession of another who fails or refuses to furnish the information, the contractor will so certify to the Airport or the Federal Aviation Administration, as appropriate, and will set forth what efforts it has made to obtain the information.

12.6.5 **Sanctions for Noncompliance.** In the event of a contractor's noncompliance with the Non-discrimination provisions of this Agreement, the Airport will impose such contract sanctions as it or the Federal Aviation Administration may determine to be appropriate, including, but not limited to:

(a) Withholding payments to the contractor under the contract until the contractor complies; and/or

(b) Cancelling, terminating, or suspending a contract, in whole or in part.

12.6.6 **Incorporation of Provisions.** Contractor will include the provisions of paragraphs 12.6.1 through 12.6.6 in every subcontract, including procurements of materials and leases of equipment, unless exempt by the Acts, the Regulations and directives issued pursuant thereto. Contractor will take action with respect to any subcontract or procurement as the Airport or the Federal Aviation Administration may direct as a means of enforcing such provisions including sanctions for noncompliance. Provided, that if Contractor becomes involved in, or is threatened with litigation by a subcontractor, or supplier because of such direction, Contractor may request the Airport to enter into any litigation to protect the interests of the Airport. In addition, Contractor may request the United States to enter into the litigation to protect the interests of the United States.

12.6.7 **Title VI List of Pertinent Nondiscrimination Acts and Authorities.** During the performance of this Agreement, Contractor, for itself, its assignees, and successors in interest (hereinafter referred to as the "Contractor") agrees to comply with the following non-discrimination statutes and authorities; including but not limited to:

- Title VI of the Civil Rights Act of 1964 (42 USC §2000d *et seq.*, 78 stat. 252), (prohibits discrimination on the basis of race, color, national origin);
- 49 CFR part 21 (Non-discrimination In Federally-Assisted Programs of The Department of Transportation—Effectuation of Title VI of The Civil Rights Act of 1964);
- The Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, (42 USC §4601), (prohibits unfair treatment of persons displaced or whose property has been acquired because of Federal or Federal-aid programs and projects);
- Section 504 of the Rehabilitation Act of 1973, (29 USC. §794 *et seq.*), as amended, (prohibits discrimination on the basis of disability); and 49 CFR §27;
- The Age Discrimination Act of 1975, as amended, (42 USC §6101 *et seq.*), (prohibits discrimination on the basis of age);
- Airport and Airway Improvement Act of 1982, (49 USC §471, Section 47123), as amended, (prohibits discrimination based on race, creed, color, national origin, or sex);
- The Civil Rights Restoration Act of 1987, (PL 100-209), (Broadened the scope, coverage and applicability of Title VI of the Civil Rights Act of 1964, The Age Discrimination Act of 1975 and Section 504 of the Rehabilitation Act of 1973, by expanding the definition of the terms "programs or activities" to include all of the programs or activities of the Federal-aid recipients, sub-recipients and contractors, whether such programs or activities are Federally funded or not);
- Titles II and III of the Americans with Disabilities Act of 1990, which prohibit discrimination on the basis of disability in the operation of public entities, public and private

transportation systems, places of public accommodation, and certain testing entities (42 USC §12131 – 12189) as implemented by Department of Transportation regulations at 49 CFR §37 and 38 and the Department of Justice regulations at 28 CFR, parts 35 and 36;

- The Federal Aviation Administration’s Non-discrimination statute (49 USC §47123) (prohibits discrimination on the basis of race, color, national origin, and sex);
- Executive Order 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations, which ensures non-discrimination against minority populations by discouraging programs, policies, and activities with disproportionately high and adverse human health or environmental effects on minority and low-income populations;
- Executive Order 13166, Improving Access to Services for Persons with Limited English Proficiency, and resulting agency guidance, national origin discrimination includes discrimination because of limited English proficiency (LEP). To ensure compliance with Title VI, you must take reasonable steps to ensure that LEP persons have meaningful access to your programs (70 CFR at 74087 to 74100);
- Title IX of the Education Amendments of 1972, as amended, which prohibits you from discriminating because of sex in education programs or activities (20 USC §1681 *et seq.*).

### **Article 13      Data and Security**

#### **13.1      Nondisclosure of Private, Proprietary or Confidential Information.**

13.1.1 If this Agreement requires City to disclose "Private Information" to Contractor within the meaning of San Francisco Administrative Code Chapter 12M, Contractor and subcontractor shall use such information only in accordance with the restrictions stated in Chapter 12M and in this Agreement and only as necessary in performing the Services. Contractor is subject to the enforcement and penalty provisions in Chapter 12M.

13.1.2 In the performance of Services, Contractor may have access to City's proprietary or confidential information, the disclosure of which to third parties may damage City. If City discloses proprietary or confidential information to Contractor, such information must be held by Contractor in confidence and used only in performing the Agreement. Contractor shall exercise the same standard of care to protect such information as a reasonably prudent contractor would use to protect its own proprietary or confidential information.

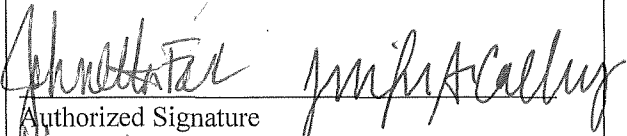

#### **13.2      Payment Card Industry (“PCI”) Requirements – Not applicable.**

#### **13.3      Business Associate Agreement – Not applicable.**

### **Article 14      MacBride And Signature**

14.1 **MacBride Principles -Northern Ireland.** The provisions of San Francisco Administrative Code §12F are incorporated by this reference and made part of this Agreement. By signing this Agreement, Contractor confirms that Contractor has read and understood that the City urges companies doing business in Northern Ireland to resolve employment inequities and to abide by the MacBride Principles, and urges San Francisco companies to do business with corporations that abide by the MacBride Principles.

IN WITNESS WHEREOF, the parties hereto have executed this Agreement on the day first mentioned above.

CITY	CONTRACTOR
AIRPORT COMMISSION CITY AND COUNTY OF SAN FRANCISCO	
By: _____ Ivar C. Satero, Airport Director	Authorized Signature  JENNIFER A. CALVEY
Attest: _____  By _____ C. Corina Monzón, Secretary Airport Commission	Printed Name Secretary Vice President Title
Resolution No: <u>19-0076</u> Adopted on: <u>April 2, 2019</u>  Approved as to Form: Dennis J. Herrera City Attorney	Company Name <u>Bombardier Transportation (Holdings) USA Inc.</u> City Supplier Number <u>0000024151</u>
By _____ Sallie Gibson, Deputy City Attorney  Approved: _____  By _____ Alaric Degrafinried, Director of the Office of Contract Administration and Purchaser	Address <u>1501 Lebanon Church Rd.</u> <u>Pittsburgh, PA 15236</u> City, State, ZIP <u>412-655-5700</u> Telephone Number <u>25-1579550</u> Federal Employer ID Number

**Appendices**

- A: Scope of Services
- B: Calculation of Charges
- C: Incident Grace Period Time
- D: K Factor Table
- E: Tools, Equipment, and Spare Parts
- F: Base Contract Price Breakdown

**APPENDIX A**  
**SERVICES TO BE PROVIDED BY CONTRACTOR**

**A1.0 GENERAL**

- A1.1 The Contractor shall provide, train, and supervise all operations and maintenance personnel and provide all spare parts, material, equipment, and services required to accomplish the tasks specified herein, to assure that the entire AirTrain system provides safe and reliable service for passengers. The scope of services shall include the entire AirTrain system, which includes the LOS Operating System, Fixed Facilities and all Guideway Equipment installed under contracts 5703.A and 8838. The Airport will be responsible for any repairs to the following: emergency walkways, hand rails, station barrier walls, running beams and guideway superstructure, which is comprised of support columns, tub, and deck.
- A1.2 During the term of this contract, the Contractor shall be obligated as set forth herein to assure the operation and maintenance of the AirTrain system is in conformance with the Airport-provided System Operations Plan, Rule Book, System Operations Manuals, Maintenance Plan, Maintenance Manuals, System Safety and Security Plans and the System Assurance Monitoring Plan. The Contractor shall assign a qualified and experienced person as the Operations and Maintenance Director, who shall be directly employed by the Contractor, to be responsible for overseeing and directing the operation and maintenance services. The Operations and Maintenance Director or an authorized representative shall be available on site at all times.
- A1.3 The Contractor shall directly operate and maintain the AirTrain system with its own personnel. The Contractor will not be required to provide security personnel. The Contractor shall perform the operation and maintenance duties set forth herein, including but not limited to the following: training all staff as required, certifying/recertifying central control operators, certifying/recertifying recovery and maintenance technicians, scheduling and operating trains, initiating and supervising train movement, developing and implementing emergency procedures, recovery and removal of disabled trains from service, data collection, data analysis, reporting, service availability monitoring, performing preventive and corrective maintenance on all system components, and replacement of system parts and components and/or other duties as set forth by Airport Representatives.
- A1.4 The Contractor shall not charge and the Airport shall not be required to make any payments to the Contractor for any work performed or costs incurred that are not provided as a part of this Contract.
- A1.5 All policy decisions regarding AirTrain operations shall rest with the Airport's Representatives. Such matters as the hours and/or levels of service to be offered, public media information, and interfacing with the public at large shall be the responsibility of the Airport or its Representatives. When officially notified by the Airport's Representatives of a decision regarding the above matters, or any other matter that classifies as a policy decision, the Contractor shall immediately take all appropriate steps to comply with the decision.

## **A2.0 OPERATIONS AND MAINTENANCE ADMINISTRATION AND MANAGEMENT**

A2.0.1 The Contractor shall provide the required personnel, supplies and materials necessary to perform, and shall perform the administration and management of all operations and maintenance requirements of the AirTrain system. Operations and maintenance administration and management includes, but is not limited to, operations and maintenance of all system related parts and components, management of payroll and benefits administration, training of staff, purchasing and inventory control, and record keeping.

A2.0.2 The Contractor shall utilize the Microsoft Windows-based Site Information Management System (SIMS) provided by the Airport as part of this contract. SIMS can provide management and control of the following: Preventative Maintenance Inspections, Purchasing, Inventory Control, System Performance, Training, and Shift Status. The Contractor shall ensure an adequate supply of materials, parts and equipment are in stock at all times to operate and maintain the AirTrain. The Contractor shall maintain up-to-date inventory records, which shall include quantities of all material, parts and equipment in stock and their respective reorder points.

### **A2.1 OPERATIONS AND MAINTENANCE REQUIREMENTS**

The Contractor shall maintain the AirTrain system in accordance with all the requirements and specifications set forth in this section. The Airport's Representative and the Contractor may, from time to time and by mutual consent, make non-material changes to any requirements and/or specifications herein. Any changes made shall not be considered a change in the scope of Services or entitle the Contractor to any additional compensation under this Contract. The Parties may make such changes by the execution of a modification to this Contract by the Airport's Representative and the Contractor's Representative, as defined in Sections 4.1 of the Agreement.

### **A2.2 AUTHORIZED PERSONNEL FOR CONTRACT**

A2.2.1 **Personnel Qualifications Warranty** – The Contractor has, along with each of the Contractor's subcontractors/sub-consultants at any tier and any employees that will perform the Services, the necessary knowledge, skills, experience, qualifications, rights and resources to perform the Services in accordance with this Contract, and has successfully performed the Services or services that are substantially equivalent to the Services for others.

A2.2.2 **Staffing Levels** - The Contractor shall determine, in accordance with the operating requirements and this Contract, the necessary staffing levels and experience and provide all the labor necessary to meet the System Availability requirements as well as all other parts of this Contract.

A2.2.3 **Position Reassignment** – If the Contractor fails to meet minimum system availability for three (3) consecutive months and the failure is attributed to lack of experience, the Airport's Representative, in consultation with the Contractor, shall have the right to direct changes to the allocation of skills/qualifications among the operations and maintenance staff as it sees fit to improve system availability.

A2.2.4 **Airport's Right to Reject Contractor Personnel** – The Airport or its Representatives reserves the right, upon reasonable cause, to determine that any person supplied by the



Contractor is not capable or fit to perform his or her assigned responsibilities concerning this Contract, and the Services to be provided under it. The Airport or its Representatives may immediately request the removal from the Airport any employee of Contractor within five (5) business days after the employee first reports to work and will pay the documented out-of-pocket cost the Contractor incurs for the Services performed by the employee during those five (5) business days. The City reserves the right to request, at any time and for any reason, that specific employees of the Contractor be removed from, and not be assigned by the Contractor, to work on this contract, and the Contractor acknowledges, understands and agrees that the Contractor will comply with any such request by the Airport's Representative in the following manner: as to any security violation, or any other violation that requires immediate removal, the Contractor will remove employee immediately. For all other matters that are not security-related, the Contractor shall investigate the situation and report findings and propose a course of action to the Airport's Representative within five (5) business days.

**A2.2.5 System Expansion** - In addition to the above, the Airport anticipates implementing a program to possibly expand the AirTrain at some future date. The Airport may provide a Contract Modification for increased staffing levels to support the expanded system.

**A2.2.6 Wage Rates** - Wage rates for all personnel/employees employed by the Contractor or its subcontractors/sub-consultants at any tier under this Contract shall comply with all federal, state, and local laws applicable to wage rates.

### **A2.3 SAFETY AND SECURITY**

**A2.3.1** The Contractor is responsible for the health and safety of its employees, agents, subcontractors, and other persons who perform work under this Contract and for the protection and preservation of the AirTrain and its passengers. The Contractor shall take all necessary and reasonable precautions and actions to protect all such persons and property. The Contractor shall employ at the site an experienced Safety and System Security Supervisor, authorized to represent and act for the Contractor in matters pertaining to the Safety and System Security of its employees and AirTrain passengers, and shall inform the Airport's Representative in writing of the identity of such Supervisor. The Airport's Representative shall have the right to consult with the Contractor and mutually determine to accept or reject any Safety and System Security Supervisor selected by the Contractor, and the Airport's Representative's acceptance shall be required prior to employment of any such person. The Safety and System Security Supervisor's duties shall include, but not be limited to, the following:

**A2.3.1.1** Ensure compliance with all the applicable laws, regulations, ordinances, rules or orders of any public authority having jurisdiction relating to safety of persons or property.

**A2.3.1.2** Implement all safety and system security practices, procedures and programs customarily provided by contractors performing work of a similar nature.

**A2.3.1.3** Ensure compliance with the requirements specified in the AirTrain System Safety Program Plan.

**A2.3.1.4** Act as the Contractor's Representative during audits performed by the CPUC.

A2.3.1.5 Other such duties as may be deemed prudent by the Airport's Representative.

A2.3.2 The Contractor shall operate and maintain the AirTrain in accordance with the Airport-accepted System Safety Program Plan and all safety procedures provided in the Operations and Maintenance Manuals and Rule Book provided by the Airport.

A2.3.3 The Contractor shall provide security in accordance with the System Security Plan provided by the Airport. The Contractor's duties shall include but not be limited to:

A2.3.3.1 Providing a secure environment for AirTrain passengers and employees

A2.3.3.2 Monitoring the CCTV system and emergency telephone system

A2.3.3.3 Responding to emergency incidents and providing notification regarding criminal incidents and/or suspicious behavior or activity

A2.3.3.4 Securing all "locked and controlled" aspects of the AirTrain from unauthorized persons

#### **A2.4 TRAINING OF CONTRACTOR'S PERSONNEL**

A2.4.1 The Contractor shall employ and train all operation and maintenance personnel required for the performance of this Contract. In addition to the training of the initial personnel staff, the Contractor shall train replacement personnel as needed to meet staffing requirements.

A2.4.2 The Contractor shall develop and implement a training and testing program in which personnel within specific job classifications are trained and tested initially, and periodically retested, for proficiency within the applicable job classification.

A2.4.3 The Contractor shall provide all instructors, literature, and equipment necessary to train personnel. The City shall provide the Contractor with the facilities to conduct the training and testing program. The Contractor shall provide sufficient classroom and on-the-job training (confirmed by competency testing) to ensure staff competence in the operation and maintenance of the AirTrain. Training activities may take place on actual AirTrain equipment as appropriate, without disruption to passenger service.

A2.4.4 The formal training program will be conducted on a regular basis to develop the skills of new personnel and to refresh and expand the skills of experienced personnel. The training program shall include periodic testing of personnel to confirm competency, and shall provide for certification and periodic recertification of designated critical skills.

A2.4.5 The Contractor shall designate a Training Supervisor who will manage and administer the training program. A written master list of all classes including but not limited to class title, technicians name, and grade will be updated and distributed to Airport's Representative on a semi-annual basis.

A2.4.6 Operational Readiness Testing

- A2.4.6.1 **Duty to Conduct:** In addition to the above training, during the term of this Contract, including any renewal terms, the Contractor shall conduct operational readiness testing with the Contractor's own testing program and in accordance with the terms of the Contract.
- A24.6.2 **Object of Readiness Testing:** The objective of these readiness-testing requirements is to assure that a high level of readiness testing is maintained throughout the Contract term, including any renewal term. The emergency procedures described in National Fire Protection Association (NFPA) 130 and 70E shall be used as a guide for these requirements.
- A2.4.6.3 **Frequency of Readiness Testing:** Except for the annual system-wide readiness drill explained below, the readiness tests described in this clause shall be performed every three (3) months, throughout the entire term of the Contract including any renewal term.
- A2.4.6.4 **Central Control Operations Personnel** – Based on the Contractor training and certifications schedule the Central Control Operators shall be given operational readiness tests to verify their knowledge of the proper failure management responses. For the Central Control Operators, these readiness tests shall be independent of the Central Control Console. As part of these tests, the Contractor will create test situations, to which the person being tested must respond. The results of each test shall be quantified, and a test score recorded. All Central Control Operators' test results (pass/fail) shall be provided to Airport's Representative for their files, and entered in the individual's permanent employment file. Where tests indicate a lack of proficiency on the part of the person tested, that person shall be provided with additional training and instruction. If after two consecutive failed tests the employee will be placed on a ninety (90) day supervised probation period. Employee will be retested after the ninety (90) day period. If the employee fails this test he or she shall be removed from that position.
- A2.4.6.5 **Recovery Operations Personnel** - For other Operations Personnel who do not operate Central Control, the tests shall take the form of interviews/performance tests, in which the employee's knowledge of proper operational procedures, including recovery and troubleshooting activities, is determined in a real-time interactive situation. Where tests indicate a lack of proficiency on the part of the person tested, that person shall be provided with additional training and instruction. If after two consecutive failed tests the employee will be placed on a ninety (90) day supervised probation period. Employee will be retested after the ninety (90) day period. If the employee fails this test he or she shall be removed from that position.
- A2.4.6.6 **Maintenance Personnel** - All Maintenance Personnel whose duties involve responding to failure situations affecting passenger service shall be given operational readiness tests to verify their knowledge of the proper failure management and/or emergency responses. These tests shall take the form of interviews/ performance tests, in which the employee's knowledge of proper operational procedures is determined in a real-time interactive situation. These tests shall include all aspects of failure and emergency response, including communications, physical response to different locations

throughout the AirTrain system, proper diagnosis/response procedures, and proper deployment of equipment. Where tests indicate a lack of proficiency on the part of the person tested, that person shall be provided with additional training and instruction. If after two consecutive failed tests the employee will be placed on a ninety (90) day supervised probation period. Employee will be retested after the ninety (90) day period. If the employee fails this test he or she shall be removed from that position.

- A2.4.6.7 **Test Results** - The results of each test shall be quantified, and a test score recorded. All maintenance personnel test scores shall be provided to Airport's Representative for review, and entered in the individual's permanent employment file.

#### A2.4.7 System-wide Readiness Drill

- A2.4.7.1 A system-wide readiness drill shall be conducted annually. A drill committee composed of Airport's Representative and at least two (2) Contractor Representatives, one of whom shall lead the committee and organize the drill, shall jointly plan this drill in advance. The objective of the readiness drill shall be to simulate a significant outage of the AirTrain that, if it were to occur in the real world, would necessitate response by not only Contractor's personnel, but also Airport's operations, maintenance, security and life safety personnel. Plans for the readiness drill shall include minimizing impacts on Airport and AirTrain passengers. The Contractor shall make every effort possible to comply with these requirements without adding any additional cost. If the Contractor incurs additional cost as a result of these drills, the Contractor will provide the Airport's Representative with advance written notice of such cost.
- A2.4.7.2 During the drill, all responses by the Contractor and any Airport-personnel shall be as realistic as possible, given drill conditions. Insofar as possible, all Airport-wide communications and physical response plans for dealing with an outage of the AirTrain shall be tested. If provided, backup transportation modes shall be activated.
- A2.4.7.3 As part of the readiness drill, drill observers provided by the Contractor shall be stationed to monitor and evaluate the responses of the various drill participants. The observations and conclusions of these observers shall be written down and presented for evaluation by the drill committee. The drill committee shall be responsible for preparing a drill report, which shall present the results of the drill, identify any areas of deficiency, and recommend any new/revised training and testing procedures for the ensuing year to rectify noted areas of inadequate response.

#### A2.4.8 Authorizations

- A2.4.8.1 The Contractor must authorize, in writing, all technicians working in the Central Control Room. Authorization may be withdrawn for failure to follow Standard Operating Procedures (SOP), or for a lack of proficiency and knowledge.

A2.4.8.2 The Contractor will ensure that all operations technicians employed in operating the AirTrain have security clearances.

#### A2.4.9 Appearances

The Contractor shall furnish each employee with appropriate uniforms approved by the Airport, which shall be worn by all employees at all times while on duty. The uniforms shall have proper identification thereon of the name of the Contractor as well as the SFO Airport logo. Partial uniforms (coveralls and smocks) shall be allowed in the AirTrain maintenance facility as long as the maintenance technician will not be utilized on any part of the system for recovery purposes. The Contractor will ensure that all Operations and Maintenance technicians, including Central Control Operators, have clean neatly presentable uniforms at all times and will replace said uniforms as required at no cost to the Airport.

#### A2.4.10 Supervision

The Contractor shall provide a Shift Supervisor or Field Service Engineer that is fully qualified for supervisory duty to oversee AirTrain operations on-site twenty-four (24) hours per day, seven (7) days per week. The Shift Supervisor will supervise all AirTrain operations and maintenance technicians, support personnel, and all subcontractor personnel (employed by the Contractor); ensuring properly trained personnel are assigned to all operations and maintenance tasks. The Shift Supervisor will ensure that technicians assigned to recovery duties are strategically placed around the system to ensure optimum response time to support the AirTrain. Where coverage will be compromised by an unforeseen absence, the Contractor will make every reasonable effort to provide supervisory replacement.

### **A2.5 OPTION TO TRAIN AIRPORT PERSONNEL**

The Airport shall have an option for the Contractor to train Airport personnel at the prices provided in the Contractor's Bid on Form T, Option to Train Airport Personnel found in Appendix F of this Contract, attached hereto and incorporated by reference as though fully set forth herein. At such time that the Airport may exercise said option, which shall be at least ninety (90) calendar days prior to the end of the contract term, or any notification to terminate contract, the Contractor shall provide training for Airport personnel to operate and maintain the AirTrain. Staff numbers and positions, hiring procedures, and training procedures will be in accordance with the Contractor's Staffing Plan included in the System Operation Plan, as modified by mutual agreement during the period of this Contract. The Contractor shall provide all on site- instruction, instructors, literature, training aids, equipment, travel, and subsistence necessary to train Airport personnel. Travel and subsistence shall be only applicable to Contractor personnel and excludes Airport personnel being trained. All literature, training aids and equipment necessary to train Airport personnel shall be turned over to the Airport at the termination of this Contract. The Contractor shall provide sufficient classroom and on-the-job training for operations and maintenance (including inventory control) Airport personnel in the operation and maintenance of the AirTrain. Training on the actual system equipment and/or the spare equipment will be permitted; however, such use shall not interfere with operations of the AirTrain. The training shall provide at least ninety (90) calendar days of on-the-job training for all Airport operations and maintenance personnel. Airport personnel will be required to pass the testing program appropriate to their positions and other Airport training prior to assuming those positions on a full time basis. The Contractor shall administer such tests and retrain Airport personnel as needed. If during the ninety (90) calendar days, any Airport personnel fail to obtain the required level of expertise, the Contractor shall provide additional training or train an alternate person. The

training shall be scheduled and carried out to assure the Airport that within ninety (90) days of the start of training there will be a sufficient quantity of Airport personnel trained to operate and maintain the AirTrain completely without the Contractor's personnel.

## **A2.6 INVENTORY CONTROL**

The Contractor shall provide all aspects of inventory control, and all activities required to maintain an adequate supply of materials, supplies, and equipment to operate and maintain the AirTrain, including such functions as purchasing and disbursement, expediting, receiving, cataloging, storage, and requisition control. The Contractor shall utilize the Site Information Management System (SIMS), provided to the Contractor by the Airport, to maintain a computerized inventory of all equipment, parts, consumables, sources, prices, required quantities, and reorder points. This system will also provide a means to track orders, returned materials, and shipments prior to receipt. This system shall be utilized in the optional training of Section A2.5 above and turned over to the Airport immediately upon termination of this Contract. The Contractor shall also develop and successfully implement programs to minimize waste, theft, breakage, and misuse of equipment, parts, and consumables.

## **A2.7 SYSTEM REPORTS AND RECORDS**

A2.7.1 During the term of the contract, Monthly Management Reports recording the performance of the AirTrain shall be prepared by the Contractor and submitted to the Airport's Representative. In addition, the Contractor shall keep detailed operations and maintenance records and inventory data to permit the Airport's Representative to ascertain the Contractor's compliance with the requirements of the contract and shall furnish copies of such documents upon request. All such reports and records shall be in accordance with the Airport-reviewed Operations and Maintenance Plans and Manuals provided by the Contractor, or as otherwise reasonably required by the Airport. The operations and maintenance records shall include a daily summary of all interruptions to normal service explaining the duration and cause of such interruptions. A running log of revisions that have been made to the AirTrain System shall be developed and maintained. The procedures and forms for such recordkeeping shall be reviewed by the Airport's Representative. All records and data, and management information systems used to develop and maintain them, shall be the property of the Airport. All such documents shall be dated and signed by appropriate Contractor personnel. All Correspondence under this Contract shall be serialized in accordance with the Airport's Representative's instructions.

A2.7.2 The monthly management reports shall be submitted to the Airport's Representative with the end of the month invoice. At a minimum, the monthly reports shall include the following:

A2.7.2.1. A summary of incremental incidents greater than three (3), five (5), and fifteen (15) minutes. Incidents greater than fifteen (15) minutes in length require an explanation that includes the summary and the corrective action taken to limit further occurrences.

A2.7.2.2 Preventive Maintenance outline that indicates services performed that month, including a list of behind schedule PM inspections, if any.

- A2.7.2.3 Corrective Action Report that tracks the most common component failures and a plan to mitigate such problems
  - A2.7.2.4 System Enhancements
  - A2.7.2.5 Injuries or lost days
  - A2.7.2.6 CPUC reportable accidents and/or incidents
  - A2.7.2.7 Training (monthly)
  - A2.7.2.8 Training (year-to-date)
  - A2.7.2.9 Changes or alterations to bulletins, Rule Book, or standard practices
  - A2.7.2.10 Returned Materials Report (RMR)
  - A2.7.2.11 System Availability Report
  - A2.7.2.12 Monthly Punchlist Summary
- A2.7.3 The Contractor shall provide an annual report which identifies system modifications, enhancements, redesigns, and/or replacements of any AirTrain components that may be desirable due to technological advancements. At a minimum this report shall contain the following:
- A2.7.3.1 Description of component to be replaced
  - A2.7.3.2 Reason for replacement
  - A2.7.3.3 Description of new components
  - A2.7.3.4 Advantages for replacement
  - A2.7.3.5 Cost to replace the component
  - A2.7.3.6 Time required to complete replacement

**A2.8 CONTRACTORS PERFORMANCE**

- A2.8.1 The Contractor shall perform all its obligations and functions under this Contract in accordance with the requirements and standards contained in this Contract in a professional and businesslike manner. The Contractor shall use its best efforts to coordinate its activities with the various users of the Airport and to perform its activities so as not to annoy, disturb, endanger, unreasonably interfere with or delay the operations or activities of any tenants or occupants of the premises, or be offensive to others at the Airport.
- A2.8.2 The Contractor shall employ at the site an experienced O&M Director authorized to represent and act for the Contractor in matters pertaining to its operations and activities at the Airport and shall keep the Airport's Representative informed in writing of the identity

of such Director. The O&M Director shall be in charge of and have overall responsibility for the Work to be performed by the Contractor under this Contract and such Director shall devote his/her time exclusively to his/her responsibilities in connection with this work. The Airport's Representative shall have the right in its sole discretion to accept or reject any Director selected by the Contractor, and the Airport's Representative's acceptance shall be required prior to employment of any Director for this Contract. The Contractor's Director shall be available for periodic tours or inspections of the premises to be made with the Airport's Representative

- A2.8.3 The Contractor, in order to comply with the Airport's and FAA's security requirements, shall within thirty (30) days of hiring an employee submit to the Airport's Representative (and maintain a record of) proof that the employee has been fingerprinted and any and all background checks presently or hereinafter required by the Airport and FAA.
- A2.8.4 The Contractor shall instruct its personnel that no gratuities shall be solicited or accepted for any reason whatsoever from passengers, tenants, customers or other persons using the AirTrain. The Contractor shall be responsible for insuring that all articles found by its employees are turned in to the Airport's Lost and Found department or its agent in charge of such articles.
- A2.8.5 The Contractor shall not do or keep anything at the Site which will in any way conflict with any law, ordinance, rule or regulation which may now or hereafter be enacted or promulgated by any governing public authority or create a safety hazard at the Airport; or create a nuisance; or in any way obstruct or interfere with the rights of other users of the Airport, except as reasonably required in the performance of its obligations and functions hereunder; or commit or allow to be committed any waste upon the site or use or allow the Site to be used for any improper, immoral, unlawful or objectionable purposes; or place any loads upon the floor, walls or ceiling which endanger the structure; or obstruct the sidewalk or passageways or stairways in front of, within, or adjacent to the Site, except as reasonably required in the performance of its obligations and functions hereunder. Any violation of the provisions in this paragraph will be deemed by the Airport to be a default under this Contract and shall entitle the Airport to all remedies created herein or provided by law.
- A2.8.6 The Contractor shall keep all of the Airport's tools and equipment utilized in the performance of this Contract inventoried, in good and safe condition, and in working order and be responsible for loss and/or damage.
- A2.8.7 The Contractor shall require all prospective employees to show proof of citizenship or proof from the United States Immigration Authority that they have entry permits, work permits, and are legal aliens.

## **A2.9 OBLIGATIONS OF THE AIRPORT**

- A2.9.1 The Airport will provide job related office space, work shop space and storage space for parts, supplies, tools, and equipment at no cost to the Contractor. The space the Airport will provide will be the AirTrain Maintenance and Storage Facility.
- A2.9.2 The Airport will make a reasonable effort to coordinate the operations and activities of the airline carriers and others who utilize the Airport in order to minimize, to the extent practical, interferences with performance by the Contractor.



- A2.9.3 The Airport will furnish each of the Contractor's qualified employees with an identification badge, at no cost to Contractor or its qualified employees, which will display their picture, name and other critical information desired by the Airport.
- A2.9.4 The Airport will provide employee parking permits and job-related vehicle parking permits at no cost to the Contractor or its employees.
- A2.9.5 The Airport will pay the costs of the following utilities used in the operations and maintenance of the AirTrain: electric power, natural gas, potable water, telephone land line, and sanitary sewage.
- A2.9.6 The Airport will provide for pick-up of solid waste, generated in the operation and maintenance of the AirTrain, from a common pick-up point. However, the Airport shall not be responsible for the abatement, collection, disposition, or handling of hazardous waste materials generated by the Contractor's operation herein.
- A2.9.7 The Airport shall provide sufficient tools and inventory for the operation and maintenance. The contractor shall perform an inventory of all tools and parts within the first two-month period of operation and will be responsible for maintaining the same inventory levels through the remainder of the contract.

## **A2.10 SYSTEM DESIGN AND CONFIGURATION**

**A2.10.1 Contractor Responsibility for Configuration Management:** The Contractor shall maintain the AirTrain in the same design and configuration as it was accepted. Any Contractor proposed changes to the system design and configuration shall require submission of the requested change, including design review data and drawings, to the Airport's Representative for its review and comment. No changes shall be made by the Contractor, except where safety is involved or as required to maintain service, without the prior written concurrence of the Airport's Representative. The Contractor shall be responsible for maintaining strict configuration control of all aspects of the design, fabrication, installation, and maintenance of the AirTrain. Configuration Management shall, as a minimum, cover the following subjects:

**A2.10.1.1 Document Organization and Control** - The Contractor's responsibility as part of the Configuration Management shall be to establish a system to identify, organize, and track all documents developed throughout the duration of the Contract. The Contractor shall serialize all correspondence and transmittals, and establish a computerized logging system for incoming/outgoing correspondence showing action requirements and action taken. Drawings, specifications, subcontract documents, reports, estimates, studies, reviews, and computer files, etc., shall be tracked by this logging system. Tracking Logs for correspondence or document control shall be provided on electronic media and/or reproducible hard copies when requested by the Airport's Representative.

**A2.10.1.2 Configuration Control** - The Contractor shall be responsible for and maintain strict control of the configuration of all system components, procedures, documents, including the AirTrain Operations Plan, Maintenance Plan, O&M Management Plan, Operations Manuals, Maintenance Manuals,

SOP's, Rule Book, and any other plans, manuals, or drawings that pertain solely to the equipment related to this Contract.

A2.10.2 Once configuration for an element of the AirTrain is established, the Contractor, without proper Configuration Management, shall not change the configuration of all such elements. Once configuration changes are accepted, formal Change Configuration Documentation shall be circulated in accordance with a distribution list, which includes the Airport's Representative, developed for that purposes.

A2.10.3 The Contractor's Configuration Control shall ensure that:

A2.10.3.1 Invalid and/or obsolete documents are promptly removed from all points of issue or use;

A2.10.3.2 Any obsolete documents retained for legal and/or knowledge preservation purposes are suitably identified; and

A2.10.3.3 All equipment is maintained to current configuration.

A2.10.4 **Configuration Control Records:** The Contractor shall maintain configuration control records of all items and the actual incorporation points of any changes (by date, lot, unit, or other specific identification). A document titled Configuration Data, which defines the current configuration, shall accompany each significant item shipped to the work site. The Airport's Representative shall have access to all configuration control records related to the AirTrain.

## **A2.11 DRAWINGS AND DOCUMENTS**

Throughout the contract period the Contractor shall continuously update all As-built Documents, Operations Plan and Manuals, Maintenance Plan and Manuals, O&M Management Plan and the Rule Book as any changes or improvements are implemented. The Contractor shall provide the Airport's Representative with a copy of all updates no later than thirty (30) days from document change.

## **A3.0 OPERATIONS REQUIREMENTS**

The Contractor shall provide all required labor, materials, and services required to operate the AirTrain as specified herein.

### **A3.1 GENERAL**

A3.1.1 The Contractor shall furnish all personnel required to operate the AirTrain during the term of Contract. The Contractor's personnel shall operate the AirTrain in accordance with the Airport-reviewed System Operations Plan and System Operations Manuals provided to the Contractor. Updates to these documents shall be made by the Contractor in accordance with sections A2.10 and A2.11 above at no additional cost to the Airport and, when concurred by the Airport, shall become the basis for AirTrain operations.

A3.1.2 Normal hours of operation and the level of service for the AirTrain will be as provided by the Airport's Representative. On occasion, special events may necessitate extending or reducing System operations beyond the normal operating hours or altering the mode of

operation. The Contractor shall provide these extensions in service at no additional cost to the Airport provided that they do not exceed sixty (60) consecutive days of duration.

A3.1.3 The Contractor shall, in conjunction with the City and County of San Francisco Fire Department at SFO, be responsible to conduct and carry out any and all passenger evacuations and respond to any emergencies associated with the AirTrain.

A3.1.4 All policy decisions regarding the System's operation and interface with the public shall rest with the Airport's Representative.

### **A3.2 QUALITY ASSURANCE PROGRAM**

The Contractor shall organize and conduct the Operations and Maintenance of the AirTrain in accordance with strict attention and adherence to Quality Control. This section defines aspects of a Quality Assurance Program Plan that is considered an essential requirement for this Contract. Only upon the Airport Representatives favorable approval shall the Contractor deviate from using equipment and parts which are not OEM. Any Engineering tests that alter equipment or functionality of any part of the system shall require favorable approval from the Airport Representatives.

A3.2.1 **Quality Assurance Program** - The Contractor may utilize a proven in-house Quality Assurance Program Plan; so long as it meets the objective outlined in this section, and is accepted by the Airport's Representative.

A3.2.2 **Responsibility for Lower Tier Performance** - The Contractor shall be responsible for all quality control of its services, including services performed by any of its subcontractors/sub-consultants.

A3.2.3 **Airport's Right of Audit** - The Airport or its Representatives shall have the right to audit and inspect the Contractor's and its subcontractors' quality systems. Such audits may be conducted on a random or routine basis and may include an audit of the Contractor's inspection and test records. Additionally, the Airport, through its designated representatives, shall have the right to witness any tests or inspections and shall have access to all test data, including test procedures, test specifications, and test results. Further, the Airport shall have the right to conduct independent tests or inspection at the Airport's expense on any material or equipment to be used to perform services under this Contract. The objective of all audits, inspections, or tests conducted by the Airport is to ensure that all Contractor performed services are accomplished in compliance with the Contract.

A3.2.4 **Airport's Right of Rejection** - The Airport or its Representatives shall have the right to reject and the Contractor shall replace at Contractor's cost, any construction, production or installation or portion thereof, which has not been accomplished or documented as accomplished in accordance with the accepted Quality Assurance Program Plan.

### **A3.3 SYSTEM ASSURANCE MONITORING**

A3.3.1 During the term of this contract, using the existing Site Information Management System (SIMS), the Contractor shall develop a program of operational data collection and analysis. This data will be used to prove the actual performance of the AirTrain and to verify System Service Availability requirements specified in Appendix B. The Contractor

shall submit to the Airport's Representative monthly System Assurance Monitoring Reports that include this data for review, commencing at the end of the first month of the contract.

A3.3.2 If, as a result of the System Assurance Monitoring, the Contractor determines that modifications, or redesign and/or replacement of any AirTrain components are necessary or desirable, the proposed method of accomplishing such modification, redesign and/or replacement shall be submitted to the Airport's Representative for approval prior to implementation. The costs for such modifications, redesigns and/or replacements if so required to meet the System Service Availability requirements, shall be performed at no cost to the Airport. Otherwise, the costs for such modifications, redesigns and/or replacements shall be performed at a mutually agreed upon price between the Airport and the Contractor. The Contractor, unless safety related, shall not disable any portion of the AirTrain for such purposes without prior written approval from Airport's Representative.

#### **A3.4 SPECIAL SERVICES**

A3.4.1 The Contractor shall provide the following special services in the operation of the AirTrain upon the request of the Airport at no additional cost to the Airport:

A3.4.1.1 Adjust operating schedules for special events. For such requests the Airport will endeavor to give the Contractor at least seven (7) days advance notice.

A3.4.1.2 Accommodate tours of the AirTrain.

A3.4.1.3 Conduct demonstrations of certain features and provide system safety training of the AirTrain.

A3.4.1.4 Install Airport-provided Audio and Visual updates to all vehicles and station PA equipment as required. The Airport will endeavor to give the Contractor at least seven (7) days advance notice.

#### **A4.0 MAINTENANCE REQUIREMENTS**

The Contractor shall provide all supervision, labor, materials, supplies, parts, and components necessary to maintain the AirTrain as specified herein on a continuous basis throughout the term of this contract.

##### **A4.1 GENERAL**

A4.1.1 The Contractor shall maintain the AirTrain in accordance with the requirements and specifications set forth in this section. The Airport's Representatives and the Contractor may, from time to time, by mutual consent, make changes to any requirements and/or specifications. Any changes made shall not be considered a change in the scope of services or entitle the Contractor to any additional compensation under this Contract, except by a written change order. The Parties may make such changes by the execution of an amendment to this Contract by the Airport's Representative and the Contractor's Representative, without the need for formal legislative approval by the City.

A4.1.2 The maintenance services under this Contract shall include but not be limited to furnishing all labor, tools, equipment, parts and materials necessary to accomplish the

inspection, cleaning, adjustment, preventative maintenance, lubrication, repair, testing, replacement of all parts and equipment including all audio and visual equipment, supplying the spare parts and equipment, consumables, and expendables, and repair of spare equipment for the AirTrain.

- A4.1.3 Maintenance shall be scheduled by the Contractor in such a way that the interference with, or effect upon, the operation of the AirTrain is minimized. To minimize operational impact, maintenance of certain equipment and fixed facilities may necessarily have to be carried out at night or in off-peak periods. Maintenance practices or procedures which may compromise or degrade system operations, in the sole opinion of the Airport, shall be approved by the Airport's Representative in advance of their initiation.
- A4.1.4 Whenever vehicles stall, restoration of service to the schedule operating mode for that time shall be given priority by the Contractor. Restoration of service and/or recovery of stalled vehicles shall be accomplished in accordance with the accepted Emergency Procedures, Operations Plan, Operations Manuals, and Rule Book.
- A4.1.5 Movements of vehicles under manual control shall be accomplished only by qualified Contractor personnel, and only under the rules and procedures specified in the manuals and the Rule Book.

#### **A4.2 MAINTENANCE DUTIES**

- A4.2.1 The Contractor shall perform preventive maintenance in accordance with the requirements and specifications set forth below. All preventive maintenance tasks shall be performed as scheduled by and documented in the Site Information Management System (MAXIMO) data base.
- A4.2.2 Procedures for performing preventive maintenance tasks shall also be documented and any changes to these procedures require prior mutual agreement between the Airport's Representative and the Contractor.
- A4.2.3 At the end of each month, the Contractor shall provide the Airport's Representative with a written automated monthly preventive maintenance report listing all the equipment receiving preventive maintenance during the previous month. The report shall include information regarding the preventive maintenance tasks, the due date for each task, and the date the task was actually performed.
- A4.2.4 At the termination of the contract, the Contractor shall deliver to the Airport all manuals, drawings, computer programs, procedures, records, tools, equipment, and testing devices owned by the Airport which the Contractor has used to maintain the AirTrain.
- A4.2.5 Subsystem Maintenance
  - A4.2.5.1 For each of the AirTrain subsystems, the following types of maintenance shall be performed.
    - A4.2.5.1.1 Routine Maintenance - Activities required to provide a clean and aesthetically pleasing system for public use, as well as routine inspections and tests designed to identify any unusual or abnormal equipment conditions.

Routine maintenance activities shall be performed as necessary to meet system requirements or as scheduled by SIMS.

A4.2.5.1.2 Scheduled Maintenance - Activities required to keep the AirTrain operating at prescribed levels of safety and reliability which are performed on a recurring basis at specified intervals. Scheduled maintenance activities shall be performed and executed as scheduled by SIMS.

A4.2.5.1.3 Non-Scheduled Maintenance – Includes any corrective measure or repair necessitated by an inspection, a failure, or unusual circumstances adversely affecting the normal AirTrain operations. Non-scheduled maintenance may be required as a result of unsatisfactory conditions discovered during an inspection or because of an operational failure. Non-scheduled maintenance activities shall be performed on a priority basis as necessary to meet required System Service Availability.

A4.2.5.1.4 Ordinary Wear/Tear - Any corrective measure or repair that may be required because of ordinary wear and tear, except for, re-painting, re-upholstering, and re-flooring of AirTrain vehicles.

A4.2.5.1.5 Other Maintenance - Updating maintenance manuals, maintenance testing as required and maintenance of tools, equipment, and furniture.

A4.2.5.2 System equipment and subsystems to be maintained shall include, but not be limited to:

A4.2.5.2.1 Vehicles and all on-board equipment - The Contractor shall clean, inspect, service, and maintain the entire AirTrain fleet of Forty-one (41) vehicles plus one (1) Maintenance Recovery Vehicle. These inspections shall be performed as required by the SIMS data base and shall include, but not be limited to: wheels, vehicle frame, structural members, vehicle body, seats, windows, panels, doors, suspension equipment, propulsion and braking equipment, vehicle control equipment, accessory equipment, door mechanisms, graphics, and air conditioning equipment. Any variance from the preventive maintenance schedule shall require prior written approval by Airport's Representative. At no time will there be a variance permitted from performing the scheduled vehicle bi-daily maintenance inspections.

A4.2.5.2.2 Bi-Daily Maintenance - All vehicles shall be inspected and cleaned every forty-eight (48) hours (unless the vehicle is undergoing a more extensive maintenance inspection at the time). Cleaning shall consist of interior windows, walls, and carpet. Inspection shall include but not be limited to; Inspection of all under car equipment; (such as, guide tires, bogies; power collection system, cables and connectors, mechanical and pneumatic brake systems, etc.), Inspection of on-board equipment; (such as, air conditioning systems, vehicle lighting, graphic displays, emergency phones, PA system, indicator lamps, etc. . . .). At the end of each Bi-Daily inspection and before the vehicle is added back into the system for passenger service, a departures check will be performed on the test track to ensure the vehicle is safe and ready for passenger service.

A4.2.5.2.3 Additional Mileage Based Vehicle Maintenance - All vehicles shall be serviced, inspected and repaired (as required) in accordance with the task descriptions as set forth in the Site Information Management System (MAXIMO) to include but not be limited to the following: hub and differentials, air compressor, traction motors, on-board batteries, mechanical and pneumatic brake systems, Automatic couplers, power collection system, guide tires, running tires, cables and connectors, pneumatic suspension system, air control systems, vehicle doors, communication systems, etc.

A4.2.5.3 Power distribution equipment - The Contractor shall clean, inspect, service and maintain all power distribution equipment except the equipment (e.g. primary feeders, primary switchgear) associated with the high voltage (i.e., 12.5 kV) input from the Airport electrical distribution system. The Contractor's activities shall include but not be limited to the following: substation facilities, secondary switchgear, ground fault detection, metering equipment, circuit breakers, low voltage transformers, power rails, grounding, lightning and surge protection equipment, and the alignment and adjustment of the power distribution rails on the guideway.

A4.2.5.4 Command, Control, and Communications equipment - The Contractor shall clean, and inspect, service and maintain the Central Control equipment and facility, all Automatic Train Control (ATC) equipment, communications equipment, displays, and data processing equipment. Routine tests shall be conducted on any equipment where safety margins used for design of the Automatic Train Protection system (ATP) may vary with use and/or time, such as brake response and performance, stopping distances, interlocks, detection device, and vehicle-door sensitive edges.

A4.2.5.5 Guideway Equipment - The Contractor shall regularly align, adjust and otherwise clean, inspect, service, and maintain the following: emergency walkways, hand rails, station barrier walls, running beams, guide beams, power rail, guideway switches and all other guideway related equipment. The Airport will be responsible for any repairs to the following: emergency walkways, hand rails, station barrier walls, running beams and guideway superstructure, which is comprised of support columns, tub, and deck.

Also, the Contractor shall remove debris from the guideway, clean oil, and dirt from the power rail, and paint the guideway equipment as required to prevent corrosion. Concrete surfaces shall not be painted but shall be kept clean. Painting of any concrete or masonry surfaces shall require favorable review by the Airport's Representative.

A4.2.5.6 Station Platform Equipment - The Contractor shall clean, inspect, service and maintain all Contractor provided station equipment, including station interiors, all electrical, electronic, and mechanical, and communications equipment. Also, the Contractor shall clean, inspect, service and maintain all passenger controls and displays located at the stations.

A4.2.5.7 Maintenance & Storage Facility and Equipment - The Contractor shall clean and inspect the Maintenance and Storage Facility and clean, inspect, service

and maintain all electrical, electronic, and mechanical equipment used for operating and maintaining the AirTrain.

#### A4.2.6 Overhaul or Replacement of Major Components

A4.2.6.1 In September of each contract year, the Contractor shall submit for Airport's approval a list of all major overhaul tasks to be accomplished in the upcoming contract year. The list will include Contractor's justification for the work, definition of work-scope, estimate of time required and a fixed cost proposal for performing each task. Any major overhaul tasks approved by the Airport and performed by the Contractor will be subject to all the covenants, terms, and conditions of this contract. Under no circumstances will the Contractor perform any major overhaul tasks without formal written approval from the Airport.

A4.2.6.2 Major over haul tasks will be limited to the following list:

A4.2.6.2.1 Traction Motors

A4.2.6.2.2 Drive Axle Planetary Gears

A4.2.6.2.3 Bogie Pivot Ring

A4.2.6.2.4 Vehicle Air Compressor

A4.2.6.3 The performance of any overhaul task that necessitates a disruption to normal scheduled operations will require written approval from and coordination with the Airport before it is performed.

A4.2.6.4 In the event a requested overhaul item is rejected by the Airport and subsequently a failure of such an item occurs, downtime resulting from the failure will be excluded from the availability calculation and Contractor will not be deemed in violation of this contract.

#### A4.2.7 Obsolescence

The Contractor will advise the Airport in a timely fashion of any component, spare part, or subsystem of the AirTrain that has been confirmed to be obsolete and cannot be acquired or remanufactured. The Contractor will make every possible effort to replace such items with items that are equal in quality and function at no cost to the Airport. In cases where such items cannot be replaced with an equivalent item and the only choice is to upgrade or enhance the item, the Contractor will provide the Airport with justification for such an upgrade or enhancement along with a fixed cost proposal and estimate of time required to replace such items. The Airport's Representative may agree to pay for or share the cost of such upgrades or enhancements with the Contractor. In the event that the Airport chooses not to pay for or share the cost of such upgrades or enhancements, and subsequently a malfunction occurs which would not have occurred if the item had been replaced with the Contractor's specified item, any downtime resulting from such an occurrence will not be included as part of the system availability calculations, nor will the



Contractor be deemed in violation of this contract. Additionally, the Contractor will not be deemed in violation of this contract if Contractor elects to proceed with such upgrades or enhancements.

#### A4.2.8 Upgrades and Enhancements

A4.2.8.1 In September of each contract year, the Contractor shall submit for Airport's approval a proposal which identifies system modifications, enhancements, redesigns, and/or replacement of any AirTrain components that are desirable due to technological advancements. The proposal will include Contractor's justification for the work, the work-scope definition, estimate of time required and a fixed cost proposal for performing each task. Any upgrades or enhancements performed by the Contractor will be subject to the covenants, terms, and conditions of this contract.

A4.2.8.2 Under no circumstances will the Contractor perform any of the proposed upgrades or enhancements without formal written approval from the Airport.

#### A4.2.9 Cleaning and Janitorial Services

A4.2.9.1 The Contractor shall provide janitorial services for the following facilities: all parts of the guideway, the station barrier walls including the glass and the aluminum cladding, the Maintenance and Storage Facility, Central Control Room and Administrative Offices, Power Distribution Substations, and Station Equipment rooms. Damage to surfaces of fixed facilities, vehicles, and equipment shall be remedied by repair or touch-up to its prior condition. If such removal or janitorial services are not performed in a timely manner, the Airport may perform such services and deduct the cost thereof from the Contractor's monthly payment. Station facilities, other than the barrier wall, will be maintained by others.

A4.2.9.2 The Contractor shall be responsible for cleaning of the AirTrain equipment as specified in the Maintenance Plan but shall, at a minimum, include the following:

A4.2.9.2.1 Graffiti and any vandalism shall be repaired or remedied within twenty-four (24) hours from the time of discovery, or on any notice from the Airport.

A4.2.9.2.2 All vehicles shall be kept free of litter and cleaned daily, including cleaning of floors, trash removal, and interior window cleaning, and giving special attention to clean any unsanitary and/or unusual soiled conditions.

A4.2.9.2.3 All toilet and washroom facilities for AirTrain personnel shall be fully cleaned and sanitized daily, including washing of all fixtures and floors.

A4.2.9.2.4 Vehicle exteriors and interiors shall be washed monthly or more frequently as special conditions may require.

A4.2.9.2.5 The Central Control Facility, all administrative offices and the Maintenance & Storage Facility shall be cleaned daily according to the same standards as for professional office buildings. Other AirTrain facilities shall be cleaned on an as-required basis.

A4.2.9.2.6 All guideways shall be kept free of litter and cleaned on a routine basis to maintain an aesthetically pleasing appearance. Deposits of foreign materials from the operations or maintenance of the system onto the guideways, vehicles, and/or equipment shall be removed in a timely manner.

A4.2.9.2.7 All station barrier walls including the glass and the aluminum cladding, skylights and exterior glass panels at the International Terminal on both A and G sides adjacent to platform, and Garages A and G west side glass panels. The contractor shall provide training as necessary and all escorting duties as needed.

#### A4.2.10 Spare Parts and Equipment, Expendables, and Consumables

In performing this Contract, the Contractor shall maintain an inventory of spare parts, tools, and equipment at the same level as provided in the attached Appendix E; "Spare Parts, Tools and Equipment List. The contractor shall perform an inventory of all spare parts, tools, and equipment within the first two (2)-month period of operations to confirm that everything listed in Appendix E; "Spare Parts, Tools, & Equipment List" is accounted for. The Contractor will be responsible for maintaining the same inventory levels through the remainder of this contract. Additional items shall be added to this inventory based on the Contractor's experience or the item's long lead order time to assure that the inventory is maintained as a one-year supply and sufficient to meet the System Service Availability requirements. Whenever an item of spare parts, equipment, expendables, or consumables is used by the Contractor in the performance of services under this Contract, such item of spare parts, equipment, expendables, or consumable shall be repaired or replaced by the Contractor as part of this contract, and the repaired or replaced item placed into inventory. All spare parts, equipment, expendables, and consumables shall normally be kept in the Maintenance and Storage Facility or other Airport-accepted on-Airport location. If at any time it is found that the original inventory of these materials is insufficient, then sufficient additional inventory shall be provided at no cost to the Airport. The same level of inventory shall exist upon the termination of the contract.

#### A4.2.11 Maintenance Tools and Equipment

A4.2.11.1 The Contractor shall be permitted to use the inventory of tools, maintenance equipment, test equipment, and facilities provided under this Contract. Such items shall be maintained in good order and repaired or replaced by the Contractor as necessary to maintain the inventory. Records of this inventory shall be kept. Upon the termination or expiration of this contract the complete inventory of the tools, maintenance equipment and test equipment shall exist or be replenished by the Contractor, including any replacement of and/or repair in good condition any tools, maintenance equipment and test equipment.

A4.2.11.2 If at any time during the contract the required inventory of tools, maintenance equipment, and test equipment is found to be deficient for performing the services required by this contract, the Contractor shall provide the deficient items at no cost to the Airport.

## **A5.0 REPAIR AND REPLACEMENT OF PARTS, COMPONENTS, OR MATERIALS**

### **A5.1 REPAIRS AND REPLACEMENT**

The Contractor shall promptly repair or replace all damaged parts, components, or materials, regardless of the cause of such damage. The Airport shall reimburse the Contractor for the cost of such repairs and replacements where the need for the repairs or replacements did not result from or was not caused by, in whole or in part, the careless or negligent acts or omissions of the Contractor's officers, agents, employees, suppliers or subcontractors but were solely caused by parties other than the Contractor. There shall be no separate reimbursement for repairs or replacements for any of the maintenance services specified in Section A.4 of Appendix A.

### **A5.2 REPAIR OR REPLACEMENT OF MATERIALS**

Where it is necessary for the Contractor to repair or replace any materials, parts or components during this Contract and the Airport is responsible for the extra costs, the Contractor shall immediately notify the Airport of the condition and shortly thereafter submit to the Airport, or its Representatives, for review, a description of the damage and a detailed price for the work to include: the name(s) of the item(s), the identifying number(s) thereof, if any, the quantity needed, the name(s) of the proposed supplier(s) and the proposed purchase price(s) if supplied to the Contractor, and the price that the Contractor intends to bill the Airport for the Work. Repair or replacement of materials, parts, or components shall not commence until the Airport or its representative has been notified and has directed the Contractor to proceed.

### **A5.3 COMPENSATION FOR REPAIR AND REPLACEMENT**

In determining the cost of compensable repair and replacement work covered by Section A.5.1 above, the cost of repairs or replacements that arise out of normal wear and tear and which would in any event require repair or replacement as part of the Contractor's maintenance and operations obligations specified in Appendix A shall be excluded. The Contractor's compensation for any extra work covered under Section 7.1 above shall be determined on the basis of the following:

A5.3.1 Labor: Labor shall be compensated on the basis of actual net direct cost of Contractor's labor plus labor burden, overhead and profit as follows:

A5.3.2.1 Labor Burden shall be the Contractor's actual costs for workers compensation and liability insurance, payroll taxes, social security and employees fringe benefits (including employer paid health insurance) substantiated on the basis of payrolls and accounting data.

A5.3.2.2 Overhead and Profit shall be provided as a total of the actual net direct labor cost and labor burden.

- A5.3.2 Direct Material Supplies, Installed Equipment: Materials, supplies, parts and components shall be compensated on the basis of the Contractor's actual net direct cost.
- A5.3.3 Equipment: Equipment shall be compensated on the basis of the Contractor's actual net cost of owned and/or rented equipment to be determined as follows:
  - A5.3.3.1 Owned equipment operating costs shall be determined using accepted local industry standards.
  - A5.3.3.2 Rental equipment operating costs shall be determined using rates and/or invoices for equipment rental, fuel/maintenance, delivery, removal, and other direct expenses provided the costs can be substantiated as representative of the prevailing rates for the metropolitan San Francisco area.
- A5.4 Subcontract Costs: Subcontract work shall be compensated on the basis of the Contractor's actual net cost provided that the cost of the subcontractor is determined in a manner which limits specific items of cost to those requirements identified in subparagraphs above.
- A5.5 Profit:
  - A5.5.1 Overhead and Profit on self-performed work shall be eighteen percent (18%), unless a pre-negotiated price has been reached prior to such work.
  - A5.5.2 Overhead and profit for the purchase of material and equipment or equipment rentals for the Commission by the Contractor shall be eighteen percent (18%).
  - A5.5.3 Overhead and profit for labor and material supplied through a subcontractor shall be ten percent (10%). However, the Airport's representative shall have the authority to agree to a lump sum price on behalf of the Airport as compensation for compensable repair and replacement Work in lieu of the method of determining such payment described above.

## **A6.0 AIRPORT ACCESS TO RECORDS**

The Airport or its Representatives shall have access, at the Contractor's principal local place of business and during normal business hours, to all records and documents of the Contractor directly relating to labor and materials used in the performance of repair and replacement work for which the Contractor has been compensated or is to be compensated on any basis other than the lump sum fixed prices specified in Section 5.0 above. Such records and documents shall include but not be limited to time tickets, payroll records and related reports provided to unions, vendor's invoices, cancelled checks and published price lists of the Contractor relating to any amounts for which the Contractor has been compensated, or claims it should be compensated, by the Airport. If certain materials manufactured by the Contractor do not appear on a published price list, the Contractor may be required to display evidence that the charges to the Airport are comparable to those that are being given to other most preferred customers of the Contractor. For

the purpose of this paragraph, the Contractor shall not be obligated to retain such records and documents for a period longer than three years following the date of the Contractor's invoice to the Airport for such repair and replacement work.

#### **A7.0 PAYMENT PROCEDURES**

Whenever any extra work is performed by the Contractor under this Section 7.0 and said work is to be compensated as specified in Section 5.3 above, except for any agreed upon lump sum amount, the Contractor shall, as a condition precedent to payment for such service, furnish to the Airport or its Representative at the end of each day, a copy of the daily time slips showing (i) the name and number of each person employed thereon; and (ii) a brief description of the nature of the work performed and (iii) a list of material used. Item (iii) shall be supplemented by the Contractor at a later date with a statement indicating from whom materials were purchased and the amount paid. Such daily time slips are for the purpose of enabling the Airport to determine the accuracy of the amounts claimed by the Contractor and whether or not the Contractor is entitled to additional compensation.

#### **A8.0 EMERGENCY AND ACCIDENT REPORTING**

- A8.1 Contractor Responsibility for Emergencies: The Contractor shall become familiar with emergency planning for all reasonably foreseeable emergency situations. The Contractor shall include procedures to deal with personnel injuries, intoxication, fire, smoke, power outages, and similar situations. However, the Contractor shall not include any additional personnel for emergency procedures without the prior written approval of the Airport or its Representatives. Emergency procedures shall include communications to passengers and the provision for emergency exits from vehicle and the elevated Guideway.
- A8.2 Passenger Safety: Procedures shall be established to ensure passenger safety during emergencies.
- A8.3 Employee Safety: Procedures shall be established to ensure safety of all employees associated with the AirTrain (including the employees of any subcontractors/sub-consultants utilized by the Contractor). The Contractor shall have primary responsibility for employee safety.
- A8.4 California Public Utilities Airport: The Contractor shall use California Public Utilities Airport (CPUC) General Order (GO) 164 as the guideline for accident and incident reporting. Additionally, the Contractor shall establish an accident investigation procedure in compliance with CPUC GO 164.
- A8.5 Timing of Reporting: The Contractor shall immediately report to the Airport's Representative, by telephone, any death, injury, or damage to property that occurs in connection with the Services provided by this contract. Additionally, the Contractor shall report in writing to the Airport's Representatives all accidents and safety incidents within four (4) hours of their occurrence whenever such incidents result in injuries or property damage.
- A8.6 Reporting Requirements. The report shall give full details and statements of witnesses. It shall include a complete description of the accident or safety incident, including an explanation of what occurred, the probable cause and the actions taken by all parties and proposed follow-on action to minimize reoccurrence of the accident or incident. The

Contractor shall also make available its employees to be interviewed by investigators of the accident or incident and to testify in any legal proceedings.

#### **A9.0 ACCESS**

The Contractor shall provide the Airport or its Representatives reasonable and controlled access to all parts of the AirTrain at any time, with the exception of the document and server control room. The Airport will endeavor to provide the Contractor with as much advance notice as possible prior to the beginning of any tour.

#### **A10.0 CAPITOL ASSET REPLACEMENT PROJECTS (CARP)**

The following Capitol Asset Replacement Projects (CARPs) includes additional services to be provided by the contractor as outlined in Article 4, Section 4.1 of the Agreement. The Contractor shall provide all required labor, materials, equipment, and commissioning required to implement the following CARP projects. The total project cost shall not exceed the cost listed under each task below.

A10.1 **Task #1 - Vehicle Coupler Replacement** - Replacement of existing AirTrain Coupler Assemblies manufactured by the Faiveley Corporation with new coupler assemblies manufactured and supplied by the Dellner Corporation (two (2) per vehicle). Project cost - \$5,106,182

A10.2 **Task #2 - Vehicle HVAC Replacement** - Replacement of existing SFO AirTrain HVAC System. New HVAC units will be a split type HVAC system similar to what is already in use on the existing vehicles. The split unit compressor and condenser units are located under each end of car and the evaporator units are located inside each end of the car. The refrigerant used on the new units will be environmentally friendly refrigerant R-407C. Each evaporator assembly will include quick disconnect fittings on the liquid and suction line piping of the evaporator unit. This will allow the evaporator to be easily removed for cleaning. Major assemblies to be replaced include the following:

- Compressor Assembly with PLC Control Panel
- Condenser Assembly
- Evaporator Assembly
- New interconnection piping and mounting hardware

In Addition, the HVAC control panel will be upgraded to a Programmable Logic Controller (PLC) which has diagnostic features. The new PLC will have the ability to log error events. These events will provide diagnostic information to the HVAC technician allowing for quicker repairs. Project cost - \$6,268,958

A10.3 **Task #3 - Vehicle LCD Dynamic & Advertising Display System (DADS)** – This project will supply installation and maintenance of a new on-board DAD sign system, which will greatly improve the passenger experience by providing larger, brighter LCD signs inside each of the SFO AirTrain vehicles. Project Cost - \$2,905,575

The scope for this project will include the design, procurement, installation, testing, and commissioning of the following:

- 6 (per vehicle) onboard vehicle DAD unit assemblies for the 41 vehicle fleet.

- A wireless access point in the maintenance area for communicating with the DAD units.
- Central Control Room workstation that will be used for performing remote updates to the DAD units.

A10.4 **Task #4 - Station Door System Repair Kit** – This project will include the design, procurement, installation, testing, and commissioning to retrofit all AirTrain station door headers. Project Cost - \$1,700,000

The scope will include the following:

- Material for Door Kits from Horton for 126 door sets
- Engineering hours to support the following activities
  - Issue Technical requirements document
  - Review Horton design/ manage interfaces
  - Procurement support
  - Field installation support – no trips, RFIs only
  - Field test procedures – site or vendor to write, engineering to review and approve
  - Field test reports – site or vendor to write, engineering to review and approve
  - As-built documentation, update drawing tree
  - Includes CADD support
- PM/QA/CM
- Manuals Updates
- Site is responsible for all installation and test support activities on site.
- No travel is included in this offer.
- Assumes no changes to ATC or external power wiring interfaces

A10.5 **Task #5 - Vehicle Roof Wrap** – This project will add vehicle roof weather protection to all AirTrain vehicles. This will be done by applying Oracal 970RA vinyl wrap to the roof of all AirTrain vehicles. The Roof rehabilitation project will be comprised of two portions, a preparation portion and a protection portion. Project Cost - \$301,747

- The preparation portion of the Roof rehab will include:
  - Extensive cleaning and oxidation preparation to prepare the roof, gullwing, and pillars for the wrap.
- The protection portion of the Roof Rehab will include:
  - Repair any areas of damage to the roof and pillars prior to wrap application
  - Removal and reapplication of all sealant around the roof antennas and all roof seams to facilitate proper wrap adhesion across the roof.
  - Wrapping the entire roof and gullwing in vinyl. Oracal 970RA wrap is the selected product for this application.
  - Color to be chosen by Airport prior to start of project.

A10.6 **Task #6 – Replacement of Maintenance Radio System (MRS) and Operational Radio System (ORS)** – This project will replace the outdated MRS and ORS radio systems. This project will include the following. Project cost – \$1,850,000

- Replace obsolete ORS base station with a new redundant base station, including automatic switching system.
- Replace all vehicle ORS radios units.
- Replace MRS repeaters with new redundant repeaters
- Replace all handheld radio units.
- Replace all remote receivers and transmitters located in all ATC equipment rooms with new units.

#### **A11.0 OTHER CITY PROVISIONS**

**A.11.1 Services Provided by Attorneys.** The City Attorney must review in advance and approve in writing any request for services to be provided by a law firm or attorney. The City will not pay any invoices for services provided by law firms or attorneys, including as subcontractors of Contractor, unless the provider receives advance written approval from the City Attorney.

**A.11.2 Reports.** Contractor shall submit written reports as requested by the Airport Commission. Format for the content of such reports shall be determined by the Airport Commission. The timely submission of all reports is a necessary and material term and condition of this Agreement. The reports, including any copies, shall be submitted on recycled paper and printed on double-sided pages to the maximum extent possible.

**A.11.3 Department Liaison.** In performing the services provided for in this Agreement, Contractor's liaison with the Airport will be the person identified in Agreement at Section 11.1, Notices to the Parties. Such individual shall be the Contractor's primary point of contact for all purposes under this Agreement.

**END OF DOCUMENT**



**APPENDIX B  
CALCULATION OF CHARGES / DETERMINATION OF MONTHLY PAYMENTS**

**B1.0 Not Applicable.**

**B2.0 SYSTEM SERVICE AVAILABILITY PAYMENT FACTORS**

B2.1 For any calendar month of this Contract that the AirTrain does not achieve a System Service Availability of ninety-nine and one-half percent (99.50%) to ninety-nine and seventy-nine one hundredths percent (99.79%), as specified and calculated in accordance with Section B3.0 below, a Payment Factor shall be applied to the Contractor's Average Monthly Payment for that month. Increases shall be incentives for improved service whereas decreases shall be liquidated damages for not providing the required service, recognizing that demand for services during such times may have been denied or delayed and cannot be made up. Service Availability shall be calculated to two (2) decimal places and then multiplied by the appropriate payment factor from the table below. The Payment Factors shall be as follows:

<u>SYSTEM SERVICE AVAILABILITY</u>	<u>PAYMENT FACTOR</u>
99.90 and above	1.020
99.80 to 99.89	1.010
99.50 to 99.79	1.000
99.40 to 99.49	0.990
99.30 to 99.39	0.980
99.20 to 99.29	0.970
99.10 to 99.19	0.960
99.00 to 99.09	0.950
98.90 to 98.99	0.940
98.80 to 98.89	0.930
98.70 to 98.79	0.920
98.60 to 98.69	0.910
98.50 to 98.59	0.900
98.40 to 98.49	0.890
98.30 to 98.39	0.880
98.20 to 98.29	0.870
98.10 to 98.19	0.860
98.00 to 98.09	0.850
97.90 to 97.99	0.840
97.80 to 97.89	0.830
97.70 to 97.79	0.820
97.60 to 97.69	0.810
97.50 to 97.59	0.800
95.00 to 97.49	0.750
94.99 and below	0.700

B2.2 The contractor will use a computer based management system to gather, analyze, process, and calculate the System Service Availability on a daily basis. This automated process may also include the collection of other data related to service quality but may not be a factor of System Service Availability.

- B2.3 All amounts in excess of the Contractor's Average Monthly Payment for any contract month, as calculated by applying a payment factor of either a 1.01 or 1.02, are considered an "Incentive Payment."
- B2.4 For any calendar month during the contract term in which minimum System Service Availability of 99.50% is not met, or performance records indicate it will not be met, or if System Downtime Events exceed the limits specified in Section B.4 of Appendix B attached hereto and incorporated herein, the Contractor shall provide the Airport's Representative with a Corrective Action Plan to resolve the problem(s) within one (1) month of such review.
- B2.5 For any three (3) months within a six (6) month period during the contract term in which minimum System Service Availability of 99.50% is not met, or performance records indicate it will not be met, or if System Downtime Events exceed the limits specified in Section B4.0 of Appendix B attached hereto and incorporated herein, the Contractor shall, at its own expense, promptly undertake a complete review and analyses and provide the Airport's Representative with a Corrective Action Plan to resolve the problem(s) within one (1) month of such review. Should the System Service Availability fall below 98.00% for a period of three (3) consecutive months, the Airport shall have the right to terminate the Contract for default.
- B2.6 **Corrective Action Plan** - The Corrective Action Plan shall be subject to review by the Airport's Representative. Any corrections required to mitigate the problems shall be made by the Contractor at no additional cost to the Airport. Immediately after a favorable review of the corrective action(s) plan by the Airport's Representative, the Contractor shall take the necessary action(s) to mitigate the problem. A Preliminary Failure Analysis and Correction Report shall be issued by the Contractor to the Airport's Representative when the corrective program is initiated and a Final Failure Analysis and Correction Report shall be issued when the success of the corrective action can be substantiated.
- B2.7 In the Failure Analysis and Correction Report, equipment failures shall be classified as either relevant, non-relevant, or safety critical as follows:
- B2.7.1 Relevant failures shall be any failure or degradation of performance of a part or component, which causes the equipment characteristics to deviate beyond the nominal ranges of the original specifications.
- B2.7.2 Non-relevant failures shall be any failure caused by a condition external to the equipment.
- B2.7.3 Safety Critical failures shall be any failure that has the potential of causing physical or bodily damage.
- B2.8 The Failure Analysis and Correction Report shall address the detailed diagnosis of each failure and shall identify corrective actions, failed components, and failure mode. All failure analyses shall address the subjects of dependent, independent, intermittent, multiple or pattern failures.

- B2.8.1 Dependent failure: A failure caused by the failure of an associated item (dependent failures are not necessarily present when simultaneous failures occur).
- B2.8.2 Independent failure: A failure which occurs without being caused by the failure of other parts of the equipment under test, test equipment, instrumentation, or the facility.
- B2.8.3 Intermittent failure: The momentary cessation of equipment operation.
- B2.8.4 Multiple failures: The simultaneous occurrence of two or more independent failures (when two or more failed parts are found during trouble shooting which cannot be shown to be interdependent, multiple failures are presumed to have occurred).
- B2.8.5 Pattern failures: The occurrence of two or more failures of the same part in identical or equivalent application which are caused by the same basic failure mechanism.

## B2.9 ALTERNATE SYSTEM SERVICE AVAILABILITY REPORT

If the Airport or its Representative believe that the System Service Availability reports do not accurately measure what is occurring, the Airport may hire a mutually agreed to third party to obtain the operating and failure data and prepare a System Service Availability report. The report prepared by the third party shall take precedence over the Contractor prepared report for the previous three (3) months and shall be paid for by the Contractor if the report finds lower performance in terms of System Service Availability and downtime events than the Contractor's report.

## **B3.0 SYSTEM SERVICE AVAILABILITY CALCULATIONS**

### **B3.1 GENERAL**

B3.1.1 This Section provides the requirements for calculating the availability of service that must be provided by the Contractor. System Service Availability is a measure of the total quantity and quality of transportation service actually operated compared with that scheduled to be operated over a given time period. System Service Availability (A) is defined as the product of Service Mode Availability ( $A_m$ ), Fleet Availability ( $A_f$ ), and Station Platform Availability ( $A_s$ ), each of which is determined for the same specific service mode and time period calculated independently for each line.

B3.1.2 The units of hours used to calculate Service Availabilities shall be taken from actual measurements measured in hours, minutes, and seconds. Accuracy of ATC-based data for such calculations shall be to the rounded thousandth of an hour. Service availability measurements shall be automatically taken and recorded by the ATC management system.

### **B3.2 SERVICE MODE AVAILABILITY**

B3.2.1 The system service operating modes are defined in the System Operating Plan. Loop service for each line shall normally be provided. Reduced service modes for either line shall receive full credit when scheduled; otherwise, they and the use of any failure management modes will receive partial system service availability credit as determined by the appropriate K factor, Appendix D, K Factor Table attached hereto and incorporated by reference as though fully set forth herein, for each mode.

B3.2.2 Service Mode Availability for each line and for each time period for a specific operating mode is defined as:

$$B3.2.2.1 \quad A_m = \frac{\text{Scheduled Mode Operating Hours} - \text{Mode Downtime Hours for the Specific Line}}$$

Scheduled Mode Operating Hours

Where:

B3.2.2.1.1 Scheduled Mode Operating Hours - Is the total time, in hours, that the Line is scheduled to provide passenger service in the specific operating mode.

B3.2.2.1.2 Mode Downtime Hours - Is the total time, in hours, of all Downtime Events occurring while the Line is scheduled to provide service in the specific operating mode.

B3.2.2.1.3 Mode Downtime Event - Is an event in which one or more Line- or System related problems cause an interruption of the normal service provided by the desired mode. When such an interruption occurs, downtime for the event shall include all the time from the beginning of the interruption until all trains stopped on the guideway are restarted and normal operation in the scheduled mode is restored. Stoppages resulting from causes listed below as exclusions shall not be counted as Downtime Events. Downtime events of a duration which is less than one Minimum Operational Headway shall not be counted in the calculation of Service Mode Availability, but shall be counted for Downtime Limits (B4.0 System Down Time Event Penalties) purposes.

B3.2.2.1.4 Exclusions – All incidents shall be reviewed by the Airport Representative and any exclusion to said incident will be provided on a case to case basis. The following events are not attributable to the Line or System itself and are not Downtime Events. Delays due to these exclusions are not to be used in

determining Service Mode Availability, and shall result in the entire period affected by them being deleted from consideration in calculating Service Mode Availability, but not from data collection and storage. All data collection means shall include all periods of time; exclusions shall be determined subsequently upon review by the Contractor and Airport.

B3.2.2.1.4.1 The time period to transition from one scheduled operating mode to another scheduled operating mode or adjusting scheduled fleet size, shall not exceed one scheduled headway in duration.

B3.2.2.1.4.2 Passenger-induced interruptions or delays.

B3.2.2.1.4.3 Interruptions caused by intrusions of unauthorized persons or of animate or inanimate objects into non-public areas of the System.

B3.2.2.1.4.4 Interruptions caused by non-System induced loss of service, e.g., loss of utility service, electrical power provided outside the nominal range, vehicle diversion resulting from intended security provisions, force majeure, and acts or omissions of the Airport or its agents or contractors.

B3.2.2.1.4.5 Periods when the Fixed Facilities are not available, unless their unavailability is attributable to the Contractor or its vehicles/subsystems.

B3.2.2.1.4.6 Operational delays induced as part of ATC system to regulate train operations, maintain schedules and for anti-bunching; where such delays do not exceed the Operational Headway.

B3.2.2.1.4.7 The Airports Representative shall have the final determination on the exclusion.

B3.2.2.1.4.8 The Airport's Representative will review incidents that require lock-out tag-out with the Contractor on a case-by-case basis to determine potential time exclusions.

### **B3.3 FLEET AVAILABILITY**

B3.3.1 The Fleet Availability for each line for each time period during which a specific service mode is provided accounts for fleet reliability and the ability to provide

the scheduled line capacity at the scheduled operations headway and is defined as:

$$B3.3.1.1 \quad A_f = \frac{\text{Actual Car Hours for the Specific Line}}{\text{Scheduled Car Hours}}$$

Scheduled Car Hours

Where:

B3.3.1.1.1 Actual Car Hours - Is the cumulative car hours actually operated on the line in trains not exceeding the train size scheduled for the specific service mode period. This is calculated as the product of the actual number of fully functional cars provided in the specific operating mode and the time, in hours, during which that mode and those cars operate, minus all car downtime.

B3.3.1.1.2 Fully Functional Cars – Is the actual number of cars shall not exceed the scheduled number for the line, either in the aggregate or in any vehicle/train. A car with a Priority I or II malfunction, as defined in Appendix C, Incident Grace Period Table, attached hereto and incorporated by reference as though fully set forth herein, shall not be counted as fully functional.

B3.3.1.1.3 Scheduled Car Hours - Is the product of the scheduled number of cars in the scheduled-size trains required for operation for the specific operating mode and the time, in hours, scheduled for that mode.

B3.3.1.1.4 Car Downtime Event - Is an event in which the scheduled service of a car, or vehicle if no separate cars are furnished, is interrupted or the car is not fully functional, for duration equal to or greater than twice the Minimum Operational Headway.

#### **B3.4 STATION PLATFORM AVAILABILITY**

B3.4.1 The Station Platform Availability for each line for each time period during which a specific service mode is provided is defined as:

$$B3.4.1.1 \quad A_s = \frac{\text{Actual Platform Hours for the Specific Line}}{\text{Scheduled Platform Hours}}$$

Scheduled Platform Hours

Where:

- B3.4.1.1.1 Actual Platform Hours – Is the cumulative platform hours actually operated on the line during the specific service mode period not counting any platform downtime. This is calculated as the product of the actual number of station platforms in service and the time, in hours, of that mode, minus all platform downtime. The platform shall be prorated for the number of platform barrier doors provided and failure of a door set shall be counted as partial downtime of that platform.
- B3.4.1.1.2 Station Platform Downtime - Is whenever any failure of station, wayside, or other System equipment or of ATC station stopping-related software renders a platform not usable for longer than one (1) minute, that platform shall be considered out of service. All time from the start of that failure to when the platform is again fully functional shall be counted in the downtime. The actual number of station platforms shall not exceed that scheduled, either in the aggregate or at any station.
- B3.4.1.1.3 Exclusions – The Airport Representative shall have the final determination on whether an exclusion will be provided for any system event. If a station platform is not served because the guideway leading to it is blocked, it shall not be included in  $A_s$ , but the event shall be counted as a downtime for the calculation of Service Mode Availability. The duration of time a station platform is closed due to conditions listed in section B.3.2.2.1.4 above, or the closing of a station or platform for anything other than System problems shall also be excluded. At an end station with two platforms, if only one is required for service the failure of one platform shall be excluded if the switchover occurs within one (1) minute and no train is affected by the failed platform.
- B3.4.1.1.4 Scheduled Platform Hours – Is the product of the scheduled number of station platforms required to be operable and the time, in hours, for the specific operating mode.

### **B3.5 LINE SERVICE AVAILABILITY DETERMINATION**

- B3.5.1 As long as the line remains in the operating mode scheduled for a period,  $A_m$ ,  $A_f$ , and  $A_s$  shall be calculated as indicated above. If a Downtime Event occurs and service is not restored to that scheduled line, but rather a lesser service mode is operated for failure management, then  $A_f$  and  $A_s$  shall be defined according to the requirements for that lesser mode of service over that period. To determine  $A_m$ ,

the entire time period for operating such an unscheduled lesser level of service shall be counted as partial Mode Downtime by multiplying  $A_m$  for the lesser service mode by the appropriate "K" factor. For example, for the single-tracking mode, the K factor shall be the ratio of the average single-tracking headway to the average scheduled headway of the normal service mode that was interrupted. The K factor for any other lesser service mode provided by the Contractor shall be determined as a ratio of the quantity of service delivered by the lesser service mode to that of the scheduled normal service mode. These factors shall be proposed by the Contractor for the review of the Airport.

B3.5.2 Downtime for an event shall be counted either with regard to the System, or the Fleet, or the Station Platform consistent with that portion of the System which is disrupted and shall not result in either double- or triple-counting of downtime. Where it may be possible to count a downtime event in more than one area (i.e., mode, or fleet, or platform), it shall be counted in that area which best measures the quantity of service which is not available.

B3.5.3 Each time period is defined by the actual operating mode provided. The Line Service Availability for any calendar time period is the sum of the Line Service Availabilities multiplied by their respective hours of service of all included service periods divided by the sum of all scheduled service hours for the specific line for that calendar period. System Service Availability for that calendar period shall be the average of the Line Service Availability calculated in accordance with section B.3 herein.

**B4.0 SYSTEM DOWNTIME EVENT PENALTIES**

Additional deductions in the payments shall be made for exceeding the downtime limits defined in the table below. A Downtime Event shall be defined as the total time in which a system-related problem causes an interruption in the normally scheduled service mode. Time for such events shall be measured from the beginning of the interruption until all trains stopped on the guideway are restarted, and normal operation in the scheduled mode is restored. These downtime events shall be prorated by the ratio of the number of days in the respective month to thirty (30) days. The following deductions shall be applied to the Average Monthly Payment for each downtime event in excess of the specified limit.

Downtime Event Limits	Number of Events Allowed Per Month	Percent Deduction for each Event Beyond the Allowed Amount (%)
Greater than ten (10) minutes and less than or equal to fifteen (15) minutes	10	0.050
Greater than fifteen (15) minutes and less than or equal to thirty (30) minutes	2	0.100
Greater than thirty (30) minutes and less than or equal to forty-five (45) minutes.	1	0.200
For incidents greater than forty-five (45) minutes, the downtime event will be calculated as follows:	0	(Incident length in minutes / 45) * .200 * Average Monthly Payment



AirTrain bus back-up plan is initiated.	0	0.200
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**B4.1 Operation Objectives; Evaluation Criteria; Excusable Delays:** The Contractor must operate the AirTrain system with the object of moving the maximum number of people with a minimum number of Delays. The AirTrain Manager will evaluate the Contractor's performance based upon minutes of delays per month. A delay of any part of the AirTrain system shall constitute a delay of the entire system for the purposes of evaluating the Contractor's performance. The AirTrain Manager at his or her sole discretion shall have the right to excuse the Contractor from being charged with delays that he or she determines are beyond the Contractor's ability to control.

**B4.2 Margin of Unacceptable Delays; Corrective Actions:** For any monthly operating period during which the number of delays exceed the allowable minimums category, the Contractor and Airport's Representative will convene to determine the cause of the excessive delays and develop a plan to reduce or eliminate the causes.

**B5.0 ADHERENCE TO MAINTENANCE SCHEDULE**

**B5.1 Objectives;** Provide required fleet availability and limit Downtime Events, as well as to maximize the useful life of system equipment, the Contractor shall strictly adhere to the Preventive Maintenance (PM) schedule as required by this Contract.

**B5.1.1 Time and Mileage Components of Maintenance -** In accordance with the Section entitled "Maintenance Requirements" above, maintenance activities are to be completed at the defined time and mileage intervals.

**B5.1.2 Adherence to Maintenance Schedules Penalties –** If the Contractor is behind on any scheduled preventative maintenance inspections, as indicated by the computer based management system, on the last day of any contract month, the average monthly payment will be reduced by 0.025% for every maintenance inspection that is behind schedule until the Contractor is back on schedule. On the occasion that preventative maintenance inspections fall behind due to special or unforeseen circumstances, the Airport's Representative may relieve the Contractor of any penalties related to overdue PMs.

**B5.2 Correction of Unsatisfactory Maintenance Schedule Performance -** If for any monthly operating period more than three (3) PM activities fall behind, the Contractor and Airport's representative will convene to determine the cause of the missed inspections. The Contractor shall immediately undertake corrective actions to remedy the failures and correct the preventive maintenance deficiencies.

**B6.0 ADHERENCE TO ESTABLISHED EMERGENCY OPERATING PROCEDURES**

**B6.1** To provide a safe and secure system for our passengers, the Contractor shall strictly adhere to the AirTrain Operating System Emergency Procedures and Rule Book. If during any contract month the Contractor fails to follow any of these established procedures during a system downtime event, the average monthly payment will be reduced by 0.025% per each occurrence of the items listed below. On the occasion that a

procedure cannot be followed due to unforeseen circumstances, the Airport's Representative may forgive the Contractor for said violation. The Airport's Representative will have the final decision on whether a penalty applies for each occurrence.

- B6.1.1 The Central Operator shall acknowledge alarm notification within three (3) minutes and begin to rectify problem.
- B6.1.2 Provide audio announcements to passengers in vehicle and on stations within five (5) minutes of any system delay.
- B6.1.3 Manage system delay notifications to vehicles/ stations for the following: Short delay message for incidents under ten (10) minutes, Long delay message for incidents over ten (10) minutes and, when directed by the Airport, proper activation of the AirTrain bus back-up messages.
- B6.1.4 The Central Operator to begin established "Unscheduled Vehicle Door/Door Block Failure" procedure within one (1) minute of notification of such an alarm.
- B6.1.5 Any incident where trains are stopped outside of stations shall receive an immediate audio message within three (3) minutes notifying passengers to "remain on board - recovery tech is on the way." A recovery tech must respond to each train within ten (10) minutes.
- B6.1.6 Within one (1) minute of notification of a probable system delay, the Central Operator shall initialize "Station Spacing."
- B6.1.7 Ensure all trains are clear of passengers prior to routing train into any storage location.
- B6.1.8 The Central Operator must answer all calls received from either vehicle or station emergency phones.
- B6.1.9 Provide incident notification to AirTrain Administration within seven (7) minutes of alarm notification.
- B6.1.10 Within twenty-four (24) hours of any downtime event exceeding fifteen (15) minutes the Contractor shall provide AirTrain Administration with a preliminary report outlining basic details of the event, excluding weekends and Holidays.

**END OF DOCUMENT**

**APPENDIX C  
INCIDENT GRACE PERIOD TABLE**

<b>DOWNTIME TYPE</b>	<b>EVENT NAME</b>	<b>PERIOD TYPE</b>	<b>SERVICE LINE</b>	<b>GRACE PERIOD</b>	<b>LAST MODIFIED</b>
FLEET	BATTERY CHARGER FAILURE	BASE	BLUE	3600	01-JUL-19
FLEET	BATTERY CHARGER FAILURE	BASE	RED	3600	01-JUL-19
FLEET	BATTERY CHARGER FAILURE	OFFPEAK	BLUE	3600	01-JUL-19
FLEET	BATTERY CHARGER FAILURE	OFFPEAK	RED	3600	01-JUL-19
FLEET	BATTERY CHARGER FAILURE	PEAK	BLUE	3600	01-JUL-19
FLEET	BATTERY CHARGER FAILURE	PEAK	RED	3600	01-JUL-19
FLEET	BOTH HVAC UNITS FAILED	BASE	BLUE	3600	01-JUL-19
FLEET	BOTH HVAC UNITS FAILED	BASE	RED	3600	01-JUL-19
FLEET	BOTH HVAC UNITS FAILED	OFFPEAK	BLUE	3600	01-JUL-19
FLEET	BOTH HVAC UNITS FAILED	OFFPEAK	RED	3600	01-JUL-19
FLEET	BOTH HVAC UNITS FAILED	PEAK	BLUE	3600	01-JUL-19
FLEET	BOTH HVAC UNITS FAILED	PEAK	RED	3600	01-JUL-19
FLEET	DOORS FAILED TO CLOSE	BASE	BLUE	188	01-JUL-19
FLEET	DOORS FAILED TO CLOSE	BASE	RED	146	01-JUL-19
FLEET	DOORS FAILED TO CLOSE	OFFPEAK	BLUE	188	01-JUL-19
FLEET	DOORS FAILED TO CLOSE	OFFPEAK	RED	146	01-JUL-19
FLEET	DOORS FAILED TO CLOSE	PEAK	BLUE	188	01-JUL-19
FLEET	DOORS FAILED TO CLOSE	PEAK	RED	146	01-JUL-19
FLEET	DOORS FAILED TO OPEN	BASE	BLUE	188	01-JUL-19
FLEET	DOORS FAILED TO OPEN	BASE	RED	146	01-JUL-19
FLEET	DOORS FAILED TO OPEN	OFFPEAK	BLUE	188	01-JUL-19
FLEET	DOORS FAILED TO OPEN	OFFPEAK	RED	146	01-JUL-19
FLEET	DOORS FAILED TO OPEN	PEAK	BLUE	188	01-JUL-19
FLEET	DOORS FAILED TO OPEN	PEAK	RED	146	01-JUL-19
FLEET	GRAPHIC SIGN FAILURE	BASE	BLUE	3600	01-JUL-19
FLEET	GRAPHIC SIGN FAILURE	BASE	RED	3600	01-JUL-19
FLEET	GRAPHIC SIGN FAILURE	OFFPEAK	BLUE	3600	01-JUL-19
FLEET	GRAPHIC SIGN FAILURE	OFFPEAK	RED	3600	01-JUL-19
FLEET	GRAPHIC SIGN FAILURE	PEAK	BLUE	3600	01-JUL-19
FLEET	GRAPHIC SIGN FAILURE	PEAK	RED	3600	01-JUL-19
FLEET	LOST TRAIN-COMM FAIL	BASE	BLUE	188	01-JUL-19
FLEET	LOST TRAIN-COMM FAIL	BASE	RED	146	01-JUL-19
FLEET	LOST TRAIN-COMM FAIL	OFFPEAK	BLUE	188	01-JUL-19
FLEET	LOST TRAIN-COMM FAIL	OFFPEAK	RED	146	01-JUL-19
FLEET	LOST TRAIN-COMM FAIL	PEAK	BLUE	188	01-JUL-19
FLEET	LOST TRAIN-COMM FAIL	PEAK	RED	146	01-JUL-19
FLEET	LOW BATTERY VOLTAGE	BASE	BLUE	3600	01-JUL-19
FLEET	LOW BATTERY VOLTAGE	BASE	RED	3600	01-JUL-19

**APPENDIX C  
INCIDENT GRACE PERIOD TABLE**

<b>DOWNTIME TYPE</b>	<b>EVENT NAME</b>	<b>PERIOD TYPE</b>	<b>SERVICE LINE</b>	<b>GRACE PERIOD</b>	<b>LAST MODIFIED</b>
FLEET	LOW BATTERY VOLTAGE	OFFPEAK	BLUE	3600	01-JUL-19
FLEET	LOW BATTERY VOLTAGE	OFFPEAK	RED	3600	01-JUL-19
FLEET	LOW BATTERY VOLTAGE	PEAK	BLUE	3600	01-JUL-19
FLEET	LOW BATTERY VOLTAGE	PEAK	RED	3600	01-JUL-19
FLEET	LOW MAIN AIR RESERVOIR	BASE	BLUE	3600	01-JUL-19
FLEET	LOW MAIN AIR RESERVOIR	BASE	RED	3600	01-JUL-19
FLEET	LOW MAIN AIR RESERVOIR	OFFPEAK	BLUE	3600	01-JUL-19
FLEET	LOW MAIN AIR RESERVOIR	OFFPEAK	RED	3600	01-JUL-19
FLEET	LOW MAIN AIR RESERVOIR	PEAK	BLUE	3600	01-JUL-19
FLEET	LOW MAIN AIR RESERVOIR	PEAK	RED	3600	01-JUL-19
FLEET	LOW TIRE PRESSURE	BASE	BLUE	3600	01-JUL-19
FLEET	LOW TIRE PRESSURE	BASE	RED	3600	01-JUL-19
FLEET	LOW TIRE PRESSURE	OFFPEAK	BLUE	3600	01-JUL-19
FLEET	LOW TIRE PRESSURE	OFFPEAK	RED	3600	01-JUL-19
FLEET	LOW TIRE PRESSURE	PEAK	BLUE	3600	01-JUL-19
FLEET	LOW TIRE PRESSURE	PEAK	RED	3600	01-JUL-19
FLEET	NO RESPONSE TO POLL	BASE	BLUE	188	01-JUL-19
FLEET	NO RESPONSE TO POLL	BASE	RED	146	01-JUL-19
FLEET	NO RESPONSE TO POLL	OFFPEAK	BLUE	188	01-JUL-19
FLEET	NO RESPONSE TO POLL	OFFPEAK	RED	146	01-JUL-19
FLEET	NO RESPONSE TO POLL	PEAK	BLUE	188	01-JUL-19
FLEET	NO RESPONSE TO POLL	PEAK	RED	146	01-JUL-19
FLEET	TRAIN LATE ARRIVAL	BASE	BLUE	188	01-JUL-19
FLEET	TRAIN LATE ARRIVAL	BASE	RED	146	01-JUL-19
FLEET	TRAIN LATE ARRIVAL	OFFPEAK	BLUE	188	01-JUL-19
FLEET	TRAIN LATE ARRIVAL	OFFPEAK	RED	146	01-JUL-19
FLEET	TRAIN LATE ARRIVAL	PEAK	BLUE	188	01-JUL-19
FLEET	TRAIN LATE ARRIVAL	PEAK	RED	146	01-JUL-19
FLEET	TRAIN NO DEPARTURE	BASE	BLUE	188	01-JUL-19
FLEET	TRAIN NO DEPARTURE	BASE	RED	146	01-JUL-19
FLEET	TRAIN NO DEPARTURE	OFFPEAK	BLUE	188	01-JUL-19
FLEET	TRAIN NO DEPARTURE	OFFPEAK	RED	146	01-JUL-19
FLEET	TRAIN NO DEPARTURE	PEAK	BLUE	188	01-JUL-19
FLEET	TRAIN NO DEPARTURE	PEAK	RED	146	01-JUL-19
FLEET	UNSCHEDULED STOP	BASE	BLUE	80	01-JUL-19
FLEET	UNSCHEDULED STOP	BASE	RED	80	01-JUL-19
FLEET	UNSCHEDULED STOP	OFFPEAK	BLUE	80	01-JUL-19
FLEET	UNSCHEDULED STOP	OFFPEAK	RED	80	01-JUL-19
FLEET	UNSCHEDULED STOP	PEAK	BLUE	80	01-JUL-19
FLEET	UNSCHEDULED STOP	PEAK	RED	80	01-JUL-19

**APPENDIX C  
INCIDENT GRACE PERIOD TABLE**

<b>DOWNTIME TYPE</b>	<b>EVENT NAME</b>	<b>PERIOD TYPE</b>	<b>SERVICE LINE</b>	<b>GRACE PERIOD</b>	<b>LAST MODIFIED</b>
MODE	SYSTEM STOP	BASE	BLUE	94	01-JUL-19
MODE	SYSTEM STOP	BASE	RED	73	01-JUL-19
MODE	SYSTEM STOP	OFFPEAK	BLUE	94	01-JUL-19
MODE	SYSTEM STOP	OFFPEAK	RED	73	01-JUL-19
MODE	SYSTEM STOP	PEAK	BLUE	94	01-JUL-19
MODE	SYSTEM STOP	PEAK	RED	73	01-JUL-19
MODE	VEHICLE IN MANUAL MODE	BASE	BLUE	180	01-JUL-19
MODE	VEHICLE IN MANUAL MODE	BASE	RED	95	01-JUL-19
MODE	VEHICLE IN MANUAL MODE	OFFPEAK	BLUE	180	01-JUL-19
MODE	VEHICLE IN MANUAL MODE	OFFPEAK	RED	95	01-JUL-19
MODE	VEHICLE IN MANUAL MODE	PEAK	BLUE	180	01-JUL-19
MODE	VEHICLE IN MANUAL MODE	PEAK	RED	95	01-JUL-19
STATION	DOOR CUTOUT LFTB1D1	BASE	BLUE	60	01-JUL-19
STATION	DOOR CUTOUT LFTB1D1	BASE	RED	60	01-JUL-19
STATION	DOOR CUTOUT LFTB1D1	OFFPEAK	BLUE	60	01-JUL-19
STATION	DOOR CUTOUT LFTB1D1	OFFPEAK	RED	60	01-JUL-19
STATION	DOOR CUTOUT LFTB1D1	PEAK	BLUE	60	01-JUL-19
STATION	DOOR CUTOUT LFTB1D1	PEAK	RED	60	01-JUL-19
STATION	DOOR CUTOUT LFTB1D2	BASE	BLUE	60	01-JUL-19
STATION	DOOR CUTOUT LFTB1D2	BASE	RED	60	01-JUL-19
STATION	DOOR CUTOUT LFTB1D2	OFFPEAK	BLUE	60	01-JUL-19
STATION	DOOR CUTOUT LFTB1D2	OFFPEAK	RED	60	01-JUL-19
STATION	DOOR CUTOUT LFTB1D2	PEAK	BLUE	60	01-JUL-19
STATION	DOOR CUTOUT LFTB1D2	PEAK	RED	60	01-JUL-19
STATION	DOOR CUTOUT LFTB2D1	BASE	BLUE	60	01-JUL-19
STATION	DOOR CUTOUT LFTB2D1	BASE	RED	60	01-JUL-19
STATION	DOOR CUTOUT LFTB2D1	OFFPEAK	BLUE	60	01-JUL-19
STATION	DOOR CUTOUT LFTB2D1	OFFPEAK	RED	60	01-JUL-19
STATION	DOOR CUTOUT LFTB2D1	PEAK	BLUE	60	01-JUL-19
STATION	DOOR CUTOUT LFTB2D1	PEAK	RED	60	01-JUL-19
STATION	DOOR CUTOUT LFTB2D2	BASE	BLUE	60	01-JUL-19
STATION	DOOR CUTOUT LFTB2D2	BASE	RED	60	01-JUL-19
STATION	DOOR CUTOUT LFTB2D2	OFFPEAK	BLUE	60	01-JUL-19
STATION	DOOR CUTOUT LFTB2D2	OFFPEAK	RED	60	01-JUL-19
STATION	DOOR CUTOUT LFTB2D2	PEAK	BLUE	60	01-JUL-19
STATION	DOOR CUTOUT LFTB2D2	PEAK	RED	60	01-JUL-19
STATION	DOOR CUTOUT LFTB3D1	BASE	BLUE	60	01-JUL-19
STATION	DOOR CUTOUT LFTB3D1	BASE	RED	60	01-JUL-19
STATION	DOOR CUTOUT LFTB3D1	OFFPEAK	BLUE	60	01-JUL-19

**APPENDIX C  
INCIDENT GRACE PERIOD TABLE**

<b>DOWNTIME TYPE</b>	<b>EVENT NAME</b>	<b>PERIOD TYPE</b>	<b>SERVICE LINE</b>	<b>GRACE PERIOD</b>	<b>LAST MODIFIED</b>
STATION	DOOR CUTOUT LFTB3D1	OFFPEAK	RED	60	01-JUL-19
STATION	DOOR CUTOUT LFTB3D1	PEAK	BLUE	60	01-JUL-19
STATION	DOOR CUTOUT LFTB3D1	PEAK	RED	60	01-JUL-19
STATION	DOOR CUTOUT LFTB3D2	BASE	BLUE	60	01-JUL-19
STATION	DOOR CUTOUT LFTB3D2	BASE	RED	60	01-JUL-19
STATION	DOOR CUTOUT LFTB3D2	OFFPEAK	BLUE	60	01-JUL-19
STATION	DOOR CUTOUT LFTB3D2	OFFPEAK	RED	60	01-JUL-19
STATION	DOOR CUTOUT LFTB3D2	PEAK	BLUE	60	01-JUL-19
STATION	DOOR CUTOUT LFTB3D2	PEAK	RED	60	01-JUL-19
STATION	DOOR CUTOUT RGTB1D1	BASE	BLUE	60	01-JUL-19
STATION	DOOR CUTOUT RGTB1D1	BASE	RED	60	01-JUL-19
STATION	DOOR CUTOUT RGTB1D1	OFFPEAK	BLUE	60	01-JUL-19
STATION	DOOR CUTOUT RGTB1D1	OFFPEAK	RED	60	01-JUL-19
STATION	DOOR CUTOUT RGTB1D1	PEAK	BLUE	60	01-JUL-19
STATION	DOOR CUTOUT RGTB1D1	PEAK	RED	60	01-JUL-19
STATION	DOOR CUTOUT RGTB1D2	BASE	BLUE	60	01-JUL-19
STATION	DOOR CUTOUT RGTB1D2	BASE	RED	60	01-JUL-19
STATION	DOOR CUTOUT RGTB1D2	OFFPEAK	BLUE	60	01-JUL-19
STATION	DOOR CUTOUT RGTB1D2	OFFPEAK	RED	60	01-JUL-19
STATION	DOOR CUTOUT RGTB1D2	PEAK	BLUE	60	01-JUL-19
STATION	DOOR CUTOUT RGTB1D2	PEAK	RED	60	01-JUL-19
STATION	DOOR CUTOUT RGTB2D1	BASE	BLUE	60	01-JUL-19
STATION	DOOR CUTOUT RGTB2D1	BASE	RED	60	01-JUL-19
STATION	DOOR CUTOUT RGTB2D1	OFFPEAK	BLUE	60	01-JUL-19
STATION	DOOR CUTOUT RGTB2D1	OFFPEAK	RED	60	01-JUL-19
STATION	DOOR CUTOUT RGTB2D1	PEAK	BLUE	60	01-JUL-19
STATION	DOOR CUTOUT RGTB2D1	PEAK	RED	60	01-JUL-19
STATION	DOOR CUTOUT RGTB2D2	BASE	BLUE	60	01-JUL-19
STATION	DOOR CUTOUT RGTB2D2	BASE	RED	60	01-JUL-19
STATION	DOOR CUTOUT RGTB2D2	OFFPEAK	BLUE	60	01-JUL-19
STATION	DOOR CUTOUT RGTB2D2	OFFPEAK	RED	60	01-JUL-19
STATION	DOOR CUTOUT RGTB2D2	PEAK	BLUE	60	01-JUL-19
STATION	DOOR CUTOUT RGTB2D2	PEAK	RED	60	01-JUL-19
STATION	DOOR CUTOUT RGTB3D1	BASE	BLUE	60	01-JUL-19
STATION	DOOR CUTOUT RGTB3D1	BASE	RED	60	01-JUL-19
STATION	DOOR CUTOUT RGTB3D1	OFFPEAK	BLUE	60	01-JUL-19
STATION	DOOR CUTOUT RGTB3D1	OFFPEAK	RED	60	01-JUL-19
STATION	DOOR CUTOUT RGTB3D1	PEAK	BLUE	60	01-JUL-19
STATION	DOOR CUTOUT RGTB3D1	PEAK	RED	60	01-JUL-19
STATION	DOOR CUTOUT RGTB3D2	BASE	BLUE	60	01-JUL-19
STATION	DOOR CUTOUT RGTB3D2	BASE	RED	60	01-JUL-19
STATION	DOOR CUTOUT RGTB3D2	OFFPEAK	BLUE	60	01-JUL-19
STATION	DOOR CUTOUT RGTB3D2	OFFPEAK	RED	60	01-JUL-19
STATION	DOOR CUTOUT RGTB3D2	PEAK	BLUE	60	01-JUL-19
STATION	DOOR CUTOUT RGTB3D2	PEAK	RED	60	01-JUL-19

**APPENDIX C  
INCIDENT GRACE PERIOD TABLE**

<b>DOWNTIME TYPE</b>	<b>EVENT NAME</b>	<b>PERIOD TYPE</b>	<b>SERVICE LINE</b>	<b>GRACE PERIOD</b>	<b>LAST MODIFIED</b>
STATION	DOOR FAIL TO OPN LFTB1D1	BASE	BLUE	5	01-JUL-19
STATION	DOOR FAIL TO OPN LFTB1D1	BASE	RED	5	01-JUL-19
STATION	DOOR FAIL TO OPN LFTB1D1	OFFPEAK	BLUE	5	01-JUL-19
STATION	DOOR FAIL TO OPN LFTB1D1	OFFPEAK	RED	5	01-JUL-19
STATION	DOOR FAIL TO OPN LFTB1D1	PEAK	BLUE	5	01-JUL-19
STATION	DOOR FAIL TO OPN LFTB1D1	PEAK	RED	5	01-JUL-19
STATION	DOOR FAIL TO OPN LFTB1D2	BASE	BLUE	5	01-JUL-19
STATION	DOOR FAIL TO OPN LFTB1D2	BASE	RED	5	01-JUL-19
STATION	DOOR FAIL TO OPN LFTB1D2	OFFPEAK	BLUE	5	01-JUL-19
STATION	DOOR FAIL TO OPN LFTB1D2	OFFPEAK	RED	5	01-JUL-19
STATION	DOOR FAIL TO OPN LFTB1D2	PEAK	BLUE	5	01-JUL-19
STATION	DOOR FAIL TO OPN LFTB1D2	PEAK	RED	5	01-JUL-19
STATION	DOOR FAIL TO OPN LFTB2D1	BASE	BLUE	5	01-JUL-19
STATION	DOOR FAIL TO OPN LFTB2D1	BASE	RED	5	01-JUL-19
STATION	DOOR FAIL TO OPN LFTB2D1	OFFPEAK	BLUE	5	01-JUL-19
STATION	DOOR FAIL TO OPN LFTB2D1	OFFPEAK	RED	5	01-JUL-19
STATION	DOOR FAIL TO OPN LFTB2D1	PEAK	BLUE	5	01-JUL-19
STATION	DOOR FAIL TO OPN LFTB2D1	PEAK	RED	5	01-JUL-19
STATION	DOOR FAIL TO OPN LFTB2D2	BASE	BLUE	5	01-JUL-19
STATION	DOOR FAIL TO OPN LFTB2D2	BASE	RED	5	01-JUL-19
STATION	DOOR FAIL TO OPN LFTB2D2	OFFPEAK	BLUE	5	01-JUL-19
STATION	DOOR FAIL TO OPN LFTB2D2	OFFPEAK	RED	5	01-JUL-19
STATION	DOOR FAIL TO OPN LFTB2D2	PEAK	BLUE	5	01-JUL-19

**APPENDIX C  
INCIDENT GRACE PERIOD TABLE**

<b>DOWNTIME TYPE</b>	<b>EVENT NAME</b>	<b>PERIOD TYPE</b>	<b>SERVICE LINE</b>	<b>GRACE PERIOD</b>	<b>LAST MODIFIED</b>
STATION	DOOR FAIL TO OPN LFTB2D2	PEAK	RED	5	01-JUL-19
STATION	DOOR FAIL TO OPN LFTB3D1	BASE	BLUE	5	01-JUL-19
STATION	DOOR FAIL TO OPN LFTB3D1	BASE	RED	5	01-JUL-19
STATION	DOOR FAIL TO OPN LFTB3D1	OFFPEAK	BLUE	5	01-JUL-19
STATION	DOOR FAIL TO OPN LFTB3D1	OFFPEAK	RED	5	01-JUL-19
STATION	DOOR FAIL TO OPN LFTB3D1	PEAK	BLUE	5	01-JUL-19
STATION	DOOR FAIL TO OPN LFTB3D1	PEAK	RED	5	01-JUL-19
STATION	DOOR FAIL TO OPN LFTB3D2	BASE	BLUE	5	01-JUL-19
STATION	DOOR FAIL TO OPN LFTB3D2	BASE	RED	5	01-JUL-19
STATION	DOOR FAIL TO OPN LFTB3D2	OFFPEAK	BLUE	5	01-JUL-19
STATION	DOOR FAIL TO OPN LFTB3D2	OFFPEAK	RED	5	01-JUL-19
STATION	DOOR FAIL TO OPN LFTB3D2	PEAK	BLUE	5	01-JUL-19
STATION	DOOR FAIL TO OPN LFTB3D2	PEAK	RED	5	01-JUL-19
STATION	DOOR FAIL TO OPN RGTB1D1	BASE	BLUE	5	01-JUL-19
STATION	DOOR FAIL TO OPN RGTB1D1	BASE	RED	5	01-JUL-19
STATION	DOOR FAIL TO OPN RGTB1D1	OFFPEAK	BLUE	5	01-JUL-19
STATION	DOOR FAIL TO OPN RGTB1D1	OFFPEAK	RED	5	01-JUL-19
STATION	DOOR FAIL TO OPN RGTB1D1	PEAK	BLUE	5	01-JUL-19
STATION	DOOR FAIL TO OPN RGTB1D1	PEAK	RED	5	01-JUL-19
STATION	DOOR FAIL TO OPN RGTB1D2	BASE	BLUE	5	01-JUL-19
STATION	DOOR FAIL TO OPN RGTB1D2	BASE	RED	5	01-JUL-19
STATION	DOOR FAIL TO OPN RGTB1D2	OFFPEAK	BLUE	5	01-JUL-19
STATION	DOOR FAIL TO OPN RGTB1D2	OFFPEAK	RED	5	01-JUL-19



**APPENDIX C  
INCIDENT GRACE PERIOD TABLE**

<b>DOWNTIME TYPE</b>	<b>EVENT NAME</b>	<b>PERIOD TYPE</b>	<b>SERVICE LINE</b>	<b>GRACE PERIOD</b>	<b>LAST MODIFIED</b>
STATION	DOOR FAIL TO OPN RGTB1D2	PEAK	BLUE	5	01-JUL-19
STATION	DOOR FAIL TO OPN RGTB1D2	PEAK	RED	5	01-JUL-19
STATION	DOOR FAIL TO OPN RGTB2D1	BASE	BLUE	5	01-JUL-19
STATION	DOOR FAIL TO OPN RGTB2D1	BASE	RED	5	01-JUL-19
STATION	DOOR FAIL TO OPN RGTB2D1	OFFPEAK	BLUE	5	01-JUL-19
STATION	DOOR FAIL TO OPN RGTB2D1	OFFPEAK	RED	5	01-JUL-19
STATION	DOOR FAIL TO OPN RGTB2D1	PEAK	BLUE	5	01-JUL-19
STATION	DOOR FAIL TO OPN RGTB2D1	PEAK	RED	5	01-JUL-19
STATION	DOOR FAIL TO OPN RGTB2D2	BASE	BLUE	5	01-JUL-19
STATION	DOOR FAIL TO OPN RGTB2D2	BASE	RED	5	01-JUL-19
STATION	DOOR FAIL TO OPN RGTB2D2	OFFPEAK	BLUE	5	01-JUL-19
STATION	DOOR FAIL TO OPN RGTB2D2	OFFPEAK	RED	5	01-JUL-19
STATION	DOOR FAIL TO OPN RGTB2D2	PEAK	BLUE	5	01-JUL-19
STATION	DOOR FAIL TO OPN RGTB2D2	PEAK	RED	5	01-JUL-19
STATION	DOOR FAIL TO OPN RGTB3D1	BASE	BLUE	5	01-JUL-19
STATION	DOOR FAIL TO OPN RGTB3D1	BASE	RED	5	01-JUL-19
STATION	DOOR FAIL TO OPN RGTB3D1	OFFPEAK	BLUE	5	01-JUL-19
STATION	DOOR FAIL TO OPN RGTB3D1	OFFPEAK	RED	5	01-JUL-19
STATION	DOOR FAIL TO OPN RGTB3D1	PEAK	BLUE	5	01-JUL-19
STATION	DOOR FAIL TO OPN RGTB3D1	PEAK	RED	5	01-JUL-19
STATION	DOOR FAIL TO OPN RGTB3D2	BASE	BLUE	5	01-JUL-19
STATION	DOOR FAIL TO OPN RGTB3D2	BASE	RED	5	01-JUL-19
STATION	DOOR FAIL TO OPN RGTB3D2	OFFPEAK	BLUE	5	01-JUL-19

**APPENDIX C  
INCIDENT GRACE PERIOD TABLE**

<b>DOWNTIME TYPE</b>	<b>EVENT NAME</b>	<b>PERIOD TYPE</b>	<b>SERVICE LINE</b>	<b>GRACE PERIOD</b>	<b>LAST MODIFIED</b>
STATION	DOOR FAIL TO OPN RGTB3D2	OFFPEAK	RED	5	01-JUL-19
STATION	DOOR FAIL TO OPN RGTB3D2	PEAK	BLUE	5	01-JUL-19
STATION	DOOR FAIL TO OPN RGTB3D2	PEAK	RED	5	01-JUL-19
STATION	INACCURATE STATION STOP	BASE	BLUE	5	01-JUL-19
STATION	INACCURATE STATION STOP	BASE	RED	5	01-JUL-19
STATION	INACCURATE STATION STOP	OFFPEAK	BLUE	5	01-JUL-19
STATION	INACCURATE STATION STOP	OFFPEAK	RED	5	01-JUL-19
STATION	INACCURATE STATION STOP	PEAK	BLUE	5	01-JUL-19
STATION	INACCURATE STATION STOP	PEAK	RED	5	01-JUL-19
STATION	PLC NOT HLTHY LFTB1D1	BASE	BLUE	60	01-JUL-19
STATION	PLC NOT HLTHY LFTB1D1	BASE	BLUE	60	01-JUL-19
STATION	PLC NOT HLTHY LFTB1D1	BASE	RED	60	01-JUL-19
STATION	PLC NOT HLTHY LFTB1D1	BASE	RED	60	01-JUL-19
STATION	PLC NOT HLTHY LFTB1D1	OFFPEAK	BLUE	60	01-JUL-19
STATION	PLC NOT HLTHY LFTB1D1	OFFPEAK	BLUE	60	01-JUL-19
STATION	PLC NOT HLTHY LFTB1D1	OFFPEAK	RED	60	01-JUL-19
STATION	PLC NOT HLTHY LFTB1D1	OFFPEAK	RED	60	01-JUL-19
STATION	PLC NOT HLTHY LFTB1D1	PEAK	BLUE	60	01-JUL-19
STATION	PLC NOT HLTHY LFTB1D1	PEAK	BLUE	60	01-JUL-19
STATION	PLC NOT HLTHY LFTB1D1	PEAK	RED	60	01-JUL-19
STATION	PLC NOT HLTHY LFTB1D1	PEAK	RED	60	01-JUL-19
STATION	PLC NOT HLTHY LFTB1D2	BASE	BLUE	60	01-JUL-19
STATION	PLC NOT HLTHY LFTB1D2	BASE	BLUE	60	01-JUL-19
STATION	PLC NOT HLTHY LFTB1D2	BASE	RED	60	01-JUL-19
STATION	PLC NOT HLTHY LFTB1D2	BASE	RED	60	01-JUL-19
STATION	PLC NOT HLTHY LFTB1D2	OFFPEAK	BLUE	60	01-JUL-19
STATION	PLC NOT HLTHY LFTB1D2	OFFPEAK	BLUE	60	01-JUL-19
STATION	PLC NOT HLTHY LFTB1D2	OFFPEAK	RED	60	01-JUL-19
STATION	PLC NOT HLTHY LFTB1D2	OFFPEAK	RED	60	01-JUL-19
STATION	PLC NOT HLTHY LFTB1D2	PEAK	BLUE	60	01-JUL-19
STATION	PLC NOT HLTHY LFTB1D2	PEAK	BLUE	60	01-JUL-19
STATION	PLC NOT HLTHY LFTB1D2	PEAK	RED	60	01-JUL-19
STATION	PLC NOT HLTHY LFTB1D2	PEAK	RED	60	01-JUL-19
STATION	PLC NOT HLTHY LFTB2D1	BASE	BLUE	60	01-JUL-19
STATION	PLC NOT HLTHY LFTB2D1	BASE	BLUE	60	01-JUL-19
STATION	PLC NOT HLTHY LFTB2D1	BASE	RED	60	01-JUL-19
STATION	PLC NOT HLTHY LFTB2D1	BASE	RED	60	01-JUL-19
STATION	PLC NOT HLTHY LFTB2D1	OFFPEAK	BLUE	60	01-JUL-19

**APPENDIX C  
INCIDENT GRACE PERIOD TABLE**

<b>DOWNTIME TYPE</b>	<b>EVENT NAME</b>	<b>PERIOD TYPE</b>	<b>SERVICE LINE</b>	<b>GRACE PERIOD</b>	<b>LAST MODIFIED</b>
STATION	PLC NOT HLTHY LFTB2D1	OFFPEAK	BLUE	60	01-JUL-19
STATION	PLC NOT HLTHY LFTB2D1	OFFPEAK	RED	60	01-JUL-19
STATION	PLC NOT HLTHY LFTB2D1	OFFPEAK	RED	60	01-JUL-19
STATION	PLC NOT HLTHY LFTB2D1	PEAK	BLUE	60	01-JUL-19
STATION	PLC NOT HLTHY LFTB2D1	PEAK	BLUE	60	01-JUL-19
STATION	PLC NOT HLTHY LFTB2D1	PEAK	RED	60	01-JUL-19
STATION	PLC NOT HLTHY LFTB2D1	PEAK	RED	60	01-JUL-19
STATION	PLC NOT HLTHY LFTB2D2	BASE	BLUE	60	01-JUL-19
STATION	PLC NOT HLTHY LFTB2D2	BASE	BLUE	60	01-JUL-19
STATION	PLC NOT HLTHY LFTB2D2	BASE	RED	60	01-JUL-19
STATION	PLC NOT HLTHY LFTB2D2	BASE	RED	60	01-JUL-19
STATION	PLC NOT HLTHY LFTB2D2	OFFPEAK	BLUE	60	01-JUL-19
STATION	PLC NOT HLTHY LFTB2D2	OFFPEAK	BLUE	60	01-JUL-19
STATION	PLC NOT HLTHY LFTB2D2	OFFPEAK	RED	60	01-JUL-19
STATION	PLC NOT HLTHY LFTB2D2	OFFPEAK	RED	60	01-JUL-19
STATION	PLC NOT HLTHY LFTB2D2	PEAK	BLUE	60	01-JUL-19
STATION	PLC NOT HLTHY LFTB2D2	PEAK	BLUE	60	01-JUL-19
STATION	PLC NOT HLTHY LFTB2D2	PEAK	RED	60	01-JUL-19
STATION	PLC NOT HLTHY LFTB2D2	PEAK	RED	60	01-JUL-19
STATION	PLC NOT HLTHY LFTB3D1	BASE	BLUE	60	01-JUL-19
STATION	PLC NOT HLTHY LFTB3D1	BASE	BLUE	60	01-JUL-19
STATION	PLC NOT HLTHY LFTB3D1	BASE	RED	60	01-JUL-19
STATION	PLC NOT HLTHY LFTB3D1	BASE	RED	60	01-JUL-19
STATION	PLC NOT HLTHY LFTB3D1	OFFPEAK	BLUE	60	01-JUL-19
STATION	PLC NOT HLTHY LFTB3D1	OFFPEAK	BLUE	60	01-JUL-19
STATION	PLC NOT HLTHY LFTB3D1	OFFPEAK	RED	60	01-JUL-19
STATION	PLC NOT HLTHY LFTB3D1	OFFPEAK	RED	60	01-JUL-19
STATION	PLC NOT HLTHY LFTB3D1	PEAK	BLUE	60	01-JUL-19
STATION	PLC NOT HLTHY LFTB3D1	PEAK	BLUE	60	01-JUL-19
STATION	PLC NOT HLTHY LFTB3D1	PEAK	RED	60	01-JUL-19
STATION	PLC NOT HLTHY LFTB3D1	PEAK	RED	60	01-JUL-19
STATION	PLC NOT HLTHY LFTB3D2	BASE	BLUE	60	01-JUL-19
STATION	PLC NOT HLTHY LFTB3D2	BASE	BLUE	60	01-JUL-19
STATION	PLC NOT HLTHY LFTB3D2	BASE	RED	60	01-JUL-19
STATION	PLC NOT HLTHY LFTB3D2	BASE	RED	60	01-JUL-19
STATION	PLC NOT HLTHY LFTB3D2	OFFPEAK	BLUE	60	01-JUL-19
STATION	PLC NOT HLTHY LFTB3D2	OFFPEAK	BLUE	60	01-JUL-19
STATION	PLC NOT HLTHY LFTB3D2	OFFPEAK	RED	60	01-JUL-19
STATION	PLC NOT HLTHY LFTB3D2	OFFPEAK	RED	60	01-JUL-19
STATION	PLC NOT HLTHY LFTB3D2	PEAK	BLUE	60	01-JUL-19
STATION	PLC NOT HLTHY LFTB3D2	PEAK	BLUE	60	01-JUL-19
STATION	PLC NOT HLTHY LFTB3D2	PEAK	RED	60	01-JUL-19
STATION	PLC NOT HLTHY LFTB3D2	PEAK	RED	60	01-JUL-19
STATION	PLC NOT HLTHY RGTB1D1	BASE	BLUE	60	01-JUL-19
STATION	PLC NOT HLTHY RGTB1D1	BASE	BLUE	60	01-JUL-19
STATION	PLC NOT HLTHY RGTB1D1	BASE	BLUE	60	01-JUL-19

**APPENDIX C  
INCIDENT GRACE PERIOD TABLE**

<b>DOWNTIME TYPE</b>	<b>EVENT NAME</b>	<b>PERIOD TYPE</b>	<b>SERVICE LINE</b>	<b>GRACE PERIOD</b>	<b>LAST MODIFIED</b>
STATION	PLC NOT HLTHY RGTB1D1	BASE	RED	60	01-JUL-19
STATION	PLC NOT HLTHY RGTB1D1	BASE	RED	60	01-JUL-19
STATION	PLC NOT HLTHY RGTB1D1	BASE	RED	60	01-JUL-19
STATION	PLC NOT HLTHY RGTB1D1	OFFPEAK	BLUE	60	01-JUL-19
STATION	PLC NOT HLTHY RGTB1D1	OFFPEAK	BLUE	60	01-JUL-19
STATION	PLC NOT HLTHY RGTB1D1	OFFPEAK	BLUE	60	01-JUL-19
STATION	PLC NOT HLTHY RGTB1D1	OFFPEAK	RED	60	01-JUL-19
STATION	PLC NOT HLTHY RGTB1D1	OFFPEAK	RED	60	01-JUL-19
STATION	PLC NOT HLTHY RGTB1D1	OFFPEAK	RED	60	01-JUL-19
STATION	PLC NOT HLTHY RGTB1D1	PEAK	BLUE	60	01-JUL-19
STATION	PLC NOT HLTHY RGTB1D1	PEAK	BLUE	60	01-JUL-19
STATION	PLC NOT HLTHY RGTB1D1	PEAK	BLUE	60	01-JUL-19
STATION	PLC NOT HLTHY RGTB1D1	PEAK	RED	60	01-JUL-19
STATION	PLC NOT HLTHY RGTB1D1	PEAK	RED	60	01-JUL-19
STATION	PLC NOT HLTHY RGTB1D1	PEAK	RED	60	01-JUL-19
STATION	PLC NOT HLTHY RGTB1D2	BASE	BLUE	60	01-JUL-19
STATION	PLC NOT HLTHY RGTB1D2	BASE	RED	60	01-JUL-19
STATION	PLC NOT HLTHY RGTB1D2	OFFPEAK	BLUE	60	01-JUL-19
STATION	PLC NOT HLTHY RGTB1D2	OFFPEAK	RED	60	01-JUL-19
STATION	PLC NOT HLTHY RGTB1D2	PEAK	BLUE	60	01-JUL-19
STATION	PLC NOT HLTHY RGTB1D2	PEAK	RED	60	01-JUL-19
STATION	PLC NOT HLTHY RGTB2D1	BASE	BLUE	60	01-JUL-19
STATION	PLC NOT HLTHY RGTB2D1	BASE	BLUE	60	01-JUL-19
STATION	PLC NOT HLTHY RGTB2D1	BASE	RED	60	01-JUL-19
STATION	PLC NOT HLTHY RGTB2D1	BASE	RED	60	01-JUL-19
STATION	PLC NOT HLTHY RGTB2D1	OFFPEAK	BLUE	60	01-JUL-19
STATION	PLC NOT HLTHY RGTB2D1	OFFPEAK	BLUE	60	01-JUL-19
STATION	PLC NOT HLTHY RGTB2D1	OFFPEAK	RED	60	01-JUL-19
STATION	PLC NOT HLTHY RGTB2D1	OFFPEAK	RED	60	01-JUL-19
STATION	PLC NOT HLTHY RGTB2D1	PEAK	BLUE	60	01-JUL-19
STATION	PLC NOT HLTHY RGTB2D1	PEAK	BLUE	60	01-JUL-19
STATION	PLC NOT HLTHY RGTB2D1	PEAK	RED	60	01-JUL-19
STATION	PLC NOT HLTHY RGTB2D1	PEAK	RED	60	01-JUL-19
STATION	PLC NOT HLTHY RGTB2D2	BASE	BLUE	60	01-JUL-19
STATION	PLC NOT HLTHY RGTB2D2	BASE	BLUE	60	01-JUL-19
STATION	PLC NOT HLTHY RGTB2D2	BASE	RED	60	01-JUL-19
STATION	PLC NOT HLTHY RGTB2D2	BASE	RED	60	01-JUL-19
STATION	PLC NOT HLTHY RGTB2D2	OFFPEAK	BLUE	60	01-JUL-19
STATION	PLC NOT HLTHY RGTB2D2	OFFPEAK	BLUE	60	01-JUL-19
STATION	PLC NOT HLTHY RGTB2D2	OFFPEAK	RED	60	01-JUL-19
STATION	PLC NOT HLTHY RGTB2D2	OFFPEAK	RED	60	01-JUL-19
STATION	PLC NOT HLTHY RGTB2D2	PEAK	BLUE	60	01-JUL-19
STATION	PLC NOT HLTHY RGTB2D2	PEAK	BLUE	60	01-JUL-19
STATION	PLC NOT HLTHY RGTB2D2	PEAK	RED	60	01-JUL-19
STATION	PLC NOT HLTHY RGTB2D2	PEAK	RED	60	01-JUL-19
STATION	PLC NOT HLTHY RGTB3D1	BASE	BLUE	60	01-JUL-19

**APPENDIX C  
INCIDENT GRACE PERIOD TABLE**

<b>DOWNTIME TYPE</b>	<b>EVENT NAME</b>	<b>PERIOD TYPE</b>	<b>SERVICE LINE</b>	<b>GRACE PERIOD</b>	<b>LAST MODIFIED</b>
STATION	PLC NOT HLTHY RGTB3D1	BASE	BLUE	60	01-JUL-19
STATION	PLC NOT HLTHY RGTB3D1	BASE	RED	60	01-JUL-19
STATION	PLC NOT HLTHY RGTB3D1	BASE	RED	60	01-JUL-19
STATION	PLC NOT HLTHY RGTB3D1	OFFPEAK	BLUE	60	01-JUL-19
STATION	PLC NOT HLTHY RGTB3D1	OFFPEAK	BLUE	60	01-JUL-19
STATION	PLC NOT HLTHY RGTB3D1	OFFPEAK	RED	60	01-JUL-19
STATION	PLC NOT HLTHY RGTB3D1	OFFPEAK	RED	60	01-JUL-19
STATION	PLC NOT HLTHY RGTB3D1	PEAK	BLUE	60	01-JUL-19
STATION	PLC NOT HLTHY RGTB3D1	PEAK	BLUE	60	01-JUL-19
STATION	PLC NOT HLTHY RGTB3D1	PEAK	RED	60	01-JUL-19
STATION	PLC NOT HLTHY RGTB3D1	PEAK	RED	60	01-JUL-19
STATION	PLC NOT HLTHY RGTB3D2	BASE	BLUE	60	01-JUL-19
STATION	PLC NOT HLTHY RGTB3D2	BASE	BLUE	60	01-JUL-19
STATION	PLC NOT HLTHY RGTB3D2	BASE	RED	60	01-JUL-19
STATION	PLC NOT HLTHY RGTB3D2	BASE	RED	60	01-JUL-19
STATION	PLC NOT HLTHY RGTB3D2	OFFPEAK	BLUE	60	01-JUL-19
STATION	PLC NOT HLTHY RGTB3D2	OFFPEAK	BLUE	60	01-JUL-19
STATION	PLC NOT HLTHY RGTB3D2	OFFPEAK	RED	60	01-JUL-19
STATION	PLC NOT HLTHY RGTB3D2	OFFPEAK	RED	60	01-JUL-19
STATION	PLC NOT HLTHY RGTB3D2	PEAK	BLUE	60	01-JUL-19
STATION	PLC NOT HLTHY RGTB3D2	PEAK	BLUE	60	01-JUL-19
STATION	PLC NOT HLTHY RGTB3D2	PEAK	RED	60	01-JUL-19
STATION	PLC NOT HLTHY RGTB3D2	PEAK	RED	60	01-JUL-19
STATION	STATION RUN THRU REQUEST	BASE	BLUE	60	01-JUL-19
STATION	STATION RUN THRU REQUEST	BASE	RED	60	01-JUL-19
STATION	STATION RUN THRU REQUEST	OFFPEAK	BLUE	60	01-JUL-19
STATION	STATION RUN THRU REQUEST	OFFPEAK	RED	60	01-JUL-19
STATION	STATION RUN THRU REQUEST	PEAK	BLUE	60	01-JUL-19
STATION	STATION RUN THRU REQUEST	PEAK	RED	60	01-JUL-19

**END OF DOCUMENT**

**APPENDIX D  
K FACTOR TABLE**

<b>SERVICE LINE</b>	<b>SCHEDULED MODE</b>	<b>MODE</b>	<b>PERIOD TYPE</b>	<b>K FACTOR</b>
BLUE	1 Normal Operation	3 Blue Line Only	PEAK	.71
BLUE	1 Normal Operation	4 Blue Line Using RCC Platform No. 3	PEAK	.98
BLUE	1 Normal Operation	5 Extension Outbound (Right) Guideway Bypass	BASE	.4
BLUE	1 Normal Operation	5 Extension Outbound (Right) Guideway Bypass	OFFPEAK	.8
BLUE	1 Normal Operation	5 Extension Outbound (Right) Guideway Bypass	PEAK	.28
BLUE	1 Normal Operation	6 Extension Inbound (Left) Guideway Short Bypass	PEAK	.71
BLUE	1 Normal Operation	7 Extension Inbound (Left) Guideway Long Bypass	BASE	.4
BLUE	1 Normal Operation	7 Extension Inbound (Left) Guideway Long Bypass	OFFPEAK	.8
BLUE	1 Normal Operation	Extension Inbound (Left) Guideway Long Bypass	PEAK	.28
BLUE	1 Normal Operation	8 Green Line with Blue Extension	BASE	.57
BLUE	1 Normal Operation	8 Green Line with Blue Extension	PEAK	.4
BLUE	1 Normal Operation	10 Blue Line Pinched Loop at South Garage	PEAK	.7
BLUE	1 Normal Operation	11 Outbound (Right) Guideway Shuttle	BASE	.39
BLUE	1 Normal Operation	11 Outbound (Right) Guideway Shuttle	OFFPEAK	.78
BLUE	1 Normal Operation	11 Outbound (Right) Guideway Shuttle	PEAK	.27
BLUE	1 Normal Operation	12 Inbound (Left) Guideway Shuttle	BASE	.34
BLUE	1 Normal Operation	12 Inbound (Left) Guideway Shuttle	OFFPEAK	.68
BLUE	1 Normal Operation	12 Inbound (Left) Guideway Shuttle	PEAK	.24
BLUE	10 Blue Line Pinched Loop at South Garage	5 Extension Outbound (Right) Guideway Bypass	BASE	.4
BLUE	10 Blue Line Pinched Loop at South Garage	5 Extension Outbound (Right) Guideway Bypass	OFFPEAK	.8
BLUE	10 Blue Line Pinched Loop at South Garage	5 Extension Outbound (Right) Guideway Bypass	PEAK	.58
BLUE	10 Blue Line Pinched Loop at South Garage	7 Extension Inbound (Left) Guideway Long Bypass	BASE	.4
BLUE	10 Blue Line Pinched Loop at South Garage	Garage 7 Extension Inbound (Left) Guideway Long Bypass	OFFPEAK	.8
BLUE	10 Blue Line Pinched Loop at South Garage	Garage 7 Extension Inbound (Left) Guideway Long Bypass	PEAK	.58
BLUE	10 Blue Line Pinched Loop at South Garage	8 Green Line with Blue Extension	BASE	.57
BLUE	10 Blue Line Pinched Loop at South Garage	8 Green Line with Blue Extension	PEAK	.7
BLUE	10 Blue Line Pinched Loop at South Garage	11 Outbound (Right) Guideway Shuttle	BASE	.39
BLUE	10 Blue Line Pinched Loop at South Garage	11 Outbound (Right) Guideway Shuttle	OFFPEAK	.78
BLUE	10 Blue Line Pinched Loop at South Garage	11 Outbound (Right) Guideway Shuttle	PEAK	.57

**APPENDIX D  
K FACTOR TABLE**

<b>SERVICE LINE</b>	<b>SCHEDULED MODE</b>	<b>MODE</b>	<b>PERIOD TYPE</b>	<b>K FACTOR</b>
BLUE	10 Blue Line Pinched Loop at South Garage	12 Inbound (Left) Guideway Shuttle	BASE	.34
BLUE	10 Blue Line Pinched Loop at South Garage	12 Inbound (Left) Guideway Shuttle	OFFPEAK	.68
BLUE	10 Blue Line Pinched Loop at South Garage	12 Inbound (Left) Guideway Shuttle	PEAK	.54
BLUE	11 Outbound (Right) Guideway Shuttle	12 Inbound (Left) Guideway Shuttle	BASE	.95
BLUE	11 Outbound (Right) Guideway Shuttle	12 Inbound (Left) Guideway Shuttle	OFFPEAK	.9
BLUE	11 Outbound (Right) Guideway Shuttle	12 Inbound (Left) Guideway Shuttle	PEAK	.97
BLUE	13 Long Turnback	3 Blue Line Only	PEAK	.71
BLUE	13 Long Turnback	4 Blue Line Using RCC Platform No. 3	PEAK	.98
BLUE	13 Long Turnback	5 Extension Outbound (Right) Guideway Bypass	BASE	.4
BLUE	13 Long Turnback	5 Extension Outbound (Right) Guideway Bypass	OFFPEAK	.8
BLUE	13 Long Turnback	5 Extension Outbound (Right) Guideway Bypass	PEAK	.28
BLUE	13 Long Turnback	6 Extension Inbound (Left) Guideway Short Bypass	PEAK	.71
BLUE	13 Long Turnback	7 Extension Inbound (Left) Guideway Long Bypass	BASE	.4
BLUE	13 Long Turnback	7 Extension Inbound (Left) Guideway Long Bypass	OFFPEAK	.8
BLUE	13 Long Turnback	7 Extension Inbound (Left) Guideway Long Bypass	PEAK	.28
BLUE	13 Long Turnback	8 Green Line with Blue Extension	BASE	.57
BLUE	13 Long Turnback	8 Green Line with Blue Extension	PEAK	.4
BLUE	13 Long Turnback	10 Blue Line Pinched Loop at South Garage	PEAK	.7
BLUE	13 Long Turnback	11 Outbound (Right) Guideway Shuttle	BASE	.39
BLUE	13 Long Turnback	11 Outbound (Right) Guideway Shuttle	OFFPEAK	.78
BLUE	13 Long Turnback	11 Outbound (Right) Guideway Shuttle	PEAK	.27
BLUE	13 Long Turnback	12 Inbound (Left) Guideway Shuttle	BASE	.34
BLUE	13 Long Turnback	12 Inbound (Left) Guideway Shuttle	OFFPEAK	.68
BLUE	13 Long Turnback	12 Inbound (Left) Guideway Shuttle	PEAK	.24
BLUE	2 Normal with Service Alternate	3 Blue Line Only	PEAK	.71
BLUE	2 Normal with Service Alternate	4 Blue Line Using RCC Platform No. 3	PEAK	.98
BLUE	2 Normal with	5 Extension Outbound (Right) Guideway	BASE	.4

**APPENDIX D  
K FACTOR TABLE**

<b>SERVICE LINE</b>	<b>SCHEDULED MODE</b>	<b>MODE</b>	<b>PERIOD TYPE</b>	<b>K FACTOR</b>
	Service Alternate	Bypass		
BLUE	2 Normal with Service Alternate	5 Extension Outbound (Right) Guideway Bypass	OFFPEAK	.8
BLUE	2 Normal with Service Alternate	5 Extension Outbound (Right) Guideway Bypass	PEAK	.28
BLUE	2 Normal with Service Alternate	6 Extension Inbound (Left) Guideway Short Bypass	PEAK	.71
BLUE	2 Normal with Service Alternate	7 Extension Inbound (Left) Guideway Long Bypass	BASE	.4
BLUE	2 Normal with Service Alternate	7 Extension Inbound (Left) Guideway Long Bypass	OFFPEAK	.8
BLUE	2 Normal with Service Alternate	7 Extension Inbound (Left) Guideway Long Bypass	PEAK	.28
BLUE	2 Normal with Service Alternate	8 Green Line with Blue Extension	BASE	.57
BLUE	2 Normal with Service Alternate	8 Green Line with Blue Extension	PEAK	.4
BLUE	2 Normal with Service Alternate	9 Blue Line Pinched Loop at North Garage	PEAK	.7
BLUE	2 Normal with Service Alternate	10 Blue Line Pinched Loop at South Garage	PEAK	.7
BLUE	2 Normal with Service Alternate	11 Outbound (Right) Guideway Shuttle	BASE	.39
BLUE	2 Normal with Service Alternate	11 Outbound (Right) Guideway Shuttle	OFFPEAK	.78
BLUE	2 Normal with Service Alternate	11 Outbound (Right) Guideway Shuttle	PEAK	.27
BLUE	2 Normal with Service Alternate	12 Inbound (Left) Guideway Shuttle	BASE	.34
BLUE	2 Normal with Service Alternate	12 Inbound (Left) Guideway Shuttle	OFFPEAK	.68
BLUE	2 Normal with Service Alternate	12 Inbound (Left) Guideway Shuttle	PEAK	.24
BLUE	3 Blue Line Only	5 Extension Outbound (Right) Guideway Bypass	BASE	.4
BLUE	3 Blue Line Only	5 Extension Outbound (Right) Guideway Bypass	OFFPEAK	.8
BLUE	3 Blue Line Only	5 Extension Outbound (Right) Guideway Bypass	PEAK	.57
BLUE	3 Blue Line Only	7 Extension Inbound (Left) Guideway Long Bypass	BASE	.4
BLUE	3 Blue Line Only	7 Extension Inbound (Left) Guideway Long Bypass	OFFPEAK	.8
BLUE	3 Blue Line Only	7 Extension Inbound (Left) Guideway Long Bypass	PEAK	.57
BLUE	3 Blue Line Only	8 Green Line with Blue Extension	BASE	.57
BLUE	3 Blue Line Only	8 Green Line with Blue Extension	PEAK	.69



**APPENDIX D  
K FACTOR TABLE**

<b>SERVICE LINE</b>	<b>SCHEDULED MODE</b>	<b>MODE</b>	<b>PERIOD TYPE</b>	<b>K FACTOR</b>
BLUE	3 Blue Line Only	10 Blue Line Pinched Loop at South Garage	PEAK	.99
BLUE	3 Blue Line Only	11 Outbound (Right) Guideway Shuttle	BASE	.39
BLUE	3 Blue Line Only	11 Outbound (Right) Guideway Shuttle	OFFPEAK	.78
BLUE	3 Blue Line Only	11 Outbound (Right) Guideway Shuttle	PEAK	.56
BLUE	3 Blue Line Only	12 Inbound (Left) Guideway Shuttle	BASE	.34
BLUE	3 Blue Line Only	12 Inbound (Left) Guideway Shuttle	OFFPEAK	.68
BLUE	3 Blue Line Only	12 Inbound (Left) Guideway Shuttle	PEAK	.53
BLUE	4 Blue Line Using RCC Platform No. 3	3 Blue Line Only	PEAK	.73
BLUE	4 Blue Line Using RCC Platform No. 3	5 Extension Outbound (Right) Guideway Bypass	BASE	.4
BLUE	4 Blue Line Using RCC Platform No. 3	5 Extension Outbound (Right) Guideway Bypass	OFFPEAK	.8
BLUE	4 Blue Line Using RCC Platform No. 3	5 Extension Outbound (Right) Guideway Bypass	PEAK	.3
BLUE	4 Blue Line Using RCC Platform No. 3	6 Extension Inbound (Left) Guideway Short Bypass	PEAK	.73
BLUE	4 Blue Line Using RCC Platform No. 3	7 Extension Inbound (Left) Guideway Long Bypass	BASE	.4
BLUE	4 Blue Line Using RCC Platform No. 3	7 Extension Inbound (Left) Guideway Long Bypass	OFFPEAK	.8
BLUE	4 Blue Line Using RCC Platform No. 3	7 Extension Inbound (Left) Guideway Long Bypass	PEAK	.3
BLUE	4 Blue Line Using RCC Platform No. 3	8 Green Line with Blue Extension	BASE	.57
BLUE	4 Blue Line Using RCC Platform No. 3	8 Green Line with Blue Extension	PEAK	.42
BLUE	4 Blue Line Using RCC Platform No. 3	9 Blue Line Pinched Loop at North Garage	PEAK	.7
BLUE	4 Blue Line Using RCC Platform No. 3	10 Blue Line Pinched Loop at South Garage	PEAK	.72
BLUE	4 Blue Line Using RCC Platform No. 3	11 Outbound (Right) Guideway Shuttle	BASE	.39
BLUE	4 Blue Line Using RCC Platform No. 3	11 Outbound (Right) Guideway Shuttle	OFFPEAK	.78
BLUE	4 Blue Line Using RCC Platform No. 3	11 Outbound (Right) Guideway Shuttle	PEAK	.29
BLUE	4 Blue Line Using RCC Platform No. 3	12 Inbound (Left) Guideway Shuttle	BASE	.34
BLUE	4 Blue Line Using RCC Platform No. 3	12 Inbound (Left) Guideway Shuttle	OFFPEAK	.68
BLUE	4 Blue Line Using RCC Platform No. 3	12 Inbound (Left) Guideway Shuttle	PEAK	.26
BLUE	5 Extension Outbound (Right) Guideway Bypass	11 Outbound (Right) Guideway Shuttle	BASE	.99

**APPENDIX D  
K FACTOR TABLE**

<b>SERVICE LINE</b>	<b>SCHEDULED MODE</b>	<b>MODE</b>	<b>PERIOD TYPE</b>	<b>K FACTOR</b>
BLUE	5 Extension Outbound (Right)Guideway Bypass	11 Outbound (Right) Guideway Shuttle	OFFPEAK	.98
BLUE	5 Extension Outbound (Right)Guideway Bypass	11 Outbound (Right) Guideway Shuttle	PEAK	.99
BLUE	5 Extension Outbound (Right)Guideway Bypass	12 Inbound (Left) Guideway Shuttle	BASE	.94
BLUE	5 Extension Outbound (Right)Guideway Bypass	12 Inbound (Left) Guideway Shuttle	OFFPEAK	.88
BLUE	5 Extension Outbound (Right)Guideway Bypass	12 Inbound (Left) Guideway Shuttle	PEAK	.96
BLUE	6 Extension Inbound (Left)Guideway Short Bypass	5 Extension Outbound (Right) Guideway Bypass	BASE	.4
BLUE	6 Extension Inbound (Left)Guideway Short Bypass	5 Extension Outbound (Right) Guideway Bypass	OFFPEAK	.8
BLUE	6 Extension Inbound (Left)Guideway Short Bypass	5 Extension Outbound (Right) Guideway Bypass	PEAK	.57
BLUE	6 Extension Inbound (Left)Guideway Short Bypass	7 Extension Inbound (Left) Guideway Long Bypass	BASE	.4
BLUE	6 Extension Inbound (Left)Guideway Short Bypass	7 Extension Inbound (Left) Guideway Long Bypass	OFFPEAK	.8
BLUE	6 Extension Inbound (Left)Guideway Short Bypass	7 Extension Inbound (Left) Guideway Long Bypass	PEAK	.57
BLUE	6 Extension Inbound (Left)Guideway Short Bypass	8 Green Line with Blue Extension	BASE	.57
BLUE	6 Extension Inbound (Left)Guideway Short Bypass	8 Green Line with Blue Extension	PEAK	.69
BLUE	6 Extension Inbound (Left)Guideway Short Bypass	10 Blue Line Pinched Loop at South Garage	PEAK	.99
BLUE	6 Extension Inbound (Left)Guideway Short Bypass	11 Outbound (Right) Guideway Shuttle	BASE	.39
BLUE	6 Extension Inbound (Left) Guideway Short Bypass	11 Outbound (Right) Guideway Shuttle	OFFPEAK	.78

**APPENDIX D  
K FACTOR TABLE**

<b>SERVICE LINE</b>	<b>SCHEDULED MODE</b>	<b>MODE</b>	<b>PERIOD TYPE</b>	<b>K FACTOR</b>
BLUE	6 Extension Inbound (Left)Guideway Short Bypass	11 Outbound (Right) Guideway Shuttle	PEAK	.56
BLUE	6 Extension Inbound (Left)Guideway Short Bypass	12 Inbound (Left) Guideway Shuttle	BASE	.34
BLUE	6 Extension Inbound (Left)Guideway Short Bypass	12 Inbound (Left) Guideway Shuttle	OFFPEAK	.68
BLUE	6 Extension Inbound (Left)Guideway Short Bypass	12 Inbound (Left) Guideway Shuttle	PEAK	.53
BLUE	7 Extension Inbound (Left)Guideway Long Bypass	11 Outbound (Right) Guideway Shuttle	BASE	.99
BLUE	7 Extension Inbound (Left)Guideway Long Bypass	11 Outbound (Right) Guideway Shuttle	OFFPEAK	.98
BLUE	7 Extension Inbound (Left)Guideway Long Bypass	11 Outbound (Right) Guideway Shuttle	PEAK	.99
BLUE	7 Extension Inbound (Left)Guideway Long Bypass	12 Inbound (Left) Guideway Shuttle	BASE	.94
BLUE	7 Extension Inbound (Left)Guideway Long Bypass	12 Inbound (Left) Guideway Shuttle	OFFPEAK	.88
BLUE	7 Extension Inbound (Left)Guideway Long Bypass	12 Inbound (Left) Guideway Shuttle	PEAK	.96
BLUE	8 Green Line with Blue Extension	5 Extension Outbound (Right) Guideway Bypass	BASE	.83
BLUE	8 Green Line with Blue Extension	5 Extension Outbound (Right) Guideway Bypass	OFFPEAK	.8
BLUE	BLUE 8 Green Line with Blue Extension	5 Extension Outbound (Right) Guideway Bypass	PEAK	.88
BLUE	8 Green Line with Blue Extension	7 Extension Inbound (Left) Guideway Long Bypass	BASE	.83
BLUE	8 Green Line with Blue Extension	7 Extension Inbound (Left) Guideway Long Bypass	OFFPEAK	.8
BLUE	8 Green Line with Blue Extension	7 Extension Inbound (Left) Guideway Long Bypass	PEAK	.88
BLUE	8 Green Line with Blue Extension	11 Outbound (Right) Guideway Shuttle	BASE	.82
BLUE	8 Green Line with Blue Extension	11 Outbound (Right) Guideway Shuttle	OFFPEAK	.78
BLUE	8 Green Line with	11 Outbound (Right) Guideway Shuttle	PEAK	.87

**APPENDIX D  
K FACTOR TABLE**

<b>SERVICE LINE</b>	<b>SCHEDULED MODE</b>	<b>MODE</b>	<b>PERIOD TYPE</b>	<b>K FACTOR</b>
	Blue Extension			
BLUE	8 Green Line with Blue Extension	12 Inbound (Left) Guideway Shuttle	BASE	.77
BLUE	8 Green Line with Blue Extension	12 Inbound (Left) Guideway Shuttle	OFFPEAK	.68
BLUE	8 Green Line with Blue Extension	12 Inbound (Left) Guideway Shuttle	PEAK	.84
BLUE	9 Blue Line Pinched Loop at North Garage	5 Extension Outbound (Right) Guideway Bypass	BASE	.4
BLUE	9 Blue Line Pinched Loop at North Garage	5 Extension Outbound (Right) Guideway Bypass	OFFPEAK	.8
BLUE	9 Blue Line Pinched Loop at North Garage	5 Extension Outbound (Right) Guideway Bypass	PEAK	.58
BLUE	9 Blue Line Pinched Loop at North Garage	7 Extension Inbound (Left) Guideway Long Bypass	BASE	.4
BLUE	9 Blue Line Pinched Loop at North Garage	7 Extension Inbound (Left) Guideway Long Bypass	OFFPEAK	.8
BLUE	9 Blue Line Pinched Loop at North Garage	7 Extension Inbound (Left) Guideway Long Bypass	PEAK	.58
BLUE	9 Blue Line Pinched Loop at North Garage	8 Green Line with Blue Extension	BASE	.57
BLUE	9 Blue Line Pinched Loop at North Garage	8 Green Line with Blue Extension	PEAK	.7
BLUE	9 Blue Line Pinched Loop at North Garage	11 Outbound (Right) Guideway Shuttle	BASE	.39
BLUE	9 Blue Line Pinched Loop at North Garage	11 Outbound (Right) Guideway Shuttle	OFFPEAK	.78
BLUE	9 Blue Line Pinched Loop at North Garage	11 Outbound (Right) Guideway Shuttle	PEAK	.57
BLUE	9 Blue Line Pinched Loop at North Garage	12 Inbound (Left) Guideway Shuttle	BASE	.34
BLUE	9 Blue Line Pinched Loop at North Garage	12 Inbound (Left) Guideway Shuttle	OFFPEAK	.68
BLUE	9 Blue Line Pinched Loop at North Garage	12 Inbound (Left) Guideway Shuttle	PEAK	.54
RED	1 Normal Operation	3 Blue Line Only	PEAK	.67
RED	1 Normal Operation	8 Green Line with Blue Extension	PEAK	.75
RED	10 Blue Line Pinched Loop at South Garage	3 Blue Line Only	PEAK	.67
RED	10 Blue Line Pinched Loop at South Garage	8 Green Line with Blue Extension	PEAK	.75
RED	11 Outbound (Right) Guideway Shuttle	3 Blue Line Only	PEAK	.67
RED	11 Outbound (Right) Guideway Shuttle	8 Green Line with Blue Extension	PEAK	.75

**APPENDIX D  
K FACTOR TABLE**

<b>SERVICE LINE</b>	<b>SCHEDULED MODE</b>	<b>MODE</b>	<b>PERIOD TYPE</b>	<b>K FACTOR</b>
RED	12 Inbound (Left) Guideway Shuttle	3 Blue Line Only	PEAK	.67
RED	12 Inbound (Left) Guideway Shuttle	8 Green Line with Blue Extension	PEAK	.75
RED	13 Long Turnback	3 Blue Line Only	PEAK	.67
RED	13 Long Turnback	8 Green Line with Blue Extension	PEAK	.75
RED	2 Normal with Service Alternate	3 Blue Line Only	PEAK	.67
RED	2 Normal with Service Alternate	8 Green Line with Blue Extension	PEAK	.75
RED	4 Blue Line Using RCC Platform No. 3	3 Blue Line Only	PEAK	.67
RED	4 Blue Line Using RCC Platform No. 3	8 Green Line with Blue Extension	PEAK	.75
RED	5 Extension Outbound (Right) Guideway Bypass	3 Blue Line Only	PEAK	.67
RED	5 Extension Outbound (Right) Guideway Bypass	8 Green Line with Blue Extension	PEAK	.75
RED	6 Extension Inbound (Left) Guideway Short Bypass	3 Blue Line Only	PEAK	.67
RED	6 Extension Inbound (Left) Guideway Short Bypass	8 Green Line with Blue Extension	PEAK	.75
RED	7 Extension Inbound (Left) Guideway Long Bypass	3 Blue Line Only	PEAK	.67
RED	7 Extension Inbound (Left) Guideway Long Bypass	8 Green Line with Blue Extension	PEAK	.75
RED	8 Green Line with Blue Extension	3 Blue Line Only	PEAK	.92
RED	9 Blue Line Pinched Loop at North Garage	3 Blue Line Only	PEAK	.67
RED	9 Blue Line Pinched Loop at North Garage	8 Green Line with Blue Extension	PEAK	.75

## Appendix E - Tools and Equipment

Item	Qty	Part No.	Location
Laser printer	2		2ND FLOOR
Laser color printer	1		2ND FLOOR
IBM compatible PCs (servers)	2		2ND FLOOR
Spectrum analyzer w/noise marker	1		ALFREDO
Tic tracer	12		ALL TECHS
Frequency/Time domain reflectometer	1		AVMET V102
Traction Motor Support Cradle	1	5D79169G01	BAY 5 WALL
Dot matrix printers	2		CENTRAL
System simulator	1		CENTRAL
Soldering/desoldering stations	2		ELEC ROOM
Soldering iron	2		ELEC ROOM
Bench VAST	1		ELEC ROOM
Portable VAST	1		Supply room
Prom programmer	1		ENG OFF
Tool, Actuation, Flat Tire System	1	401P401H14	LEAD DESK
Battery soldering iron	2		LIB
End Play Measuring Tool	2	6D55567G01	Mech Room
Guidewheel Assembly Fixture	1	6D55460G01	Mech Room
Bearing Cup Driver (Upper)	1	1C44422G01	Mech Room
Bearing Cup Driver ( Lower)	1	1C44423H01	Mech Room
Grease Seal Driver	1	1C44424H01	Mech Room
Grease Seal Driver (Lower)	1	1C44425H01	Mech Room
Dust Shield Driver	1	1C44418G01	Mech Room
Coupling Hub Hydraulic Removal Assy	1	3D51371G01	Toolcrib
Plate 11.00 X 23.63 X .25 Thk Alum (H01)	3	1C43246H01	Mech Room
Planetary Hub Bearing Cup Puller	1	5D56121G01	I108
Planetary Hub/brake Drum Cradle	1	1C43244G01	BAY 5 WALL
Planetary Ring Gear Lifting Tool	1	1C43137G01	V104
Dust Seal Driver	1	1B39122H01	Mech Room
Brake Adjustment Tool	1	1C43136H01	Mech Room
Cable W/Custom Deutsch Connector	1	404P723H32	LEAD DESK
6 channel chart recorder	1		mechrm cab
8 channel chart recorder	1		mechrm cab
Power supply, 40 V - (BK Model 6020, 0-60v)	1		mechrm cab
Digital thermometer	1		MRA3,
Track mapper	0		NA
IBM compatible PCs (work stations)	21		OFFICES
Portable IBM compatible PC	2		SUPS
Analog multimeter, portable, Simpson 260-p	1		ENG OFF
Ty wrap tool	3		TOOL WALL
Frequency counter	1		U127
Function generator	1		U127
Signal generator, Lizard portable Transmitter	1		LIB
Power meter w/power head	1		U127
Sound level meter	1		U127
Bench model DMM	1		U132

## Appendix E - Tools and Equipment

Item	Qty	Part No.	Location
Hi-pot	1		U132
Power supply, 0-30 V, ELECTO IND. MODEL 3012A	1		U132
Fluke, 123 Scopemeter	1		V131
FLuke, 43B Power Analyser	1		V133
Megger, 1000 V, AVO Model 210600	1		V102
Commutator Resurfacing Tool Assy	1	2255F39G01	V103
Hub Seal Driver	1	1B39123H01	V103
Grease Cap Driver	1	1C44419H01	V104
Bearing Nut Removal Tool	1	3D51373G01	V104
Bearing Cup Driver	1	1B39120H01	V104
Bearing Cup Driver	1	1B39121G01	V104
Pinion Yoke Removal/Installation Tool Set	1	5D74845G01	V104
Socket 1.75 Hex Special	1	4077B16G02	V104
Special Socket 1)	1	4724A87H02	V104
Phase sequence indicator	1		V107
Clamp-on current meter (AC/DC) FLUKE 31	1		V107
Heat gun	2		V111
Hand-held DVM	8		V112, MRA3
Force gauge	1		V117, MRA1
Clamp-on current probe	1		V131
Power supply, 20 V, Tenma 72-6628	1		V132
Resistor decade box	1		V133
10' X 20' Flat Bed Trailer	0		NR
FLUKE 863, Graphic multimeter	1		V102
O-scope probe (provided w/ scope)	2		V102
O-scope probe (provided w/ scope)	1		V117
Capacitance decade box	1		LIB
Extender boards, propulsion	3	225P748G01	A129
Extender boards, ATO	2	409P248H90	
Extender boards, wayside	3	226P338G01	ELEC ROOM
Power Supply, B&K Precision model 1715 0-60v	1		mechrm cab
Notch Filter	1		NA
Fluke Thermal Imager, Model TI-30, s/n 89720099	1		LIB
Fluke Power Quality Analyser, Model 434, dm8910101	1		LIB
Special Coupler Tool Set	1		mechroomcab
Adhesive Back Sandpaper for Orbital Sander	1	2D709	BACK WALL
7" Grinder disc	10	3VP30	back wall
4 1/2" Grinder disc	20	3VX05	back wall
14" Cut-off blades	6	4A896	back wall
6' X 8' Welding Screen	1	3T970	Bay 1 bot
Drum dollies	3	3KR53	bay 5
25' Extension Cord	4	2W566	bay floor
High Pressure Steam Cleaner	1	5GH72	BOT FLOOR
Micrometer Set 0-6"	1	5C675	Library
Wheel Chaulks	2	4W941	Load dock
5" Bench vise	2	1ATH0	mech room
14" Cut-off saw, Milwaukee	1	2AC06	MECH ROOM

## Appendix E - Tools and Equipment

Item	Qty	Part No.	Location
Rechargeable Latern	3	2V837	MECH ROOM
Rechargeable Flashlight	3	2V888	mech room
8" Bench Grinder	1	4Z909	Mech room
8" Bench vise	2	5C804	Mech room
9-Speed 20" Floor drill press	1	6W281	Mech room
15" Floor Standing Band Saw	1	6Y002	Mech room
Wheel bearing packer	1	6Y907	Mech room
Heavy duty industrial workbench	6	7W087	MECH ROOM
12 ton Hydraulic press and H frame	1	7Z820	MECH ROOM
Shop Stools	6	2W175	mech room flr
12" Dial Caliper	1	5C665	MRA1
5/16" - 6" Internal Micrometer	1	5C717	MRA1
6" Dial Caliper	1	5C667	MRA1,U122
6" Digital Caliper	2	5C672	MRA1,U122
Degreaser transfer pump	1	2P683	sh floor
9" long Hex 3/8" drive ratchet	1	1AF34	shift toolbox
Metal Tool Bax	2	2W019	Shop floor
Oil Waste Can	1	2W560	Shop floor
Hydraulic Lift Table	2	3KR47	Shop floor
3 Ton Gantry	1	3KR62	Shop floor
Crane Trolley	1	3TP86	shop floor
Platform Truck	2	3W077	shop floor
8' Stepladder	2	3W142	shop floor
3" Fiberglass Step Stool	6	3W332	shop floor
12'Stepladder	1	3W422	shop floor
Grease pail doily	1	4F987	shop floor
Drum Containment Platform Ramp	1	4RF65	shop floor
Drum Containment Platform	2	4YF76	shop floor
Heavy Dity Rool Around Tool Box	2	6A575	shop floor
Oil dispenser, air operated	1	6Y820	shop floor
Grease Gun Handle Style	2	6Y826	shop floor
Grease Gun Pistol Style	2	6Y829	shop floor
12" Felxible Hose	6	6Y835	shop floor
Oil dispenser, Hand operated	1	6Y881	shop floor
Air operated grease gun	2	6Y885	shop floor
Oil drain pan	1	6Y902	shop floor
Oil drain pan	1	6Y903	shop floor
Drain pan funnel	1	6Y910	shop floor
50' Water Hose	3	1P649	SHOP FLR
9" long Hex 1/2" drive ratchet	1	3R747	shop tool box
Bins for storage cabinets	32	2W779	storeroom
Bins for storage cabinets	96	2W780	storeroom
2 3/4 Ton Pallet Jack	1	3KR84	storeroom
Plate Dolley	2	3W218	storeroom
10001b Floor Scale	1	3W494	storeroom
Fire safety cabinet, safety yellow	2	4T196	storeroom
Sliding drawer units	2	5W885	storeroom



## Appendix E - Tools and Equipment

Item	Qty	Part No.	Location
1 3/4" Cup Brush	5	3A203	supply shelf
1/2" Spiral Wire Brush	2	4F727	Supply shelf
1" Spiral Wire Brush	2	4F731	supply shelf
Maintenance Free Respirators	2	4JG05	Supply shelf
Band saw blades	6	4L226	Supply shelf
Band Saw Blades	6	4L236	Supply shelf
Disposable Ear Plugs	1	4T147	Supply shelf
Dust / Mist Respirator	2	4T823	Supply shelf
8" Bench grinding wheels	4	6A091	Supply shelf
Funnel	4	6Y806	Supply shelf
Utility Knife	6	5R685	tool bxs
Tot Bag for Tools	6	4A670	Toolcrib
12" Hacksaw	2	4K799	Toolcrib wall
Carpenter Square	1	5W189	Toolcrib wall
50foot Extension Cord	2	5W576	Toolcrib wall
100' Extension Cord	2	5W577	Toolcrib wall
48" Straight Edge	2	6C233	Toolcrib wall
Combination Square 12"	2	6X996	Toolcrib wall
24" Straight Edge	2	2H406	Toolcrib wall 1
Freon Recovery System	1	1Z861	TOP SHELF
A/C Pressure Vacum Gauge Set	1	3T078	U115
Freon Leak Detector	1	3T449	U115
Hole Saw Kit	1	4L638	U118
Pneumatic Rivet Gun	1	4Z913	U118
Manual Rivet Gun Kit	2	6A644	U118
Chain Hoist 3 Ton	1	3KR22	U119
4 ton Hydraulic ram system	1	3ZC68	U119
Chain Hoist	1	4Z312	U119
3/8" 18V battery powered drill with keyless chuck, Milwaukee	2	4PD94	U121
Circular saw, 7 1/2" blade, Milwaukee	1	4Z372	U121
Circular saw blades	2	5G890	U121
Depth Gauge 0"-6"	1	5C723	U122
1/2" Electric impact wrench, Dewalt DW291	1	4JB74	U123
1/2" Hammer drill, Milwaukee	1	6Z040	U123
8' Nylon Sling	4	1A598	U124
Shackle	6	2G796	U124
Chain Hooks	12	3X692	U124
3/8" Chain (Bucket)	1	3Z940	U124
Chain Slings	2	4X461	U124
Portable band saw stand	1	1Y335	U126
Portable variable speed band saw, Deep cut, Milwaukee	1	6Z345	U126
1/4" Die Grinder Milwauke	1	1Y068	U128
1/2" Electric drill with keyless chuck, Milwaukee	2	4A937	U128
6 ft. Nylon sling	2	1A597	U129
10'Nylon Sling	2	6A259	U129
Electric angle grinder 4 1/2", Milwaukee	1	4A942	U133
Electric 2" die grinder, Milwaukee	1	4Z818	U133

## Appendix E - Tools and Equipment

Item	Qty	Part No.	Location
Welding Helmet	1	1N782	V105
Welding Vest	2	2AG83	V105
Welding Gloves	2	4JF98	V105
Deluxe Drum Wrench	1	6A240	V108
Cable Cutter 24" Long	1	2G996	V113
8" Bench grinder stand	1	4Z154	V114
9" Suction Cups	4	6A987	V115
Air operated blow gun, regulated to 30psi	4	5X786	V116
6" Cross vise	1	6Z848	V119
Oil transfer pumps	2	1P893	V120,sh floor
Hand Stamps, Letter & Numbers	1	1F113	V121
Stencil set	1	6A231	V121
HVLP Spray Gun	1	4TH37	V125
Motor for Band Saw	1	6K639	V125
Drill Bit Set 8 Piece (9/16" -1")	1	1A050	V126
Drill Bit Set 118 Piece (1/16" -1/2")	2	1A522	V126
3/4" Dewalt Impact Gun	1	3MJ17	V128
Orbital Sander Milwaukee	1	3W786	V128
Electric angle grinder 7°, sander Milwaukee	1	4Z819	V128
3/8" Electric right angle drill, Milwaukee	1	6Z037	V128
Battery charger	1	2Z556	V131
Portable Lite Stands	3	83998	back wall
18 Piece Hex Key T Handle Set	1	46288	box 4 floor
13 Piece Ball Hex Key Set	2	46754	bx 4 floor
110V Mig Welder	1	20418	I103
16 Gallon Shop Vacuum	1	17703	mech room
Ignition Wrench Sets	2	43109	mech room an
3 Piece Channel Lock Set	2	45439	mra2,mrd1, 2nd
3lb Sledge Hammer	2	38311	mra4
16oz Rubber Mallet	2	45787	mra4,mrd3
16oz Claw Hammer	2	38127	mra4,tocribwa
5 Piece Pry Bar Set	2	43067	mra4,tocribwa
10" Pipe Wrench	1	30841	MRB2
Ratchet Wrench Sets (1/4"-7/8")	2	42160	mrb2
5 Piece Adjustable Wrench Set	1	44036	mrb2,mrd1,2nd
7 Piece PlierSet	2	45225	mrc2
13 Piece Vise Grip Set	1	45634	U109
3 Piece Extra Large Adjustable Wrench Set	1	44916	mrd3, tc wall
3/8" X25' Air Hose	3	16203	shop floor
3/8" X 50'Air Hose	6	16204	shop floor
3/8" X 50' Hose Reels	6	18644	shop floor
Halogen Drop Lights	6	83895	shop floor
Flourescent Drop Lights on Reels	12	83912	shop floor
15" Hand Saw	1	36071	tool crib
18" Pipe Wrench	1	30843	tool crib wall
14 Piece Clamp Set	1	31470	tool crib wall
Oxy / Accet Cutting Torch	1	20170	tool crib,

## Appendix E - Tools and Equipment

Item	Qty	Part No.	Location
Hand Held Vacuum 3 Gallon	2	17768	tool crib, shop
Poprtable Air Compressor	1	16735	tool shed
25 Piece File Set	2	31233	U103, various
20 Piece Screwdriver Sets	2	47452	u105, bx 4
Stubby Wrench Set	2	44138	u106, mrb1
Extra Large Wrench Set (1 1/16"-11/2")	2	45965	u106,mrb1
Ratcheting (5/6"-1/2") Tap Holder	1	4064	U108
Ratcheting (0"-1/4") Tap Holder	1	4065	U108
58 Piece Tap and Die Set	1	52311	u108
8 Piece File Set w/HandJes	2	31326	bx 4 floor
259 Piece Standard Mechanic Tool Set	4	33758	shop floor
5 Piece Hammer Set	2	38074	toolcrib wall
Offset Ratchet Wrench Sets	2	43375	mrb2
9 Piece PlierSet	2	45311	2nd shift 2a
10 Piece Vise Grip Set	1	45635	MRD2
3 Piece Folding Hex Key Set	2	46287	bx 4 floor
Offset Ratcheting Driver Set	1	YA487	BX 4 FLR
Mag Base Dial Indicator	1	GA3645	GUIDE CAB
Tire Infaltor w/Gauge	4	YA258	Mech floor
3/8" 6 pt. Impact Standard Socket Set	1	212IMFY	mechroom wa
3/8" 6 pt. Impact Deep Socket Set	1	212SIMFY	mechroom wa
1/2" 6pt Impact Standard Socket Set	1	320IMY	mechroom wa
1/2" 6 pt Impact Deep Socket Set	1	320SIMY	mechroom wa
3/4" 6 pt Drive deep well impact socket set	2	420SIMY	mechroom wa
3/4" 6 pt Shallow Thin Wall Socket Set	2	422IMFSY	mechroom wa
3/4" 6 pt. Drive impact socket set	2	427IMY	mechroom wa
3/8" Drive Torque Wrench 40-200inch lb	1	QC2R200	MRA3
1/2" Drive Crows Foot Set	1	314SCO	MRB2
1/2" Spline Socket Torque Adapter	1	SRES306	MRB2
Spline Wrench Set (7/32"-1")	1	XDES608A	MRB2
Valve Stem Core Removcal Tool	2	TR1170	MRC2
3" Cut Off Saw	1	AT155	MRC3
1/4" Drive Impact ratchet	2	AT200D	MRC3
1/2" Drive impact gun	2	AT500E	MRC3
3/8" Drive impact ratchet	2	AT700E	MRC3
3/8" Right Angle Air Drill	1	AT810	MRC3
3/8" Drive impact gun	2	IM31	MRC3
3/8" Air Drill	1	PDR3A	MRC3
Screw Starter Flat Tip	2	SSM5A	MY CAB
Torque Multiplier	1	GA184A	PIN TOOL BX
General Purpose Puller Set	1	CJ2000SB	STORE WALL
3/4" 12 pt Standard Socket Set	2	414AHD	U100
Ratcheting Bit Set	1	CRA180PV	U101
6" Divider	1	PMF129	U102
1/4" Drive Torque Wrench 40-200inch lb	1	QC1R200	U102
Punch and Chiesel Holder	2	PPC5A	U102, MRA3
1/4" Drive Torque Wrench 10-50inch lb	2	QC1R50	U102,U107

## Appendix E - Tools and Equipment

Item	Qty	Part No.	Location
6 Piece Long Roll Pin Set	2	PPCL60AK	U103
12 Piece Rool Pin Set	2	PPR712K	U103
Retaining Ring Plier Set	1	PRQ625	U108
Hole Punch Set	1	PGH8A	U108
3/8" Drive Torque Wrench 20-1 OOfT lb	2	QC2R100	U108,MRA3
1/2" Drive Torque Wrench 50-250ft lb	2	QC3R250	U117
3/4" Drive Torque Wrench 120-600ft lb	2	QC4R600A	U117,MRA3
Rivet insert kit, Threadsetter Set	1	HP650	U118
Cotter Pin Pullers	4	CP3B	V103
Safety Wire Pliers	2	WTRW6	V106
Safety Wire PLiers	2	WTRW9	V106
Thermometer	4	ACT83	V116
Bent Feeler Gauge Set	2	FB300A	V116,BX4FLR
Pneumatic Orbital Sander	1	PSF100	V118
Air Nibbler	1	AT180	V118
3/4" Drive impact gun	2	AT770	V123,MRC3
Carbon Scrapper Set	2	CSA300	
Feeler Gauge Set	2	FBL325A	BX 4 FLR
Stick Style Tire Pressure Gauges	2	GA246	V113
Screw Starter Phillips Tip	2	GA260A	BX 4 FLR
Tread Depth Gauge	2	GA599	
3/4" Drive Breaker Bar	1	L872RM	
Scrapper Set	2	PK500	
1/8"-1/2" Reamer	2	R120	PEG DRAW
1/2"-1" Reamer	2	R121	PEG DRAW
Refrigeration Wrench	2	R404	
1/2" Drive Long Handle Ratchet	2	SL832	MRA3
QC2FR75 TORQUE WRENCHES Qty 3	1		2 on U112, 1 MRA3
Sandyjet Abrasive Sand Blaster	1		3RD FLOOR
Genie Lift Truck, QTY 2	1		3RD FLOOR Bay 2
Alcatel Vacuum Pump qty2	1		back wall
12 FT extension Ladders Qty 2	1		Bay 2 bot level
Louisville Ladder /ramp	1		Bay 2 bot level
6' Fiberglass Ladder, 6JJ82	1		Bay 2 bot level
28 ' Ladder 3W140, Qty 2	1		Bay 2 bot level
MRV Fuel Tank	1		Bay 5
12' Cotterman Ladder	1		bay 5
4 ' Cotterman Ladder	1		bay 5
Microair Vacuum System	1		bay 5
Tractmax hepa Vacuum	1		bay 5
Wesco Lift Dolly, DPL-54-2222	1		Bay 5
Rolling Bin Carts	1		Bay 5
Lincoln electronic meter assy, quarts, 6WB36	1		Bay 5
Ridgid KJ-99 Jack Stands qty 2	1		bay 5
3/4 ton Wheel Dolly ATD-7227	1		Bottom Floor
Wire Spool Spindle Rack	1		bottom floor
Pipe Rack	1		bottom Floor

## Appendix E - Tools and Equipment

Item	Qty	Part No.	Location
Yellow containment Drums 55 gallon	1		bottom Floor
Black 4 way special pallets 100ea	1		bottom floor
Yellow Battery Containment pallet	1		bottom floor
Orange Pallet Grabber	1		Bottom Floor
Carpet Loader Attachment for Forklift	1		Bottom Floor
Lift Table 2500 # capacity, qty 3 1700 ea	1		bottom floor
Yellow lift table, needs cord replacement	1		bottom floor
8 FT Loading Ramp walkway	1		bottom floor
Speed Scrub 2601 Power Floor Cleaner	1		bottom floor
Saber WINDSOR Floor Cleaner	1		bottom floor
Large Capacity Plastic Liquid storage Tank	1		bottom floor
Yellow Lift cage for Forklift	1		bottom floor
Ridgid Tristand 1/8 to 6 n460	1		Bottom Floor 2nd Isle
Yamaha 4D4600 Gas Generator	1		Bottom floor 2nd Isle Back
36" floor Fans Qty 3 used fair 400 ea	1		Bottom floor 2nd isle back
Uline Hand Stretch wrapper Model h-88 Qty3	1		Bottom Floor 1st Isle Back
Programmable Logic Controller, plc guide switch	1		elecroom
Ridgid Battery operated Sawsall	1		elecroom
Portable Scunsi Steam machine	1		elecroom
SPECTOLINE EPROM Eraser	1		LIB
Streppel Glasfaser 110 vac	1		LIB
Dewalt Cordless rt angle drill kit, DW960	1		LIB
Ridgid cordless rt angle drill, R82233	1		LIB
Amp Crimper, 59824-1	1		LIB
AF8 VEAM CRIMPER	1		LIB
Pyle National crimping tool kit	1		LIB
Litton Veam Connector assy kit dmc2 qty 2	1		LIB
RYCOM 3111A Selective Voltmeter, QTY 2	1		LIB,T129
Tektronix P5200 HIGH VOLTAGE Probe	1		LIB
Mitoyo Caliper 505-705	1		LIB
MITOYO CALIPER 2904F	1		LIB
Dial Indicator, chicago dial	1		LIB
AMP Crimper f0026	1		LIB
AWS PSI- 8031 Indicator	1		LIB
Burndy HYTOOL M8ND Crimper	1		LIB
Fluke Current Transformer 801600a	1		LIB
Textronics probe, P6113B	1		LIB
FLUKE 850/1300 FIBER OPTIC SOURCE	1		LIB
Fluke 52 Thermometer	1		LIB
FLUKE 85 MULTIMETER(replaced with 87)	1		LIB
FLUKE 23 MULTIMETERS QTY 3(replaced with 177)	1		LIB
Sencore Capacitor inductor Analyzer lc76	1		LIB
Simpson Sound Meter System 886-2, type 2	1		LIB
NOYES MLP MULTIMODE LIGHT PACK	1		LIB
Anritzu Spectrum Analyzer mp 1550a	1		LIB
General Radio capacitor decade Box	1		LIB

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Item	Qty	Part No.	Location
Yokogawa 2786 Decade Resistance Box	1		LIB
Proto Torque Wrench, 6006a 10-80 ft	1		LIB
proto Torque Wrench, 6003 PB 10-100 ft	1		LIB
Snap-on flex head torque Wrench TQFR250	1		LIB
MONARCH RPM GUN	1		LIB
SNAP-ON TORQUE QC1R50	1		LIB
SNAP-ON TORQUE QT1R50 QTY 2	1		LIB
SNAP-ON TORQUE WRENCH, QD1R50	1		LIB
SNAP-ON TORQUE WRENCH, QC1200	1		LIB
PROTO TORQUE WRENCH 6062A	1		LIB
GRAPHTEC Thermal array Chart Recorder, WR 8000	1		LIB
Snap-on QC5R1000 Torque Wrench	1		LIB
Electro Physik Thickness Gauge, Minitest 600	1		LIB
Tire Cage	1		Loading Dock
Skidmore Wilham Calibration Tool	1		Mechroom
Kar Products Hardware storage Cabinets	1		mechroom
Bird, Digital Power Meter, model 5000ex	1		MECHROOM CAB
Battery tester 6/12/ volt	1		MECHROOM CAB
Guidewheel Assy Fixture, 6D55460G01	1		MECHROOM FLOOR
QC3R250 TORQUE WRENCH	1		MRA3
Long QCR250 TORQUE WRENCH	1		MRA3
QCR600A Torque Wrench	1		MRA3
pneumatic Calking Gun	1		MRC4
Dayton Wet/dry Vacuum model # 1D456D	1		PDS Room
black Rolling Cart, 3 shelf Bretford	1		PDS Room
10 ft Ladder fiberglass Model # FS1510	1		PDS Room
8 FT fiberglass ladder	1		Pds Room
Green flat Hand Cart 2 x 4, qty 2	1		PDS Room, by spools
System Drawings, 1 Pallet,	1		SF1307
Extra Metal shelving units, 1 Pallet	1		SF1415
AQUAWORKS Parts Cleaning Machines	1		shop floor
2 shop fans 24"	1		shop floor
10' Ladder M7110-1 type 1A	1		STOREROOM
Uline Banding Cart and tools	1		Storeroom
Forklift Extensions, 8 FT, 6XX16	1		Storeroom back wall
Fire Safety Cabinets Qty 4	1		storeroom, Janitorial, BAY 5
Air Operated Calking gun 3M BP 480-85 MIX PAC	1		Storreroom back shelf
Spectroline DC-3300A Eprom/waiver Eraser	1		T126
Tektronix 314 storage Oscilloscope	1		T126
Astromed MT9500 Chart Recorder	1		T128
HP 6274B DC Power Supply	1		T128
Lambda LRA-17 Rack Power Supply	1		T128
Milwaukee Mag Drill,	1		Tool crib cage floor
Craftsman 150 psi 3 hp 4 gal air compressor	1		Tool crib cage floor
Portatorch, Lincoln	1		toolcrib floor
Dayton Battery Charge 40/2 amp	1		toolcrib floor

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Item	Qty	Part No.	Location
battery powered grease gun, Lincoln	1		toolcrib floor
48 " Straight Edge Qty 2	1		toolcrib wall
MEASURING DISTANCE WHEEL, Lufkin	1		top shelf toolcrib
BEX bluepoint BEX13 Bolt Extractor Set	1		U113
LCD Vacuum Gauges model 69070, qty 2	1		U115
Freon Leak Detector	1		U115
Hydraulic Rivet Gun	1		U118
Hole saw Kit, Westward 4wx60	1		U118
Electric Winch3VJ64	1		U119
4 TON HYDRAULIC RAM SET	1		U119
Chain Hoist 3 ton	1		U119
Vari speed Jigsaw	1		U120
6" DIAL Calipers, nsk	1		U122
Starett Micrometer model 230p, QTY 2	1		U122,,MRA1
Hilti Hammer DrillsTE6A, QTY 2	1		U125
HILti Hammer DrillsTE15, QTY1	1		U125
Portable Variable band saw Milwaukee	1		U126
1/4" Die Grinder Milwaukee	1		U128
Greenlee Hydraulic Knockout Set 7506, 1/2 - 2"	1		U130
Hilti Hammer Drill TE 55	1		U130
David White auto level	1		U131
Tripod, David White mod 9045	1		U131
Measuring stick, David White	1		U131
PLS-5 Lazar Level	1		U131
Audio Visual VOLTAGE Detector, Salisbury	1		U132
Mag Drill, Hougén rotor broach	1		U133
ULTRA -LOK self Ratcheting Lifeline & Harness, QTY 3	1		U134
Tie Downs 3kn70, qty 6	1		U134
Cross Needle SWR and power meter cn-103l	1		V101
Diode removal tool, 577B060H33	1		V103
Radius Rod end removal tools qty 2	1		V103
Submersible pump 5RV54	1		V119
Extech Lazer photo/contact Tachometer	1		V122
Transfer pump, 6Y881	1		V125
Dewalt Grinder 4 1/2 "	1		V128
Special Seismic tool Measuring Kits, qty 2	1		V129
Complete Mechanics tool Sets with tool box QTY 46	1		shop floor
Toyota Sitdown Forklift, Propane op.	1		1st Floor
Fluke 179 multimeter	1		JROW
OUTDOOR STORAGE SHED	1		BY CARWASH
OIL HEATER	1		CONFERENCE ROOM
Honda E2000 Portable Generator	1		shed
Carpet Loader Attachment for Forklift	1		bottom floor
Station Platform Doors, Qty 3	1		bottom floor
EMERGENCY Platform Door, Qty 1	1		bottom floor
Interior vehicle side panels, qty 4	1		bottom floor
Vehicle gutter panels, qty 3	1		bottom floor

## Appendix E - Tools and Equipment

Item	Qty	Part No.	Location
vehicle doors, qty 5	1		bottom floor
vehicle wheel covers, qty 3	1		bottom floor
vehicle door lever arms, qty 3	1		bottom floor
ALL Thread rods, 1 pallet	1		bottom floor
Aluminum Scarf plates, qty about 10	1		bottom floor
temporary trip stops , qty 2	1		bottom floor
6 boxes of u strut channel, beeline BFP22-120	1		bottom floor
5 CABLE TRAYS	1		bottom floor
UTICA, ts-100 Torque limit Screwdriver, mc 8554a25	1		victor
MCARR Digital torque wrench,CD2250A 5274a11	1		VICTOR
mcarr Digital torque wrench,CD280fr 5274a12	1		victor
mcarr proto Hex Bit Ball Set 7 pc	1		Victor
AMP PRO CRIMPER, 90869-1 QTY 2	1		VICTOR
AMP EXTRACTION TOOLS, 318831-1 QTY 2	1		VICTOR
Daniels SAFE T Cable tool, SCT323	1		ERIC
UNION SWITCH RELAY TEST STAND, PN150,PN250	1		ALFREDO
UNION SWITCH RELAY TEST STAND, GRS B1	1		ALFREDO
Xantrex Power Supply, model # XDL56-4P	1		JEFF
RAD Torque Machine, model RAD 550SL	1		shop floor
Micro-Ohmmeter, model# LOM-510A	1		JEFF
Vericom Brake rate Tester	1		Eric
Tyco Electronics Die Crimp# 2 for large Crimper	1		shop floor



**Appendix E - Spare Parts**

Item	Description	Storeroom	Current Balance	Default Bin
01D9867H01	SPACER	SF60	2	F1D
0899363G01	CONTACT ASSEMBLY	SF60	58	F1A
09D1466H02	BOLT	SF60	14	C107
1018J06G03	REVERSER, TYPE XR-148	SF60	2	B119
1074F75G07	AIR COMP	SF60	1	SF1309
1074F75H44	MOTOR	SF60	4	I104
1074F75H46	STL PIPE 8.00) OF .493 ID .675 OD	SF60	1	B3C
1074F75H74	SHEVE-BUSHING	SF60	2	D128
1074F75H75	FLYWHEEL ASSEMBLY	SF60	3	B129
1074F75H76	KEY (HVAC)	SF60	5	E128
1075F75H74	SHEAVE-BUSHING	SF60	2	D128
1120F19G01	PIVOT BEARING POST	SF60	1	H103
1120F34G02	LINK SUPPORT POST ASSEMBLY	SF60	2	H103
1120F34H01	WASHER 4.38 X 4.38) .375 .375 STL	SF60	1	H106
1120F34H02	LINK 13.25) 1.50 HEX STL BAR	SF60	2	H103
1120F58G05	DOOR STOP ASSEMBLY	SF60	11	D113
1120F58G06	DOOR STOP ASSEMBLY	SF60	11	D113
1214J17H49	KEY, L1315	SF60	1	B102
1252A46H04	RESISTOR 392 OHMS .250W 1% NA60	SF60	1	C127
1252A46H15	RESISTOR 511 OHMS .250W 1% NA60	SF60	2	C127
1252A55H29	RESISTOR 301K OHMS .250W 1% NA60	SF60	1	B2D
1252A80H21	RESISTOR 1.62K OHMS .750W 1% NA70	SF60	98	E118
1253A04H01	RESISTOR 1 OHM 50W 1%	SF60	3	B3B
1253A35H06	FUSE, RADIAL PICO 1.0 AMP .1	SF60	1	C126
1253A44H05	TRANSISTOR 2N3715	SF60	3	E103
1253A44H15	TRANSISTOR 2N6306	SF60	1	B3B
1253A50H03	DIODE MR831	SF60	2	B2D
1502F63G05	GUIDE WHEEL ASSEMBLY	SF60	1	SF1305
1502F80G05	ANTENNA ASSEMBLY	SF60	6	E126
1502F80G06	ANTENNA ASSEMBLY	SF60	2	E126
1502F97G10	WHEEL ASSEMBLY	SF60	1	SF3FLR
1503F22H08	DOOR DETAIL .094 THK SST	SF60	3	B115
177A365H01	STD SPECIAL BOLT .688) .438 HEX STL BAR	SF60	6	F1D
177A371H01	STANDARD CONNECTOR STRAP	SF60	271	B1D
177C524G33	FAST TRIP HEATER ASSY	SF60	9	E103
18D9633H01	LS/BS CONTACT .62 LG COPPER EXTRUSION	SF60	211	F1C
1911F98G02	FILTER RETAINER	SF60	1	D105
1911F98H01	FILTER RTNR 66.00 X 1.38) .063 THK	SF60	1	D105
1912F04G05	SHIM PACK	SF60	5	B105
1912F75H33	TUBING 150.00) OF .402 ID X .500 OD	SF60	21	SF1400

**Appendix E - Spare Parts**

<b>Item</b>	<b>Description</b>	<b>Storeroom</b>	<b>Current Balance</b>	<b>Default Bin</b>
1913F14G02	MODIFIED MOUNTING BRACKET	SF60	1	F103
1913F14G03	MODIFIED MOUNTING BRACKET	SF60	27	F106
1913F14G05	MODIFIED MOUNTING BRACKET	SF60	19	F106
1913F14H01	MTG BRACKET 1) SIGNAL RAIL	SF60	11	F118
1913F14H03	ROD 2.00) OF 1.000 DIA SST	SF60	8	I121
1913F14H05	SHIM	SF60	12	C122
1913F14H06	MTG BRACKET 1) LOCK PIN	SF60	2	F118
1913F14H12	SHIM .06 THK	SF60	112	F1B
1999E56G01	FLEXIBLOK ATC CRADLE	SF60	1	T117
1999E63G02	DRAFTGEAR	SF60	1	SF1401
1999E63H01	ELECTRICAL COUPLER HEAD ASSEMBLY	SF60	1	H114
1999E63H02	MECHANICAL COUPLER HEAD ASSEMBLY	SF60	1	SF1401
1999E63H03	CLAMP ASSEMBLY	SF60	2	G1F
1999E67G01	RELAY LOGIC CRADLE	SF60	2	T115
1A96918G01	STD. UMC CONTRACTOR SHUNT AT ASSEMBLY	SF60	11	B2F
1A96920G01	STD. UMC CONTACTOR INTERLOCK FINGER	SF60	133	B1D
1A96924H01	STD FIBRE BUSHING, L AND B SWITCH CONTACTOR	SF60	22	F1C
1A96932H01	STD. CARRIAGE BOLT .375-16 X 2.00	SF60	5	F1C
1A96932H02	STD. CARRIAGE BOLT .375-16 X 6.75	SF60	3	B2C
1A96975H01	STD. CRIMP WASHER .562 X .32)	SF60	223	B1D
1A96977H01	STD. SPACER 4.75) .39 ID X .50 OD	SF60	3	C112
1A97347G01	cabinet power supply wire harness	SF60	1	T123
1A97462792	FUSE 5A	SF60	12	G1B
1A97462793	THERMAL PAD SCR	SF60	1	G106
1A97462794	THERMAL PAD SCR	SF60	1	G1B
1A97462799	FUSE 100 AMP	SF60	2	G1B
1A97462801	FUSE 600V	SF60	8	G1B
1A97462802	CAP MET FOIL	SF60	1	G106
1A97462804	SCR MODULE	SF60	2	G1B
1A97599H04	STATIC RAM CARD 24MB	SF60	1	A111
1A97601H01	SECOND SERIAL PORT CABLE AND KIT	SF60	1	A101
1B37249H01	SUPPORT (POWER FEED ASSY)	SF60	31	F104
1B37424H09	DIODE ASSEMBLY 25A 200 PRV DA-180	SF60	1	C111
1B38387H04	: CLOSE MONITOR SWITCH MOUNTING BRACKET	SF60	11	G107
1B38616H06	CAPL TAG .020 THK	SF60	35	t100
1B38648H03	STD LAMINATED COVER 1.87 X 1.25	SF60	243	H1B
1B38681G03	DIODE ASSEMBLY	SF60	3	B3A
1B38681G04	DIODE ASSEMBLY	SF60	6	B2D
1B38766G02	AUDIO MATCHING TRANSFORMER (24 WATT)	SF60	2	C128
1B38895H01	SPEED SENSOR	SF60	11	C106

**Appendix E - Spare Parts**

<b>Item</b>	<b>Description</b>	<b>Storeroom</b>	<b>Current Balance</b>	<b>Default Bin</b>
1B38940H02	DOOR CONTACT MOUNTING ANGLE	SF60	34	G1A
1B38940H03	DOOR CONTACT	SF60	2	G1B
1B38971G01	28 PIN PROGRAMMED EPROM ASSEMBLY	SF60	11	A123
1B38971G02	28 PIN PROGRAMMED EPROM ASSEMBLY	SF60	11	A123
1B38995G01	SHOE ASSEMBLY (COPPER)	SF60	612	H109
1B38997G01	SHOE HOLDER ATO SUB-ASSEMBLY	SF60	1	H101
1B39122H01	DUST SEAL DRIVER	SF60	1	D125
1B39166G01	2 SLOT VME J2 BACKPLANE ASSEMBLY	SF60	1	D112
1B39300H01	LABEL VEH ATP CPU BOARD G01	SF60	14	H101
1B39300H03	LABEL VEH ATP CPU BOARD GO2	SF60	6	H101
1B39313H01	ROD .313 DIA AL	SF60	1	B3B
1B39315H01	GUIDE NYLON-GP TYPE 6/6	SF60	8	B3B
1B39415G01	MOUNTNG BLOCKS	SF60	5	C107
1B39673H01	SENTRONIC VALVE (PAV)	SF60	3	B1F
1B39824G02	RESISTOR ASSEMBLY	SF60	3	C122
1B39825G02	CAPACITOR ASSEMBLY	SF60	2	F1C
1B39832G01	LINE FILTER CABLE ASSEMBLY	SF60	1	E112
1B39835G01	DC POWER CABLE ASSEMBLY	SF60	1	E112
1B39836G01	ATO SHOE HOLDER SUPPORT ASSEMBLY	SF60	13	H101
1B39837G01	POWER SHOE HOLDER SUPPORT ASSEMBLY	SF60	1	C101
1B40132H02	KEEP HANDS AND BAGGAGE CLEAR DECAL	SF60	4	B3D
1B40158H01	POWER RAIL ELONGATED COVER 12"	SF60	224	G122
1B40160H01	POWER RAIL ELONGATED COVER 6"	SF60	141	G127
1B40161H01	GROUND RAIL ELONGATED COVER 6"	SF60	223	G126
1B40194G03	RESISTOR ASSEMBLY	SF60	2	C122
1B40194G04	RESISTOR ASSEMBLY	SF60	2	F1C
1B40194G05	RESISTOR ASSEMBLY	SF60	3	F1C
1B40194G06	DIODE ASSEMBLY	SF60	2	D121
1B40194G07	VOLTAGE REGULATOR ASSEMBLY	SF60	2	B2D
1B40194G10	RESISTOR ASSEMBLY	SF60	2	C128
1B40194G11	RESISTOR ASSEMBLY	SF60	2	C122
1B40194G13	DIODE ASSEMBLY	SF60	4	F1C
1B40194G18	RESISTOR ASSEMBLY	SF60	14	B1F
1B40418G01	PROHIBIT ZONE KEY SWITCH ASSEMBLY	SF60	3	F1A
1B40555H02	WINDSHIELD WASHER EXTENSION	SF60	31	E106
1B40556H01	DECAL .002 THK MYLAR	SF60	29	B3D
1B40765H02	GAS SPRING, MOUNTING BRACKET	SF60	31	B3A
1B40780H01	TUBING BRACKET	SF60	7	D123
1B40811G06	CURRENT COLLECTOR CABLE	SF60	312	H107
1B40820G01	SFAA VEHICLE DYNAMIC GRAPHICS ASSEMBLY	SF60	1	SF3WAL

**Appendix E - Spare Parts**

<b>Item</b>	<b>Description</b>	<b>Storeroom</b>	<b>Current Balance</b>	<b>Default Bin</b>
1B40820G02	SFAA VEHICLE DYNAMIC GRAPHICS ASSEMBLY	SF60	1	T115
1B40820G03	SFAA VEHICLE DYNAMIC GRAPHICS ASSEMBLY	SF60	5	B129
1B40820G04	SFAA VEHICLE DYNAMIC GRAPHICS ASSEMBLY	SF60	1	SF3WAL
1B40888G01	RELAY ASSEMBLY	SF60	3	D121
1B41046H01	MDR RADIO 18-32 VDC MODIFIED	SF60	1	A118
1B41300H01	TRIP SHAFT KIT	SF60	2	B3C
1B41300H02	UPPER STUD ASSEMBLY	SF60	3	F1G
1B41300H03	LOWER STUD ASSEMBLY	SF60	3	F1G
1B41300H04	ELECTRICAL OPERATED MECHANISM	SF60	3	F1H
1B41300H05	SHUNT TRIP ASSEMBLY	SF60	3	F1G
1B41300H06	SHUNT RELEASE ASSEMBLY	SF60	2	F1G
1B41300H07	ANTI- PUMP RELAY	SF60	3	F1F
1B41300H08	SPRING CHARGE MOTOR KIT	SF60	3	F1G
1B41300H09	BUSSMAN TYPE FNQ-R FUSE, 2A, 6	SF60	6	F1B
1B41300H10	RATING PLUG, DIGITRIP T-10 SER	SF60	3	F1B
1B41300H11	RATING PLUG, DIGITRIP T_10 SERIES	SF60	1	F1B
1B41300H12	RATING PLUG, DIGITRIP T_10 SERIES	SF60	1	F1B
1B41300H13	RATING PLUG, DIGITRIP T_10 SERIES	SF60	2	F1B
1B41300H14	FUSE, CLASS J, FAST ACTING, 3A, 600V	SF60	6	F1B
1B41300H15	BUSSMAN TYPE FRS FUSE, 20A, 60	SF60	6	F1B
1B41300H16	DIGITRIP, 510 LSI	SF60	2	F1G
1B41300H17	DIGITRIP, 510 LS	SF60	3	F1G
1B41300H18	BUSMAN TYPE FNQ FUSE, 10A, 50	SF60	2	F1B
1B41300H19	BUSSMAN TYPE FNQ-FUSE, 6A.500	SF60	5	F1B
1B41300H20	FUSE, 1A CLAS J	SF60	7	F1B
1B41301H02	THERMOSTAT	SF60	2	F1F
1B41301H03	HEATER	SF60	5	F1F
1B41302H01	CUTLER HAMMER CONTROL RELAY, 1	SF60	4	F1E
1B41302H02	TIME MARK VOLTAGE SENSING RELAY	SF60	8	F121
1B41302H03	CUTLER HAMMER MOLDED CASE CIRCUIT BREAKER	SF60	1	F119
1B41302H04	CUTLER HAMMER MOTOR OPERATION	SF60	2	F1H
1B41302H05	CUTLER HAMMER MOLDED CASE CIRC	SF60	2	F1A
1B41302H06	GOULD TIME DELAY FUSE.600V.1	SF60	14	F1B
1B41303H01	C-H 240VAC RELAY	SF60	1	F1C
1B41303H02	C-H 240VAC REVERSING CONTACTOR	SF60	1	F1E
1B41303H03	ITI VOLTAGE TRANSFORMER 600V/120V	SF60	2	F118
1B41303H04	BUSSMAN TYPE FQN-R FUSE, 2A, 6	SF60	6	F1B
1B41303H05	ITI VT, 50 VA, 600/120	SF60	3	F1F
1B41303H06	OHMITE RESISTOR, 1000 OHM, 175	SF60	2	F121
1B41303H07	HONEYWELL THERMOSTAT,40-80 DEGREE F	SF60	1	F121

### Appendix E - Spare Parts

Item	Description	Storeroom	Current Balance	Default Bin
1B41303H08	SPACE HEATER, 250-375W/125V-95	SF60	1	F121
1B41303H09	CSM CUSTOMER SUPPLIED MATL (VITAL RELAYS)	SF60	1	F118
1B41303H10	15A/ 1P CIRCUIT BREAKER	SF60	3	F1B
1B41303H11	10A/2P CIRCUIT BREAKER	SF60	1	F1B
1B41303H12	25A/ 1P CIRCUIT BREAKER	SF60	1	F1B
1B41303H13	15A/ 2P CIRCUIT- BREAKER	SF60	1	F1B
1B41303H14	TIMEMARK 3 HP MONITOR, 50VAC PH-N	SF60	4	F121
1B41303H15	C-H E22 2 POS SWITCH, ROTATE 90 DEGREES	SF60	2	F121
1B41303H16	BREAKER CONTROL SW	SF60	2	F121
1B41303H17	C-H D15 RELAY, 120VAC	SF60	11	F1E
1B41303H18	AGASTST ON -DELAY TIMER 120V	SF60	2	F1G
1B41303H19	GE VOLTAGE RELAY	SF60	2	F115
1B41303H20	TIMEMARK 3 PHASE POWER MONITOR	SF60	2	F1E
1B41303H21	TIMEMARK CURRENT UNBALANCE REL	SF60	2	F1E
1B41303H22	BASLER REVERSE POWER RELAY	SF60	2	F1F
1B41303H23	IND LT, 22MM RESISTOR TYPE, 12	SF60	3	F1A
1B41303H24	BUSSMAN TYPE FNQ FUSE , 6A 500	SF60	6	F1B
1B41303H25	CLAS J FUSE, 3A, 600V	SF60	6	F1B
1B41303H26	LIGHTNING SECONDARY ARRESTERS	SF60	4	F1F
1B41303H27	BUSSMAN TYPE LPJ FUSE ,1A, 600	SF60	12	F1B
1B41303H28	SQUARE D CIRCUIT MONITOR	SF60	1	F119
1B41303H29	DSII BREAKER CELL SW 3-NO, 3-N	SF60	3	F1G
1B41303H30	BUSSMAN TYPE FRS-R FUSE , 20A	SF60	4	F1B
1B41303H31	CPT,56KV,600/120-240V WITH FUSE PULLER	SF60	1	F118
1B41303H32	BUSSMAN TYPE FNQ FUSE, 10A, 50	SF60	3	F1B
1B41303H33	C-H BREAKER 150A/3P 100KAIC	SF60	1	F1E
1B41303H34	C-H BREAKER 100A/ 3P 100KAIC	SF60	1	F1E
1B41303H35	C-H BREAKER 30A/3P 100KAIC	SF60	1	F1E
1B41303H36	c-h breaker 200A/P 100KAIC	SF60	2	F1H
1B41303H37	CROMPTON VOLTAGE RELAY, 120VAC	SF60	3	F1F
1B41303H38	3HP CURRENT TRANSFORMER, 1000/	SF60	2	F115
1B41303H39	CONTACT BLOCK FOR D15 RELAY, 4	SF60	3	F1A
1B41303H40	C-H D15 RELAY, 4 N-0, 120VAC	SF60	3	F1E
1B41303H41	GRF RELAY, 1-12A, ELECTRIC RESET	SF60	1	F121
1B41303H42	GFR SENSOR, 1-12A, 5.5 DIA	SF60	1	F1G
1B41303H43	AGASTAT TIMER (64GFS)	SF60	6	F1E
1B41303H44	CONTACT BLOCK FOR D15 RELAY	SF60	1	F117
1B41303H45	D15 RELAY ON/OFF DELAY TIMER M	SF60	1	F1B
1B41303H46	DSII - 516	SF60	1	SF1104
1B41303H47	DS11-508	SF60	1	SF1104

**Appendix E - Spare Parts**

Item	Description	Storeroom	Current Balance	Default Bin
1B41304H01	AGASTAT TIME DELAY RELAY	SF60	3	F120
1B41304H02	BREAKER GHC 1 POLE 15A	SF60	4	F1E
1B41304H03	1B41304H03	SF60	2	F1F
1B41304H04	CAP TRIP DEVICE 120VAC	SF60	4	F1A
1B41304H05	DIODE 400V PRV 40A	SF60	4	F1D
1B41304H06	RELAY MG-6 125V DC, OPEN EL RS	SF60	2	F1F
1B41304H07	THERMOSTAT, FIXED 110 F/ 43.3	SF60	1	F1D
1B41304H08	S-D RELAY 2120V/ 60HZ, DPDT, 12	SF60	3	F1F
1B41304H09	CT 600:5 C100	SF60	3	F118
1B41304H10	FUSE 15.5KV 0.5 E	SF60	6	F110
1B41304H11	PULL FUSE 3 POLE 30A	SF60	1	F1D
1B41304H12	FUSE 6A CONTROL	SF60	1	F1B
1B41304H13	MOC, 9-P, 5A-4B CONN ONLY	SF60	3	F120
1B41304H14	ARRESTER, 9KV STATION CLASS	SF60	6	F120
1B41304H15	VOLTAGE XFRM,VIZ-11, 7200-120V	SF60	3	G128
1B41304H16	36W BREAKER RAMP ASSEMBLY	SF60	1	F129
1B41304H17	RAIL CLAMP, VCP-W	SF60	2	F110
1B41304H18	TEST JUMPER, TEN CONDUCTOR VCP	SF60	1	F110
1B41304H19	E22 BULB REMOVAL TOOL	SF60	3	B3C
1B41304H20	BREAKER 150 VCP W 500 1200A	SF60	3	SF1113
1B41304H21	SNUBBER- 5 OR 15 KV 1200A MAIN	SF60	2	F1F
1B41305H01	125VDC / 120VDC SPRING CHAEGING MOTOR	SF60	1	F110
1B41305H02	125VDC / 12VDC SPRING RELEASE COIL	SF60	1	F1D
1B41305H03	120VAC ANTI-PUMP Y RELAY	SF60	1	F110
1B41305H04	MOTOR CUT -OFF SWITCH	SF60	1	F1D
1B41305H05	POSITION SWITCH	SF60	1	F1D
1B41305H06	AUXILIARY SWITCH	SF60	1	F1D
1B41305H07	FASTENER KIT	SF60	1	F1D
1B41305H08	RECTIFIER ASSEMBLY	SF60	5	F1D
1B41305H09	1200A PUSH ROD ASSEMBLY	SF60	1	F110
1B41305H10	1200A PRIMARY CONTACT ASSEMBLY	SF60	6	F110
1B41306H01	BRK CONT SW 14 1C, 1T NON-PULL	SF60	2	F1G
1B41306H02	F22 CONTACT BLOCK 1NC	SF60	4	F1A
1B41306H03	IND LT D22 GREEN 48V	SF60	2	F1A
1B41306H04	IND LT F22 RED 48V	SF60	8	C111
1B41306H05	REL LOR-24, 125VDC, 4A/4B, 2-S	SF60	2	F1H
1B41306H06	RESISTOR 40200HM 5W	SF60	2	F1D
1B41306H07	SWITCH W2, 2 POSITIONS, 8 POLE	SF60	3	F1H
1B41306H08	SWITCH W2, 2 POSITIONS, 8 POLE	SF60	1	F1H
1B41306H09	BE1-27/59, 1HP,55-160VAC, 125V	SF60	1	F120

**Appendix E - Spare Parts**

Item	Description	Storeroom	Current Balance	Default Bin
1B41320H02	FUSE 50 AMP	SF60	2	G1B
1B41320H04	SCR 3 PHASE BRIDGE	SF60	2	G105
1B41320H05	THERMAL PAD	SF60	1	G106
1B41320H06	FUSE SUBMIN	SF60	5	G1B
1B41320H12	CAP	SF60	2	G106
1B41320H13	IGBT DUAL	SF60	2	G1B
1B41320H15	FUSE 2-12A	SF60	8	G1B
1B41320H18	PWB TRANSIENT	SF60	2	G105
1B41320H19	PWB RECTIFIER DRIVE	SF60	1	G105
1B41320H20	PWB POWER SUPPLY	SF60	2	G105
1B41320H21	PWB UPS	SF60	2	G105
1B41320H22	PWB SBS DRIVE	SF60	3	G105
1B41320H23	PWB POWER BOARD	SF60	1	G105
1B41320H24	PWB PWR BOOSTER	SF60	1	G105
1B41320H25	PWB DISPLAY BOARD	SF60	2	G105
1B41320H26	FUSE 500V	SF60	2	G1B
1B41320H31	IGBT DUAL	SF60	1	G1B
1B41320H32	PWB INV. DRIVE	SF60	1	G105
1B41320H33	PWB ASSY	SF60	1	G105
1B41320H34	FUSE 70A 600V	SF60	3	G1B
1B41320H35	PWB ASS'Y RECTIFIER DRIVE	SF60	1	G105
1B41343H01	LOCK CAM	SF60	51	B3A
1B41546H01	RAIN GUTTER .12 THK SST	SF60	1	F121
1B41752H01	WASHER, TEARDROP,KEYED	SF60	159	H1B
1B41784H01	PILOT OPERATED CARTRIDGE CHECK, (VALVE CHECK)	SF60	2	C123
1C40468H04	CAM .63) 7.00 DIA	SF60	4	C107
1C40480H01	STD. CONTACT ARM .625) BRONZE	SF60	22	B1D
1C40483G15	RESISTOR TUBE RIBFLEX 7.5 OHMS	SF60	11	C122
1C40540G01	AIR COMPRESSOR - GENL ASSEMBLY	SF60	1	SF1400
1C40540H24	TUBING .250 OD COP	SF60	73.5	B115
1C40570G04	SWITCH AND REPLACEMENT PARTS	SF60	1	C117
1C40570H02	REPLACEMENT BLOCK	SF60	2	B2B
1C40570H04	REPLACEMENT HEAD	SF60	2	C118
1C40591G01	STD. BLOWOUT COIL AND ARC HORN	SF60	4	F1C
1C40601H03	PLYMETAL PNL .750 THK	SF60	1	BOTFLR
1C40624G02	6U SIDEPLATE ASS'Y.	SF60	1	I121
1C40634H01	STD. ACR HORN 2.218) .063 THK	SF60	58	F1B
1C40676H01	Bracket Bearing	SF60	15	B2F
1C40743H03	STRIKE PL 5.25 X 1.25) .25 THK DELRIN	SF60	51	B2C
1C40743H04	STRIKE PL 5.25 X 1.25).25	SF60	31	B2C

**Appendix E - Spare Parts**

Item	Description	Storeroom	Current Balance	Default Bin
1C40807H01	ADAPTER BRKT 4.00 X 3.00 X .25 THK WALL	SF60	5	D127
1C40811113	BRACKET ASS'Y BUMPER	SF60	21	G1D
1C40811117	TUBING	SF60	9	C112
1C40811120	BRACKET ASS'Y MTG (R. H.)	SF60	2	C112
1C40811121	BRACKET ASS'Y MTG (L.H.)	SF60	3	D116
1C40811122	SLIDE ASS'Y - DOOR (L.H.)	SF60	4	D106
1C40811124	WAHSER - THRUST	SF60	21	D106
1C40811125	NUT - LOCKING 1/ 2-13	SF60	21	D106
1C40811126	BRACKET PIN ASS'Y	SF60	4	D106
1C40811127	SPRING - DOOR SLIDE	SF60	9	B116
1C40811128	LOCK WASHER CTSK EXT. 3/8	SF60	18	B3A
1C40811129	SCR FLT HD HX SOC. 3/8 - 16X1.50	SF60	21	B3A
1C40811130	WSHR PL 5/16-.875 O.D.X.065 THK.	SF60	21	D106
1C40811131	NUT HEX LK. 5/ 16-18	SF60	21	D106
1C40811151	box and cover assy	SF60	4	D111
1C40811152	CABLE AND HANDLE ASSY	SF60	8	B2C
1C40811153	GROMMET	SF60	16	C110
1C40811154	THIMBLE	SF60	23	B2A
1C40811155	CLAMP	SF60	21	C110
1C40811161	MAGNET	SF60	5	B3A
1C40811162	MAGNET CASING	SF60	11	C110
1C40811174	CLIP	SF60	27	B115
1C40811175	RIVET	SF60	111	B2A
1C40811177	RELAY	SF60	11	E118
1C40811H02	MOTOR AND GEAR HOUSING ASS'Y	SF60	4	G104
1C40811H07	SWITCHLEVER (LS switch)	SF60	89	B2E
1C40811H19	SWITCH SNAP ACTION	SF60	9	B2C
1C40811H20	BUMPER	SF60	21	G1D
1C40811H21	WASHER, INSULATED	SF60	1	G101
1C40811H22	WASHER, CUP	SF60	1	G101
1C40811H23	RES ADJ 100W 10% 5 OHMS	SF60	6	B2B
1C40811H27	RING RET EXT	SF60	47	D121
1C40811H28	RES ADJ 100W 10% 10 OHMS	SF60	12	B2C
1C40811H29	RES ADJ 100W 10% 20 OHMS	SF60	6	B2C
1C40811H30	WASHER PL 1/4-.562 OD X .049 THK	SF60	111	B3C
1C40811H39	SCR HX HD CAP 1/ 4-20X.75	SF60	111	B3A
1C40811H50	PIN ROLL .125X1.25	SF60	41	G1C
1C40811H54	SCREW, SLOTTED. .190-32 X 4.38	SF60	1	G101
1C40811H55	LOCKWASHER, EXTERNAL, .190	SF60	1	G101
1C40811H61	SPACER	SF60	1	G101



**Appendix E - Spare Parts**

Item	Description	Storeroom	Current Balance	Default Bin
1C40811H62	SEAL ASS'Y OUTPUT SHAFT	SF60	11	H101
1C40811H63	VARISTOR ASS'Y	SF60	5	B2D
1C40811H64	RECTIFIER ASS'Y	SF60	6	D102
1C40811H70	NUT HEX LK CROWN 1 /4-20	SF60	111	B3C
1C40811H71	BRACKET ASS'Y BUMPER	SF60	7	B3C
1C40811H75	TERM RING TNG #8 16-14AWG	SF60	111	H1C
1C40811H76	CLIP SPEED	SF60	145	B2A
1C40811H89	SLEEVE - RETAINING	SF60	77	B2A
1C40811H90	COLLAR - SHART	SF60	95	B2A
1C40811H91	SCR SLT SET CUPPT 8-32X.188	SF60	751	B1E
1C40811H98	MOTOR AND GEAR HOUSING ASS'Y	SF60	1	G121
1C40821H01	YOKE LOCK 21.00) 4.00 X .50	SF60	2	I108
1C40822H01	PULLER INSERT 1.25) 4.00 x.75 THK STL	SF60	54	I108
1C40824G01	PINION SEAL DRIVER	SF60	1	I107
1C40848H04	TUBING SHRINK .375 ID BLK/YEL STRIP	SF60	1	H100
1C40861H49	INTERLOCK SEAL	SF60	99	G109
1C40936H03	BRACKET 6.88 x 7.00) .50 THK, TRIP STOP	SF60	11	C127
1C40937G03	CONNECTOR ASSEMBLY	SF60	7	C128
1C41211G01	SWITCH BRACKET	SF60	11	B2A
1C41211G02	switch bracket	SF60	4	B2A
1C41212H03	CONTACT BRACKET 2.25 X 1.71)	SF60	25	B2A
1C41212H04	CONTACT BRACKET 2.25 X 1.71	SF60	27	B2A
1C41229H01	CONTACT SWITCH 1)	SF60	11	B2B
1C41229H02	CONTACT SWITCH 1)	SF60	1	B111
1C41229H03	CONTACT BLOCK 1)	SF60	13	B2A
1C41264H02	BOTTOM PLATE 3.250	SF60	267	SF3WALL
1C41332G02	EMERGENCY TELEPHONE SIGN WITH BRAILLE	SF60	6	B3D
1C41333G02	FIRE EXTINGUISHER PANEL	SF60	11	D105
1C41362H02	AUTOLOCK SOLENOID	SF60	14	G112
1C41448H01	SWITCH - PRESSURE WAVE	SF60	2	B2B
1C41537H01	Current Transformer	SF60	2	D101
1C41547H01	EXTRUSION - SENSITIVE EDGE	SF60	4	D115
1C41547H02	FITTING, MINITURE NYLON CONNECTOR	SF60	9	H100
1C41548H01	TUBING, PRESSURE SWITCH	SF60	287	H100
1C41710H01	EL BREAKER 2 POLE	SF60	2	B3C
1C41712G01	EVAPORATOR COVER LATCH STRIKER	SF60	8	B1E
1C41773G07	ANTENNA INSTALLATION	SF60	3	D119
1C41821H01	PRESSURE REGULATOR	SF60	19	C121
1C41821H04	REPAIR KIT FOR REGULATOR	SF60	8	C121
1C41830H01	AD-9 AIR DRYER	SF60	2	E110

**Appendix E - Spare Parts**

Item	Description	Storeroom	Current Balance	Default Bin
1C41830H03	DESICCANT CARTIDGE	SF60	45	C120
1C41830H05	PURGE VALVE MAINTENANCE KIT	SF60	29	B121
1C41830H06	24 VOLT HEATER AND THERMOSTAT ASS'Y	SF60	3	C121
1C41830H16	PURGE VALVE ASSEMBLY	SF60	11	E110
1C42587H10	terminator shield, with lead	SF60	555	I102
1C42599G01	air compressor electrical assy	SF60	5	E128
1C42600H01	SPRT PLATE 4.70 X 3.50) .18	SF60	1	I102
1C42604G01	AIR COMPRESSOR CONNECTOR ASSEMBLY	SF60	4	B2F
1C42642G01	DIODE ASSEMBLY	SF60	1	E103
1C42642G02	DIODE ASSEMBLY	SF60	11	E128
1C42654159	Connector Bayonet RCPT 54	SF60	1	I101
1C42654H01	CONTACT, PIN, TYPE 16, AWG 18-16	SF60	169	H1C
1C42654H04	CONTACT, PIN, TYPE 16, AWG 24-20	SF60	151	H1C
1C42654H05	contact pin, type 16 awg 20	SF60	181	H1C
1C42654H08	CONTACT, SOCKET, TYPE 16, AWG 18 - 16	SF60	111	H1C
1C42654H13	CONTACT,SOCKET,TYPE, 16 AWG	SF60	95	H1C
1C42654H14	CONTACT , SOCKET,TYPE 16, AWG 14-12	SF60	95	H1C
1C42654H23	CONTACT,SOCKET,TYP E 12,AWG 18-16	SF60	41	A121
1C42813225	CONNECTOR, BAYONET, RCPT, 17 POS.	SF60	8	G1A
1C42813226	CONNECTOR, BAYONET, PLUG, 17 POS, SOCKETS	SF60	3	G1A
1C42813460	30 UIN. CONTACT,SOCKET,TYPE 16S,AWG 18-16	SF60	31	I102
1C42813H78	BACKSHELL,EXTENSION,	SF60	8	G102
1C42875H02	MOUNTING RAIL 1)	SF60	2	C127
1C43243H01	BUSHING RECEIVER	SF60	1	C106
1C43243H02	BUSHING INSTALLER	SF60	1	C106
1C43243H03	BUSHING REMOVER	SF60	1	C106
1C43246H01	PLATE 11.00 X 23.63 X .25 THK	SF60	1	I108
1C43432H01	VIDEO DRIVER BOARD 1)	SF60	1	T112
1C43508G01	RAIL, STRAIGHT (POWER)	SF60	1	TTRACK
1C43547H03	SCREW #10-24 X 3/4" FHSCS	SF60	123	G1B
1C43547H06	SCREW 4-40 X 1/4 BHMS	SF60	116	G1C
1C43547H08	CABLE 5/C 22 AWG	SF60	1	G107
1C43547H10	CONNECTOR 5/C AUTOLOCK ASSY	SF60	1	G107
1C43547H12	SPACER - 5/8" O.D. X 0.201" I.D. X 1/4"	SF60	21	G1C
1C43547H14	LOCK SPRING- 1" O.D.X2.5" LEN X 7.5 COILS, AUTOLOCK ASSY	SF60	12	G112
1C43547H16	LOCK DRIVER BOARD ASSEMBLY	SF60	65	G107
1C43548G06	KEYSWITCH / LED ASSEMBLY	SF60	11	G1G
1C43548H04	INTERFACE CONNECTOR BOARD	SF60	1	G107
1C43805G01	RAIL (STRAIGHT-30')	SF60	41	

**Appendix E - Spare Parts**

Item	Description	Storeroom	Current Balance	Default Bin
1C44204G01	UMC CONTACTOR SMALL ARMATURE ASSY	SF60	1	B117
1C44204G02	UMC CONTACTOR SMALL ARMATURE ASSY	SF60	5	B2F
1C44216G01	AUTOLOCK ASSEMBLY	SF60	3	G114
1C44216H08	AUTOLOCK CHASSIS	SF60	2	G1B
1C44216H21	SWITCH TAB INSULATOR, small close and lock contact pad	SF60	1	G105
1C44216H22	AUTOLOCK AUXILIARY SWITCH TAB	SF60	16	G1A
1C44216H23	AUXILIARY SWITCH MOUNTING PLATE	SF60	1	G108
1C44216H24	AUTOLOCK LOCK BOLT	SF60	13	G1B
1C44274G01	IDLER AND CARRIAGE WHEEL ASSEMBLY	SF60	3	G115
1C44274H02	SHAFT - ANTIRISE ROLLER	SF60	43	G1C
1C44274H05	SCREW 5/16-18 X 1 3/4 SSS SST	SF60	51	G1C
1C44274H06	NUT 5/16-18 SST	SF60	111	G1C
1C44274H08	BUSHING BRZ 5/16 ID X 3/8 OD X 3/8 L	SF60	27	G1C
1C44274H10	LOCKWASHER 5/16 EXTERNAL TOOTH SST	SF60	111	G1C
1C44275G01	DRIVE WHEEL AND CARRIAGE ASSEMBLY	SF60	3	G115
1C44275H03	SCREW 5/16" - 18 X 1 " FHSCS	SF60	211	G1A
1C44275H04	NUT 5/16" HEX	SF60	211	G1A
1C44303H08	CABLE 4 AWG 105/.0201 STRD 2KV	SF60	211	O108
1C44303H11	CABLE I/O AWG 275/ .0201 STRD SKV FLEXANE	SF60	511	H114
1C44303H13	CABLE 3/0 AWG 450 / .0201 STRD 2KV FLEXANE	SF60	956	I108
1C44303H15	2 MCM 650/ .0201 STRD 2	SF60	99	G124
1C44327H01	TRANSFORMER ENCAPSULATED	SF60	2	D109
1C44418G01	DUST SHIELD DRIVER	SF60	1	
1C44419H01	GREASE CAP DRIVER	SF60	1	E128
1C44422H01	UPPER BEARING CUP DRIVER	SF60	1	
1C44423H01	LOWER BEARING CUP DRIVER	SF60	1	
1C44424H01	OUTER GREASE SEAL DRIVER	SF60	1	
1C44425H01	INNER GREASE SEAL DRIVER	SF60	1	
1C44610G01	PC BOARD FLEXIBLOK VEHICLE DIG IN ASSY	SF60	2	A1D
1C44610G02	PC BOARD FLEXIBLOK VEHICLE DIG IN ASSY	SF60	4	A1C
1C44610G03	PC BOARD FLEXIBLOK VEHICLE DIG IN ASSY	SF60	3	A1D
1C44612G01	PC BOARD FLEXIBLOK REGION ATP CPU ASSY	SF60	1	A1A
1C44612G02	PC BOARD FLEXIBLOK REGION ATP CPU ASSY	SF60	1	A122
1C44613G01	PC BOARD FLEXIBLOK REG SER COMM ASSY	SF60	1	A1B
1C44615G01	PC BOARD FLEXIBLOK REGION DIG INPUT ASSY	SF60	6	A1A
1C44615G02	PC BOARD FLEXIBLOK REGION DIG INPUT ASSY	SF60	2	A1A
1C44615G03	PC BOARD FLEXIBLOK REGION DIG INPUT ASSY	SF60	1	A1A
1C44615G08	PC BOARD FLEXIBLOK REGION DIG INPUT ASSY	SF60	3	A1A
1C44615G09	PC BOARD FLEXIBLOK REGION DIG INPUT ASSY	SF60	2	A1A
1C44615G10	PC BOARD FLEXIBLOK REGION DIG INPUT ASSY	SF60	1	A1A

**Appendix E - Spare Parts**

Item	Description	Storeroom	Current Balance	Default Bin
1C44633G01	FLEXIBLOK WAYSIDE COMM PROCESSOR ASSY	SF60	1	A1B
1C44646G01	CURRENT COLL TERMN BD - SILKSCREEN ASS'Y.	SF60	1	C107
1C44665H01	HEADLIGHT BUCKET	SF60	14	E115
1C44666H01	HEADLIGHT/ TAIL LIGHT BEZEL	SF60	1	E126
1C44676G01	Manual Enable Switch Plate Assembly	SF60	3	E121
1C44701G01	PC BOARD FLEXIBLOK VEHICLE ATP CPU ASSY	SF60	2	A1D
1C44701G02	PC BOARD FLEXIBLOK VEHICLE ATP CPU ASSY	SF60	1	A1D
1C44702G01	PC BOARD FLEXIBLK VEH SER COM PRCSR ASSY	SF60	1	A1D
1C44702G02	XA2 PC BOARD	SF60	1	A1D
1C44769H02	CLEAT HOSE	SF60	41	B117
1C44810G01	WIPER MOTOR ASSEMBLY	SF60	7	E106
1C44816H01	TOP TRIM RING 1.25 THK AL	SF60	18	D107
1C44816H02	WASHER (STANCHION)	SF60	14	D107
1C44954H02	LIGHT PANEL .125	SF60	2	F102
1C44955G01	Light Panel Assembly	SF60	5	D118
1C45009G01	Meter Panel Assembly	SF60	2	T112
1C45283G02	FAN SPEED RELAY PANEL ASSEMBLY	SF60	3	T112
1C45405H06	TEMPERATURE SENSOR	SF60	3	B2B
1C45407H02	TRANSFER SWITCH MATRIX PANEL	SF60	1	H112
1C45709G01	EMERGENCY TELEPHONE INTERIOR W	SF60	4	B2C
1C45722G01	PLC ASSEMBLY	SF60	2	A121
1C45722G02	PLC ASSEMBLY (W/CONVERTER)	SF60	2	A127
1C45740H01	MTG .1196 THK STL	SF60	11	G1A
1C45770G01	FLEXIBLOK REGION SOURCE DIG OUT PC BOARD	SF60	3	A1A
1C45770G02	FLEXIBLOK REGION SOURCE DIG OUT PC BOARD	SF60	2	A1B
1C45770G03	FLEXIBLOK REGION SOURCE DIG OUT PC BOARD	SF60	3	A1B
1C45770G04	FLEXIBLOK REGION SOURCE DIG OUT PC BOARD	SF60	1	A1B
1C45771G01	FLEXIBLOK REGION SINK DIG OUT PC BOARD	SF60	3	A1B
1C45771G02	FLEXIBLOK REGION SINK DIG OUT PC BOARD	SF60	2	A1A
1C45771G03	FLEXIBLOK REGION SINK DIG OUT PC BOARD	SF60	2	A1B
1C45771G04	FLEXIBLOK REGION SINK DIG OUT PC BOARD	SF60	2	A1D
1C45795G01	BRACKET ASSEMBLY	SF60	41	G124
1C45821G01	4-WAY SWITCH ASSEMBLY	SF60	8	B117
1C45843H01	FILLER STRIP .032 THK AL	SF60	3	E112
1C45910G01	COUPLER STOP BRACKET AND GUSSET	SF60	5	H112
1C45928G02	ROUTER MODULE ASSEMBLY	SF60	1	A101
1C46014H01	DECALS .002 THK MYLAR	SF60	58	B3D
1C46017H49	MTG RAIL 19.00	SF60	5	A111
1C46071G01	ALARM SWITCH ASSEMBLY	SF60	11	D121
1C46122G01	NORMING POINT READER ASSEMBLY	SF60	1	A125

### Appendix E - Spare Parts

Item	Description	Storeroom	Current Balance	Default Bin
1C46122G02	NORMING POINT READER ASSEMBLY	SF60	1	T103
1C46191H01	SHOCK ABSORBER	SF60	55	G108
1C46279G01	MAN ENABLE SWITCH/LIGHT PNL - GENL	SF60	2	B1E
1C46281G01	MOBILE DATA RADIO TO LCP CABLE	SF60	1	T112
1C46292G01	RS232 TO RS485 CONVERTER	SF60	6	A1C
1C46368G01	SFAA DVAU ASSEMBLY WITH MESSAGES	SF60	1	A2A
1C46718G01	Train Reg. 68040 CPU	SF60	1	A2A
1C46718G02	Train Reg. 68040 CPU	SF60	1	A2A
1C46719G01	Train Reg. 68040 CPU	SF60	1	A2A
1C46720G01	Train Reg. 68040 CPU	SF60	1	A113
1C46923G01	MOUNTING PLATE	SF60	39	I127
1C46924H01	SLIDE BAR .38 THK STL	SF60	41	B3A
1C47018G01	FAIL SAFE VALVE BOX ASSEMBLY	SF60	8	B1H
1C47632G03	TPMS CANISTER 433 MHZ W/FITTING	SF60	1	G103
1C47632H07	TIRE PRESSURE MONITOR RECEIVER	SF60	5	G103
1C47632H08	TPMS CANISTER 433 MHZ W/FITTING	SF60	1	G103
1D48155H02	40MM BALL BRG. SHIELDED. SINGLE ROW	SF60	3	D128
1D62598G03	FLEXIBLE AIR DUCT	SF60	3	C115
1D62645H01	MTG BRACKET FIBERGLASS MOLD	SF60	63	F122
1D62645H02	MTG BRACKET FIBERGLASS MOLD - HIGH STR	SF60	13	F123
1D62740H01	HOUSING 7.50) OF 1.75 X 3	SF60	5	I115
1D62745H02	ROLLER PLATE 58.75 X 8.75) .25 STL	SF60	4	SF1100
1D62751H02	PIN 1.420 OF .50 DIA SST (SWITCH)	SF60	9	I117
1D62751H03	COVER 2.88) OF .125 X 3	SF60	15	I112
1D62751H04	KNUCKLE	SF60	6	I121
1D62753G01	LOCK PIN SEAT ASSEMBLY	SF60	2	I115
1D62758H03	PIN 4.58) 1.000 HEX STL BAR	SF60	5	H106
1D63008H01	STD. MOLDED ARC BOX	SF60	2	F113
1D63190G09	VARISTOR SUPPRESSION DEVICE	SF60	7	B2D
2000E82H04	NUMBER (4" HIGH)	SF60	1	C101
203P516G01	PC BOARD BATTERY CHARGER AND PULSE	SF60	2	A2B
203P521G02	P C BOARD BATTERY CHARGER AND PHASE	SF60	2	A2B
2124F99H03	DC BALLAST (26V)	SF60	6	D108
2125F98G02	RESISTOR ASSEMBLY	SF60	7	C103
2127F15G03	P-sig Generator	SF60	2	F109
21D3154H01	STD CORE 1.109) .625 DIA STL	SF60	1	C107
21D7111G01	CONTACT ASSEMBLY	SF60	6	F1C
2255F27H02	END CASTING	SF60	4	I110
2256F54G03	HIGH SPEED RAMP ASS'Y LEFT HANF (LEXAN)	SF60	1	I112
2256F54G04	HIGH SPEED RAMP ASS'Y RIGHT HAND (LEXAN)	SF60	1	G122

**Appendix E - Spare Parts**

Item	Description	Storeroom	Current Balance	Default Bin
2257F71G03	CENTER ASSEMBLY, PIVOT BEAM	SF60	1	AWALL
225P735G01	P C BOARD PROP. MONITOR PANEL LED ASSY	SF60	2	A2B
225P748G01	PC BOARD, EXTENDER BOARD ASS,Y	SF60	3	A1E
2263D94G01	BRUSH HOLDER ASSEMBLY	SF60	21	C107
2263D94H01	BRUSH HOLDER 1) MACHINED FROM CASTING	SF60	2	D128
2263D94H02	BACK-UP PLATE ASSEMBLY	SF60	21	C107
2263D99G01	CAPACITOR MOUNTING ANGLE AND ASSEMBLY	SF60	2	B2F
2263D99G02	CAPACITOR ASSEMBLY	SF60	4	D107
2267D80G01	LEAF SPRING ASSEMBLY	SF60	2	SF1100
2269D55H03	GUIDE STRIP 25. 88 X 1.12) .06 DELRIN	SF60	16	B116
226P152G02	P C BOARD DYNAMIC BRAKE GATE ASSEMBLY	SF60	1	A2B
226P174G02	PC BOARD 1 PHASE 60 HZ BATTERY CHGR ASSY	SF60	1	A2B
226P256G01	P C BOARD P SIG AND BRK SIG GEN PWR ASSY	SF60	2	A108
226P336G01	P C BOARD BATTERY CHARGER MONITOR ASSY	SF60	1	A2B
226P338G01	PC BOARD TERMINATION ASSY	SF60	1	A101
226P344G01	P C BOARD MANUAL CONTROLLER 15V	SF60	3	A101
226P388G01	EXTENDER BOARD (SHUTTLE CABINET)	SF60	3	A129
226P400G01	PC BOARD DOOR RECEIVER/DRIVER ASSEMBLY	SF60	3	A108
2271D28G01	PINION SHROUD ASSEMBLY	SF60	2	D111
2271D28H02	SHROUD 16.87 X 5.30) .062 THK STL	SF60	1	D112
227D847H01	TRANSFORMER	SF60	2	F1A
227D928H11	RESISTOR 15 +/-5% OHMS 800-V 5 WATT	SF60	92	H101
24D3488H01	STD ARC HORN 1.375) .063 X 1.75 CU	SF60	13	F1B
2528F96G03	MOTOR DC 1460-P3 (Traction Motor)	SF60	7	SF1103
2531B84G02	LIGHTNING ARRESTOR ASSEMBLY	SF60	13	B2D
2531B84G07	LIGHTNING ARRESTOR ASSY	SF60	9	C126
2532B34G01	RIGHT HAND BALL SOCKET ASSEMBLY	SF60	4	D119
2532B34G02	LEFT HAND BALL SOCKET ASSEMBLY	SF60	11	E113
2532B34H03	JAM NUT RIGHT HAND	SF60	11	C108
2532B34H04	JAM NUT LEFT HAND	SF60	11	C108
2533F95G02	INTERRUPTER ASSEMBLY	SF60	1	SF1412
2534B39H01	ADJUSTABLE PRESSURE SWITCH #604G1	SF60	3	D119
2534B39H02	ADJUSTABLE PRESSURE SWITCH #604G11	SF60	1	D119
2534B78H02	MANUAL VALVE FULL PORT	SF60	5	B1A
2534B78H03	MANUAL VALVE FULL PORT	SF60	2	F108
2535F93H03	EXTRUSION ALUMINUM 43.94)LT HAND DOOR ASSY	SF60	11	I101
2535F93H04	: EXTRUSION ALUMINUM 43.94) RT HAND DOOR ASSY	SF60	11	I101
2535F94H29	TUBING 6FT	SF60	12	H106
2536B52H03	HUBODOMETER SIZE 10 X 22.5 MICHELIN	SF60	1	D103
2537B93G01	RESISTOR ASSEMBLY	SF60	2	SF1100

**Appendix E - Spare Parts**

Item	Description	Storeroom	Current Balance	Default Bin
2538B14H01	WINDOW GLAZING RBR EXTRN 160.00+/-2.00)	SF60	32	H124
2538B23G01	RESISTOR ASSEMBLY	SF60	1	B126
2538B23G02	RESISTOR ASSEMBLY	SF60	2	C121
2538B90H04	SPACER 1.00 DIA STL	SF60	33	G1A
2539B60H02	FILTER	SF60	31	E100
2539B87H01	DUST SHIELD FR .06 THK HALF HARD AL SHT	SF60	246	H1G
2539B88H01	KEY .75 THK	SF60	3	B1E
2539B88H02	KEY .625 THK	SF60	21	B1E
2557A11H13	TERMINAL LUG,	SF60	111	I115
2557A11H60	CONTACT PIN	SF60	391	H1C
2559A61H06	GROMMET .50 ID .06 PNL	SF60	15	E103
2559A61H09	GROMMET .31 ID .09 PNL	SF60	45	B2A
2559A61H20	GROMMET .38 ID .25 PNL	SF60	3	D112
2559B24G01	TEMPERATURE SENSOR	SF60	1	D111
2559B84H05	CLAMP	SF60	821	C104
2560B11G01	DRIVE SHAFT ASSEMBLY	SF60	2	C129
2560B11H11	DUST SEAL	SF60	5	E117
2560B11H16	Grease Cup	SF60	1	E117
2560B16H02	EXTINGUISHER (FIRE)	SF60	1	D118
2560B39G02	SWITCH SHUT-OFF VALVE, (SWITCHES)	SF60	3	I115
2562B22H01	GUIDE 5.00) OF .62 SQ.	SF60	75	B2C
2562B55H01	RIM VALVE EXTENSION	SF60	1	B1E
267P636G01	PC BOARD DUAL P. SIGNAL GENERATOR ASSY	SF60	2	A108
267P680G01	PC BOARD TRANSMITTER ASSEMBLY	SF60	5	A1E
267P858G02	PC BOARDPOWER SUPPLY ASSEMBLY	SF60	4	A2E
267P926G01	PC BOARD OVERVOLTAGE CIRCUIT ASSEMBL	SF60	3	A101
2682F59H03	CAP RETAINER .125 THK STL	SF60	51	G1C
2688F16G03	I.D. RECEIVE ANTENNA ASSEMBLY	SF60	1	F114
2688F16G04	I.D. TRANSMIT ANTENNA ASSEMBLY	SF60	2	F109
2688F17G01	Manual Controller Assembly	SF60	5	F113
268P052G01	PC BOARD BRUSH DETECTOR	SF60	2	A2A
268P060G01	PC BOARD ATC CRADLE MOTHERBOARD ASSEMBLY	SF60	1	A112
2698A54H05	MAGNETIC HALL EFFECT SENSOR	SF60	12	B3D
2701A89H03	LOCKNUT .750 CONDUIT	SF60	3	B2C
280B522H07	SEAL 1.75 X 1.62) .125 THK	SF60	5	G1A
2973A52G03	DIODE ASSEMBLY	SF60	8	E128
2973A52G04	DIODE ASSY	SF60	11	C127
3000705G01	PASSIVE DEVICE ENCLOSURE (HYDRID)	SF60	1	SF3FLR
3000705G02	PASSIVE DEVICE ENCLOSURE (6-DB COUPLER)	SF60	1	SF3FLR
3000705G03	PASSIVE DEVICE ENCLOSURE (10 - DB COUPLER)	SF60	1	SF3FLR

**Appendix E - Spare Parts**

<b>Item</b>	<b>Description</b>	<b>Storeroom</b>	<b>Current Balance</b>	<b>Default Bin</b>
3000705G04	PASSIVE DEVCSE ENCLOSURE 2 -WAY POWER DIVIDER	SF60	1	SF3FLR
3000705G06	PASSIVE DEVICE ENCL 4 OUTPUT	SF60	1	G100
3000705G07		SF60	1	SF3FLR
3000899H01	SLIDING GAP ASSY	SF60	36	I111
3001008G01	TORQUE WRENCH CALIBRATION FIXTURE	SF60	1	D100
3001654H01	TERMINAL SUPPORT	SF60	159	I106
3001654H02	TERMINAL SUPPORT	SF60	211	H115
3005754G03	LOW TIRE PRESSURE SYSTEM ASSY	SF60	1	G103
3007679G01	4-WAY POWER DIVIDER	SF60	1	A110
3007711G01	ATO SHOE HOLDER ASSY	SF60	211	H1E
3007712G01	POWER SHOE HOLDER ASSEMBLY	SF60	1	H102
3007712G02	POWER SHOE HOLDER ASSEMBLY	SF60	344	H1E
3009233H01	BOLT .750-10 X 2.50 LONG	SF60	34	G1E
3014979H14	SHRINK TUBING ZERO-HAL 10.0 MM	SF60	111	H100
3010979H14	Station Door Large CONTACT PAD, RA0181	SF60	49	G105
3011695H01	SPACER	SF60	363	H126
3011729H01	COVER STRAP 1.50 X 8.00 LG	SF60	44	B2C
3013190H01	TPMS BRACKET	SF60	687	H109
3013240H07	LEVER	SF60	3	D101
3013240H21	BUSHING, DRAFTGEAR, (D220340-100)	SF60	2	D102
3014777H02	TPMS RECEIVER WO/ FLANGE	SF60	1	G103
3014777H09	TPMS DIVERSITY RECEIVER W/	SF60	8	H112
3015509H03	UNCOUPLING CYLINDER, CPL	SF60	2	D103
3015509H10	PIPE	SF60	11	B3C
3015509H17	DISC SPRING	SF60	211	C113
3015509H23	SPRING PIN	SF60	99	B1D
3015509H24	SPRING PIN	SF60	99	B1D
3015509H25	SPRING PIN	SF60	99	B1D
3015509H26	ROLL PIN 6 X 58	SF60	99	B1D
3015509H29	WASHER	SF60	72	D103
3015509H48	ROLL PIN, ELECTRICAL COUPLER HEAD	SF60	88	D108
3015542H10	BOLT (GUIDE ROD, COUPLER)	SF60	4	F100
3015542H13	BAR (COUPLER)	SF60	1	F100
3015542H33	BPD MEGI BUSH (D220449-100)	SF60	18	G1G
3015542H36	SPRING PIN	SF60	11	B3C
3015542H37	DISC SPRING	SF60	25	B3C
3015542H45	SPRING RING	SF60	1	B3C
3015542H46	SERETED WASHER	SF60	1	G100
3015542H47	CONNECTION CLAMP	SF60	1	F100
3015542H48	HEXAGON HEAD NUT	SF60	1	B3C



### Appendix E - Spare Parts

Item	Description	Storeroom	Current Balance	Default Bin
3015542H50	HEXAGON HEAD NUT	SF60	1	B3C
3015542H51	WASHER	SF60	1	F100
3015542H52	CONTACT FLAG	SF60	7	G100
3015542H54	FLAT CONNECTION	SF60	13	B3C
3016721H02	STANCHION TRIM RING	SF60	15	D107
3017217G01	DISPLAY TERMINAL RS232 CABLE	SF60	1	M101
3018626G01	WIRE ASSEMBLY INTERRUPTER BRACKET	SF60	181	I102
3018680H02	GASKET	SF60	25	H101
3019854H01	COLLECTOR SHOE, (MORGANITE)	SF60	513	AROW
3022036G01	TOUCHSCREEN UPGRADE KIT - FOR SFO	SF60	1	M101
3023600H06	WIRE,SINGLE,WH,LSZ H, 1.5 MM2 (TAIL LIGHT CABLE)	SF60	51	AROW
3024293G01	TPMS ASSEMBLYEA	SF60	126	G103
3025658H01	APM 100 PLANETARY HUB PILOT TOOL	SF60	1	I108
3029339H01	VITAL SWITCH CONTACT PADS (3/4" X 1/2")	SF60	47	G105
3036400G01	BREAKER MOTOR OPERATOR LEVER ASSEMBLY	SF60	11	D117
3049856H01	Graphic Sign w/ hole	SF60	43	sf3wall
3049856H02	Graphic Sign w/o hole	SF60	43	SF3WALL
3051410H01	TAIL LIGHT MOUNTING BRACKET	SF60	38	AROW
3051415G01	TAIL LIGHT CABLE CABLE ASSEMBLY	SF60	1	AROW
3437C83G02	RADIUS ROD ASSEMBLY	SF60	1	D112
3437C83H04	STEEL TUBE 18.25) 1.00 ID X 1.50 OD STL	SF60	5	H101
3437C85H03	TIRE 10R-22.5 TRANSTEEL RADIAL	SF60	1	SF1FLR
3437C85H08	Michelin Metro Tire	SF60	77	SF1FL
373B331G04	STARTER	SF60	9	F1C
3911C41H03	PRESSURE RELIEF	SF60	15	B1A
3925A65H01	RELIEF VALVE	SF60	5	B1A
3925A66H04	AIR CHECK VALVE	SF60	3	B1A
3925A67H03	VALVE QUICK RELEASE	SF60	4	B3D
3925A67H04	REBUILD KIT QUICK RELEASE VALVE	SF60	11	B3E
3925A67H05	SEALING RING QUICK RELEASE VALVE	SF60	285	B3E
3925A67H06	DIAPHRAGM QUICK RELEASE VALVE	SF60	259	B3E
3925A67H07	INSERT QUICK RELEASE VALV	SF60	299	B3E
3925A86H02	WILLIAMS RELAY VALVE	SF60	2	B1
3925A87H01	VALVE PRESSURE HOLDING	SF60	11	B1B
3926A37H01	TRANSFORMER SIGNAL OR PULSE	SF60	3	E103
3926A72H01	RESISTOR 10 OHMS 11W 5% TYPE 99	SF60	2	B2D
3926A89H01	TRANSFORMER SIGNAL OR PULSE	SF60	2	F1A
3927A03H21	CAPACITOR 1.0 UF 100 V +-5%	SF60	1	B2D
3927A06H41	RESISTOR 120 1/4W 5% RC07	SF60	4	B2D
3927A06H67	RESISTOR 1.5K 1/4W 5% RC07	SF60	1	F101

### Appendix E - Spare Parts

Item	Description	Storeroom	Current Balance	Default Bin
3927A08H56	RESISTOR 510 OHMS 1W 5% TYPE RC 32	SF60	1	B2D
3927A22H01	TRANSFORMER	SF60	2	B2D
3930A47H04	TRANSFORMER POWER	SF60	4	F1A
3930A55H01	BOLT 1)	SF60	91	B2A
3968C17H04	PUSHBUTTON (S.P.D.T.) CAT#OT1C1A	SF60	6	B1F
3972C53G01	GATE LEAD PANEL	SF60	11	B2F
3972C86H01	RIM, PAINTED	SF60	6	SF1403
3973C13H01	CHOKE	SF60	2	B2H
3973C14H01	TRANSFORMER 575/36/36	SF60	1	F119
3973C86H12	KEYSWITCH	SF60	3	C112
3973C86H13	PUSHBUTTON	SF60	1	G1D
3A62819H01	DISK DRIVE	SF60	1	T106
3A63286H14	CHISEL PT COTTER PIN, 1/16/ X 1- 1/2	SF60	131	C107
3A63290H10	COTTER PIN, .062 X .38 LG ZI	SF60	257	B1D
3A63290H20	PIN, COTTER .094 X 1.00 LG ZINC YEL CRMT	SF60	146	D112
3A63290H29	PIN COTTER .125 X 1.00 LG ZINC YEL CRMT	SF60	176	H1A
3A63290H30	PIN, COTTER .125 X 1.25 LG ZINC YEL CRMT	SF60	448	G1E
3A63290H31	PIN COTTER .125 X 1.50 LG ZINC YEL CRMT	SF60	338	H1B
3A63290H39	PIN, COTTER .156 X 1.00 LG ZI	SF60	112	E104
3A63290H41	PIN, COTTER 1.56 X 1.50 LG ZINC	SF60	265	E103
3A63290H44	PIN, COTTER .156 X 2.25 LG ZI	SF60	78	C107
3A63290H68	PIN, COTTER .250 X 3.00 LG ZINC YEL CRMT	SF60	4	H106
3A63407G01	CAPACITOR W/MTG BRACKETS (660 VOLT)	SF60	12	D107
3A63407H01	CAPACITOR (660 VOLT)	SF60	6	B1E
3A63565H03	CAPACITOR	SF60	2	G106
3A63565H04	FUSE 1/2A	SF60	4	G1B
3A63565H05	FUSE 2A	SF60	6	G1B
3A63565H06	FAN MAJOR	SF60	2	G107
3A63565H11	THERMAL PAD MOD	SF60	4	G1B
3A63565H13	IGBT DUAL	SF60	1	G1B
3A63627H14	Motor cut off switch	SF60	1	F1G
3A63921H67	RESISTOR 1.5K OHM 2W +/-5% TOL	SF60	3	E128
3A64068G01	FLEXIBLOCK VEHICLE ATC CRADLE, WIRE LIST	SF60	4	A114
3A64638G01	WAYSIDE INTELLIGENT READER	SF60	1	T102
3A64769H26	KEYSWITCH HARNESS ASSEMBLY	SF60	18	F121
3A64769H27	ENCODER HARNESS ASSEMBLY	SF60	25	G107
3A64769H28	MOTOR EXTENSION HARNESS ASSEMBLY	SF60	5	G1C
3A64769H38	LED 24VDC - RED	SF60	9	G1C
3A64769H39	LED 24VDC - YELLOW	SF60	15	G1C
3A64769H42	5/C POWER HARNESS ASSMBLY-10 INCH	SF60	18	G1E

**Appendix E - Spare Parts**

Item	Description	Storeroom	Current Balance	Default Bin
3A64769H48	TOP RELEASE ROD ( door)	SF60	1	G112
3A65080H01	DOOR RELAESE DECAL	SF60	14	B3D
3A67215H12	POWER SUPPLY ASSEMBLY- 120 VAC	SF60	6	G1G
3A67215H24	KEYSWITCH ASSY	SF60	1	C115
3A67215H26	NOSING (NEOPRENE) 79.8125	SF60	7	I126
3D15179G01	LEVELING VALVE ASSEMBLY	SF60	13	D125
3D15179H16	TUBING .25 O.D. X .035	SF60	144	I106
3D15179H17	RUBBER GASKET	SF60	23	B3A
3D15257G01	GATE CONTROL TRANSFORMER	SF60	2	D107
3D15323H01	LEVELING VALVE	SF60	7	D125
3D15373H01	COVER 22.796 X 9.290).062 THK SST	SF60	1	I121
3D15403G01	HARD GROUND ASSY	SF60	1	C124
3D15403G04	RAIL CONNECTIONS (SIGNAL ISOLATION)	SF60	131	A114
3D15597H01	WHEEL SPACER 1) MACINED FROM CASTING	SF60	2	SF1409
3D15698G02	SWAY BAR ASSEMBLY	SF60	1	G129
3D15968H01	CONTROLLER MODEL 7K	SF60	1	I113
3D15985H03	INSULATOR .19 THK LEXAN	SF60	21	I105
3D15985H04	INSULATOR .19 THK LEXAN	SF60	29	I106
3D51640G03	PANEL ASSEMBLY	SF60	1	D111
3D51808G01	D/G TX AND INFO RX TERMINAL BOX	SF60	1	D110
3D52075H02	MOTOR OPERATOR 120 VAC	SF60	2	D117
3D99131G01	TRACK DETAIL ASSEMBLY	SF60	3	I106
3D99133H03	BRH MTG BLOCK .75 THK AL BAR	SF60	12	B2B
3D99133H04	BRH MTG BLOCK .75 THK AL BAR	SF60	12	B2B
3D99510H10	SPRING, COMPRESSION, 21.23) .0	SF60	9	B3B
3D99727G01	HYDRAULIC POWER UNIT	SF60	2	I121
3D99727H02	GEAR PUMP	SF60	4	C119
3D99727H03	RESERVOIR 2.5 GAL	SF60	1	C109
3D99727H05	SUBPLATE KIT	SF60	2	C119
3D99727H09	SUCTION STRAINER	SF60	21	C122
3D99727H12	LEVEL GAGE (LHA)	SF60	8	C118
3D99727H13	TANK GASKET 44.00	SF60	4	C118
3D99727H20	MOTOR 2HP 230/460 3PH. W/MTO	SF60	2	D109
3D99914G01	LOW SPEED RAMP ASSEMBLY	SF60	1	F121
3D99919H01	MOTOR D.C.	SF60	14	D106
404P102H74	TRANSFORMER	SF60	1	C101
404P103H08	CONNECTOR, 25 PIN MALE	SF60	745	H101
404P103H12	HOOD, CABLE SUPPORT CLAMSHELL, 25 POS	SF60	41	H101
404P103H20	CONTACT, RCPT, SNAP-IN AMP-BLADE CONN	SF60	213	H1C
404P103H36	CONNECTOR, 37 PIN	SF60	19	B2B

### Appendix E - Spare Parts

Item	Description	Storeroom	Current Balance	Default Bin
404P103H37	CONTACT SOCKET 24-20 AWG	SF60	28	H1C
404P103H41	SCREW LOCK FEMALE, (2 PER KIT)	SF60	38	H101
404P103H43	CONNECTOR RETAINER SCREWS - M	SF60	6	A110
404P104H31	RESISTOR .20 OHM 10 WATT	SF60	2	C122
404P107108	CABLE, HELIAX, 1/2 , N-MALE X 2, 45 FT	SF60	6	E109
404P107H63	CABLE COAX FIRE -RTD N-M/F 10 FT	SF60	12	A123
404P107H77	CABLE, COAX, FIRE-RETRD, N- MALE 18 IN	SF60	4	A122
404P111H54	CAPACITOR 52000 MFD-30 WVDC	SF60	12	C121
404P112H92	POWER SUPPLY 85-264VAC QUAD OUT 350W	SF60	3	A120
404P112H93	POWER SUPPLY 24VDC IA 120VAC IN	SF60	2	A2A
404P115H06	L.E.D. (RED), FOR NPR	SF60	56	D122
404P115H19	DIODE SPECIAL 100A 300V RECTIFIER	SF60	2	B3D
404P115H38	LED RED	SF60	97	B2D
404P117H95	RELAY 1300 OHM 16-24VDC 6FB STD.	SF60	3	C121
404P117H96	RELAY GEN PURP 24DC 2A 6PDT 430 OHM	SF60	2	A111
404P122H02	DIODE 1A4148JANTX	SF60	9	C128
404P122H36	DIODE IN4935	SF60	5	C128
404P127103	FIBER OPTIC MODEM	SF60	3	A2D
404P127H96	MODEM L/HAUL 1300 NM WFT-12 STAND ALONE	SF60	5	A2E
404P131H81	STANDOFF .250 HEX X .625 LG .138-32 BRS	SF60	23	H101
404P135H26	RESISTOR ADJUSTABLE 12 WATT WIRE WOUND	SF60	11	F1F
404P135H27	RESISTOR ADJUSTABLE 12 WATT WIRE WOUND	SF60	2	C127
404P141H19	CONNECTOR. BNC	SF60	211	C108
404P141H91	CONTACT EDGE CARD 20-24 AWG	SF60	191	H1C
404P155H10	CAPACITOR	SF60	33	D123
404P156115	KIT, SLIDE LATCH, 50 PIN, SIZE	SF60	14	B3A
404P156H37	RECEPTACLE, CONNECTOR, SIZE 1	SF60	847	G103
404P156H42	LATCH SLIDE	SF60	1	B102
404P156H82	CONNECTOR, CABLE (TAG READER)	SF60	2	I117
404P157H63	RESISTOR 50 WATT 33.2 OHM 1%	SF60	25	C127
404P157H72	RESISTOR 1K OHMS 10.0W 1% RH10	SF60	2	B2D
404P157H90	RESISTOR 2W 1.5K OHM CARBON FILM	SF60	11	F1C
404P167H15	I.C. 27H010-70 MEMORIES EPROM DIP-32	SF60	175	A102
404P170H64	CONTACT	SF60	98	H1C
404P170H76	RECEPTACLE	SF60	2	F1A
404P175H09	CABLE CLAMP 9 PIN	SF60	1	G103
404P175H26	CONNECTOR 16 POS. 5.0 MM SPG POLYAMIDE, FOR NPR	SF60	21	A122
404P175H44	CLAMP KIT W/RETAINER 50 PIN	SF60	11	G1F
404P175H45	CLAMP KIT W/RETAINER 9 PIN	SF60	4	B3C
404P184H39	CONNECTOR SOLENOID VALVE 1 POS	SF60	9	B3E

**Appendix E - Spare Parts**

<b>Item</b>	<b>Description</b>	<b>Storeroom</b>	<b>Current Balance</b>	<b>Default Bin</b>
404P198H19	LED (RED) DOME 21MA / 125 VAC	SF60	5	C111
404P198H20	LED (GREEN) DOME 24 MA / 125 VAC 1" DIA.	SF60	36	C112
404P198H25	C/L INDICATOR WAYSIDE	SF60	11	G112
404P202H14	CONTACT SOCKET 20-16 AWG GOLD CRIMP	SF60	187	H1C
404P202H30	CONTACT, PIN 24-18 AWG MATE -N- LOK II	SF60	1311	H1C
404P202H33	PIN, GOLD PLATED	SF60	216	G107
404P202H34	SOCKET, GOLD PLATED	SF60	88	G107
404P223H28	KEYING PLUG SIZE 20 SOCKET CONTACT	SF60	111	H101
404P228H06	RESISTOR 2.2K OHMS 1W 5% RG1/2	SF60	12	B2D
404P290H13	LENS 12VD6-13	SF60	3	G117
404P290H15	Keyboard controller 9760-kb	SF60	1	G118
404P290H18	20" monitor	SF60	1	G114
404P290H39	9832VI/O QUAD VIDEO I/O FIBER OPTIONS	SF60	1	G118
404P290H40	9832VDA QUAD VIDEO DECODER FIBER OPTIONS	SF60	1	G118
404P290H41	9832VEA QUAD VIDEO ENCODER FIBER OPTIONS	SF60	3	G118
404P290H42	9832RF FIBER REPEATER FIBER OPTIONS	SF60	1	G118
404P290H43	9832FT FIBER TRANSCEIVER FIBER OPTIONS	SF60	1	G118
404P290H44	9832PS3 POWER SUPPLY FIBER OPTIONS	SF60	1	G118
404P290H45	9832PS7 POWER SUPPLY FIBER OPTIONS	SF60	2	G118
404P291H09	CONVERTER RS232 TO RS485	SF60	3	B2C
404P301H03	ELBOW, 90 DEGREE SHORT	SF60	9	B1A
404P301H04	ELBOW	SF60	6	B3B
404P301H23	UNION TEE .25"	SF60	3	B3C
404P301H31	CONNECTOR .125 MNPT X.25	SF60	1	B1C
404P301H32	ELBOW .125 NPT X .25	SF60	1	B1C
404P301H62	FITTING, BRASS, .625	SF60	66	C106
404P301H63	FITTING, BRASS 1.125	SF60	11	G102
404P304H03	HOSE FITTING	SF60	9	B1B
404P304H04	MALE PIPE HOSE FITTING	SF60	17	B1C
404P304H06	HOSE FITTING	SF60	19	B1C
404P305H02	HOSE FITTING	SF60	26	B1C
404P305H03	HOSE FITTING	SF60	11	B1C
404P305H05	STRAIGHT SWIVEL	SF60	18	B1A
404P305H06	STRAIGHT SWIVEL	SF60	5	B1A
404P306H02	PIPE 37 DEG EXT FLARE	SF60	25	B1B
404P306H05	flare adapter	SF60	13	B1A
404P306H06	PIPE FITTING	SF60	3	B1C
404P306H07	STRAIGHT ADAPTER	SF60	31	B1C
404P306H11	ADAPTER	SF60	3	B1A
404P306H12	PIPE FITTING	SF60	11	B1C

**Appendix E - Spare Parts**

<b>Item</b>	<b>Description</b>	<b>Storeroom</b>	<b>Current Balance</b>	<b>Default Bin</b>
404P306H18	ADAPTOR STRAIGHT	SF60	7	B3B
404P306H20	ADAPTER STRAIGHT	SF60	5	B1B
404P306H25	FITTING, HOSE .250 OD TUBE	SF60	16	B1C
404P307H05	PIPE FITTING	SF60	11	B3B
404P307H06	REDUCER	SF60	18	B1C
404P308H03	PIPE FITTING, 37 DEG FLARE	SF60	11	B1C
404P309H20	FITTING SLEEVE	SF60	11	C117
404P309H21	NUT, 7/16-20 .25 TUBE	SF60	11	B1C
404P310H05	SWIVEL 5/8 OD 7/8-14	SF60	2	B1B
404P310H06	SWIVEL	SF60	11	B1C
404P310H07	SWIVEL 1 OD 1-5/16-12	SF60	2	B1B
404P310H08	SWIVEL 1-1/4 OD 1-5/8-12	SF60	2	B1B
404P311H04	ADAPTER BULKHEAD	SF60	2	B1A
404P311H07	BULKHEAD FITTING	SF60	11	B1C
404P311H11	BULKHEAD FITTING	SF60	6	B1C
404P312H03	CLAMPS	SF60	12	B1C
404P312H08	WIRE CLAMP (.75)	SF60	2	B1C
404P312H13	CABLE CLAMP	SF60	18	B2F
404P313H01	HOSE -04	SF60	779	C116
404P313H02	HOSE .31 ID X .61 OD	SF60	1	C116
404P313H03	HOSE -08	SF60	611	C116
404P313H05	HOSE -12	SF60	1168	C116
404P313H12	TEFLON HOSE	SF60	111	D123
404P313H13	HOSE	SF60	35	T106
404P313H14	TEFLON HOSE	SF60	1	T101
404P313H15	TEFLON HOSE	SF60	1	T101
404P316H05	TEE	SF60	19	B1C
404P317H06	TEE	SF60	8	B1C
404P317H11	TEE	SF60	3	B1C
404P318H05	TEE, MALE PIPE	SF60	34	B1A
404P318H06	TEE	SF60	7	B1A
404P319H03	ADAPTER	SF60	23	B1C
404P319H11	FITTING - ADAPTER	SF60	14	B1B
404P319H22	ADAPTOR, .75 PIPETO 1.06 37 D	SF60	31	B1A
404P321H05	ELBOW 45 DEGREE	SF60	26	B1C
404P322H02	PIPE FITTING	SF60	1	B1C
404P322H06	ELBOW 90 DEG	SF60	34	B1A
404P322H30	FITTING 90 DEGREE ELBOW	SF60	14	B1A
404P323H03	ELBOW 45 DEG.	SF60	5	B1A
404P323H04	ELBOW 45 DEGREE	SF60	15	B1C

### Appendix E - Spare Parts

Item	Description	Storeroom	Current Balance	Default Bin
404P326H04	PIPE ELBOW	SF60	8	B1A
404P327H03	PIPE REDUCER INT/ EXT STL	SF60	25	B1A
404P327H07	PIPE REDUCER .50 X .25	SF60	17	B1A
404P328H26	GREASE CAP YELLOW	SF60	47	G128
404P332H03	SWITCH MOMENTARY ACTION	SF60	1	G1D
404P335H48	SWITCH	SF60	1	E125
404P335H49	SWITCH	SF60	5	E125
404P336H05	ROTARY SWITCH	SF60	2	C117
404P341H04	TERMINAL BLOCK UKK 5-DIO	SF60	3	C117
404P341H27	TERMINAL BLOCK ISOLATOR BRIDGE	SF60	11	B3A
404P348H09	BLOCK CONTACT-N.O.	SF60	2	C118
404P348H10	STD CONTACT BLOCK	SF60	1	D121
404P352H32	TEMPERATURE SENSITIVE LABEL	SF60	471	H1B
404P356H17	RELAY RP 1-1/2 PCB	SF60	2	C127
404P356H19	RELAY EJECTOR	SF60	1	C127
404P357H02	LIGHT INDICATOR	SF60	14	F1B
404P357H04	RED LED LAMP, PROP SUM PANEL	SF60	17	B2D
404P357H55	LED 12VDC RED	SF60	3	C111
404P357H56	LED 12VDC GREEN	SF60	2	C111
404P357H57	LED 12VDC AMBER	SF60	3	C111
404P360H21	LED GREEN 24/28V	SF60	4	B3C
404P360H22	LED YELLOW 24/28V	SF60	2	F1C
404P360H38	LAMP INDICATOR LED MF YELLOW 24V	SF60	7	F1B
404P360H40	LAMP INDICATOR LED MF GREEN 24V	SF60	4	D121
404P360H58	LED HI/LO PAR 36 + PAR 46 MOUNTING RING	SF60	25	AROW
404P360H59	LED RED PAR 36 + PAR 46 MOUNTING RING	SF60	19	AROW
404P363H05	MOUNT / PLATE 155 LB. LOAD / HEAVY DUTY	SF60	54	D127
404P363H06	MOUNT / PLATE 120 LB. LOAD / HEAVY LOAD	SF60	1	D102
404P367H01	TERMINAL, FLAG, RELAY CONTACT	SF60	25	A110
404P367H83	CONNECTOR MULTIMATE MALE PIN 22-18 AWG	SF60	194	H1C
404P367H94	CONNECTOR CONTACT CRIMP 18-14 AWG.	SF60	94	H1C
404P367H95	CONNECTOR MALE PIN 18-14 AWG	SF60	111	H1C
404P367H97	CONNECTOR CONTACT CRIMP 20-1	SF60	192	H1D
404P367H98	CONNECTOR MALE PIN 20-14 AWG	SF60	197	H1C
404P367H99	CONNECTOR CONTACT CRIMP 24-18 AWG	SF60	1	H1C
404P373119	CONNECTOR, RADIAX CABLE	SF60	21	D110
404P373120	RCT6, RADIAX COAXIAL RADIATING CABLE	SF60	3111	SFL100
404P374H01	RECEPTACLE 4 CONTACT, ANTENNA WIRE ASSY	SF60	7	E126
404P374H30	SOCKET, SIZE 16S	SF60	28	H1D
404P374H31	RECEPTACLE,( FOR FSE REBUILD)	SF60	11	D113

**Appendix E - Spare Parts**

Item	Description	Storeroom	Current Balance	Default Bin
404P375H14	GROMMET STRIP	SF60	1211	G100
404P376H09	STANDOFF	SF60	61	D103
404P394H01	MOUSE INTELLIPOINT VERSION 2.0 COMBO	SF60	1	A111
404P394H29	COMPUTER COMPONENT - KEYBOARD	SF60	2	E127
404P394H45	LAPTOP TERMINAL 133 MHZ PENTIUM	SF60	1	A112
404P394H71	MONITOR, 22" DIAMOND PRD 2060 D	SF60	1	AWALL
404P394H72	LASERJET PRINTER	SF60	1	G114
404P396H04	RIVET .188 DIA (.50-.78) BLIND LG	SF60	111	E111
404P396H06	RIVET COUNTERSUNK HEAD	SF60	115	H1D
404P396H66	RIVET, .250 DIA PROTRUDING HEAD, roof and door panels	SF60	325	I102
404P396H79	RIVET, SS DOME HD 3/16 DIA .138- .236 GRIP	SF60	99	I102
404P400H02	OVAL HD STUD	SF60	612	B1D2
404P401H02	GROMMET FULL	SF60	611	B2B
404P402H03	SPRING	SF60	213	G1C
404P404H35	GROMMET 17 POS STD CIR20 - 29	SF60	13	G1A
404P405H07	SPEAKER	SF60	4	D120
404P405H09	SPEAKER	SF60	1	A129
404P405H14	SPEAKER	SF60	2	E127
404P405H22	SPEAKER 2.5	SF60	2	G1F
404P405H28	4" waterproof speakers 70v/4w	SF60	11	G119
404P415H52	CLAMP, SPLIT BOLT	SF60	24	B2B
404P416H07	SPACER .50 OD - .257 ID).50 LG AL, touchscreen	SF60	77	A100
404P416H23	SPACER	SF60	41	C106
404P416H70	SPACER, .312 OD X .194 ID	SF60	21	I106
404P418H01	CABLE CLAMP (.38)	SF60	16	B3A
404P419H03	LAMP FLUORESCENT	SF60	49	AROW
404P419H11	LAMP FLUORESCENT 32 WATT 48 LG	SF60	7	FDRSHELF
404P419H14	LAMP FLUORESCENT 25 WATT 36.00 IN LG	SF60	43	FDRSHELF
404P422H05	CABLE MARKER	SF60	1441	H101
404P426224	KNURLED THREADED INSERT (LOS)	SF60	186	B100
404P427H05	FUSE 25 AMP	SF60	9	F1B
404P430H20	SWITCH 3 POS WIPER	SF60	1	D103
404P436199	SCREW .250-20X.75 LG SST LARGE DIA HD	SF60	61	B120
404P436H36	SCREW (DOOR)	SF60	19	B2C
404P437100	washer dielectric 4mm thk	SF60	112	B2D
404P437109	LUKU CASE (D221946-220)	SF60	14	G1H
404P437H26	RELAY BASE	SF60	11	A2D
404P437H34	SPRING CONTACT (14-16 AWG)	SF60	111	B3C
404P437H51	RELAY 9-30 VDC ADJ. TIMER 125 OHM	SF60	1	A2A
404P437H56	RELAY O.A. BIASED 400 OHM 6FB	SF60	23	E102



### Appendix E - Spare Parts

Item	Description	Storeroom	Current Balance	Default Bin
404P437H64	RELAY O.A. BIASED 1000/250 OHM	SF60	3	A117
404P437H65	CONTACT (COUPLER) SPRING LOAD	SF60	1	F100
404P437H68	CONTACT (COUPLER) LOOP / SPRI	SF60	1	F100
404P437H72	PIN TRACKING SUPP. ROLLER, D220348-100	SF60	25	G1F
404P437H81	CONTACT PINS FIXED	SF60	9	B3C
404P437H85	AIR COUPLER SELF SEALING	SF60	1	D101
404P437H86	LOCKING PIN, 220102-100	SF60	21	G1H
404P437H87	OUTER SPRING	SF60	9	G1G
404P437H88	INNER SPRING	SF60	17	G1G
404P437H89	BUSHING LOCKING PIN, 220023-100	SF60	12	G1H
404P437H92	GAUGE FOR COUPLER BOLT (1,0 MM), 222902W42	SF60	1	TOOLCRIB
404P437H93	GUAGE CX-100 COUPLER VERT GUIDING SURF, 223545W11	SF60	1	TOOLCRIB
404P437H94	GAUGE FOR COUPLER (223546W11)	SF60	1	TOOLCRIB
404P437H96	VITAL RELAY 12-14 VDC 800 OHM	SF60	18	E101
404P437H97	RELAY TIME DELAY 24 VDC 11 PIN INTERVALO	SF60	3	G1F
404P437H98	COUPLER PARTS CENTER PLATE, D209244-100	SF60	4	C102
404P438H09	DIODE	SF60	11	B3D
404P438H36	RECTIFIER BRIDGE 12A	SF60	2	F1D
404P439H74	RESISTOR 2 WATTS 50 OHM N-MALE	SF60	2	C118
404P443H02	RELAY SOCKET 8 PIN	SF60	2	E118
404P443H07	RELAY SOCKET	SF60	22	E118
404P443H12	RELAY	SF60	1	C106
404P443H16	FRM RELAY	SF60	2	E118
404P443H57	SPRING HOLD DOWN	SF60	41	E103
404P443H63	SPRING HOLD DOWN	SF60	11	D113
404P443H67	RELAY SOCKET	SF60	3	D122
404P443H92	RELAY 48 VDC 10 AMP 2 POLE	SF60	2	B3B
404P449H06	SPRING, CONTRACT SST	SF60	15	B2A
404P452H89	LUG FASTON 16-14 AWG	SF60	82	H101
404P453105	MARKER STRIP 12 TERM (13-24)	SF60	4	B3B
404P453H86	MARKER STRIP 12 TERM (1-12)	SF60	4	B3B
404P455H03	CONNECTOR CLAMP	SF60	8	H101
404P455H22	CONNECTOR RECEPT. 37 PIN	SF60	11	H101
404P456H08	CONNECTOR	SF60	5	B3C
404P456H48	PLUG 16 POS	SF60	3	H101
404P458H02	LOCKNUT .375-24 STL 12 PO	SF60	681	H1B
404P463H02	LONG ELBOW	SF60	4	B1A
404P470H03	PIPE PLUG .250-18	SF60	18	B1B
404P470H06	PLUG .500 PIPE HEX	SF60	16	B1A
404P470H10	PLUG LUBE SIGHT 1.00 PTF	SF60	2	E128

**Appendix E - Spare Parts**

<b>Item</b>	<b>Description</b>	<b>Storeroom</b>	<b>Current Balance</b>	<b>Default Bin</b>
404P471H01	PIPE NIPPLE	SF60	5	B1C
404P471H05	NIPPLE	SF60	6	B1A
404P472H02	ELBOW FITTING	SF60	27	B1B
404P472H03	PIPE ELBOW, AERO CORP. 2089-6-6S	SF60	18	B1A
404P478H03	PRESS CONTROL 0/100 PSI W/0-10V OUTPUT(Transducer)	SF60	13	C100
404P480128	Starter 24 VDC (Supercedes 404P480H31)	SF60	1	D106
404P480H03	CONTACTOR	SF60	2	D117
404P480H31	STARTER, 24VDC COIL	SF60	3	D106
404P480H33	CONTACTOR	SF60	9	B2H
404P480H35	CONTACTOR INTERLOCK	SF60	2	B1B
404P480H65	CONTACT KIT, MAIN WAYSIDE	SF60	47	I121
404P480H81	INTERLOCK N.C. 10A@120VAC EXT CONTACT	SF60	31	B3F
404P480H82	INTERLOCK N.O. 10A@120VAC EXT CONTACT	SF60	24	B3F
404P484H02	CABLE TIE MOUNT	SF60	1	H101
404P484H15	MOUNT CABLE TIE	SF60	299	B3E
404P488H22	BREAKER 2 POLE 4 AMP 240 VAC	SF60	4	F1A
404P488H32	CIRCUIT BREAKER GFI DIN MOUNTED	SF60	4	C121
404P488H37	CIRCUIT BREAKER	SF60	3	F121
404P491H27	AUDIO MATCHING TRANSFORMER	SF60	2	D107
404P493H01	BHD FITTING	SF60	1	B1B
404P498H10	SWITCH PRESSURE	SF60	1	D125
404P500H07	AMPLIFIER 6 WATT AUDIO POWER	SF60	1	B3A
404P500H09	MICROPHONE PREAMPLIFIER MODULE	SF60	2	A113
404P500H10	1/8 DIN LCD GREEN BACKLIT DISPLAY	SF60	5	E103
404P501H07	LINE AMPLIFIER ASSY W/LONWORKS CONNECTOR	SF60	1	T107
404P501H08	LINE AMPLIFIER ASSY W/LONWORKS CONNECTOR	SF60	9	T107
404P501H12	power amplifier cx302v	SF60	1	G119
404P501H18	AUDIO AMPLIFIER 150W, 70V	SF60	3	T106
404P502H34	FUSE 2.0 AMP 250 VOLTS 5X20 MM	SF60	134	F1B
404P502H35	FUSE 4 AMP 250V 5X20 MM	SF60	42	F1B
404P502H36	FUSE 6.3 AMP 250 V 5X20 MM	SF60	133	C127
404P506H02	SWITCH TOGGLE	SF60	1	B3A
404P506H05	SWITCH (Equipment cover)	SF60	9	G1C
404P506H11	TOGGLE SWITCH SPST 6A/250V	SF60	1	F1C
404P506H38	SWITCH TURN POSITION KEY	SF60	2	F1A
404P508H13	BEARING THRUST NEEDLE ROLLER (1.25 X1.93 X .078 VAP 5 6010127	SF60	14	I121
404P513H03	POTENTIOMETER	SF60	2	E127
404P513H11	POTENTIOMETER	SF60	7	D107
404P513H16	POTENTIOMETER 8 OHM	SF60	9	F1A

### Appendix E - Spare Parts

Item	Description	Storeroom	Current Balance	Default Bin
404P513H34	POTENTIOMETER 5K 2W PLASTIC W/LKG BSHG	SF60	1	C111
404P528H25	CLIP -ON RECEPTACLE TYPE U, SST MEDUIM	SF60	111	B2A
404P530H02	HOSE CLAMP	SF60	21	G1E
404P531H54	cover, safety	SF60	7	A101
404P532H02	SWITCH 2 PORT KVM	SF60	1	T112
404P532H58	SWITCH KEY OPERATED 6 POLES	SF60	3	D122
404P532H76	SWITCH ROTARY 45 DEG DETENT W/KNOB	SF60	1	F1A
404P532H82	SWITCH ROTATIONAL 3 POS LEAD-TRAIL	SF60	2	D122
404P533H11	GROOVE PIN .125 DIA .875 LG STL	SF60	76	B3A
404P534H33	SHRINK TUBING 2/0 AWG	SF60	21	I107
404P534H47	SHRINK TUBING .500 ID (BLUE)	SF60	611	H102
404P536H44	SCREW .500 DIA 1.50 LG .375 -16 SHOULDER	SF60	25	C108
404P538H47	SPRING	SF60	11	C112
404P538H57	SPRING .480 OD 1.50 FREE .045 WIRE	SF60	414	H1A
404P538H59	gas spring	SF60	6	B113
404P538H60	SPRING / BALL STUD / 10MM .3125 X 18	SF60	26	B3A
404P538H74	CONTACT SPRING AWG 18-20	SF60	8	C117
404P538H78	SPRING PIN .156 DIA X 1.50 LG SST	SF60	211	H101
404P540H27	SLEEVE BRG .380 ID X .502 OD X .750 LG	SF60	51	H1A
404P540H28	SLEEVE BRG .380 ID X .502 OD X .875 LG	SF60	111	H1A
404P541H03	CONNECTOR, TACH CABLE	SF60	9	B3C
404P541H94	CONNECTOR 3 POS SOCKET CIRC N	SF60	5	A121
404P544H01	MALE ELBOW .250 OD TUBE .250	SF60	13	B1A
404P544H19	BULKHEAD FITTING	SF60	15	H112
404P546H01	BEARING CUP	SF60	116	H1H
404P546H02	BEARING CONE	SF60	38	H1H
404P546H03	BEARING CUP	SF60	138	H1H
404P546H04	BEARING CONE	SF60	218	H1H
404P546H05	BEARING CUP	SF60	4	H106
404P546H06	BEARING CONE	SF60	128	D128
404P547H04	SEAL	SF60	162	H1G
404P547H06	SHAFT SEAL	SF60	7	D124
404P547H07	SEAL	SF60	168	H1G
404P547H17	HUB SEAL DOUBLE LIP	SF60	1	D124
404P547H22	PINION SEAL REPAIR, SPEEDY SLEEVE CHICAGO RAWHID,	SF60	7	D124
404P547H46	TORQUE SEAL ORANGE	SF60	9	B1E
404P547H68	TORQUE SEAL, PINK	SF60	5	B1E
404P549H01	GREASE CAP	SF60	159	H1G
404P551H01	CASTLE NUT	SF60	113	H1B
404P551H06	WHEEL STUD .500-20 1.31 LG	SF60	23	B2C

### Appendix E - Spare Parts

Item	Description	Storeroom	Current Balance	Default Bin
404P551H07	WHEEL NUT .500-20 NYLON RINGLOCK	SF60	117	E122
404P551H08	CLEVIS PIN .375 OD X 1.25 LG	SF60	19	D112
404P554H22	FUSE	SF60	5	D112
404P554H51	FUSE 50A (battery charger)	SF60	27	F1B
404P554H52	FUSE BASE	SF60	3	F1A
404P556H04	CABLE CLAMP	SF60	24	B2A
404P556H51	CABLE CLAMP .25 WIDE .19 ID	SF60	72	G1C
404P560H02	FITTING .250 - 18, MALE PIPE	SF60	3	B1B
404P561H01	HOSE .250 ACALA SELF COUPLING	SF60	111	I103
404P564H03	THRUST BEARING 3.00 DIA BORE	SF60	2	H116
404P564H04	BEARING	SF60	4	H103
404P564H05	BEARING	SF60	14	I115
404P567H14	SENSOR TIRE MONITOR KIT	SF60	1	C100
404P585H14	FUSE 1.0 AMP 600 V 4 C 500 V DC	SF60	9	F1B
404P589H01	BUTT SPLICE 16-14 AWG INSULATED	SF60	129	H1D
404P589H02	PARRALLEL SPLICE 16-22 AWG	SF60	92	H101
404P593H03	DVAU UPGRADE MEMORY MODULE	SF60	3	A101
404P593H04	DVAU EPROM FOR 40 MIN UPGRADE	SF60	2	A101
404P594H01	VARISTOR	SF60	8	B2D
404P594H24	VARISTOR 127 VDC	SF60	4	B2D
404P595H08	AB BREAKER 15 AMP	SF60	4	F1A
404P595H09	AB BREAKER 20 AMP	SF60	3	B1F
404P595H78	CONTACT CARRIER KIT 3 POLE	SF60	2	D117
404P595H80	BREAKER MAGNETIC HYDRAULIC 5.0 AMPS	SF60	2	D121
404P595H84	BREAKER 1 POLE 277 VAC 15A	SF60	3	F1E
404P595H87	BREAKER 1 POLE 277 VAC 30A	SF60	1	D122
404P595H90	BREAKER 1 POLE 277 VAC 70A	SF60	2	D122
404P598H04	POTENTIOMETER 10K OHM 3 WATTS	SF60	9	B3B
404P598H05	POTENTIOMETER 1K OHM 3 WATTS	SF60	1	F1B
404P599H17	ADAPTER, BRASS, .625	SF60	49	C106
404P599H18	ADPTER, BRASS, 1.125	SF60	9	C106
404P600H12	FLATWASHER .375 "D" SHAPED	SF60	299	H127
404P600H35	WASHER .382 ID .750 OD .032 T SST	SF60	111	D113
404P600H38	WASHER .255 I.D .50 O.D.	SF60	49	H1C
404P600H42	WASHER FLAT .375 STL BLACK	SF60	231	G1C
404P600H43	lockwasher .375 stl black	SF60	5	G1C
404P600H57	WASHER 2.88 OD X .51 ID X .125 THK (HVAC MOUNT)	SF60	19	C109
404P607H08	CONTACT TIP, MOVEABLE, 4MM, L	SF60	24	B3C
404P611H50	CAPACITOR 20 UF 370VAC	SF60	2	C101
404P617H48	BREAKER 40A 227 VAC 1 POLE	SF60	2	D122

**Appendix E - Spare Parts**

<b>Item</b>	<b>Description</b>	<b>Storeroom</b>	<b>Current Balance</b>	<b>Default Bin</b>
404P625H12	SCREW RETAINER	SF60	229	B2B
404P630H15	RELAY 24VDC	SF60	2	E120
404P630H22	RELAY 24VDC 2 DPDT 10 AMP	SF60	7	F1A
404P630H25	RELAY MODULE UMK22-REL12/21-21	SF60	12	F101
404P631H01	SHOULDER SCREW	SF60	19	D112
404P631H02	BOLT .375-24 x 1.00 ST	SF60	564	H1B
404P632H04	SPRING WASHER	SF60	8	H106
404P632H11	WASHER 33.0MM OD 1.4MM THK INT	SF60	88	H101
404P645H14	JAM NUT RECT.	SF60	2	E126
404P645H16	CABLE CONNECTOR-PLUG	SF60	5	E126
404P645H18	ADAPTOR ASSY	SF60	3	E126
404P649H02	FILTER	SF60	4	C111
404P649H28	FAN 24 VDC BALLBEARING 35CFM	SF60	2	C123
404P649H40	FAN TRAY ASSEMBLY 115VAC 192CMH X3 FANS	SF60	2	A120
404P650H16	BUMPER 1.00 DIA .69 LONG RUBBER	SF60	11	D113
404P659H01	RELAY LIGHTING	SF60	6	D117
404P660H01	BALLAST SINGLE LAMP	SF60	7	C104
404P660H02	BALLAST DOUBLE LAMP	SF60	6	C103
404P661H01	LAMP SOCKET FLOURESCENT SIDE INSERT	SF60	8	D117
404P661H02	LAMP HOLDER	SF60	12	G1D
404P663H06	Switch, 4 position RF	SF60	1	A2D
404P667H01	CLAMP	SF60	119	C113
404P670H22	FERRULE 22/20 AWG	SF60	51	G110
404P671H64	ADHESIVE, MAGNOBOND 58-2A	SF60	1	YELCAB
404P676H01	LOCK W/KEY	SF60	1	B3B
404P680H01	ROLLER BEARING	SF60	16	E116
404P681H30	FLANGE BEARING .502 I.D. .691 O.D. .75 L	SF60	1	C127
404P682H01	CONTROL RELAY	SF60	26	D105
404P682H02	CONTROL RELAY	SF60	69	C123
404P682H21	RELAY GERMAN SIGNAL (6NO/2NC)	SF60	26	A111
404P682H22	RELAY GERMAN SIGNAL (4NO/4NC)	SF60	33	B121
404P682H23	HEAVY DUTY DC CONTROL RELAY	SF60	4	D122
404P683H08	THYRISTOR 200V 70A	SF60	3	B3D
404P687H05	GASKET, MOTOR GEARHOUSING UNIT	SF60	1	D106
404P687H19	CABINET GASKET	SF60	1	I104
404P687H26	O-RING, NEOPRENE, (-16)	SF60	99	C106
404P688H01	SCREWS W/ SHOUDER	SF60	1	T116
404P690H01	END, RIGHT HAND ROD	SF60	1	C127
404P690H02	END, LEFT HAND ROD	SF60	21	B3E
404P690H03	END, RIGHT HAND ROD	SF60	2	C121

**Appendix E - Spare Parts**

Item	Description	Storeroom	Current Balance	Default Bin
404P690H04	END, LEFT HAND ROD	SF60	2	B121
404P690H14	# ROD END .75 BORE, 750 -16 MALE R/H	SF60	88	G107
404P690H16	ROD END .75 BORE .750 - 16 FEMALE R/H	SF60	67	G107
404P690H17	ROD END .375-24 MALE THD	SF60	29	H111
404P691H35	DECAL, WHEELCHAIR 4X4	SF60	43	B3D
404P694H06	INDICATING LIGHT	SF60	113	C122
404P694H07	LENS - GREEN	SF60	3	B3A
404P694H12	PUSHBUTTON FLUSH 2-NO 2-NC WHITE	SF60	2	F1C
404P694H13	PUSHBUTTON FLUSH 2-NO 2-NC BLUE	SF60	2	C128
404P697H18	GREASE NO-OXIDE	SF60	5	F1F
404P697H31	BATTERY GEL CELL 86 AMP HRS 12V	SF60	1	G104
404P697H36	BATTERY GEL CELL 97 AMP HR 12V	SF60	8	I109
404P697H57	TESTER BATTERY CONDUCTANCE DEL	SF60	1	G115
404P697H62	BATTERY ASSEMBLY 3.5V, 750MAH, LITHIUM	SF60	51	A2C
404P698H01	UNIVERSAL JOINT	SF60	6	E100
404P699H01	SOLENOID VALVE	SF60	1	B3B
404P699H23	SOLENOID VALVE	SF60	2	D113
404P699H24	SOLENOID VALVE, HYDRAULIC, 14	SF60	1	C119
404P700H01	DOUBLE CHECK VALVE	SF60	1	B3B
404P701H09	LOW POWER LINE FILTER 3A	SF60	2	C101
404P703H07	TOGGLE SWITCH.	SF60	2	F1C
404P703H55	SWITCH TOGGLE	SF60	2	E118
404P703H67	SWITCH TOGGLE	SF60	1	F101
404P703H72	SWITCH SUB MINIATURE PUSHBUTTON	SF60	2	D107
404P708H54	POWER SUPPLY	SF60	1	G117
404P708H65	Power Supply	SF60	1	A2D
404P7094174	MDR	SF60	1	A121
404P709H11	TRANSMITTER CARTRIDGE	SF60	2	E122
404P709H60	VASSA (DVAU)	SF60	1	A1C
404P709H73	RADIO EQUIPMENT MDR 21-56 VDC	SF60	1	T105
404P709H74	MOBILE DATA RADIO	SF60	1	T106
404P709H75	RADIO EQUIPMENT BDR RACK MOUNT	SF60	5	A116
404P709H78	N-CONNECTOR, EPOXY SEAL	SF60	6	A121
404P709H79	2-4 GHZ, EPOXY SEAL	SF60	4	A121
404P709H80	2-4 GHZ, EPOXY SEAL	SF60	2	G1D
404P709H81	2-4 GHZ, EPOXY SEAL	SF60	1	A121
404P709H82	1-4 GHZ EPOXY SEAL	SF60	2	A121
404P709H83	POWER DIVIDER, 1-4 GHZ	SF60	2	A121
404P709H85	DIRECTIONAL COUPLER	SF60	2	A121
404P709H90	DOUBLE RF HYBRID	SF60	1	A121

**Appendix E - Spare Parts**

Item	Description	Storeroom	Current Balance	Default Bin
404P712H01	COUPLING MALE HALF	SF60	4	B121
404P712H04	QUICK PLUG	SF60	4	B1C
404P716H66	CABLE, RF CABLE ASSY, NPR	SF60	14	A121
404P719H01	PIPE CROSS	SF60	12	B1A
404P724H08	MOUNTING BUSHING	SF60	12	B1B
404P724H10	BUSHING 2.00 O.D. RUBBER	SF60	3	G1A
404P727H03	RETRACTABLE SPRING PLUNGER	SF60	1	D105
404P731H02	SPRING, NEGATOR	SF60	6	C112
404P732H08	Antenna 488/512 MHZ	SF60	2	G116
404P732H09	Antenna 488/512 mhz	SF60	7	A115
404P732H10	Norming point reader antenna	SF60	3	A126
404P732H16	MDR Antenna	SF60	31	G120
404P740H09	POWER CORD 3C	SF60	94	E125
404P740H95	CABLE 3 COND, 24 AWG, SHIELDED	SF60	116	C100
404P740H99	CABLE (WELDING) 6 AWG 600V STRANDED	SF60	748.5	H114
404P741H31	HOLE PLUG .25 DIA PLATED	SF60	56	B2A
404P745H10	TUBING .250 OD NYLON TUBING	SF60	131	C100
404P747H18	SWITCH ASSY W/CONNECTOR MS3112E-12-8P	SF60	2	F1C
404P747H23	FDDI BYPASS SWITCH SC-SC-DB9 RACK-2M	SF60	2	H112
404P747H25	SWITCH FDDI BYPASS SC-SC-MDIN RACK-2M	SF60	1	C111
404P749H37	ADAPTER, 3/8 OD TUBE	SF60	15	B1A
404P749H39	MALE CONNECTOR	SF60	5	B1B
404P749H52	ELBOW (90 DEGREE) .625 FITTING	SF60	4	B1B
404P749H55	ELBOW (90 DEGREE) 1.125 SOLDER	SF60	4	B1B
404P749H66	ELBOW (90 DEGREE) 1.125 FITTIN	SF60	4	B1B
404P749H69	PIPE TEE	SF60	9	B1B
404P749H79	MALE ELBOW	SF60	11	I115
404P749H80	CONNECTOR MALE	SF60	9	I115
404P749H81	MALE ELBOW 45 DEG	SF60	5	I115
404P749H82	3.50 LONG NIPPLE	SF60	3	C118
404P749H94	CONNECTOR	SF60	3	C118
404P749H95	PLUG .375 PLUG S STL	SF60	11	I115
404P749H98	STREET TEE .125 NPT	SF60	5	B1C
404P750H10	CRIMP SPLICE, 14-16 AWG.	SF60	25	I106
404P754H28	LOCKNUT, CONDUIT 2.00 ALUM	SF60	21	B2C
404P755H03	STRAP .030 X .75 SST	SF60	51	E112
404P755H04	BUCKLE	SF60	25	G1C
404P761H26	CABLE EXANE COAXIAL 21 AWG W	SF60	1	H103
404P761H38	WIRE 18 AWG 3/C + SHIELD EXANE 600V	SF60	9	B115
404P761H41	CABLE 2 COND 16AWG 600V TW / S	SF60	561	E125

**Appendix E - Spare Parts**

Item	Description	Storeroom	Current Balance	Default Bin
404P765H10	RESISTOR MTG HDW 210-1000	SF60	2	C128
404P765H11	RESISTOR MTG HDW 210-12 WATT	SF60	2	F1F
404P769H02	SHRINK TUBING 1. 10 - 0375	SF60	112	I103
404P769H03	TUBING 1.50 - .50 SHRINK 12" LG	SF60	114	H121
404P769H10	SHRINK TUBING, .75" DIA. BLACK 3: 1 SHRINK	SF60	2717	H110
404P786H03	REDUCER INTERNAL	SF60	13	B1C
404P798H10	COAXIAL ARRESTER	SF60	1	G100
404P799H01	HOSE .406 ID X .77 OD	SF60	28	C119
404P800H02	FITTING, SWIVEL	SF60	12	C116
404P803H05	VALVE, 1/2 BALL PANEL MOUNTING	SF60	1	I115
404P810H03	VALVE PRESSURE RELIEF	SF60	2	C119
404P810H04	SOLENOID VALVE	SF60	1	B1F
404P810H05	SOLENOID VALVE	SF60	2	C119
404P810H06	SOLENOID VALVE	SF60	2	C119
404P810H07	MANUAL OVERRIDE HANDLE ASSEMBLY	SF60	2	I121
404P810H08	MANUAL OVERRIDE HANDLE ASSEMBLY	SF60	1	T109
404P810H09	BOLT KIT .250-20 X 2.25 LG	SF60	11	C123
404P810H11	BOLT KIT .250-20 X 4.25 LG	SF60	5	C123
404P810H22	VALVE 1/4 3 WAY DIRECT ACTING	SF60	1	B128
404P810H24	VALVE REPAIR KIT FOR 404P810H22	SF60	51	B3G
404P813H18	FILTER	SF60	11	B2B
404P813H19	CHECK VALVE .38-14 NPTF DRY SEAL	SF60	2	C128
404P820H22	FILTER ELEMENT (10B)	SF60	4	C127
404P829118	OPTICAL TRANSCEIVER	SF60	1	G117
404P829119	ELECTRICAL TRANSCEIVER	SF60	1	G117
404P829126	10 GBYTE HARD DISK DRIVE	SF60	2	A2C
404P829128	250 W COMUTER POWER SUPPLY	SF60	1	A113
404P835100	TERMINATION MODULE KIT, FSE	SF60	33	B3F
404P835H29	ANTENNA; 45FT. COAX FLAT TIRE SENSOR	SF60	1	A111
404P835H30	SEISMIC SENSOR	SF60	1	T108
404P835H33	WIND SENSOR	SF60	1	EROW
404P835H86	SENSOR, TPMS 433	SF60	81	B1
404P835H91	TPMS Reader	SF60	1	
404P837H01	SONALERT 10-48 VDC 4500 HZ	SF60	1	C111
404P837H02	SONALERT 10-48 VDC 1900 HZ	SF60	1	C107
404P837H03	SONALERT	SF60	1	C111
404P840H01	PRESSURE GAUGE	SF60	5	C118
404P840H11	PRESSURE GAGE 0-160PSI BK MOUNT	SF60	2	D113
404P840H12	PRESSURE GAGE 0-300PSI BK MOUNT	SF60	4	D113
404P840H13	PRESSURE GAGE 0-60PSI BACK CONN.	SF60	7	D126



**Appendix E - Spare Parts**

<b>Item</b>	<b>Description</b>	<b>Storeroom</b>	<b>Current Balance</b>	<b>Default Bin</b>
404P845H02	NUT	SF60	419	C114
404P846H22	NUT (DOOR)	SF60	12	B2C
404P847H13	CONTACT 22-18 AWG GOLD PLATE	SF60	211	H1D
404P847H19	CONTACT PIN 22-26 AWG GOLD CRIMP	SF60	1	H1C
404P848H02	EXTRUDED GROMMET	SF60	1211	A101
404P851H01	FITTING 37 DEG FLARE BULK.	SF60	6	B1A
404P855H03	SWIVEL	SF60	8	B1C
404P855H07	SWIVEL FLATE TO FLARE	SF60	6	B1C
404P856H04	MUFFLER AIR .25 BSP FLAT HD 34MM	SF60	1	D111
404P856H06	MUFFLER, SINTERED, 1/8" NPT	SF60	9	B2A
404P863H26	O-RING 1.00 I.D. 1.25 O.D. .125 WD	SF60	194	E103
404P863H33	O-RING, NEOPRENE (-25)	SF60	56	C106
404P863H46	O-RING, TEFLON	SF60	51	C106
404P863H54	O-RING, 10.125 ID X 10.312 OD	SF60	19	E112
404P870H01	security fastener .164-32	SF60	216	B3A
404P879H06	COUNTER- REMOTE RESET	SF60	2	E116
404P883H02	RIVET	SF60	83	B2A
404P903H06	CONTACT SOCKET 20-14 AWG	SF60	1119	H101
404P903H07	CONTACT PIN 20-14 AWG	SF60	682	H1C
404P903H12	CONTACT SOCKET TYP 16 AWG 18-16	SF60	1	E126
404P903H44	CONTACT BLOCK SPST N.O.	SF60	2	F1A
404P930H02	BELT	SF60	11	D126
404P931H03	#FILTER 6.5 X 33.0 X .50 THK	SF60	148	C105
404P931H07	FLTR MEDIA 12.88 X 13.88 X .75 THK FOAM	SF60	39	E103
404P931H13	KICK PNL FILTER (22 X 9.87 X .50 THK )	SF60	61	E105
404P948H05	WING NUT 10-32 SST	SF60	1	H101
404P948H14	NUT, ORS, C. STL, .625	SF60	14	C106
404P948H15	NUT, ORS, C. STL, 1.125	SF60	11	C106
404P949H07	BOOT	SF60	21	G108
404P949H08	SHOCK ABSORBER 1.38 BORE .63 ROD	SF60	46	G108
404P951H07	EYE BOLT .280-20 X 2.00 ST	SF60	28	D112
404P951H08	STAINLESS STEEL EYEBOLT .250-2	SF60	21	D112
404P957H37	CONNECTOR RG58C/U GOLD CTR	SF60	1	H103
404P957H44	CONNECTOR TYPE AS-MBKT-185 (Light gray	SF60	11	G100
404P957H46	CONNECTOR TYPE AS-MBKT-085 (DARK GREY) PLCS	SF60	41	G100
404P957H47	CONNECTOR, COAXIAL	SF60	1	D110
404P963H30	POWER SUPPLY 12 VDC	SF60	1	C111
404P963H32	POWER SUPPLY 115 VAC PLUG-IN	SF60	1	C117
404P963H36	POWER SUPPLY 115VAC - 9VDC PLUG-IN	SF60	5	A2C
404P963H38	POWER SUPPLY RACK MOUNTABLE	SF60	4	T123

**Appendix E - Spare Parts**

Item	Description	Storeroom	Current Balance	Default Bin
404P968H10	HAND PUMP SINGLE PISTON	SF60	1	B109
404P970H39	TOUCH LATCH- MAGNATIC, WHITE, HOOK SWITCH PANEL	SF60	21	B2C
404P985H06	CAPTIVE SCREW PHH, MEDIUM ZINC	SF60	221	B2A
404P985H07	CAPTIVE SCREW PPH, MEDIUM ZINC	SF60	248	B2A
404P985H23	SCREW .375-16 X 2.25 SOC HD B	SF60	31	G1C
404P988H38	MTG RAIL	SF60	4	A111
404P988H85	SWITCH TYPE UK5-MTK-P/P	SF60	2	C101
404P988H89	TERMINAL BLOCK FUSED W/LED 15-30V	SF60	4	C117
404P988H97	FUSE PLUG 5-15V AC/DC W/LIGHT	SF60	46	F1A
404P988H98	FUSE PLUG 15-30V AC/DC W/LIGHT	SF60	26	F1A
404P996H02	VALVE IN-LINE CHECK	SF60	2	C118
404P996H03	CHECK VALVE	SF60	2	F1C
404P996H06	TOGGLE VALVE .25 M/.25 M .125 ORIFICE	SF60	5	D113
404P996H08	VALVE, BLEEDER	SF60	11	I115
404P996H10	BLEEDER VALVE	SF60	1	B3A
4077B45H02	D C AMMETER 1)	SF60	4	D121
4077B76G02	SWITCH ASS'Y	SF60	1	E120
4077B90G02	SUSPENSION FRAME DETAIL ASSY	SF60	6	E128
4078B16H01	VOLTMETER	SF60	1	E121
4078B40H02	STD. COIL 24 VOLT	SF60	4	E113
4078B51H01	THYRISTOR	SF60	6	B3E
4078B67G01	STD RH STATIONARY PART ASSEMBLY	SF60	1	C101
4078B67G04	STD LH STATIONARY PART ASSEMBLY	SF60	1	C101
4078B72H01	COIL	SF60	5	C107
4078B74G01	STD. INTERLOCK MOVING PART ASSEMBLY	SF60	1	B1D
4078B89H01	SWITCH TEMPERATURE LEVEL	SF60	7	I121
409P021H13	MICROPHONE (HANDHELD)	SF60	12	A112
409P024H05	CONTACT	SF60	31	D106
409P033H98	Norming point reader	SF60	1	A114
409P034H04	REDUNDANT MODBUS PLUS OPTION ADAPTER	SF60	3	A2C
409P034H06	COMMUNICATION ADAPTER	SF60	22	G100
409P034H07	MODULE I/O BASE	SF60	25	G100
409P034H37	MODICON PLC COMPACT CONTROLLER 984-120	SF60	7	A2A
409P034H43	DEP 218 INPUT MODULE 115 VAC	SF60	35	A100
409P034H45	SERIAL ADAPTER LONTALK SLTA-10	SF60	1	A2A
409P034H46	LPR ROUTER MODULE	SF60	5	A100
409P040H09	COIL	SF60	5	B2B
409P040H16	CONTACT KIT, PRC	SF60	9	B3F
409P042H02	BRUSH AND SPRING ASS'Y	SF60	17	B2A
409P052H45	CONTACT CHAMBER FOR PZ73	SF60	11	G1A

**Appendix E - Spare Parts**

<b>Item</b>	<b>Description</b>	<b>Storeroom</b>	<b>Current Balance</b>	<b>Default Bin</b>
409P058H86	REDUCING CONNECTOR, 1/2" FG-SS	SF60	2	I115
409P059H22	CONNECTOR RECEPTACLE SERIES 1-A PLASTIC, FEMALE 4 PIN	SF60	152	E127
409P059H37	CONNECTOR, 50 PIN	SF60	31	B2B
409P059H45	PLUG 4 POS. PLASTIC FEMALE, (TAIL LIGHT)	SF60	1	AROW
409P059H46	CABLE CLAMP PLASTIC SIZE 11 ,	SF60	194	E127
409P059H56	CONNECTOR 2 POS RECEPT	SF60	131	H101
409P059H59	CONNECTOR 2 POS PLUG	SF60	241	H101
409P059H92	CONNECTOR, 3 POS CIRCULAR PLUG	SF60	12	A113
409P060H17	NYLON WEBBING 1" WIDE	SF60	1	H100
409P060H29	BRAIDED HOSE EXTENSION, 22" LONG	SF60	23	G102
409P060H30	BRAIDED HOSE EXTENSION 180 DEG, 16" LONG	SF60	6	G102
409P062H13	SOLDERSLEEVE TERMINATOR W/	SF60	21	I102
409P067H01	REPAIR KIT	SF60	72	B1
409P071H02	MULTI-FUNCTION SYSTEM PROCESSOR	SF60	1	A115
409P084H04	INTERNAL/EMERGENCY COMM. SERVER	SF60	1	G111
409P084H05	TELEPHONE	SF60	2	G111
409P084H06	wall mount phone	SF60	3	G111
409P084H07	Passenger station emergency phone	SF60	2	G111
409P084H08	Blue light Phone with AE700 mount enclosure	SF60	3	G111
409P086H18	DIAPHRAGM TYPE 9 SERVICE	SF60	81	G101
409P086H19	BRAKE KIT	SF60	12	E118
409P086H23	BRAKE LINING/SHOE ASSEMBLY	SF60	11	M103
409P101155	BALLAST ASSY 120 VAC	SF60	4	E111
409P101156	BALLAST 26.7 VDC, (S-8000-5) (TRANSLITE 203 878-8567 EX105)	SF60	18	AROW
409P101H03	AC BALLAST	SF60	4	C103
409P101H13	RECEPTACLE	SF60	177	G1A
409P113H07		SF60	3	D103
409P114H24	NUT, SPEED # 10B	SF60	49	G110
409P114H27	SCREW W/WASHER .190-32 X .63 LONG	SF60	51	G110
409P117H01	STRAINER SUCTION SCREEN	SF60	22	C122
409P119H52	POWER SUPPLY RACK MOUNTABLE	SF60	1	T123
409P119H91	POWER SUPPLY ASSEMBLY (#S10833)	SF60	1	A123
409P121H08	FITTING 37 DEGREE MALE CO	SF60	31	E104
409P121H19	UNION ELBOW	SF60	5	I116
409P121H69	ADAPTER 37 DEG FLARE .875	SF60	5	B1B
409P121H70	ADAPTER 37 DEG FLARE .625	SF60	5	B1B
409P121H72	ELBOW 90DEG BRS MALE 1/4 X 1/8	SF60	5	B1C
409P121H78	FITTING NIPPLE 2.00 LG. .75	SF60	31	B1A
409P121H90	FITTING, 3/8 TEE	SF60	1	I116

### Appendix E - Spare Parts

Item	Description	Storeroom	Current Balance	Default Bin
409P121H92	MALE CONNECTOR, .500 TUBE OD SST	SF60	6	B1B
409P126H25	BULB, TRAFFIC LIGHT	SF60	1	I127
409P129H22	AIR CONDITIONER SIGHT GLASS	SF60	3	C106
409P129H23	AIR CONDITIONER MOISTURE INDICATOR	SF60	27	E122
409P129H63	A.C.PLUNGER, DIAPHRAM AND O-RING, 76750 RB9	SF60	21	D106
409P131H16	breaker lug	SF60	11	F123
409P137100	CONNECTOR 2 POS MALE PLUG BAYONET, trip stop	SF60	161	I102
409P137H65	CONNECTOR RECPT, TRACK SW RES	SF60	1	C128
409P147H11	PRESSURE SCREW .62 - 18 X 7.	SF60	3	I108
409P157H01	CONNECTOR MALE PIN 24 - 18 AWG	SF60	111	H1C
409P157H09	CONTACT MALE PIN 24-20 AWG.	SF60	211	H1D
409P157H57	TERMINAL LUG, M8 STUD, 6 AWG,	SF60	1341	H105
409P157H82	CONNECTOR CONTACT CRIMP 18-20 AWG	SF60	1	H1C
409P157H93	HOOD CONNECTOR	SF60	8	B3A
409P160H01	SPLIT BUSHING / SWAY BAR	SF60	49	G1E
409P165H08	CONNECTOR 3 PIN PLUG 14-16 AWG	SF60	2	C128
409P165H09	CONNECTOR 3 PIN PLUG 14-16 A	SF60	11	B1E
409P165H10	CONN RCPT, SUPPLIED WITH 3.16	SF60	4	E112
409P165H11	CONNECTOR 3 SOCKET RECEPTACLE	SF60	5	B3C
409P165H83	N FEMALE ONE PIECE CONNECTOR	SF60	33	H107
409P174H14	CONNECTOR 96 PIN (FOR ATC CRADLE)	SF60	11	A122
409P174H17	CONNECTOR H15 FEMALE	SF60	69	A122
409P174H18	TERMINAL H15	SF60	211	H1C
409P176H05	SMOKE ALARM RELAY BASE	SF60	3	D116
409P177H28	AUDIO AMP	SF60	3	A1D
409P177H34	Intelligence Tags (2 per car)	SF60	1	A117
409P177H35	TRANSPONDER INTERROGATOR - WAYSIDE	SF60	1	T105
409P177H78	RELAY EXTRACTION TOOL	SF60	1	G103
409P180100	RS232 TO RS485 OPTICAL ISOLATED MODEM	SF60	1	A2D
409P180102	3 PCI 2 CPU 8 ISA SLOT BACKPLANE	SF60	1	A101
409P180104	250 WATT COMPUTER POWER SUPPLY	SF60	1	A116
409P180H98	TOUCHSCREEN	SF60	1	A100
409P187H58	HUCK BOLT .325 DIA .750- 1.375 GRIP RANGE( FLOOR PANEL)	SF60	293	G103
409P188103	8.4 GBYTE HARD DISK DRIVE	SF60	1	A113
409P188110	120MBYTE REMOVABLE DISK DRIVE	SF60	1	A2B
409P188111	120 MBYTE FLOPPY DISK CONTROLLER	SF60	1	A2C
409P188115	2490 NC LINE PRINTER W/SERIAL	SF60	1	G114
409P188H26	RESISTOR TERMINATOR CAPS BNC 50 OHM	SF60	1	F105
409P188H27	TRANSCEIVE CONNEX MINI BNC	SF60	1	C117

### Appendix E - Spare Parts

Item	Description	Storeroom	Current Balance	Default Bin
409P189H01	CONTROLLER 1.5 K	SF60	1	A121
409P189H02	POWER SUPPLY 120 VAC 24 VDC	SF60	3	A2C
409P189H03	EEPROM CARD 8 K BYTE	SF60	3	A110
409P189H04	SUBRACK PRIMARY	SF60	1	A2C
409P189H05	SUBRACK SECONDARY	SF60	4	A2D
409P189H06	CABLE BUS EXTENSION	SF60	1	A101
409P189H08	OUTPUT MODULE 8 PT RELAY	SF60	5	B1E
409P189H10	TOOL; TERMINAL BLOCK REMOVAL	SF60	1	B3A
409P189H11	INPUT MODULE 16 POINT 24 VDC	SF60	2	A2C
409P189H20	CONTROLLER MOMENTUM PROCESSOR	SF60	2	B3E
409P191105	RECEIVER 62.5 MULTIMODE 10 DB BUDGET	SF60	1	F1F
409P191106	TRANSMITTER 62.5 MULTIMODE 10 DB BUDGET	SF60	2	C118
409P191111	FIBER OPTIC/RF CONVERTER BASE UNIT	SF60	1	T108
409P191112	FIBER OPTIC/RF CONVERTER REMOTE	SF60	1	T108
409P191125	Fiber Optic System	SF60	3	A2B
409P196129	ANNUNCIATOR 200 NETWORK INTERCOM	SF60	2	G117
409P196H43	MODEL 857 10 SLOT CARDFILE W BACK PLANE	SF60	1	T106
409P196H44	1 IN-OUT LINE LEVEL DISTR AMP	SF60	1	C110
409P196H46	1 IN TO 2 OUT LV OUT X 2 DISTR AMP PCB	SF60	1	A100
409P196H47	10W AUDIO AMPLIFIER PCB W/VOLUME CONTROL	SF60	1	A100
409P196H49	BDL. SIDED, 15 PINS P/SIDE EXTENDER CARD	SF60	1	C110
409P196H54	COLOR CAMERA	SF60	1	G118
409P196H65	PROTECH 699M AMPLIFIER	SF60	1	A116
409P196H69	4-OUTPUT POWER SPLITTER, 2.4-2.5 GHZ, SMA	SF60	2	T106
409P196H70	COLOR CAMERA	SF60	2	G116
409P197H24	PCI GRAPHICS CARD	SF60	2	A2B
409P197H25	DIGI 8 PORT SERIAL BOARD	SF60	1	A2C
409P197H71	COAXIAL CABLE ASSEMBLY	SF60	3	I103
409P197H75	144 MBYTE STATIC RAM DISK DRIVE	SF60	4	A2C
409P197H80	40X CD ROM DRIVE	SF60	1	A2D
409P197H81	RF COAXIAL CABLE ASSEMBLY (12"	SF60	2	G1F
409P198H24	COMPUTER COMPONENTS	SF60	1	A2D
409P198H70	ETHER EXPRESS PRO 10 ADAPTOR (PCLA8210)	SF60	1	A100
409P199107	MONITOR 22"	SF60	1	AWALL
409P199143	Digital/analog convertor, da24	SF60	1	G119
409P199167	RS-422/RS-485 CONVERTOR WITH ENCLOSURE AND 9VDC POWER SUPPLY	SF60	1	G119
409P199296	DIGITAL I/O BOARD, 8 ISO IN, 8 RELAY OUT	SF60	1	A2A
409P199H39	ETHERNET LAN 12 PORT HUB	SF60	1	A129
409P199H43	COLOR MONITOR	SF60	1	SF1105

### Appendix E - Spare Parts

Item	Description	Storeroom	Current Balance	Default Bin
409P199H52	SEC SERIAL PORT/PS2 MOUSE CABLE AND KIT	SF60	1	A121
409P199H62	CONTROL MODULE - CPM 6400	SF60	1	A2D
409P199H63	POWER SUPPLY FOR MATRIX SWITCH RACK	SF60	1	B107
409P199H65	8-PORT I/O MODULE (RS-232) - CPM 6400	SF60	2	A113
409P199H93	SUPERSTACK II SWITCH 2200	SF60	1	A124
409P199H99	56 Kbps INTERNAL FAXMODEM	SF60	1	A113
409P210H17	HIGH RESOLUTION VIDEO CONVERTER	SF60	1	A2D
409P210H18	VIDEO MONITOR - 20	SF60	1	AWALL
409P210H19	KEYBOARD VIDEO CONTROLLER	SF60	1	A104
409P210H20	TIME LAPSE VIDEO RECORDER	SF60	1	CONFRM
409P210H35	CABLE, 1/2" HELIAX	SF60	11	T101
409P219H12	RING SEAL	SF60	4	C118
409P221H50	TRUCK COMPONENTS BOOTS, HEAT	SF60	11	B3B
409P223H30	INDIVIDUAL CONTACT (PIN	SF60	846	A122
409P223H41	WEATHERPROOFING KIT	SF60	49	D100
409P223H42	BPD WEATHERPROOFING KIT, PANEL TO 1/2 - 1.5 245174	SF60	5	D110
409P223H45	VXL5 COAXIAL CONNECTOR, FEMALE	SF60	5	A121
409P223H65	CONNECTOR, 4 POS, SIZE 11, FREE-HANG	SF60	132	E127
409P226H18	TERMINAL RING 5.5MM TIN PLTD 4	SF60	351	H1D
409P236123	ATTENUATOR, RF 5 W 1DB SMA CONNECTOR	SF60	1	CKYLE
409P236124	ATTENUATOR, RF 5W 2 DB SMA CONNECTOR	SF60	1	CKYLE
409P236125	ATTENUATOR, RF 5W 3 DB SMA CONNECTOR	SF60	1	CKYLE
409P236127	ATTENUATOR, RF 5W 5 DB SMA CONNECTORS	SF60	2	A122
409P236128	ATTENUATOR, RF 5W 6 DB SMA CONNECTORS	SF60	8	
409P236132	ATTENUATOR, RF 5W 10DB SMA CONNECTORS	SF60	2	A122
409P236133	ATTENUATOR, RF 5W 20DB SMA CONNECTORS	SF60	5	A122
409P236H10	RELAY	SF60	2	F1A
409P236H13	TERMINAL BLOCK TYPE UKK5	SF60	11	C117
409P236H91	TERMINAL BLOCK ASSY, 5 POS, W/	SF60	9	J125
409P237H05	LOWER PLATE-DRAFT GEAR, D209143-100	SF60	2	F116
409P237H06	UPPER PLATE	SF60	1	E119
409P237H11	COUPLER PARTS RUBBER BUFFER, D229684-100	SF60	13	D108
409P237H16	PROTECTION CAP-DRAFT GEAR, D220352-100	SF60	4	G1F
409P237H17	ROLL PIN-DRAFT GEAR 8 X 45, D000505-101	SF60	72	G1F
409P237H19	BUMPER-DRAFT GEAR, D220327-100	SF60	4	G1G
409P237H20	CONTACT REMOVAL TOOL, 225757F13	SF60	6	B3C
409P237H21	9 MMSPRING LOADED CONTACT , 221938-200	SF60	5	B1D
409P237H22	9 MM CONTACT PIECE, 220711-100	SF60	5	B1D
409P237H23	9 MM FIXED CONTACT (CX-100), 220635-100	SF60	11	B1D
409P237H24	9 MM MOVEABLE TIP CONTACTS (CX-100), 220201-100	SF60	94	B1D

### Appendix E - Spare Parts

Item	Description	Storeroom	Current Balance	Default Bin
409P237H28	SUPPORT ROLLER-COUPLER TRACK, D220358-100	SF60	1	G1F
409P237H29	CENTER PIN, D220349-100	SF60	1	B1B
409P237H30	SCREW - COUPLER L/ARM PIN / AM6 X 20, D220353-100	SF60	4	C105
409P237H31	LEVER ARM - COUPLER SUPPORT, D209487-200	SF60	5	G1F
409P237H32	COUPLER RING	SF60	2	D101
409P237H33	AIR COUPLER KIT, D221446K320	SF60	7	D107
409P237H38	BUMPER	SF60	23	H101
409P241H01	GASKET COUPLER	SF60	82	G1G
409P241H02	GASKET COUPLER	SF60	11	G1G
409P241H03	UPPER PLATE-DRAFT GEAR	SF60	4	H114
409P241H05	PIN CENTER	SF60	1	G1H
409P241H06	NUT CENTER PIN	SF60	5	G1H
409P241H07	RING RUBBER	SF60	31	I129
409P241H08	GASKET, COVER	SF60	1	G1F
409P241H09	BUSHING UPPER CENTER	SF60	11	G1G
409P241H10	BUSHING LOWER CENTER	SF60	35	G1H
409P245H49	CONNECTOR KEYING STRIP - PC BOARD	SF60	97	H101
409P245H61	RECEPTACLE NARROW FLAGE MED S	SF60	41	B2A
409P248H72	PC BOARD, VME 40 CHANNEL DIGITAL	SF60	3	A2A
409P248H73	PC BOARD, VME POWER PC CPU	SF60	3	A1D
409P248H75	PC BOARD 10 SLOT VME J1 BACKPLANE	SF60	1	A2B
409P248H76	PC BOARD 7 SLOT VME J1 BACKPLANE	SF60	2	A2C
409P248H77	PC BOARD 5 SLOT VME J1 BACKPLANE	SF60	2	A2D
409P248H78	PC BOARD, 2250 DAS FIBER PMC FDDI ADAPTER	SF60	1	A2B
409P248H79	PC BOARD 2200 DAS PCI FIBER FDDI ADAPTER	SF60	1	A2B
409P248H86	MEMORY EXPANSION PC BOARD	SF60	1	A100
409P248H88	48V/25HZ RING GEN CARD	SF60	3	G117
409P248H90	PC BOARD, VME EXTENDER CARD	SF60	2	A112
409P249101	12-PORT ANALOG VOICE INTERFACE CARD	SF60	1	G117
409P249102	HIGH QUALITY AUDIO MASTER	SF60	13	B113
409P249103	UNKNOWN	SF60	1	G117
409P249104	LOGIC MODULE	SF60	1	G117
409P249105	RS422 INTERFACE CARD	SF60	1	G117
409P249106	RS-485 INTERFACE CARD	SF60	1	G117
409P249107	RS232 INTERFACE CARD	SF60	11	G117
409P249110	12-PORT ANALOG VOICE INTERFACE CARD, FB-52449-A SIEMEN'S	SF60	3	G117
409P250H94	FILTER ASSEMBLY	SF60	34	D114
409P260141	LAMP, LED 24V AC/DC WHITE T5.5	SF60	8	G1D
409P260142	LAMP, LED 12V AC/DC/ WHITE T5.5	SF60	61	G1D

### Appendix E - Spare Parts

Item	Description	Storeroom	Current Balance	Default Bin
409P262H24	DSP PROCESSOR MSP22	SF60	2	G119
409P266H69	nipple .500 pipe to 37 d	SF60	1	I115
409P266H73	MALE RUN TEE, .500 X .500 SST	SF60	1	I115
409P266H74	MALE RUN TEE .375 X .375 SST	SF60	5	I115
409P266H75	STREET ELBOW .375 SST	SF60	5	I115
409P266H76	PIPE NIPPLE .375 SST	SF60	3	I115
409P276H01	WINDSHIELD WIPER MTG PLATE	SF60	5	E106
409P276H03	NUT, BLACK ACCORN, WIPER ASSY	SF60	21	E106
409P276H06	WIPER MTG HEX NUT	SF60	31	E106
409P276H07	WIPER WEATHER SEAL CAP	SF60	35	E106
409P276H08	WIPER DRIVER GEAR	SF60	11	E106
409P276H09	WIPER, LOCKWASHER	SF60	21	E106
409P276H10	WIPER, ACORN NUT	SF60	16	E106
409P276H13	WIPER BLADE ASSEMBLY (31.5)	SF60	15	E105
409P276H19	WIPER PANTOGRAPH ARM ASSEMBLY	SF60	9	E106
409P278H67	CONNECTOR HOOD D-SUB 9- PIN, W	SF60	36	H101
409P287H42	9 LG N-MALE TO SMA-M W/SMA-F TO N-F BH	SF60	25	D110
409P287H43	6 LG N-MALE TO SMA0M W/SMA-F TO N-F BH	SF60	4	A123
409P301H01	Dynamic message sign spare kit	SF60	1	G110
409P301H03	DISPLAY, TOUCHSCREEN 10.4IN	SF60	1	T115
409P302107	O-RING, AUTOLOCK ASSY BOARD	SF60	11	G1B
409P302108	FERRULE, 22GS TOURQUOISE	SF60	611	G107
409P302113	MOTOR GEAR / DRIVE 1/4 HORSE W / HARNESS	SF60	8	F125
409P302H60	MANUAL OVERRIDE HANDLE ASSY	SF60	2	C119
409P302H61	MOTOR, 2HP, 480V, 1800RPM, 56C	SF60	1	G123
409P302H62	BEARING CARBON GRAPHITE, 1.5"	SF60	1	G123
409P302H63	BEARING-4 BOLT FLANGE 1"	SF60	6	G123
409P302H64	1" BORE, #1610 TAPER LOCK BUSHING	SF60	2	G123
409P302H65	FUSE AJT30	SF60	2	G123
409P302H66	FUSE GGM-4	SF60	22	G123
409P302H67	FUSE FRN-R-5	SF60	1	G123
409P302H68	RECEIVER EYE IR-M12-15M	SF60	1	G123
409P302H69	MANUAL AMO/TIMER ISG-N34-115V	SF60	1	G123
409P302H70	TRANSMITTER EYE IT M12 35M	SF60	1	G123
409P981115	SPLICE, LEVER NUT, 28-12 FOR 5 WIRES	SF60	66	I102
409P981H81	CONNECTOR, PLUG, 3 POSITION, (TAIL LIGHT)	SF60	1	AROW
409P981H82	CONTACT, SOCKET, 16-14AWG, (TAIL LIGHT)	SF60	1	AROW
409P985H67	T FITTING, TPMS W/ LOCKNUT, 3	SF60	47	B100
409P987208	COMPUTER ASSEMBLY	SF60	1	T108
4166A87H01	RELAY (Vehicle)	SF60	26	D108



**Appendix E - Spare Parts**

Item	Description	Storeroom	Current Balance	Default Bin
4227B27G01	CONTACT STUD ASSEMBLY	SF60	44	B3C
4227B59G01	CAM SHUNT	SF60	6	F1C
4228B37H01	CONNECTOR 11.00+.00/- .03).25 X 1.00 STL, dyn brk bracket	SF60	21	C110
4233B26H02	DECAL, TO UNLOCK DOOR IN EMERGENCY SITUATION	SF60	24	B3D
45301AS3D2	NEOPHRENE	SF60	1	B116
45301CT2F5	NEOPRENE SPONGE STRIP .375 X.5	SF60	26411	H109
45301CTA4K	TAPE .25 X 1.25 NEOPRENE	SF60	611	H100
4567B03H07	CAPACITOR 1 UF 660 VAC	SF60	9	C121
4567B34134	22-16 AWG BUTT SPLICE	SF60	149	H1D
4567B34135	16-14 AWG BUTT SPLICE	SF60	759	H1D
4567B34157	TERMINAL .164 STUD	SF60	813	D103
4567B34H05	TERMINAL RING .138 STUD 16-14 AWG	SF60	186	H101
4567B34H51	TERMINAL RING, .138 STUD 22-16 AWG	SF60	59	H101
4567B34H57	TERMINAL RING .164 STUD 12 -10 AWG PIDG	SF60	111	H1D
4567B34H66	TERMINAL RING .190 STUD 22-16 AWG	SF60	96	H101
4569B80H01	CLAMP 3.50 X 1.50) 2.00	SF60	33	B2G
4677C31H02	SHAFT	SF60	36	H129
4677C95G09	VARISTOR ASSEMBLY	SF60	9	B2D
4677C95G28	VARISTOR SUPPRESSION DEVICE	SF60	3	B2D
4678C16H01	AIR STUD 1.88) OF 1.25 DIA STL BAR	SF60	15	C113
4678C16H02	STUD 3.09) OF .750 HEX STL BAR	SF60	32	C113
4678C17H01	SAFETY HOOK 10.00 X 8.25) .75 H.R. STL	SF60	5	F116
4678C64G01	TRANSFORMER AND POTENTIOMETER PANEL ASSY	SF60	1	B2F
4678C76H02	CRANK ARM	SF60	1	B101
4679C24H01	MDR Antenna Bracket	SF60	21	B1E
4680C29G04	AAR RACK	SF60	1	T112
4680C65H01	AIRSIDE SPRING	SF60	3	C113
4682C17G02	BRUSH HOLDER PIN	SF60	32	C107
4722A42H06	BOLT 1) .750 - 10 X 2.75 HEX HD STL	SF60	85	F106
4722A42H07	BOLT 1) .750-10 X 3.75 HEX HD STL	SF60	34	F106
4722A43H02	.500-13 X 1.25 HEX HD STL	SF60	211	H1B
4722A43H04	BOLT, .500-13 X 1.75 HEX HD STL	SF60	81	H1A
4722A46H04	BOLT 1) .375-16 X 1.25 HEX HD STL	SF60	16	C113
4724A60H01	PROT MTG PAD 2.25 .125 X 1.00	SF60	14	I110
4724A60H02	PROTO MTG PAD 2.25 .125 X 1.00	SF60	14	I110
4724A61H01	SEAT SPACER(1.00) .625 OD X .120 WALL	SF60	6	G1C
4724A90H03	BOLT .750-10 X 4.50 HEX HD STEEL	SF60	113	C123
4727A37H02	BOLT 1) .625-11 X 1.75 HEX STL	SF60	8	G1E
4766A18G02	VARISTOR ASSEMBLY	SF60	5	B2D

**Appendix E - Spare Parts**

Item	Description	Storeroom	Current Balance	Default Bin
4766A18G05	VARISTOR ASSEMBLY	SF60	11	B3B
4766A18G08	VARISTOR ASSEMBLY	SF60	5	C123
4766A40G03	DIODE ASSEMBLY	SF60	9	C128
4766A40G06	DIODE ASSEMBLY	SF60	8	C123
4766A40G11	DIODE ASSEMBLY	SF60	26	B2D
4766A40G12	DIODE ASSEMBLY	SF60	2	B2D
4766A40G13	DIODE ASSEMBLY	SF60	33	B2D
4766A40G16	DIODE ASSEMBLY	SF60	13	B2D
4766A40G18	DIODE ASSEMBLY	SF60	1	B2D
4767A26H05	CABLE GRIP .312 - .375	SF60	2	E112
4767A67G01	LIGHTNING ARRESTER	SF60	21	B3A
4767A86H12	BALL VALVE	SF60	1	I121
4767A86H15	VALVE, CHECK	SF60	1	C123
4767A90G01	STD. CONTACT INTERLOCK FINGER	SF60	133	B1D
4768A05H11	CRITICAL RELAY 4 FORM C 24V	SF60	6	E120
4768A27H02	U- PIECE 4.04) .125 X .750 STL STP	SF60	39	D112
4768A27H03	U - PIECE 7.42) .125 X .750 STL STP	SF60	16	D112
4768A30H01	TRANSFORMER	SF60	3	C127
4771A36H01	clip	SF60	25	B3A
4776A87H01	FUSE BLOCK #3519 0-60 AMPS 600V	SF60	4	B3B
4777A95H01	BOLT .562X12X3.38 HEX HD STL	SF60	43	G103
4778A45H01	BOLT 1).375-16 HEX SI BRZ 3.0 LG	SF60	1	H112
4778A55H01	12 PT FLANGE BOLT, FOR U JOINT	SF60	19	G1C
4778A79G01	STD. FINGER INTERLOCK	SF60	133	B1D
4778A96H02	STD. SPRING PIN .188 DIA X 1.25 LG STL	SF60	99	B1D
4779A66H01	STD. HINGE PIN .375 STL BAR	SF60	41	B3B
4779A96H01	STD. INSULATION .922) 625 ID	SF60	3	F1C
4780A06H01	STD. BRACKET 1.69) .063 X .500 BRS STP	SF60	21	G1A
4780A07H01	STD. POLE PIECE 4.84) .125 X 1.00 STL B	SF60	6	G1A
4780A08G01	STD. SPRING SUPPORT	SF60	28	G1A
4782A68H61	GASKET 10.00 ) 1.50 X 1.50 SPONGE NEOPRENE	SF60	6	D100
4782A68H62	GASKET 39.50) .75 X 1.50 SPONGE NEOPRENE	SF60	5	D100
4785A37H01	STD. WASHER 1.250 DIA X .125 THK	SF60	1	G101
4785A94H01	STD. WASHER 1.25 X 1.25) .190 THK	SF60	4	F1D
4893B39H01	BULKHEAD FITTING, LEVELING VALVE ASSY	SF60	6	I121
4893B47H02	SCREW M12 - 1.75 X 44 MM LG	SF60	1	C108
4893B70H02	GAUGE	SF60	8	B1B
4893B74H01	STD .SPACER 1.31 X .38) .045 THK STL	SF60	167	B1D
4894B030H01	1/4-NPT X 3.06/2.94 PIPE NIPPLE	SF60	1	F112
4894B03H01	1/4-NPT X 3.06/2.94 PIPE NIPPLE	SF60	9	F1D

**Appendix E - Spare Parts**

Item	Description	Storeroom	Current Balance	Default Bin
4894B90H01	SPRING .0747 THK SST	SF60	6	B2A
4896B16H01	STD. WASHER 1.00 OD X .531 ID).012 PHBRZ	SF60	1	G101
4896B32H02	SPACER OUTER 75 ID X 1.00 OD LEXAN	SF60	91	I103
4896B33H01	SPACER INNER 6.13) .438 ID X .688 OD TEFLON	SF60	313	I126
4896B59H01	SWIVEL STEM 3.50) .375 DIA STL	SF60	5	B1D
4896B60H01	SPACER .505) .375 DIA 1/2 HARD BRS	SF60	7	C127
4896B85H01	STD. HINGE PIN 2.78) .500	SF60	9	B3B
4897B15H01	KEY LOCK	SF60	19	B1E
4898B19G06	LIGHTNING ARRESTER ASSEMBLY	SF60	4	C117
4898B19G07	LIGHTNING ARRESTER ASSEMBLY	SF60	2	C128
4899B59H01	PIN 3.50) .375 DIA	SF60	288	H1A
4899B64H01	EXTENSION SPRING	SF60	858	H113
4899B65H03	ALIGNMENT PLATE 1.75 X .75) .125 THK	SF60	339	H1A
4D02279G02	TRANZORB ASSEMBLY	SF60	2	B2D
4D02514G02	FRESH AIR DUCT	SF60	11	SF1312
4D03069G01	COLLECTOR MOUNTING BRACKET	SF60	27	I112
53320FQ00A	ADHESIVE EPOXY (HARDMAN EPOWELD 8173	SF60	11	REDCAB
53535BY00A	ELECTRIC JOINT COMPOUND (ALCOA-2)	SF60	1	G100
5573C13G01	BREATHER ASSEMBLY	SF60	11	D108
5574C12H06	CYLINDER HYDRAULIC	SF60	1	C121
5574C31H03	TIRE	SF60	135	SF1312
5574C31H06	UNBUFFERED ITL EL (GUIDE) TIRE	SF60	152	SF1412
5574C40G01	DOOR SLIDE ASSEMBLY L.H.	SF60	2	B113
5574C41G01	DOOR SLIDE ASSEMBLY R.H.	SF60	1	G101
5574C60H01	CONTACTOR (PRC) WITH 1 N.O. N.C. 3 INTERLOCKS	SF60	4	B118
5574C77H01	LOCK PIN 7.937) 1.500 DIA CF SST	SF60	9	I121
5574C90H03	PLATE 1.50 X 1.50) .250 HR STL	SF60	5	H106
5574C95H04	RAMP	SF60	24	I122
5574C95H05	RAMP	SF60	19	I122
5575C64H02	SWITCH SNAP ACTION ROLLER	SF60	2	E126
5578B61H02	BUMPER STOP BRKT 1.79 X 1.44) .63 AL	SF60	14	B2C
5578B62G01	BRUSH HOLDER ASSEMBLY	SF60	11	C101
5578B62H01	HEADLESS TYPE MOLDED BRUSH HOLDER	SF60	44	B2A
5578B62H02	BRUSH HOLDER CAP	SF60	82	B2A
5578B62H03	BRUSH HOLDER TERMINAL BLADE	SF60	126	B2A
5579B38H01	TERM MTG BLOCK .0598 THK STL	SF60	4	B3B
5579B40H01	FAN DC BRUSHLESS (Fresh air fan)	SF60	18	B1G
5580B05G01	RESISTOR ASSY 11 K 1 W	SF60	1	E112
5580B05G02	DIODE ASSY IN5399	SF60	4	G1C
5580B12H01	CLIP 2.90 X 1.50) .125 THK AL	SF60	7	D113

**Appendix E - Spare Parts**

Item	Description	Storeroom	Current Balance	Default Bin
5580B14G01	STD. CONNECTOR	SF60	2	F102
5580B17H01	PLAIN SIDE ROLLER	SF60	179	C115
5582B88H01	BEARING	SF60	889	B2E
5582B90H01	SLEVE .756 OD X .634 ID	SF60	81	G1E
5583B32H02	FITTING, GREASE .125 INCH	SF60	56	C107
5585B41H05	ADJUSTING PLUNGER ASSY 16 DEGREE ANGLE	SF60	63	E123
5585B78H01	CHANNEL 5.00 X 1.92) .062 THK SST	SF60	111	H1E
5585B79H01	ARM 11.00) .375 DIA STL	SF60	652	H114
5585B85H01	KEEPER 9.50) .188 X 1.00 CF STL	SF60	168	H113
5585B93H01	BRUSH HOLDER PLUG 2.00) .625 X 1.50 BR	SF60	8	B2B
5586B24H02	SWIVEL STEM 4.25) .375 DIA STL	SF60	26	T115
5586B56H01	SPACER .750 DIA STL	SF60	312	H1A
5586B62100	PISTON, LOW PRESSURE	SF60	7	D123
5586B62101	PIN, LOW PRESSURE ASSY	SF60	3	E129
5586B62H02	CYLINDER HIGH PRESSURE	SF60	2	C112
5586B62H03	GASKET	SF60	12	D128
5586B62H04	CYLINDER LOW PRESSURE	SF60	2	C119
5586B62H05	GASKET	SF60	16	D128
5586B62H06	CAP SUCTION VALVE	SF60	1	E129
5586B62H07	sleeve hold down	SF60	8	E129
5586B62H08	SEAL O-RING CAP	SF60	54	D129
5586B62H09	SEAL FELT PLUNGER TO SLEEVE	SF60	64	D129
5586B62H10	SEAL O-RING PLUNGER TO SLEEVE	SF60	44	D129
5586B62H11	PLUNGER	SF60	11	D126
5586B62H12	CAP DISCHARGE VALVE	SF60	3	D129
5586B62H13	GASKET CAP	SF60	117	D129
5586B62H14	PLUG DISCHARGE PLUG	SF60	11	D129
5586B62H16	HEAD LOW PRESSURE CYLINDER	SF60	2	D129
5586B62H17	GASKET LOW PRESSURE CYLINDER	SF60	41	D129
5586B62H18	VALVE ASSEMBLY DISCHARGE	SF60	48	D129
5586B62H20	VALVE ASSEMBLY SUCTION	SF60	62	D129
5586B62H24	CAP SUCTION	SF60	11	E129
5586B62H25	SLEEVE HOLDDOWN	SF60	1	E129
5586B62H26	SEAL O-RING CAP	SF60	92	E129
5586B62H27	SEAL FELT PLUNGER TO SLEEVE	SF60	71	E129
5586B62H28	SEAL O-RING PLUNGER TO SLEEVE	SF60	98	E129
5586B62H29	plunger	SF60	11	D126
5586B62H30	CAP DISCHARGE VALVE	SF60	4	E129
5586B62H31	GASKET CAP	SF60	26	E129
5586B62H32	PLUG DISCHARGE VALVE	SF60	17	E129

**Appendix E - Spare Parts**

<b>Item</b>	<b>Description</b>	<b>Storeroom</b>	<b>Current Balance</b>	<b>Default Bin</b>
5586B62H33	HEAD HIGH PRESSURE CYLINDER	SF60	1	E129
5586B62H34	GASKET HIGH PRESSURE CYLINDER	SF60	1	E129
5586B62H35	VALVE ASSEMBLY DISCHARGE	SF60	28	E129
5586B62H37	VALVE ASSEMBLY SUCTION	SF60	36	E129
5586B62H41	AIR COMPRESSOR FILTER COVER	SF60	7	F117
5586B62H42	ELEMENT AIR CLEANER	SF60	31	D118
5586B62H44	cone bearing	SF60	5	E128
5586B62H47	VALVE ASSEMBLY AIR CONTROL	SF60	2	D127
5586B62H49	SCREW MACHINE	SF60	44	E111
5586B62H50	WASHER LOCK	SF60	38	E111
5586B62H51	COVER VALVE	SF60	8	D127
5586B62H52	SEAL COVER	SF60	38	D127
5586B62H53	SPRING	SF60	65	D127
5586B62H54	VALVE CHECK	SF60	79	D127
5586B62H55	PIN	SF60	62	D127
5586B62H56	SEAL PIN	SF60	111	D127
5586B62H57	RETAINER OIL RELIEF SPRING	SF60	4	D127
5586B62H58	SPRING OIL RELIEF	SF60	1	D127
5586B62H59	BODY	SF60	1	D127
5586B62H60	PISTON	SF60	14	D127
5586B62H61	DIAPHRAGM	SF60	1	D127
5586B62H62	COVER OIL PUMP	SF60	3	D127
5586B62H63	PLUG ORIFICE (START-STO CONTROL ONLY)	SF60	11	C122
5586B62H66	PISTON ASSEMBLY HIGH PRESSURE	SF60	4	D123
5586B62H68	RETAINER PISTON PIN	SF60	11	C122
5586B62H70	BALL NYLON OIL RELIEF VALVE	SF60	2	D127
5586B62H71	RING KIT PISTON, HIGH PRESSURE	SF60	5	D123
5586B62H72	FITTING OIL INTAKE TUBE	SF60	2	E120
5586B62H73	SLEEVE RUBBER	SF60	2	D126
5586B62H74	TUBE OIL INTAKE	SF60	2	E120
5586B62H75	SEAL OIL FRONT	SF60	5	E111
5586B62H76	RING KIT, PISTON, LOW PRESSURE	SF60	11	D123
5586B62H79	CONNECTING ROD ASSEMBLY	SF60	4	F1C
5586B62H80	BEARING KIT CONNECTING ROD	SF60	11	B3C
5586B62H81	CUP BEARING	SF60	5	D126
5586B62H83	GASKET INTERCOOLER TUBE	SF60	11	D126
5586B62H85	VALVE ASSEMBLY SAFETY	SF60	5	D126
5586B62H86	O-RING OIL PUMP COVER	SF60	6	D126
5586B62H87	ROTOR OIL PUMP	SF60	1	E112
5586B62H88	VANE OIL PUMP ROTOR	SF60	52	D127

**Appendix E - Spare Parts**

Item	Description	Storeroom	Current Balance	Default Bin
5586B62H89	SPRING VANE	SF60	51	D127
5586B62H91	PIN ROLL	SF60	3	D126
5586B62H94	PIN ROLL	SF60	3	D126
5586B62H95	SHIM .005 IN. THK	SF60	5	E120
5586B62H96	SHIM .0075 IN. THK	SF60	5	E120
5586B62H97	SHIM .020 IN. THK	SF60	5	E120
5586B62H98	TUBE CRANKCASE BREATHER	SF60	1	D127
5586B62H99	#O-RING BREATHER TUBE	SF60	116	D127
5586B66H01	CARBON BRUSH GRADE W187	MAINTENANC E	94	C107
5586B66H01	CARBON BRUSH GRADE W187	SF60	284	C107
5587B02G01	CYLINDER AIR COMPRESSOR - HIGH PRESSURE	SF60	2	D124
5587B02G02	CYLINDER AIR COMPRESSOR - LOW PRESSURE	SF60	2	D118
5587B07G01	CRANKSHAFT ASSY AIR COMPRESSOR	SF60	2	D126
5587B09G01	PISTON AND CONNECTING RODS - HIGH PRESSURE	SF60	2	D127
5587B09G02	PISTON AND CONNECTING RODS - LOW PRESSURE	SF60	3	D121
5587B11G01	INTERCOOLER AIR COMPRESSOR	SF60	1	D126
5587B12G01	REAR RETAINER AND OIL PUMP	SF60	3	B121
55B3909G40	MAG VALVE ASSEMBLY	SF60	3	D111
5621B16G01	BRAKE PARTS	SF60	1	I129
5621B17H06	BOOT SEAL KIT	SF60	21	E121
5621B17H07	WEDGE GUIDE	SF60	24	C112
5621B18G01	DIFFERENTIAL CARRIER ASSEMBLY	SF60	1	SF1301
5621B19G01	GENERAL ASSEMBLY DRIVE AXLE	SF60	2	SF1FLR
5621B78H01	STD PROTECTIVE SLEEVING 1/4 OD	SF60	13	H101
5622B45H02	STD SHIELD CABLE 20 AWG B/W 2- COND	SF60	51	C100
5623B24H01	HUB 2.75 DIA X 1.47 LG SST	SF60	2	C117
5623B66H01	SPACER 2.00) .50 X .09 THK SST	SF60	3	C117
5623B68H01	MAGNET, trip stop	SF60	5	B2A
5623B85H02	AIR FITTING 1 - 7/8" HEX BRASS COUPLER ASSY	SF60	5	D101
5623B89H01	WINDOW GLAZING RBR EXTRN 160.00+/- 2.00)FRONT WINDOW GASKET	SF60	5	I126
5623B91H01	STD. WASHER 1.25 X 1.25) .032	SF60	12	B3B
5623B98H03	STD. RIVET .406) .188 DIA SST, ARMATURE ASSY	SF60	111	B3B
5624B12H01	LEVER 1)	SF60	1	C118
5624B19H01	MODIFIED SOCKET	SF60	4	A110
5624B25H01	KEY LOCK	SF60	14	B1E
5624B40H01	WASHER-CROME PLATED 1	SF60	52	B3B
5625B54H02	CAP EXTRUSION 90.50)	SF60	11	SF3WALL
5625B82H01	BUMPER E.A.R. ISODAMP #C.1002.25	SF60	9	C118
5627B14H04	BRACKET DETAIL .188 THK AL	SF60	15	C112

### Appendix E - Spare Parts

Item	Description	Storeroom	Current Balance	Default Bin
5627B15G04	COVER OUTLET ASSY	SF60	45	B2H
5627B44H02	BUMPER MTG PL 5.00 X 3.58) .250	SF60	3	C118
5627B49H01	WASHER	SF60	32	C108
5627B67H01	CUSHION INSERT 2.00) 1.00 X 3.50	SF60	21	I104
5627B82H03	TERMINAL .138 STUD 22-16 AWG NON INS	SF60	41	H101
5629B88H01	TERMINAL BLOCK 2 POS 20A SLG ROW	SF60	7	B2A
5629B88H35	TERMINAL BLOCK 6 POS 30A DBL ROW	SF60	3	B3B
5629B88H38	TERMINAL BLOCK 12 POS 30A DBL ROW	SF60	3	B3B
5630B48G01	MICROPHONE ASS'Y	SF60	1	A116
5630B48G05	MICROPHONE ASSY	SF60	1	A117
570A055H03	"O" RING STD SIZE 339	SF60	13	C107
570A055H31	O RING STD SIZE 210	SF60	99	C113
570A168H02	SEAL 2.12 X 1.50) .750 THK FELT	SF60	2	G1A
570A169H03	RETAINER 7.50 X .50) .250 THK POLY	SF60	4	G1A
570A169H04	RETAINER 1.62 X .50) .250 THK POLY	SF60	2	G1A
570A170H02	SEAL 7.50 X .750) .125 THK	SF60	8	G1A
577B060H33	DIODE	SF60	2	B3D
577B061H14	SILICON CONTROL RECTIFIER	SF60	1	B3D
5819C58G03	FINGER ASSEMBLY	SF60	14	C121
5819C81H01	DECAL, CLEAR MYLAR, END	SF60	32	B3D
5824C49G01	SOLENOID VALVE	SF60	2	D111
5827C89H04	CYLINDER HYDRAULIC	SF60	1	C124
59D0647H01	STD. HINGE 1) .500 LG OF EXTRUDER SECT	SF60	8	B1D
5D56060H21	CAM	SF60	5	D103
5D72149G06	PROPULSION MONITOR ASS'Y	SF60	1	A118
5D72500G04	SMOKE DETECTOR ASSEMBLY (GRAPHICS)	SF60	17	D116
5D72501G02	SMOKE DETECTOR MOUNTING BRACKET	SF60	1	D116
5D72504H27	SCREEN, CLEAN-UP	SF60	2	C106
5D72504H96	RUN SCREEN (HVAC)	SF60	6	C106
5D73028G01	PC BOARD R110 CONVERTER MOTHERBD ASS'Y	SF60	3	A108
5D73062G01	PC BOARD GEALOC POWER SUPPLY ASSEMBLY	SF60	5	A2E
5D73065G01	PC BOARD MANUAL CONTROL II ASSEMBLY	SF60	4	A2B
5D73067G02	PC BOARD MANUAL CONTROL I ASSEMBLY	SF60	1	A2B
5D73091G01	PC BOARD FRANKFURT 16 SLOT P2 BACKPLANE	SF60	1	A108
5D73122G01	PC BOARD FRANKFURT RELAY STAT IND ASS'Y	SF60	2	A1B
5D73200G01	PC BOARD GEALOC POWER SUPPLY ASSEMBLY	SF60	1	A101
5D73201G01	PC BOARD DIGITAL INPUT PCB ASSEMBLY	SF60	1	A1A
5D73205G02	PC BOARD GROUND LOSS DETECTION ASSY	SF60	11	A1B
5D73206G01	PC BOARD AUDIO MATRIX ASSEMBLY	SF60	1	A2A
5D73220G01	PC BOARD ATCS SYNC/VITAL DRVR INTFC ASSY	SF60	4	A1A

**Appendix E - Spare Parts**

Item	Description	Storeroom	Current Balance	Default Bin
5D73220G02	PC BOARD ATCS SYNCHRONIZER/VITAL DRIVER	SF60	4	A1D
5D73220G03	PC BOARD-ATCS SYNC VITAL DRIVE (XA0)	SF60	1	A1D
5D73221G01	PC BOARD MULTI PURPOSE I/O ASSEMBLY, XA3	SF60	5	A1B
5D73221G02	PC BOARD MULTI PURPOSE I/O ASSEMBLY	SF60	2	A1C
5D73222G02	PWR SUPPLY ASSY (24V IN 5V +/-12V OUT)	SF60	2	A1C
5D73299G01	PC BOARD LAS VEGAS RADIO RELAY I/O ASSY	SF60	5	A1D
5D73338G01	PC BOARD DIGITAL OUTPUT ASSEMBLY	SF60	1	A2A
5D73338G02	PC BOARD DIGITAL OUTPUT ASSEMBLY	SF60	1	A1C
5D73412G01	PC BOARD RF INTERFACE ASSEMBLY, FOR CENTRAL CRADLE S	SF60	1	A1A
5D73412G02	PC BOARD RF INTERFACE ASSEMBLY, VEHICLE	SF60	7	A1D
5D73413G01	PC BOARD 386 CPU ASSEMBLY	SF60	1	A103
5D73449G01	# 1 End Term Card (TC1, TC2, AND TC3)	SF60	3	A108
5D73449G02	# 1 End Term Card (TC4)	SF60	1	A108
5D73452G01	PC BOARD BRAKE PROP CONTROLLER ASSY	SF60	4	A1E
5D73458G01	Door TX Term Card (TXRXL AND TXRXR)	SF60	3	A2A
5D73463G01	PV BOARD SAN FRANCISCO NON-CPU M/B ASSY	SF60	1	A110
5D73473G01	PC BOARD, DOOR TX/RX ASSEMBLY	SF60	7	A1E
5D73479G01	PC BOARD MANUAL SPEED LIMITER ASSEMBLY	SF60	2	A2B
5D73491G01	PC BOARD, WAYSIDE DOOR CONTROL	SF60	1	A101
5D74294H01	MOTOR 115 VAC 60 HZ	SF60	2	C129
5D74330G03	FLAG ASSEMBLY TRIP STOP	SF60	1	E107
5D74649G01	PHASE VOLTAGE RELAY GEN ASS'Y	SF60	1	A2C
5D74671G01	GUIDE WHEEL HUB ASSEMBLY	SF60	11	H119
5D74672H01	HUB 1) MACHINED FROM CASTING	SF60	1	H119
5D74673H01	SAFETY DISCS 14.50 OD X 4.75 1D) .50	SF60	6	H119
5D74715H01	COMPRESSOR	SF60	2	SF1401
5D74715H03	COIL, COMPRESSOR UNLOADER	SF60	5	B2B
5D74715H07	VALVE-CHECK	SF60	4	D117
5D74716H02	COIL - CONDENSER	SF60	2	SF1301
5D74716H03	FRAME-CONDENSER	SF60	1	SF1112
5D74716H05	VALVE - RELIEF	SF60	3	E112
5D74716H06	ISOLATOR - SHOCK MOUNT	SF60	5	G1F
5D74716H08	VALVE - SERVICE	SF60	2	E117
5D74716H09	RECEIVER - LIQUID	SF60	3	E114
5D74716H10	MOTOR - CONDENSER	SF60	2	E113
5D74716H14	VALVE - PURGE	SF60	4	E112
5D74716H20	VALVE - RECEIVER (INLET AND OUTLET)	SF60	6	E113
5D74717H02	SHAFT- BLOWER	SF60	8	C109
5D74717H03	COUPLING-BLOWER	SF60	3	C109



**Appendix E - Spare Parts**

Item	Description	Storeroom	Current Balance	Default Bin
5D74717H04	BLOWER (RH)	SF60	4	D104
5D74717H08	MOUNT-SHOCK	SF60	16	E103
5D74717H10	DUCT-FLEXIBLE (HVAC)	SF60	1	C115
5D74717H11	COIL-EVAPORATOR	SF60	2	T119
5D74717H16	STRAINER-SERVICEABLE (hvac)	SF60	5	B1
5D74717H17	VALVE-LIQUID AND MODULATING	SF60	4	D106
5D74717H18	COIL- VALVE (SPADE)	SF60	5	D121
5D74717H19	VALVE-EXPANSION	SF60	4	D107
5D74717H23	THERMOSTAT-OVERHEAT	SF60	2	F1C
5D74717H24	BLOWER (LH)	SF60	3	E104
5D74717H25	WASHER-SNUBBING	SF60	48	I117
5D74996H56	SELECTOR SWITCH, KEY OPERATED	SF60	1	G1F
5D74996H57	SELECTOR SWITCH, KEY OPERATED	SF60	1	G1F
5D74996H58	SELECTOR SWITCH, KEY OPERATED	SF60	1	G1F
5D74996H59	SELECTOR SWITCH, KEY OPERATED	SF60	1	G1F
5D75063G01	INTERRUPTER BRACKET SUPPORT BA	SF60	2	F129
5D75074G03	INTERRUPTER BRACKET ASSEMBLY	SF60	3	E126
5D75221G01	POWER SUPPLY ASSEMBLY RACK MOUNTABLE	SF60	1	A129
5D75221G02	RACK MOUNTABLE POWER SUPPLY AS	SF60	1	A127
5D75225G04	FUSE AND RELAY TERMINAL BLOCK ASSEMBLY	SF60	1	A108
5D75298G01	BUMPER STRIP	SF60	8	SF1400
5D75298G02	BUMPER STRIP	SF60	4	SF1400
5D75300G03	FLAG ASSY WELDMENT, TRIP STOP	SF60	2	B110
5D75691H28	SANTOPRENE INTERLOCK SEAL	SF60	1	G107
5D75691H29	INTERLOCK RETAINER EXTRUSION	SF60	1	I122
5D75691H30	RETAINER CLIP	SF60	11	I122
5D75691H31	SCREW #10-24 X 5/8 " PHSMS	SF60	49	I122
5D75693H05	MICROSWITCH - SPDT (V3L-2106-D	SF60	43	G1B
5D75695H24	THRESHOLD TRACK CAP ( NYLATRON)	SF60	139	G109
5D76069G03	SAFETY EDGE RETAINER	SF60	9	D110
5D76069G04	SAFETY EDGE RETAINER	SF60	11	D105
5D76262H03	EQUALIZER VALVE 110 PSI	SF60	11	D107
5D76263H22	Radio	SF60	1	A113
5D77034H09	SPRING	SF60	3	G1B
5D77584G01	POWER CONVERTER ASSEMBLY - TEV NO.2 END	SF60	2	A120
5D77695H02	SERIAL INTERFACE CONNECTOR	SF60	1	A108
5D77763G01	DIGITAL I/O INTERFACE MODULE PDISO-8	SF60	1	A2C
5D77773H05	ETHERNET EXPRESS PRO 10+	SF60	1	A111
5D77773H06	ETHERNET EXPRESS PRO 10+	SF60	2	A2C
5D77998H27	FILTER DRIER CARTRIDGE	SF60	13	E122

### Appendix E - Spare Parts

Item	Description	Storeroom	Current Balance	Default Bin
5D79410H01	DTE/TERM'D LINE DRIVER CARD	SF60	3	C111
5D79410H02	DTE/UNTERM'D LINE DRIVER CARD	SF60	14	G1G
5D79916G02	DOOR INTERLOCK RELAY ASSY (SAN FRANCISCO	SF60	3	A2E
5D79979H01	FILTER HOUSING .06 THK AL	SF60	1	D105
5D80189H01	CPU BOARD PENTIUM P5000HX SERIES	SF60	1	A111
5D80233H02	INTERFACE EXPANSION MODULE	SF60	11	G107
5D80233H03	IDLER PULLEY ASSEMBLY	SF60	3	G115
5D80233H05	BUMPER ASSEMBLY-LH	SF60	1	G1B
5D80233H06	BUMPER ASSEMBLY-RH	SF60	1	G1B
5D80233H07	MOTOR/GEAR DRIVE ASSY	SF60	1	G125
5D80233H14	CLOSE MONITOR SWITCH ASSEMBLY	SF60	2	G107
5D80233H15	CLOSE MONITOR SWITCH HARNESS A	SF60	5	B2C
5D80233H16	CONTROL/ EXPANSION HARNESS ASSEMBLY	SF60	1	G107
5D80233H17	CONTROL/ LOCK HARNESS ASSEMBLY	SF60	1	G107
5D80233H18	J1 JUMPER HARNESS ASSEMBLY	SF60	23	G1B
5D80233H25	drive belt-246.25"	SF60	1	G122
5D80233H31	drilled rubber	SF60	6	G1B
5D80233H32	wheel assembly	SF60	33	G1E
5D80233H33	FUSE - 3.15A 250, 5X 20MM TY	SF60	66	G1B
5D80233H42	REMOTE INTERFACE BOARD	SF60	11	G1A
5D80233H56	MICROPROCESSOR ASSY 9.27	SF60	16	G122
5D80903H01	WEATHER COVER RIGHT HAND .06 THK	SF60	5	I107
5D80903H02	WEATHER COVER LEFT HAND .06 THK	SF60	11	I107
5D81178H01	ETHERNET PC LINK2 BD	SF60	1	A129
5D81259G02	Aux Control Pnl	SF60	1	T112
5D81607G04	STANCHION POST	SF60	211	SF3WALL
5D81611H12	NUT, #10-24 HEX THIN FLEXLOCK	SF60	111	G1A
5D81613H04	LOCKWASHER .312" SPLIT RING	SF60	211	G1A
5D81799G01	CENTRAL RADIO SYSTEM COMPUTER ASSEMBLY	SF60	1	T117
60A2872G37	CAM SWITCH TYPE XCA-398	SF60	2	B2C
6157A58H04	THERMAL RELAY	SF60	2	D107
6158A81H01	bushing, traction motor	SF60	67	C124
62111KK37V	CABLE EXANE 10AWG 600V	SF60	25	G116
6246D67H12	WASHER .812 ID X 4.25 OD X .12 THK	SF60	125	C124
6246D67H13	WASHER, .812 ID X 2.75 OD X .12 THK	SF60	12	C123
6246D67H15	STUD 8.44) 1.625 DIA	SF60	3	G120
6246D69H09	SHACKLE 7.25 X 2.75) .38 HR STL	SF60	16	D118
6247D67H15	STUD 8.44) 1.625 DIA	SF60	1	G120
652A073H25	CABLE GRIP .375-.437 .750	SF60	2	B3A
652A103H02	DRAIN VALVE	SF60	5	B1B

**Appendix E - Spare Parts**

Item	Description	Storeroom	Current Balance	Default Bin
652A126H08	RUBBER NEOPRENE GROMMET	SF60	51	C108
652A292H06	BOLT .500-13 X 1.75 HEX HD STL (HVAC MOUT)	SF60	115	H116
652A292H07	BOLT, 1/2-13 X 2 HHC GR 5 (HVAC MOUNT)	SF60	91	C109
652A292H16	BOLT .500-13 X 3.50 HEX HD STL (HVAC MOUNT)	SF60	41	H118
652A292H17	BOLT .500-13 X 3.75 HEX HD STL (HVAC MOUNT)	SF60	25	H118
652A292H22	BOLT .625-11 X 3.00 HE	SF60	139	G1E
652A292H23	BOLT .500-13 X 3.00 HEX HD STL	SF60	87	D127
652A293H06	WASHER .505 ID X 2.00 OD) .250 CF STL	SF60	24	C108
652A589H03	WASHER .202) 2.375 DIA STL	SF60	111	H1B
6957C02G01	SLIDE ASS'Y DOOR	SF60	1	D106
6957C30G01	STD. COIL BASE ASSEMBLY	SF60	25	D113
6957C53G01	ARC BOX ASSY	SF60	5	F113
6958C50H01	TOP RING 25.13 X 2.00) .078 THK STL	SF60	19	G104
6958C55H14	PIN 16-18 AWG, FOR TRIP STOP CONNECTOR	SF60	258	H1D
6959C56H19	cabl 4 cond. 20 awg shield, transducer wire	SF60	154	C127
6960C42H01	CLAMP 3.50 x 3.00) 2.00 THK POLYGL	SF60	26	B2G
6961C69G01	ASSEMBLY DUAL QUICK RELEASE VALVE KIT	SF60	1	D112
6965C16H02	BRK XMFR	SF60	2	E119
6965C34G01	COMMUTATOR COVER ASSEMBLY R.H.	SF60	1	I116
6965C34G02	COMMUTATOR COVER ASSEMBLY L.H.	SF60	1	I116
6965C96H01	TERMINAL .375 STUD, 2 HOLE	SF60	141	B120
6966C88H01	BRACKET, RAIL	SF60	8	I108
6967C72G02	KNUCKLE CASTING	SF60	151	H101
6967C72G03	KNUCKLE CASTING	SF60	575	H112
6967C72H08	KNUCKLE 1' MACHINES FROM CAS	SF60	219	H111
6968C50H01	BUSHING URETHANE	SF60	21	G1E
6968C56H01	SWAY BAR 1.25 DIA	SF60	11	G129
6969C55G01	PANEL ASSEMBLY	SF60	5	B2F
6971C67H02	BREAKER 3 POLE 600 VAC 15 AMP	SF60	2	D117
6971C67H07	BREAKER 3 POLE 600 VAC 15 AMP	SF60	2	B1G
6971C68H01	BREAKER 3 POLE 600 VAC 70 AMP	SF60	4	B2H
6971C68H04	BREAKER 3 POLE 600 VAC 125 AMP	SF60	5	D117
6972C93G01	POWER RAIL JOINT ASSEMBLY	SF60	14	I123
6972C93G02	SIGNAL RAIL JOINT ASSEMBLY	SF60	1	F123
6972C93G04	HALF ALIGN PLATE ASSEMBLY	SF60	1	F123
6972C93H01	PLATE, JOINT	SF60	6	C101
6972C93H02	PLATE, ALIGNMENT	SF60	5	C127
6972C93H06	PLATE, JOINT	SF60	1	F103
6972C94H05	POWER COVER 5 FEET BEIGE	SF60	51	F129
6972C94H21	POWER COVER 2.50 FEET BEIGE	SF60	6	C129

**Appendix E - Spare Parts**

Item	Description	Storeroom	Current Balance	Default Bin
6972C95G02	ANCHOR PLATE ASS'Y	SF60	58	I112
6972C95G03	ISOLATION GAP	SF60	1	F118
6972C95H01	ISOLATION JOINT 8.00) 1.25 X 1.50	SF60	11	I114
6972C95H02	ISOLATION JOINT CENTER BEVELED AND COATED	SF60	1	I114
6972C95H11	ISOLATION JOINT CENTER BEVELED	SF60	4	I118
6972C97G02	POWER TERMINAL	SF60	9	G126
6972C98G02	EXPANSION JOINT POWER	SF60	13	F117
6973C01H16	TERMINAL COVER (WHITE)	SF60	36	F1F
6973C02H04	ISOLATION JOINT COVER- COVER 8.00 BEIGE	SF60	82	G124
6973C02H06	POWER TERMINAL COVER-COVER	SF60	174	G127
6973C66G02	VARISTOR ASSEMBLY	SF60	11	B2D
6973C66G07	VARISTOR ASSEMBLY	SF60	8	B2D
6973C66G10	VARISTOR ASSEMBLY	SF60	7	B2D
6973C66G14	VARISTOR ASSEMBLY	SF60	9	B2D
6974C38H01	CARBON BRUSH GRADE 933	SF60	114	B2A
6975C03H02	FAN MTG PLATE .0747 THK	SF60	2	B116
6976C08G05	ROLLER BEARING ASSEMBLY	SF60	491	B2E
6D55182H08	HANGER SHIM	SF60	29	G1A
6D55182H11	LOCKWASHER 5/16 SPLIT RING SST	SF60	111	G1C
6D55460G01	GUIDEWHEEL ASSEMBLY FIXTURE	SF60	1	SF3WALL
6D55699H02	END CAP WINDOW- SOLAR GRAY	SF60	11	SF1FLR
6D56059G01	DOOR OPERATOR R/H	SF60	3	I127
6D56059H21	CAM	SF60	4	E118
6D56060G01	DOOR OPERATOR L/H	SF60	1	H122
6D56114G01	MANUAL CONTROLLER ACCESS DOOR	SF60	1	B115
6D56130G01	POWER FEED ASSEMBLY	SF60	5	E116
6D56434H02	RETAINING RING SCREW	SF60	31	E126
6D56434H03	RETAINING RING	SF60	9	E126
6D56434H07	LAMP - HALOGEN HI/LO	SF60	2	E127
6D56434H08	LAMP - INCANDESCENT RED	SF60	1	E125
6D56436H02	DOOR PANEL TRIM	SF60	15	B120
6D56523G01	KICK PANEL	SF60	4	H126
6D56524H01	FILTER HOUSING 06. THK AL	SF60	3	E100
6D56529G01	PROG SWTCH PNL	SF60	1	A120
6D56575G01	A/C COMPRESSOR ASSEMBLY UNIT	SF60	1	SF1104
6D56575H04	SWITCH-HIGH PRESSURE	SF60	6	D122
6D56575H05	SWITCH-LOW PRESSURE	SF60	4	D123
6D56575H06	SWITCH-MODULATION PRESSURE	SF60	2	D122
6D56575H15	ISOLATOR SHOCK MOUNT	SF60	12	D123
6D56575H18	TRANSFORMER	SF60	2	D117

### Appendix E - Spare Parts

Item	Description	Storeroom	Current Balance	Default Bin
6D56575H19	CIRCUIT BREAKER - COMPRESSOR	SF60	1	C109
6D56575H20	CIRCUIT BREAKER - CONDENSER FAN	SF60	2	C124
6D56575H21	CIRCUIT BREAKER - OVERHEAD HEATER	SF60	1	C124
6D56575H22	CIRCUIT BREAKER - BLOWER FAN	SF60	1	C109
6D56575H23	CONTACTOR	SF60	14	B2B
6D56575H24	RELAY BASE OVERLOAD	SF60	4	B1F
6D56575H25	OVERLOAD	SF60	13	B1F
6D56575H26	OVERLOAD	SF60	11	B1F
6D56575H27	PC BOARD CONTROL	SF60	2	A1C
6D56576G01	HVAC EVAPORATOR ASSEMBLY	SF60	1	SF1412
6D56576H02	MOTOR-BLOWER 2-SPEED	SF60	11	FROW
6D56576H06	KEY-COUPLING 3/16" X 1 1/2 "	SF60	117	C109
6D56576H07	WHEEL-BLOWER (CW)	SF60	6	D103
6D56576H08	WHEEL-BLOWER (CCW)	SF60	5	D103
6D56576H11	CLIP, FLEXIBLE DUCT (HVAC EVAP)	SF60	25	C109
6D56576H15	BOLT-DRILLED HEX HD, .375-16 X 2.00	SF60	57	I117
6D56576H28	HEATER ASSEMBLY	SF60	4	T116
6D56576H34	SWITCH-AIRFLOW	SF60	8	C103
6D56576H35	TUBE - NEOPRENE	SF60	185	H100
6D56576H36	SENSOR-RETURN AIR (NOT SHOWN)	SF60	12	C103
6D56576H37	VARISTOR-SURGE SUPPRESSOR	SF60	6	C103
6D56576H39	MATING CONNECTOR, R.A.S.	SF60	6	F1D
6D56576H40	SWITCH FREEZE PROTECTION	SF60	2	E112
6D56576H42	HEATING ELEMENT	SF60	8	A122
6D56576H43	O-RING (REPLACEMENT ) STRAINER, HVAC	SF60	34	C106
6D56576H45	MOTOR, BLOWER 2 SPEED	SF60	9	C109
6D56864G01	CENTRAL CONTROL COMPUTER ASSEMBLY	SF60	1	T120
6D56865G01	FRONT END COMPUTER ASSEMBLY	SF60	1	T124
6D56867G01	OPERATOR STATION COMPUTER ASSEMBLY	SF60	1	T117
6D56868G01	GENERAL SYSTEM DISPLAY COMPUTER ASSEMBLY	SF60	1	T117
6D56869G01	OFFICE NETWORK BRIDGE COMPUTER ASSEMBLY	SF60	1	T104
6D56999H12	J - CHANNEL 54.63)	SF60	9	B115
6D56999H13	J - CHANNEL 102.50)	SF60	12	B115
6D57064G01	ATC2 CRADLE - ASSEMBLY	SF60	1	A124
6D57120G01	Audio Panel Assembly	SF60	6	D111
6D57224G01	TRANSFER SWITCH ASSEMBLY	SF60	1	T106
6D57224G02	Switch Assembly, BDR Transfer	SF60	1	T115
6D57226G01	ATO COMPUTER ASSEMBLY	SF60	1	T118
6D57226G02	ATO COMPUTER ASSEMBLY	SF60	1	T118
6D57228G01	INDUSTRY PACK BOARD ASSEMBLY	SF60	1	A2B

### Appendix E - Spare Parts

Item	Description	Storeroom	Current Balance	Default Bin
6D57252G01	POWER SUPPLY ASSEMBLY	SF60	1	A111
6D57255G01	GRAPHICS FRONT END COMPUTER	SF60	1	T118
6D57299G01	FIBER OPTIC TERMINAL BOX ASSEMBLY	SF60	1	T106
6D57521G01	GROUND LOSS DETECTION ASSEMBLY	SF60	1	A104
6D57590G02	BASE DATA RADIO LOCAL CONTROL	SF60	1	T112
6D57607H01	GEALOC FIELD POWER SUPPLY	SF60	2	A128
6D57761G01	SPEAKER/MICROPHONE PANEL ASSEMBLY	SF60	2	G117
6D57772G01	WASHER BOTTLE ASSEMBLY	SF60	1	E115
6D57793G01	CONDENSER UNIT ASSEMBLY	SF60	1	SF1408
6D57793H02	FAN-CONDENSER	SF60	2	E121
6D57793H12	SEAL, TEFLON PIBER 24592	SF60	32	B3A
6D57793H19	BRACKET - FILTER DRYER	SF60	4	E112
6D57803H01	CPU BOARD	SF60	1	A108
6D57803H02	CPU BOARD	SF60	2	A108
6D57827H01	DTE/TERM'D OPTO-ISOL'D LINE DRIVER BD	SF60	2	B1F
6D57827H02	DTE/UNTERM'D OPTO-ISOL'D LINE DRIVER BD	SF60	2	C117
6D57841G01	ORS CRADLE ASSY	SF60	2	A126
6D57842G01	RACKMOUNT DISPLAY COMPUTER ASSEMBLY	SF60	1	T118
6D58053H01	CENTRAL CONTROL - PWR SUPPLY ASSY	SF60	1	A109
6D58550G01	IONIZATION SMOKE DETECTOR (CTR LOCATION)	SF60	1	D116
6D58590H01	VEHICLE AIRPORT LOGO	SF60	2	C101
6D59219G01	CLOSED AND LOCKED INDICATOR ASSEMBLY	SF60	1	G115
6D59308H01	GUTTER DETAIL 190.50) AL EXTR	SF60	1	SF3WALL
6D59308H02	GUTTER DETAIL 190.50) AL EXTR, RH	SF60	1	SF3WALL
6D59367H16	DYNAMETRIC TELEPHONE LOGGER PATCH	SF60	3	G116
6D59446H01	GUIDE SPACER .188 THK ALUM	SF60	11	B113
6D59447G01	LOWER DOOR GUIDE - C-100ANDCX-100 VEHICLE	SF60	44	E107
6D59447G02	LOWER DOOR GUIDE - C-100ANDCX-100 VEHICLE	SF60	87	E108
6D59477H03	WIRE 20 AWG 600V TRIP STOP	SF60	147	I102
6D59478H12	SHLD CABLE 20 AWG 2/C-9/0 600V	SF60	111	H112
6D59563G01	DYNAMIC GRAPHICS ASSEMBLY	SF60	8	B129
6D59563H01	CPU WITH DAUGHTER CPU	SF60	4	A108
6D59563H09	POWER SUPPLY 115/230 AC	SF60	26	A105
6D59669H01	SERIAL INTERFACE BOARD	SF60	1	A112
6D59669H02	SERIAL INTERFACE BOARD	SF60	1	A112
6D59958G01	DC/DC CONVERTER PANEL ASSEMBLY	SF60	1	A111
6D60478G01	MOUNTING PLATE BRACKET	SF60	68	F113
6D60577H16	OIL SEPERATOR KIT	SF60	1	I125
6D60577H20	ELECT. CONTROL MODULE	SF60	1	C117
6D60577H44	DESSICANT KIT	SF60	1	AROW

**Appendix E - Spare Parts**

Item	Description	Storeroom	Current Balance	Default Bin
6D61645H11	BOTTOM PIVOT PIN	SF60	6	G112
6D61646H18	RELEASE LABEL-SLIDER	SF60	51	G112
6D61646H20	BOTTOM GUIDE	SF60	1	G112
6D61646H24	CAM LOCK	SF60	5	G1C
6D61646H25	SANTOPRENE NOSING (1420-AWTS X 81.75")	SF60	1	T110
6D61646H26	SPRING	SF60	1	E103
6D61646H30	PADDLE HANDLE ASSEMBLY - L/ HAND	SF60	1	G115
6D61646H31	PADDLE HANDLE ASSEMBLY- R/ HAND	SF60	3	G115
6D61646H33	CLOSER TRACK/ BUMPER	SF60	2	G108
6D61646H34	BOTTOM PIVOT BLOCK ASSEMBLY	SF60	6	G112
6D61646H35	LH CLOSER ASSEMBLY	SF60	1	G112
6D61646H36	RH CLOSER ASSEMBLY	SF60	1	G112
6D61646H37	LH ARM FOR CLOSER	SF60	1	G112
6D61646H38	RH ARM FOR CLOSER	SF60	1	G112
6D61646H39	TPO PIVOT BLOCK ASSEMBLY	SF60	6	G112
6D61646H42	"SO" CLOSE MONITOR SWITCH ASSEMBLY	SF60	4	G112
6D61646H43	"SO" BUZZER SWITCH ASSEMBLY	SF60	9	G112
6D61647H02	MICROPROCESSOR CONTRO ASSEMBLY-V9.28	SF60	1	G112
6D61647H18	TERMINAL STRIP/ BUZZER ASSEMBLY	SF60	1	G108
6D61647H19	24VDC HARNESS	SF60	1	G112
6D61647H20	C2658-1" TIMING BELT	SF60	5	G107
6D61647H33	ELECTRIC ENCODER OPTIC	SF60	6	G112
6D61647H36	EPROM	SF60	1	G112
70001AJ291	SCREW .190-32 X 1.88 BRASS FIL	SF60	24	G1A
70001BU241	SCREW .138-32 X .50 LG FIL HD STL	SF60	1	H100
70001BU28V	SCREW .190-32 X 1.12 LG FIL HD STL	SF60	6	H101
70001BU45N	SCREW .164-32 X .88 FLAT HEAD	SF60	312	G107
70001BU48N	.190-32 X .62 LG FLAT HD STL	SF60	83	G1A
70001BU98J	SCREW .190-32 X .38 HEX	SF60	174	B3C
70001BUJ4D	6-32 X 1 1/2 SLTD PAN M/S STEEL ZY DICH PLTD	SF60	111	C107
70001BUJ5C	SCREW .164-32 X .25 PAN HD	SF60	1	B107
70001BUJ78	SCREW .190-24 X .500 LG PAN HD	SF60	11	I115
70001BUJBZ	SCREW .250-20 X 1.50 PAN HD STL	SF60	22	H101
70001DBB8W	SCREW .190-32 X 1.25 HEX HD SST	SF60	12	H101
70001DQFBR	.250 - 20 X .75 LG PHH REC OVH SST	SF60	73	C108
70001NS445	screw, .138-32 x .75 l	SF60	146	B3A
70005AC3CY	PAN HEAD SCREW, 7X8 M/S STEEL ZY DIC PLTD	SF60	141	B3B
70010EY18H	SCREW .190-32 X .62 STL TYPE-D PHILLIPS	SF60	111	B120
70010HC15V	SCREW .164-32 X .50 LG PHH REC	SF60	111	H102
70010HC19M	SCREW #12 X .75 LG FL HD TAP TYPE AB PNT	SF60	76	H101

### Appendix E - Spare Parts

Item	Description	Storeroom	Current Balance	Default Bin
70020BDA0V	SET SCREW .112-40 X .25 HEX SOC OVAL PT	SF60	211	B3A
70020BG74K	SCREW HEX SOCKET POINT SET.250-28X.75	SF60	6	B3B
70020BP772	SET SCREW .375-16 X .38 SST	SF60	262	I106
70020BP788	SET SCREW.438-14 X .38 HEX SOC CUP PT SST	SF60	195	I106
70020BP789	SET SCREW.438-14 X .50 HEX SOC CUP PT SST	SF60	182	I106
70020BP79M	SET SCREW .500-13 X 1.50 SST	SF60	173	F104
70030DRAEB	SCREW SEMS .312-18 X .625 SLOT HEX STL	SF60	21	B3A
70041AN070	SCREW .312-18 X 1.12 HEX SOC HD CAP	SF60	325	C101
70041AN253	SCREW .250-20 X 1.25 HEX SOC	SF60	23	B3A
70041AR246	SCREW .190 - 32 X .75 LG FLAT HD SOC	SF60	311	C108
70041AR297	SCREW .375-16 X .88 FL CSK HEX HD	SF60	1	I117
70041AV0L3	SCREW .750-10 X 1.5 CAP HD HEX SOC	SF60	311	F9901
70041AW09B	SCREW HEX SOC CAP .375-16 X 1.25 SST	SF60	351	I112
70041AW357	SCREW .250- 20 X 1.75 BUTTON	SF60	1	E107
70041AX23Z	SCREW .190- 32 X .31 HEX SOC FL HD SST, FOR COL. SHOE HOLDER	SF60	782	H126
70045AC0GM	BOLT M20 X 2.5 X 30MM LG HEX HD STL	SF60	31	D104
70045AC0GP	BOLT M20 X 2.5 X 40MM LG HEX HD STL	SF60	31	D104
70100EG04N	BOLT .312-18 X 1.00 LG HEX HD STL	SF60	311	H1A
70100EG07L	BOLT, .375-16 X 1.50 LG HEX HD STL	SF60	111	K113
70100EG07U	BOLT .375-16 X 2.50 LG HEX HD STL	SF60	144	H1A
70100EG0JZ	BOLT .750 - 10 X 2.50 LG HEX HD STL	SF60	11	F1D
70100GA01Q	BOLT	SF60	78	H101
70100GA04Q	BOLT .312-18 X 1.25 HEX HD SST	SF60	38	I106
70100GA07G	BOLT, HEX .375-16 X 1.00 SST	SF60	181	D112
70200BNBOX	NUT .138-32 HEX STL	SF60	581	D102
70200CABOX	NUT .138-32 HEX SST	SF60	1	E116
70200CAB1A	NUT .375-16 HEX SST	SF60	35	I106
70210AW61A	NUT .375-16 HEX SI BRONZE	SF60	89	H1A
70210BC725	CASTLE NUT 1.50-12 HEX. STL	SF60	1	H103
70210BK616	NUT .250-20 HEX STL	SF60	648	D127
70210BK618	NUT .312-18 HEX STL	SF60	136	H1A
70210BK61A	NUT .375-16 HEX STL	SF60	122	H1A
70210BK61E	NUT .500-13 HEX STL	SF60	1	H118
70210BK61L	NUT .750-10 HEX STL	SF60	11	C123
70210CTA1B	NUT, .375-24 HEX JAM	SF60	265	H1A
70210CTA1M	LOCKNUT .750 - 16 HEX STL	SF60	171	G107
70210CTA1Y	LOCKNUT 1.250-12 HEX STL	SF60	63	I122
70210EWA1M	LOCKNUT .750-16 HEX STL (L.H.)	SF60	14	I122
70210EWA1Y	LOCKNUT 1.250-12 HEX STL (L.H.)	SF60	16	I122



**Appendix E - Spare Parts**

Item	Description	Storeroom	Current Balance	Default Bin
70210GA616	NUT .250-20 HEX SST	SF60	213	D112
70210GA618	NUT .312-18 SST HEX	SF60	21	D112
70210GAA1E	1/2 - 13 HX JAM NUT 18-8	SF60	83	F104
70220DUN1B	.375-24 STOP NUT	SF60	66	H111
70220DUN1J	NUT WITH ELASTIC, .625 X 11, HORIZONTAL SHOCK MOUNT	SF60	29	E105
70220DUN1L	NUT .750 -10 ELASTIC STOP STL	SF60	12	F1D
70220DVN1L	NUT, .750-10 ELASTIC STOPNUT. STL	SF60	27	G107
70220ETN25	STOP NUT 1.500-12 ELASTIC	SF60	25	I124
70220ODVN1L	nut, .750-10 elastic stop stl	SF60	1	B126
70240ADN18	WING NUT .312-18 CAD PLTD STL	SF60	1	UNKNOW N
70310CB07C	SPRING PIN .125 DIA X .750 LG SST	SF60	1111	H1A
70310CB07F	SPRING PIN .125 DIA X 1.00 LG SST	SF60	315	H1A
70310CB0BA	SPRING PIN .188 DIA X 1.00 LG SST	SF60	146	F1D
70310CB0DT	SPRING PIN .250 DIA X 1.625 LG SST	SF60	113	F1D
70400AD41Z	RIVET .125 DIA .250 LG BUTTON HD ALUMINUM	SF60	496	H1D
70401BC46E	RIVET .188 DIA X .75 OVAL TUBULAR,BRASS	SF60	121	G1A
70500BD30D	WASHER .164 STD STL	SF60	447	D102
70500BD30K	WASHER .625 STD STL	SF60	698	G1E
70500BQ30H	WASHER .375 STD SILICON BRONZE	SF60	127	H1A
70500CT00P	WASHER .250 STD STL	SF60	575	F9901
70500CT00Y	WASHER .375 STD STL	SF60	21	C107
70500CT01A	WASHER .375 WIDE STL C113	SF60	1	
70500CT01J	WASHER .500 WIDE STL	SF60	189	D104
70500CT01X	WASHER .750 STD STL	SF60	174	F1D
70500CT02H	WASHER 1.06 ID X 2.25 OD X .165 STL	SF60	31	G1E
70510BB10Q	LOCKWASHER, .375 REG SILICOE BRONZE	SF60	228	H1A
70510CV10G	LOCKWASHER .138 REG STL	SF60	839	D102
70510CV10K	LOCKWASHER .190 REG STL.	SF60	295	B3C
70510CV10P	LOCKWASHER .312 REG STL	SF60	278	H1A
70510CV10Q	LOCKWASHER .375 REG STL	SF60	186	H1A
70510CV10W	Lockwasher .750 reg stl	SF60	311	F9901
70510DL10K	LOCKWASHER 190 X-DUTY STL	SF60	216	F100
70510DL10Q	LOCKWASHER .375 X-DUTY STL	SF60	1	C113
70510DL10S	LOCK WASHER .500 X-DUTY STL	SF60	936	H1B
70510DL10U	LOCK WASHER .625 X-DUTY STL	SF60	15	G128
70510DL10W	LOCK WASHER .750 X-DUTY STL	SF60	64	F1D
70510DQ10G	LOCK WASHER	SF60	1	E116
70510DQ10Q		SF60	1	I107
70510DS10Q	LOCK WASHER	SF60	99	D112

**Appendix E - Spare Parts**

Item	Description	Storeroom	Current Balance	Default Bin
70510DW10R	LOCKWASHER .438 HIGH COLLAR	SF60	125	G1C
70520AP10M	1/4 EXT TOOTH LOCKWASHER ZY, (TRACTION MOTOR)	SF60	211	C107
70530AQ13N	X-WASHER .25 I.D.	SF60	98	B2A
70610CJ21G	RETAINING RING .500 NOM SHAFT DIA	SF60	81	I117
70610DC32G	RETAINING RING	SF60	19	B3B
7080D07H18	RECEPTACLE	SF60	1	I114
7080D07H20	PLUG, stinger	SF60	1	I114
7081D11H04	MTG. BRACKET 9.00 X 1.50) OF	SF60	11	H111
71310DM307	PIPE PLUG .375	SF60	29	D128
71310DM801	ELBOW .125 X 45 DEG M.I.	SF60	5	E129
71310DNB0U	ELBOW 90 DEGREE STREET .75 IPS GALVANIZ	SF60	5	B3D
71310EBELH	PIPE .250 X 2.00 STD STL PIPE	SF60	4	E129
71310EBG01	PIPE PLUG .125-27 NPT HEX SOC HD STL	SF60	7	B3A
73477BA90A	DUPLEX RECEPTACLE	SF60	13	B106
73482AP00S	FUSE 60A 250V SB	SF60	7	C112
760C174G03	STANDARD UMC CONTACTOR LEVER A	SF60	1	B1D
760C174H01	STD MOLDED BODY	SF60	2	B1D
760C174H02	STD. MOLDED END PIECE	SF60	8	B1D
760C217G07	SHUNT	SF60	7	B2D
795C168G01	CONTACTOR ARC CHUTE - MOLDED	SF60	1	B2G
8367D80G04	COVER	SF60	1	I110
8367D80H06	NEOPRENE 23.75) .75 X .88 RUBBER	SF60	111	B117
8367D83H05	STOP SHIM 6.00 X 5.50) .06 THK SST	SF60	25	D108
8367D83H06	STOP PLATE 6.00 X 5.50) .25 THK SST	SF60	25	D108
8368D39H05	CABLE CLAMP 2.50 X 1.00) 1.00 THK MIC	SF60	91	B2G
8368D80H13	DETAIL, 30.75 X .50	SF60	6	B116
8368D80H14	DETAIL 51.38 X .50 .125	SF60	6	B116
8368D80H15	SEAL 82.12 LG OF RUBBE	SF60	1	B115
8368D84H26	VEHICLE GLASS	SF60	3	SF1302
8368D84H27	VEHICLE GLASS, CENTER	SF60	2	SF1FLR
8368D84H28	VEHICLE GLASS, SIDE	SF60	1	SF1303
8368D93G06	TYPE TE-359 BTRY CHGR AND DOOR SPLY G/ASSY	SF60	1	SF1106
8369D29H01	INTR DETAIL .125 THK, (Mounting Bracket, Threshold)	SF60	4	B3A
8369D36H17	SPACER 5.00 X .438) .125	SF60	17	C112
8584C27G01	HYDRAULIC HOSE ASSEMBLY	SF60	1	C119
8584C27G02	HYDRAULIC HOSE ASSEMBLY	SF60	1	C119
8584C27G03	HYDRAULIC HOSE ASSEMBLY	SF60	1	D128
8584C27G05	HYDRAULIC HOSE ASSEMBLY	SF60	1	C119
8585C12G02	BRKT DETAILS - COUPLER TRAVEL LIMITER	SF60	1	H121
8585C20H01	BRACKET 3.00 X 4.389) .188 STL	SF60	1	G101

**Appendix E - Spare Parts**

Item	Description	Storeroom	Current Balance	Default Bin
8585C91G01	LEVELING BRACKET	SF60	2	D112
8586C26G02	BOLT/ SLEEVE	SF60	59	G107
8586C26H04	SLEEVE 2.25 .782 ID X 1.00 OD	SF60	77	G1E
8586C93H01	BUSHING STRAP	SF60	24	G128
8587C22H07	BOLT .750-10 X 3.50 HEAVY HEX STL	SF60	11	G1E
8587C65H08	CABLE 275/ .0201, STRD 2KV 1/ O AWG	SF60	1	I103
8587C72H04	RESISTOR 75 WATTS, 25.0 OHMS	SF60	11	C103
8587C96H06	RUBBER SEALANT, MARINE #101	SF60	1	G100
8588C01H01	WIRE 19/ .0063 STRD 600V 22 AWG WHT.	SF60	26	C127
8588C01H02	WIRE 19/ .0080 STRD 600V 20 AWG WHITE	SF60	1	K110
8588C01H03	WIRE 19/ .0100 STRD 600V AWG WHITE	SF60	1	K110
8588C01H04	WIRE 19/.0113 STRD 600V 16 AWG WHT	SF60	1151	K110
8588C02H13	STD WIRE TAG WHITE .750 ID X 1.50 LGH	SF60	24	H1D
8588C13G01	Panel Detail Assembly	SF60	1	T112
8588C18H01	SWITCH 2 POS - 12 CONTACT	SF60	2	E125
8588C47H17	TERMINAL, .312 STUD 4 AWG	SF60	1	H1D
8588C47H18	TERMINAL .312 STUD 2 AWG	SF60	1	H1D
8588C47H19	TERMINAL .312 STUD 1/ 0 AWG	SF60	14	H1D
8588C47H25	TERMINAL .375 STUD 6 AWG	SF60	672	H105
8588C47H35	TERMINAL .375 STUD 1/ 0 AWG 2	SF60	199	H1D
8588C47H43	TERMINAL 500 STUD1/0 AWG	SF60	11	H1D
8588C48H04	TERMINAL .138 STUD 22-16 AWG	SF60	1	H1D
8588C48H05	TERMINAL .138 STUD 16-14 AWG BLUE RING	SF60	1174	H1D
8588C48H07	TERMINAL .164 STUD 22-16 AWG	SF60	223	H1D
8588C48H08	TERMINAL .164 STUD 16-14 AWG BLUE RING.	SF60	29	H1D
8588C48H09	TERMINAL .164 STUD 12-10 AWG YEL RING	SF60	116	H1D
8588C48H10	TERMINAL .190 STUD 22-16 AWG	SF60	562	H1D
8588C48H11	TERMINAL .190 STUD 16-14 AWG BLUE RING	SF60	211	H1D
8588C48H12	TERMINAL .190 STUD 12-10 AWG YELLOW RING	SF60	46	H1C
8588C48H14	TERMINAL .250 STUD 16-14 AWG BLUE RING	SF60	1	H1D
8588C48H25	.250 TAB 22-18 AWG RED FASTON	SF60	126	H1D
8588C48H26	TERMINAL .250 TAB 16-14 AWG	SF60	93	H1D
8588C48H27	TERMINAL .250 TAB 12-10 AWG YEL.	SF60	118	H1D
8588C48H31	TERMINAL, 16-14 AWG FASTON	SF60	99	H1C
8588C48H32	Terminal .112 stud 22-16 awg red spade	SF60	121	H1C
8588C48H43	TERMINAL SPLICE 22-14 AWG CLOSED END TRAN	SF60	111	H1D
8588C48H44	SPLICE, WIRE ,22-10 AWG, CLOSE	SF60	351	H1D
8588C48H45	TERMINAL .138 STUD 22-16 AWG	SF60	32	H1C
8588C48H46	TERMINAL .164 STUD 22-16 AWG RED SPADE	SF60	195	B3C
8588C48H47	TERMINAL .190 STUD 22-16 AWG	SF60	1836	H1C

**Appendix E - Spare Parts**

<b>Item</b>	<b>Description</b>	<b>Storeroom</b>	<b>Current Balance</b>	<b>Default Bin</b>
8588C48H48	TERMINAL .138 STUD16-14 AWG BLUE SPARE	SF60	86	H1C
8588C48H49	TERMINAL, .164 STUD 16-14 AWG BLUE	SF60	641	H1C
8589C64100	SPRING BRAKE CHAMBER ASS'Y	SF60	12	F107
8589C64136	PLUG PLANET OIL LEVEL	SF60	111	E112
8589C64142	STUD PLANET SPIDER TO HUB	SF60	4	I112
8589C64155	PLUG PLANE. OIL DRAIN (Magnetic)	SF60	49	C108
8589C64173	DIAPHRAM -BRAKE CHAMBER	SF60	1	G101
8589C64176	CLAMP ASS'Y HSG.	SF60	26	F102
8589C64179	PLATE ASS'Y DIAPHRAGM	SF60	6	E116
8589C64180	HSG ASS'Y BRAKE CHAMBER LOWER	SF60	5	F106
8589C64181	HSG. ASS'Y BRAKE CHAMBER UPPER	SF60	1	F108
8589C64185	SEAL ADJUSTING BOLT	SF60	51	E117
8589C64191	pinion oil seal double lip	SF60	29	D124
8589C64H01	NUT BEVEL PINION	SF60	21	G1C
8589C64H02	WASHER, BEVEL PINION NUT	SF60	21	G1C
8589C64H03	CAPSCREW PINION BRG. CAGE	SF60	61	G1C
8589C64H04	WASHER PINION BRG. CAGE	SF60	88	G1C
8589C64H05	OIL SEAL PINTON BRG. CAGE	SF60	1	D124
8589C64H06	CONE BEVEL PINION BRG. OUTER	SF60	19	E122
8589C64H07	CUP BEVEL PINION BRG. OUTER	SF60	5	E122
8589C64H10	CUP BEVEL PINION BRG. IINNER	SF60	6	E122
8589C64H11	CONE BEVEL PINION BRG. INNER	SF60	6	E122
8589C64H13	SPINDLE WHEEL BEARING	SF60	4	B124
8589C64H14	O RING	SF60	58	F1C
8589C64H15	BEARING BEVEL PINION REAR	SF60	6	E122
8589C64H18	PLUG DIFF. CARRIER	SF60	59	C108
8589C64H21	SHAFT AXLE (SHORT)	SF60	3	B124
8589C64H27	CUP DIFF. BRG.	SF60	6	E122
8589C64H28	CONE DIFF.BRG.	SF60	6	E122
8589C64H33	YOKE /FLANGE INPUT	SF60	15	D124
8589C64H40	WASHER	SF60	33	E117
8589C64H42	LOCK RING PINION RING BRG.	SF60	1	E122
8589C64H43	SHAFT PLANET, PINION	SF60	9	B121
8589C64H44	CAPSCREW PLANET SPIDER TO H	SF60	51	G103
8589C64H45	WASHER PLANET SPIDER TO HUB	SF60	72	G103
8589C64H48	SET SCREW	SF60	21	E111
8589C64H50	SNAP RING SUN GEAR RET.	SF60	5	B121
8589C64H51	SUN GEAR	SF60	5	D125
8589C64H52	washer planet sun	SF60	18	E117
8589C64H53	CAP SCREW WHL. BRG. NUT LOCK	SF60	46	E117

**Appendix E - Spare Parts**

<b>Item</b>	<b>Description</b>	<b>Storeroom</b>	<b>Current Balance</b>	<b>Default Bin</b>
8589C64H54	LOCK - WHEEL BRG. NUT	SF60	11	E117
8589C64H55	NUT WHEEL BRG	SF60	11	B121
8589C64H56	GEAR PLANET RING (52T	SF60	1	E123
8589C64H57	HUB PLANET RING	SF60	12	E119
8589C64H58	PLUG PLANET OIL LEVEL (Magnetic)	SF60	25	C108
8589C64H59	THRUST WASHER PLANET PINION OUTER	SF60	17	D120
8589C64H60	GEAR, PINION	SF60	6	B121
8589C64H61	THRUST WASHER PLANET PINION INNER	SF60	8	D120
8589C64H62	CONE HUB BRG. OUTER	SF60	9	E122
8589C64H63	CUP HUB BRG. OUTER	SF60	22	E116
8589C64H64	NUT WHEEL STUD	SF60	1	E117
8589C64H65	STUD	SF60	447	C113
8589C64H66	HUB	SF60	1	SF1404
8589C64H67	CUP HUB BRG. INNER	SF60	12	E122
8589C64H68	CONE HUB BRG. INNER	SF60	25	E116
8589C64H69	OIL SEAL HUB BRG.	SF60	34	D120
8589C64H70	OIL SLINGER	SF60	16	D120
8589C64H71	BRAKE DRUM	SF60	18	SF1404
8589C64H72	CAP SCREW	SF60	51	E117
8589C64H73	CAP SCREW SPINDLE TO HSG	SF60	21	E117
8589C64H74	BRAKE LINING KIT	SF60	8	E123
8589C64H77	COLLET NUT - BRAKE CHAMBER	SF60	11	F1C
8589C64H78	RIVETS	SF60	418	B2A
8589C64H79	LININGS	SF60	2	B124
8589C64H80	BOLT ADJUSTING	SF60	67	E118
8589C64H86	CAP SCREW HOLD DOWN CLIP	SF60	115	E117
8589C64H87	SPRING - BRAKE SHOE RETURN	SF60	82	E117
8589C64H88	BRAKE SHOE AND LINING ASS'Y	SF60	1	D104
8589C64H90	NUT HOLD DOWN CLIP	SF60	19	E117
8589C64H91	CLIP HOLD DOWN	SF60	9	E117
8589C64H93	WEDGE ASSEMBLY	SF60	31	E117
8589C64H94	SPIDER BRAKE	SF60	8	E123
8589C64H99	BREATHER ASSEMBLY	SF60	16	D113
8589C95H09	GREASE	SF60	1	G100
8591C07H01	SIGNAL COVER 5 FEET BEIGE	SF60	64	F129
8591C07H13	SIGNAL COVER 2.50 FEET BEIGE	SF60	1	F129
8591C09G01	SIGNAL EXPANSION JOINT ASS'Y	SF60	8	F123
8591C09H06	PLATE 3.00 X 1.25) .187 THK STL	SF60	37	I112
8591C12G01	SIGNAL ISOLATION JOINT	SF60	8	A101
8591C47G01	COLLECTOR FRONK CROSS LINK	SF60	95	H1E

**Appendix E - Spare Parts**

Item	Description	Storeroom	Current Balance	Default Bin
8592C16G03	STD. CONTACTOR 200 AMPS TYPE UMC-109A	SF60	1	B117
8592C18G06	STD CONTACTOR AND INTERLOCKTYPE UMC-109G	SF60	1	B3C
8593C08H03	TRANSFORMER 600V/60HZ AND 600V/50HZ 10V	SF60	3	D117
8593C21G01	CYLINDER HEAD ASSY - LOW PRESSURE	SF60	12	D120
8593C22G01	CYLINDER HEAD ASSY - HIGH PRESSURE	SF60	1	E129
8593C23G01	OIL PUMP COVER (WITH UNLOADERS)	SF60	6	E128
8593C23G02	BP1 OIL PUMP COVER REPAIR KIT	SF60	33	D127
8594C63H02	STD. FAN 24 VDC 94 CFM	SF60	5	B1G
8594C63H04	STD. FAN 12 VDC 106 CFM	SF60	2	C101
8596C95H02	GREASE	SF60	1	C110
8596C95H07	Rockwell grease # A-1779-W-283	SF60	1	C101
8596C95H09	GREASE	SF60	1	G100
8596C95H10	GREASE, NS-4238-FG	SF60	1	H109
8596C95H11	GREASE , NS-3844-TG	SF60	1	H100
8597C30G02	SLIDING GAP ASSEMBLY	SF60	1	I112
8597C30G03	SLIDING GAP ASSY, MODIFIED	SF60	1	I111
8597C32H06	GREASE	SF60	1	G100
8597C36G01	STD BASE	SF60	2	B2F
8617A19H01	GASKET .969 X .969) .16	SF60	11	E111
8617A79G01	CONTACT WITH INSERT	SF60	14	C121
8618A09G07	RESISTOR ASSEMBLY	SF60	1	B2D
8620A99H08	THIN WALL SHRINK TUBING, BLK,	SF60	476	H102
8620A99H13	THIN WALL SHRINK TUBING, BLK,	SF60	2299	H106
8621A44H01	aqua seal roll, blk, 3.75x.1 10 ft roll	SF60	41	F105
8621A46H01	CABLE TIE BLACK 3.9L X .10W	SF60	1	G100
8621A46H04	CABLE TIE BLACK 14.5L X .30 W)	SF60	1	G100
8623A03H01	STD PIN 26-24 AWG TYPE III	SF60	1	H1D
8623A03H02	STD PIN 24-20 AWG TYPE 111+	SF60	1	H1D
8623A03H03	STD PIN 18-16 AWG TYPE III	SF60	8	I100
8623A03H04	STD SOCKET 26-24 AWG TYPE 111+	SF60	1	H1C
8623A03H05	STD SOCKET 24-20 AWG TYPE III	SF60	111	H1C
8623A03H06	STD SOCKET 18-16 AWG TYPE III	SF60	7	H1D
8623A04H04	PIN 24-20 AWG TYPE III+	SF60	1	H1C
8623A04H11	SOCKET 24-20 AWG III+	SF60	171	H1C
8838D98H01	WHEEL HUB	SF60	1	B114
8839D57H02	BAR 3.62) .50 X .50 H. R. SST	SF60	7	C112
8839D57H03	DETAIL 6.75 X 2.25) .125 THK STL, GUTTER	SF60	2	C110
8839D57H04	DETAIL 6.19 X 4.25) .125 THK STL	SF60	2	C110
8839D59H01	TOP SEAL 95.00 X 1.25) .080 THK AL	SF60	1	SF1100
8839D59H02	DETAIL 40.550 X .437) .12	SF60	11	B116

**Appendix E - Spare Parts**

<b>Item</b>	<b>Description</b>	<b>Storeroom</b>	<b>Current Balance</b>	<b>Default Bin</b>
8839D59H06	DETAIL 39.00).375 THK X.750 STL	SF60	5	B116
8840D17G04	GUIDE TIRE RIM ASSEMBLY	SF60	1	H115
8840D17H01	SOLID RIM HALF	SF60	24	H127
8840D42G06	GENERAL ASSEMBLY TYPE UT-323 OVERLOAD	SF60	2	B2G
8840D61G01	RESISTOR PANEL R.H.	SF60	1	B2F
8840D61G02	RESISTOR PANEL L.H.	SF60	2	B2F
8840D61G03	RESISTOR PANEL R.H.	SF60	1	B2F
8840D61G04	RESISTOR PANEL L.H.	SF60	1	B2F
8840D66H03	LINK HEX STL BAR	SF60	4	C102
8840D97G02	INDICATOR ASSEMBLY	SF60	1	G1D
8840D97G03	PUSHBUTTON ASSEMBLY	SF60	2	G1D
8840D97G04	PUSHBUTTON ASSEMBLY	SF60	2	G1D
8840D97G05	PUSHBUTTON SWITCH ASSEMBLY	SF60	3	G1D
8840D97G07	PUSHBUTTON ASSEMBLY	SF60	1	G1D
8840D97G08	PUSHBUTTON ASSEMBLY	SF60	5	G1D
8840D97G09	PUSHBUTTON ASSEMBLY	SF60	2	G1D
8840D97G11	PUSHBUTTON ASSEMBLY	SF60	6	G1D
8840D97G12	PUSHBUTTON ASSEMBLY	SF60	5	G1D
8840D97G13	PUSHBUTTON ASSEMBLY	SF60	2	G1D
8840D97G14	PUSHBUTTON ASSEMBLY	SF60	11	E101
8840D97G32	PUSHBUTTON ASSEMBLY	SF60	2	G1D
8840D97G38	PUSHBUTTON SWITCHES AND INDICATORS	SF60	5	G1D
8840D97G44	INDICATOR ASSEMBLY	SF60	3	G1D
8840D97G83	ALARM TEST PUSBUTTON ASSEMBLY	SF60	3	G1D
8840D97G84	FLUID LEVEL INDICATOR ASSEMBLY	SF60	2	G1D
8840D97G85	PUSHBUTTON ASSEMBLY	SF60	3	G1D
8840D97H02	LAMP	SF60	1	E101
8840D97H04	LENS CAP, DOORS 1-2-3-4	SF60	5	G1D
8840D97H05	LENS CAP, DOORS 5-6-7-8	SF60	5	G1D
8840D97H06	LENS CAP, SPRING BRAKE RELEASE	SF60	16	G1D
8840D97H08	LENS CAP, DOORS CLOSED	SF60	3	G1D
8840D97H13	LENS CAP LEGEND AS SHOWN, ATO RED	SF60	5	E121
8840D97H16	PUSHBUTTON	SF60	7	G1D
8840D97H17	LENS CAP, DOORS 1-2	SF60	4	G1D
8840D97H18	LENS CAP, DOORS 3-4	SF60	3	G1D
8840D97H19	LENS CAP, DOORS 5-6	SF60	4	G1D
8840D97H20	LENS CAP, DOORS 7-8	SF60	3	G1D
8840D97H48	LENS CAP, OVERSPEED	SF60	5	G1D
8840D97H55	lens cap, DOORS LOCKED	SF60	11	G1D
8840D97H84	LENS CAP, WASHER FLUID	SF60	2	G1D

**Appendix E - Spare Parts**

<b>Item</b>	<b>Description</b>	<b>Storeroom</b>	<b>Current Balance</b>	<b>Default Bin</b>
8842D96G02	PC BOARD; CARD CAGE	SF60	1	A114
8844D32G01	AIR CONTROL PKG SOLENOID VALVE	SF60	1	B1B
8844D32H02	COIL, 24 VDC	SF60	4	B3F
8844D32H03	REPAIR KIT	SF60	19	B3G
8844D32H16	COIL	SF60	14	B3G
96D0111H10	SPRING, COMPRESSION 8.50) .0	SF60	326	B1D
D000007-102	HEX HD SCREW	SF60	6	B1D
D000205-103	HEX NUT	SF60	6	B1D
D000253-103	CASTLE NUT	SF60	331	G1F
D000402-102	SECURING RING	SF60	311	G1F
D220202-200	COMPRESSION SPRING	SF60	1	B1D
D220204-400	CONTACT BRIDGE	SF60	11	B1D
D220238-100	HEX HD SCREW	SF60	7	G1F
D220349-100	CENTERING PIN	SF60	1	C105
D220353-100	HEX HD SCREW	SF60	4	B1B
D220358-101	TRACK SUPPORT ROLLER	SF60	1	D102
D221416-100	RING	SF60	17	D103
D223968-100	CONTACT BRIDGE	SF60	4	B1B
D223969-200	CONNECTION CLAMP	SF60	1	B1B
D224055-100	GUIDE	SF60	2	D103
D224057-100	SCREW BOLT	SF60	3	D103



**APPENDIX F  
BASE CONTRACT PRICE BREAKDOWN**

**F1.0 INSTRUCTIONS –Not applicable**

**F2.0 PRICE BREAKDOWN FORMS**

F2.1 The Price Breakdown Forms includes the following:

F2.1.1 Form A, Summary of Fixed Prices for Base Contract

F2.1.1 Form B, Summary of Fixed Prices for Option Period, if exercised

F2.1.2 Form T, Option to Train Airport Personnel

**FORM A  
SUMMARY OF FIXED PRICES FOR THE BASE CONTRACT**

<b>BASE CONTRACT YEARS 1 - 10</b>	<b>TOTAL PRICE</b>
CONTRACT YEAR 1 BASE	\$17,550,278.00
CONTRACT YEAR 2 BASE	\$17,969,130.00
CONTRACT YEAR 3 BASE	\$18,466,770.00
CONTRACT YEAR 4 BASE	\$18,978,514.00
CONTRACT YEAR 5 BASE	\$19,504,767.00
CONTRACT YEAR 6 BASE	\$20,045,950.00
CONTRACT YEAR 7 BASE	\$20,602,493.00
CONTRACT YEAR 8 BASE	\$21,174,841.00
CONTRACT YEAR 9 BASE	\$21,763,451.00
CONTRACT YEAR 10 BASE	\$22,368,792.00
CARP PROJECTS (TASK #1 - TASK #6)	\$18,132,462.00
POTENTIAL BONUSES (INITIAL TERM)	\$1,984,250.00
CONTINGENCY FOR PARTS/MATERIAL REPLACEMENT	\$1,000,000.00
<b>TOTAL NOT-TO-EXCEED COST</b>	<b>\$219,541,698.00</b>

As provided in Article 2.2, the City has one option to renew the Agreement for a period of five years at the negotiated rates in Form B Summary of Fixed Prices for the Option Period below. The City may extend this Agreement beyond the expiration date by exercising the option at the City's sole and absolute discretion.

**FORM B  
SUMMARY OF FIXED PRICES FOR THE OPTION PERIOD**

<b>BASE CONTRACT YEARS 11 - 15</b>	<b>TOTAL PRICE</b>
CONTRACT YEAR 11 BASE	\$22,991,351.00
CONTRACT YEAR 12 BASE	\$23,631,624.00
CONTRACT YEAR 13 BASE	\$24,290,125.00
CONTRACT YEAR 14 BASE	\$24,967,383.00
CONTRACT YEAR 15 BASE	\$25,755,004.00
POTENTIAL BONUSES (SECOND TERM)	\$1,216,354.87
TOTAL NOT-TO-EXCEED COST	\$122,851,841.87

**FORM T  
OPTION TO TRAIN AIRPORT PERSONNEL**

Contractor shall provide on this form the total cost for training Airport personnel as outlined in Appendix A, Section A2.5 - Option to Train Airport Personnel.

<b>DESCRIPTION</b>	<b>TOTAL PRICE</b>
ON-SITE TRAINING AND MATERIALS NOT-TO-EXCEED AMOUNT	\$500,000

**END OF DOCUMENT**

AIRPORT COMMISSION  
CITY AND COUNTY OF SAN FRANCISCO  
RESOLUTION NO. 19-0076

**AWARD CONTRACT NO. 50175 TO BOMBARDIER TRANSPORTATION (HOLDINGS) USA, INC. FOR AIRTRAIN OPERATIONS AND MAINTENANCE IN AN AMOUNT NOT TO EXCEED \$218,541,698 INCLUDING \$1,000,000 FOR AIRPORT REQUESTED AS-NEEDED SERVICES FOR A TOTAL NOT TO EXCEED AMOUNT OF \$219,541,698 FOR A TERM OF TEN YEARS COMMENCING JULY 1, 2019.**

**WHEREAS**, on September 16, 2008, by Resolution No. 08-0173, the Commission awarded Contract No. 8838 to Bombardier Transportation (Holdings) USA, Inc. (“Bombardier”) for AirTrain Operations and Maintenance (“O&M”); and

**WHEREAS**, O&M services continued from March 2009 and included provisions for a five-year O&M Phase with options for one (1) three-year and two (2) one-year contract extensions. The contract is currently in its final option year; and

**WHEREAS**, Staff has successfully negotiated an agreement with Bombardier and recommends the agreement for award; now, therefore, be it

**RESOLVED**, that this Commission hereby awards Contract No. 50175 to Bombardier for AirTrain O&M, for a ten-year term commencing on July 1, 2019, in the amount of \$218,541,698 for base scope work, and an additional \$1,000,000 for Airport requested as-needed services for a total not-to-exceed amount of \$219,541,698; and, be it further

**RESOLVED**, that the Airport Director is authorized to take the necessary steps to obtain Board of Supervisor’s approval of Contract No. 50175 pursuant to San Francisco Charter Section 9.118(b).

*I hereby certify that the foregoing resolution was adopted by the Airport Commission  
at its meeting of* APR 02 2019

  
Secretary



San Francisco International Airport

**REVISED  
MEMORANDUM**

April 2, 2019

TO: Members, Airport Commission  
Hon. Larry Mazzola, President  
Hon. Linda S. Crayton, Vice President  
Hon. Eleanor Johns  
Hon. Richard J. Guggenhime  
Hon. Malcolm Yeung

19-0076

APR 02 2019

FROM: Airport Director

SUBJECT: Award Contract No. 50175 for AirTrain Operations and Maintenance to Bombardier Transportation (Holdings) USA, Inc.

DIRECTOR'S RECOMMENDATION: AWARD CONTRACT NO. 50175 AIRTRAIN OPERATIONS AND MAINTENANCE TO BOMBARDIER TRANSPORTATION (HOLDINGS) USA, INC., IN AN AMOUNT NOT TO EXCEED \$218,541,698, INCLUDING \$1,000,000 FOR AIRPORT REQUESTED AS-NEEDED SERVICES, FOR A TOTAL NOT TO EXCEED AMOUNT OF \$219,541,698 FOR A TERM OF TEN YEARS COMMENCING JULY 1, 2019.

**Executive Summary**

Staff recommends award of Contract No. 50175 to Bombardier Transportation (Holdings) USA, Inc. ("Bombardier") which includes \$218,541,698 for base scope work and an additional \$1,000,000 for Airport requested as-needed services for a total not-to-exceed amount of \$219,541,698. The contract shall have an original term of ten years commencing July 1, 2019. In addition, the Airport shall have one option to extend the term for a period of five years with pre-negotiated pricing, which the Airport may exercise in its sole, absolute discretion.

**Background**

On September 16, 2008, by Resolution No. 08-0173, the Commission awarded Contract No. 8838, AirTrain Operations and Maintenance ("O&M"), to Bombardier. On November 18, 2008, the Board of Supervisors passed Ordinance No. 080942, which granted the Airport a waiver of the competitive bidding requirements and adopted Resolution No. 266-08 for award of the contract. The O&M services continued from March 2009 and included provisions for a five-year O&M Phase with options for one (1) three-year and two (2) one-year contract extensions. The contract is currently in its final option year and expires on June 30, 2019.

On March 1, 2019, the Office of Contract Administration waived the solicitation requirement for this transaction under Administrative Code Section 21.5(d) Proprietary Article 12.

THIS PRINT COVERS CALENDAR ITEM NO. 10

AIRPORT COMMISSION CITY AND COUNTY OF SAN FRANCISCO

LONDON N. BREED MAYOR    LARRY MAZZOLA PRESIDENT    LINDA S. CRAYTON VICE PRESIDENT    ELEANOR JOHNS    RICHARD J. GUGGENHIME    MALCOLM YEUNG    IVAR C. SATERO AIRPORT DIRECTOR


Staff has successfully negotiated the scope of work, billing rates and fees with Bombardier. The Agreement includes \$218,541,698 for base scope of work, and an additional \$1,000,000 for Airport requested as-needed services, for a total not-to-exceed amount of \$219,541,698. The contract shall have an original term of ten years commencing July 1, 2019. In addition, the Airport shall have one option to extend the term for a period of five years with pre-negotiated pricing, which the Airport may exercise in its sole and absolute discretion. The Agreement includes nonstandard language approved by the City’s Risk Manager that limits Bombardier’s liability for incidental and consequential damages. Specifically, the Agreement provides for a cap on incidental and consequential damages of \$1,000,000 annually and \$10,000,000 for the term; damages for personal injury, wrongful death, or cost of repair/replacement of property are not subject to the cap.

Prior to negotiating the final scope and cost with Bombardier, Staff enlisted a third party review to compare the costs for O&M agreements with other people mover systems at Airports in the United States. The systems chosen for comparison include those operating at the Atlanta Hartsfield-Jackson International Airport, Denver International Airport, and Dallas/Fort Worth International Airport. The current average annual cost to those airports for the O&M of their systems is \$18,700,000. When adjusted for expenses that uniquely impact the San Francisco Airport system (such as fleet size, labor costs, and staff size), the comparative average increases to \$19,500,000. In contrast, SFO has negotiated a new contract with Bombardier for approximately \$17,500,000 annually, which is a yearly savings of between \$1,200,000 and \$2,000,000.

The Contract Monitoring Division approved a 5% Local Business Enterprise requirement for this contract.

**Recommendation**

I recommend the Commission award Contract No. 50175 to Bombardier for AirTrain O&M and authorize the Director to seek Board of Supervisor’s approval. The contract shall have an original term of ten years commencing July 1, 2019, which includes \$218,541,698 for base scope of work, and an additional \$1,000,000 for Airport requested as-needed services, for a total not-to-exceed amount of \$219,541,698.

*for*   
Ivar C. Satero  
Airport Director

Prepared by: Jeff Littlefield  
Chief Operating Officer

Attachment



San Francisco International Airport

April 5, 2019

Ms. Angela Calvillo  
Clerk of the Board  
Board of Supervisors  
City Hall  
1 Dr. Carlton B. Goodlett Place, Room 244  
San Francisco, California 94102-4689

Subject: Approval of Contract 50175 to provide AirTrain Operations and Maintenance Services at San Francisco International Airport, between Bombardier Transportation (Holdings) USA, Inc. and the City and County of San Francisco, acting by and through its Airport Commission

Dear Ms. Calvillo,

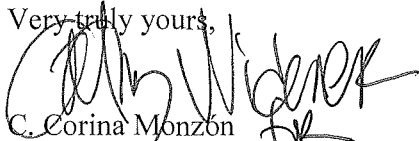
Pursuant to Section 9.118 of the City Charter, I am forwarding for the Board of Supervisor's approval, Contract 50175 to provide Operation and Maintenance Services for the AirTrain System, between Bombardier Transportation (Holdings) USA, Inc. and the City and County of San Francisco, acting by and through its Airport Commission. This contract will have an initial term of ten years (July 1, 2019 through June 30, 2029) with a total contract amount not to exceed \$219,541,698. The Airport Commission has approved the terms of the contract by adopting Resolution 19-0076 on April 2, 2019.

The following is a list of accompanying documents:


- Board of Supervisors Resolution; ✓
- Approved Airport Commission Resolution No. 19-0076; ✓
- Memorandum to the Airport Commission recommending Resolution No. 19-0076 ✓
- Form SFEC-126 for the Board of Supervisors; ✓
- Form SFEC-126 for Mayor Breed; and
- Original Contract 50175 signed by the Supplier only. ✓

Please contact Cathy Widener, Airport Governmental Affairs at 650-821-5023 if you have any questions or concerns regarding this matter.

Very truly yours,

  
C. Corina Monzon  
Commission Secretary

Enclosures

RECEIVED  
BOARD OF SUPERVISORS  
SAN FRANCISCO  
2019 APR -5 PM 1:53  


AIRPORT COMMISSION CITY AND COUNTY OF SAN FRANCISCO

LONDON N. BREED MAYOR	LARRY MAZZOLA PRESIDENT	LINDA S. CRAYTON VICE PRESIDENT	ELEANOR JOHNS	RICHARD J. GUGGENHIME	MALCOLM YEUNG	IVAR C. SATERO AIRPORT DIRECTOR
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**FORM SFEC-126:**  
**NOTIFICATION OF CONTRACT APPROVAL**  
(S.F. Campaign and Governmental Conduct Code § 1.126)

<b>City Elective Officer Information</b> <i>(Please print clearly.)</i>	
Name of City elective officer(s):  Members, SF Board of Supervisors	City elective office(s) held:  Members, SF Board of Supervisors
<b>Contractor Information</b> <i>(Please print clearly.)</i>	
Bombardier Transportation (Holdings) USA Inc.	
(1) Board of Directors of Bombardier Transportation (Holdings) USA Inc. (BTHUSA)- Elliot G. Sander, Jennifer A. Callery and Daniel C. Gray (2) President – Elliot G. Sander (3) N/A- No person owns 20 percent or more (4) N/A (5) BTHUSA does have a group of employees known as the "PAC-Political Action Committee" whose role is to support the Government in the U.S. at State and Federal levels when mass transit is involved.	
Contractor address: 1501 Lebanon Church Road, Pittsburgh PA 15236	
Date that contract was approved:	Amount of contract: \$219,541,698
Describe the nature of the contract that was approved: Maintenance and operation services of the AirTrain system which operates 24 hours every day, providing access to SFO's Terminals, Terminal Parking Garages, Rental Car Center and BART Station.	
Comments:	

This contract was approved by (check applicable):

the City elective officer(s) identified on this form

a board on which the City elective officer(s) serves San Francisco Board of Supervisors

Print Name of Board

the board of a state agency (Health Authority, Housing Authority Commission, Industrial Development Authority Board, Parking Authority, Redevelopment Agency Commission, Relocation Appeals Board, Treasure Island Development Authority) on which an appointee of the City elective officer(s) identified on this form sits

Print Name of Board

<b>Filer Information</b> <i>(Please print clearly.)</i>	
Name of filer: Angela Calvillo, Clerk of the Board	Contact telephone number: (415) 554-5184
Address: City Hall, Room 244, 1 Dr. Carlton B. Goodlett Pl., San Francisco, CA 94102	E-mail: Board.of.Supervisors@sfgov.org

\_\_\_\_\_  
Signature of City Elective Officer (if submitted by City elective officer)

\_\_\_\_\_  
Date Signed

\_\_\_\_\_  
Signature of Board Secretary or Clerk (if submitted by Board Secretary or Clerk)

\_\_\_\_\_  
Date Signed