Drawing Notes:

1. Prior to cutting any pipe, contractor shall isolate, lock out and tag out as needed, and then safely blowdown.

2. Contractor shall coordinate the blowdown, service interruption, cutting or removal of any pipe or consult with the owner, prior to performing any work.

3. End points determined for each pipe on this sheet shall be verified by the contractor with concurrence by the owner.

4. Demolish/Blow gas feeder to out of service dryer cap and seal. Remove the (E) regulator at upstream of the dryer. Remove the (E) regulator at upstream of the dryer.

5. Demolish the (E) abandoned pipes from skid A priority panel to fixed route bus and storage vessels.

6. Remove all light poles and associated foundation that are in conflict with new canopy. Lighting shall be provided under new canopy.

7. For removing light poles and removing or re-routing conduit, see electrical drawings for requirements of terminating wiring and circuits.

8. Demolish piping, pipe rack, and supports. See 18-102 and 18-103 for revised piping route.

9. Demolish 60hp conduit feeding the gas dryer. See electrical drawings for new routing of power feeder for gas dryer.

10. Remove (E) abandoned knox western compressor skid, demolish (E) concrete pad undermeth as required. Repair surface grade for installation of new compressor. Remove all E related and abandoned piping, conduits, and wiring.

11. Relocate electrical items in vault and demolish vault. See electrical drawings for vault demo detail.

12. Remove three existing CNG dispensers at parachute fueling building. Move the removed dispensers to storage per RTC instruction. Proceed to removal of each dispenser safely blowdown and disconnect (E) vertical supply pipe. Remove (E) pipe riser and below grade piping mains per field condition.

13. Demolish all abandoned pipes inside the (E) trench for route and preserve continuity for all in use data wiring for fuel monitoring system per electrical drawings.

14. Remove (E) canopy. See structural plans for details.
DRAWING NOTES

1. SEE ENLARGED AREA DRAWINGS FOR ADDITIONAL DETAILS FOR GAS AND CNG PIPING.
2. SEE PIPING SCHEDULE ON DRAWING 1M-801.
3. SEE DRAWING 1M-106 FOR COMPRESSED-AIR PIPING PLAN.
GENERAL PIPING NOTES
1. SEE DRAWING 1M-101 FOR OVERALL PIPING PLAN.
2. ANY COMPONENT OF CNG EQUIPMENT THAT MAY OCCUR DURING CONSTRUCTION SHALL BE COORDINATED AND APPROVED BY RTC.
3. EQUIPMENT SPEC-NB AND ROUTING SHOWN IS APPROXIMATE AND MAY VARY CONTRACTOR SHALL FIELD VERIFY EXACT DIMENSIONS OF PIPING AND TUBING. VERIFY TERMINATION LOCATIONS WITH EQUIPMENT MANUFACTURER.
4. NOT USED.
5. NOT USED.
6. PROVIDE 3/4" TUBING COPPER TYPE K COMPRRESSED AIR SUPPLY TO ALL EXISTING AND NEW MATRIX VALVE PANELS, RETROFIT (E) VALVE PANELS IN COMPRESSED AIR REGULATOR [25 PSI PRIMARY] AND APPARTEMENTS AND SET AT 100 PSI.
7. PROVIDE SUPPORTS FOR ALL 3/4" TUBING 3/4" O.C., AND PROVIDE SUPPORTS FOR ALL CS PIPING 10" O.C.
8. ON PIPE RACK SHALL REMAIN SUPPORTING (E) PIPES AND TUBING. ADD NEW PIPES AND TUBING TO (E) ON PIPE RACK. MODIFY (E) ON PIPE RACK TO SUPPORT NEW PIPING.
9. SEE SHEET 1M-101 FOR PIPE AND TUBING SCHEDULE.
10. PROVIDE CATHODE PROTECTION FOR ALL CS PIPING. FIELD ADJUST LOCATION OF TEST STATION PER FIELD CONDITIONS. SEE DRAWINGS 1M-513 AND 1M-514 FOR DETAILS.
11. HOPE SLEEVES FOR UG-SS TUBING SHALL BE CONTINUOUS. SLEEVE ENDS SHALL PROJECT 2'-3" AND THEIR OPENINGS SHALL BE SEALED WITH HARDENING SV RESISTANT SEALANT.

FOR CONTINUATION SEE DWG 1M-105

AREA 'A'
CNG PIPING PLAN
3/50" x 1/8"
DRAWING NOTES:
1. SEE DRAWING 1M-102 FOR OVERALL PIPING PLAN.
2. PROVIDE PIPE SUPPORTS FOR 1-1/2" X 3" PIPE AT 12 O.C. MAX OR AS REQUIRED BY STRUCTURAL DRAWINGS.
3. CONNECT TO (E) C.A. HEADER AT N.W. COLUMN AND EXTEND HEADER WITH 3/4" COPPER TYPE K' TUBING. BRANCH W/ 1/2" TYPE-K COPPER TUBING TO TOP OF IN DISPENSERS FOR C.A. SUPPLY TO DISPENSERS.
4. PROVIDE OVERHEAD TEE W/WELDED CAP AT EACH OF (D) 1-1/2" X 3" CNG-SUPPLY HEADERS FOR FUTURE EXTENSION TO LANES 1 AND 2.
5. SAFELY BLOW DOWN LINES AND REMOVE THE (D) EXISTING BLIND CAPS AT END OF (D) 1-1/2" CS PIPES AND CONNECT (D) NEW 1-1/2" CS PIPES TO THE END OF EXISTING PIPES TO FEED NEW CNG DISPENSERS.
6. PROVIDE PIPE SUPPORTS ALONG (N) SUPPLY AND VENT LINES USING 1-5/8" UNISTRUT AND CUSHIONED PIPE CLAMPS. ANCHOR SUPPORTS EITHER TO CONCRETE SLAB OR TO CANOPY STRUCTURAL MEMBER.
7. ANY DOOMTIME OF CNG EQUIPMENT THAT MAY OCCUR DURING CONSTRUCTION SHALL BE COORDINATED WITH AND APPROVED BY RTC.
8. PROVIDE 1" CS SCH.80 VENT FOR EACH NEW DISPENSER ROUTE THROUGH ROOF OF (E) CANOPY AND SEAL AT ROOF AGAINST PERCIPITATION. PROVIDE VENT OUTLETS USING PIPING TEE WITH 8" HORIZONTAL ARMS AND DOWN-FACING BEVEL-CUT ENDS.
9. PROVIDE PIPE SUPPORTS ALONG (N) SUPPLY AND VENT LINES USING 1-5/8" UNISTRUT AND CUSHIONED PIPE CLAMPS. ANCHOR SUPPORTS EITHER TO CONCRETE SLAB OR TO CANOPY STRUCTURAL MEMBER.

PIPING PLAN - AREA 'B'
CNG UPGRADES
3/8" - 1-1/2"
DRAWING NOTES:

1. SEE DNG-M-513 FOR SAFETY SIGN DETAILS.
2. AFFIX SIGNAGE ON ALL ABOVE GROUND PIPING INDICATING FLOW OF DIRECTION AND PRODUCT.
3. SIGNS SHALL BE INSTALLED WHERE THEY ARE VISIBLE AND CONSPICUOUS SO THAT IMMEDIATELY COME INTO VIEW TO PERSONNEL APPROACHING THE EQUIPMENT AND THAT THE MESSAGE IS APPARENT FROM ANY VANTAGE POINT WITHIN THE SURROUNDING AREA. FIELD ADJUST OF SIGNS LOCATIONS AS NECESSARY.
4. ALL SIGNS SHALL BE SECURELY ANCHORED TO ITS MOUNT.
5. INSTALL FIRE EXTINGUISHERS AT MIN. RATING OF 20-B:C MOUNTED 4' ABOVE GROUND IN AN ALUMINUM OR FIBERGLASS CABINET AT ALL LOCATIONS MARKED ‘D’.

RTC OF SOUTHERN NEVADA
INTEGRATED BUS MAINTENANCE FACILITY

3180 CITIZEN AVENUE
NORTH LAS VEGAS, NV
89032

CNG FUELING UPGRADES - PHASE A
SAFETY SIGN PLAN

SAFETY SIGN PLAN
CNG UPGRADES
SCALE: NTS

GRAPHIC SCALE
1:1000

FUEL SOLUTIONS

RTC OF SOUTHERN NEVADA
INTEGRATED BUS MAINTENANCE FACILITY

3180 CITIZEN AVENUE
NORTH LAS VEGAS, NV
89032

CNG FUELING UPGRADES - PHASE A
SAFETY SIGN PLAN

SAFETY SIGN PLAN
CNG UPGRADES
SCALE: NTS
DRAWING NOTES

1. PROVIDE FLEXIBLE DUCT CONNECTOR RATED FOR -40°F TO 250°F TEMPERATURE RANGE. UL/IBC. WATER-TIGHT AND WEATHER-PROOF WITH HIGH-TWIST STRENGTH AND HIGH-EXTRUSION RESISTANCE. PROVIDE DUCT PIPE MODULAR OR EQUAL. FURNISH WITH SUITABLE METAL MARSHalling CLIP.

2. PROVIDE DUCT-REINFORCEMENT PER SCHR 40 TO 1.0 STATIC PRESSURE. PROVIDE ADJACENT SUPPORT PER REGIONAL BERMUDA REQUIREMENTS.

3. DUCT WEIGHT VARIES PER CANOPY STYLE. VERIFY WEIGHT OF EACH DUCTWORK.

4. ADJUST EXACT LOCATION OF EACH HOOD BETWEEN ROOF JOISTS PER FIELD CONDITIONS.

5. PROVIDE HOOD EXHAUST OUTLET FITTED TO FIT THE COOLER EXHAUST OUTLET AT COMPRESSOR BAY AND AT BOTTOM OF DIFFUSER HOOD.

6. FOR BOTH EXISTING AND NEW COMPRESSOR HOOD, REUSE DIFFUSER HOODS FROM COMPRESSOR BAY AND INSTALL ABOVE THEIR RESPECTIVE DUCTS.

7. CONTRACTOR SHALL SUBMIT SHOP DRAWINGS FOR SUBMITTAL AND SUPPORTS AND APPROVALS BY THE OWNER PRIOR TO FABRICATION.

8. DUCTWORK SHALL BE FABRICATED AND INSTALLED SO THAT IT CAN BE REMOVED FOR SERVICING COOLER AS NEEDED.

9. ROOF PENETRATIONS SHALL BE SEATED AGAINST PENETRATION USING FLASHING AND ROOFING COMPOUND.

10. FUEL SOLUTIONS

11. RTC OF SOUTHERN NEVADA

INTEGRATED BUS MAINTENANCE FACILITY

3180 CITIZEN AVENUE
NORTH LAS VEGAS, NV 89032

CGN FUELING UPGRADES - PHASE A
CGN EQUIPMENT DETAILS (2)

Issued for Construction

1M-512
BOLLARD DETAIL (TYPICAL)

2-TON PNEUMATIC TROLLEY CHAIN HOIST

CMU WALL ELEVATION

GENERAL NOTES:
1. Coordinate all shored-in trench excavation, equipment access, and ancillary activities with the contractor.
2. Reference complete general notes 1-3000 for all similar projects.
3. Reference site plans for dimensions, spacing, and alignment of all equipment, physical and required features.

PROPOSED DECK PENETRATIONS

PROPOSED ROOF BRIDGE

RTC of Southern Nevada
Integrated Bus Maintenance Facility
3210 Citizen Avenue
North Las Vegas, NV 89032

444 East Warm Springs Road, Suite 118
Las Vegas, NV 89119
(702) 736-6632    FAX: (702) 736-0704
<table>
<thead>
<tr>
<th>FINISH SCHEDULE</th>
<th>STRUCTURAL STEEL</th>
<th>ROOF DECK</th>
<th>CONCRETE SLAB</th>
<th>CONCRETE COLUMN BASE</th>
<th>NEW CMU WALLS</th>
<th>ROOF ACCESSORIES</th>
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<tr>
<td>FINISH TAG</td>
<td>ITEM</td>
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<td>new concrete column &amp; wall</td>
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<td>1-7</td>
<td>entries, flashing, vec. metal</td>
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<td>1-9</td>
<td>flashings</td>
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</table>

GENERAL NOTES

1. All parts / finishes and select products used shall be heavy duty industrial grade and specifically approved for use in this application. These finishes and products shall be new and of professional quality, to include but not be limited to:

- Steel
- Concrete
- Plastic

PAINT LEGEND

1.8 Prime and finish paint for exterior steel applications. Color to be selected. Exterior paint unless noted otherwise.

1.9 Primed primer coated. Color matched. Sizing to be placed on both sides at 900°C, 80°C, 60°C, 40°C, 20°C, 0°C, and 1°C.

1.3 Concrete edge, to be clean, penetrating in flat finish.

1.4 Concrete edge, to be clean, penetrating in flat finish.

1.5 Masonry healer, to be clean, non-penetrating, penetrating type.

1.6 Primed primer coated. Color to be specified, unless noted otherwise.

1.7 Paint for galvanized metal, color to be selected.

1.8 Paint for galvanized metal, color to be selected.

RTC of Southern Nevada
Integrated Bus Maintenance Facility
3210 Citizen Avenue
North Las Vegas, NV 89032

Brighet ABAM
44 East Harmon Avenue, Suite 110
Las Vegas, NV 89119
(702) 736-6632  FAX: (702) 736-0704

Studio West Inc.
Architect and Design
7900 South Hualapai Way, Suite 201
Las Vegas, NV 89123
(702) 736-6632  FAX: (702) 736-0704

CNG FUELING UPGRADES - PHASE A
FINISH SCHEDULE

1A-500
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<thead>
<tr>
<th>DESIGNATOR</th>
<th>PART NUMBER</th>
<th>DESCRIPTION</th>
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<tbody>
<tr>
<td>BPR 5</td>
<td>990-07344</td>
<td>REG-BACK PRE &amp; SAE-16 TESCOM 200-450 SS</td>
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<tr>
<td>SW 8</td>
<td>330-07312</td>
<td>VALVE-VALVE 7/16-20SAE 6000# SS</td>
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<tr>
<td>CV 92</td>
<td>336-07221</td>
<td>VALVE-CHECK HOSE 1/2 ID 6000# W/20# SPRING</td>
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<td>CV 99</td>
<td>356-07350</td>
<td>VALVE-CHECK HOSE 1 FEDERAL 6000# W/20# SPRING</td>
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<td>F 28</td>
<td>770-07251</td>
<td>FILTER-FILTER POLYCARBONATE F/R 3/4&quot; PT NP. FOR AIR</td>
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<tr>
<td>G 22</td>
<td>741-07240</td>
<td>GAUGE-PRESSURE 200# 9 BM PM OF NKK</td>
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<tr>
<td>G 57</td>
<td>741-07299</td>
<td>GAUGE-PRESSURE 10,000# 9 BM PM OF NKK</td>
</tr>
<tr>
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<td>334-07568</td>
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<td>334-07544</td>
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<tr>
<td>PT 60</td>
<td>410-07298</td>
<td>TRANS-AST 3-600# ASTM CL1 DMZ M12 ELEC</td>
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<td>SRV 37</td>
<td>331-04522</td>
<td>VALVE-RELIEF 125# 1/4 ASME COGAL</td>
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<tr>
<td>SY 9</td>
<td>330-07243</td>
<td>VALVE-SOLNOX SY 1/4 150# 120V NC 385 UL</td>
</tr>
</tbody>
</table>

**NOTE:**

The normally closed valve (MV35-19) is the emergency safety device (ESD valve) that protects equipment from storage pressure in case of an emergency.

When there is demand from storage, any compressor can fill any storage. The pressure transducer for storage will sense if there is demand.

When there is demand from the dispenser hoses, any compressor can fill any hose. The pressure sensors inside the dispenser will control the valves inside this panel.

The back pressure regulators are to take the extra gas from the high flow compressors that could accumulate and send it to storage.

1. This will keep the compressors from deadheading when the actuated ball valves close & there is extra gas in the lines.

2. This will keep the compressors from deadheading if an actuated ball valves fails to open. It allows an alternate flow path.

3. If a small cylinder vehicle is filling, it will direct the extra flow from the compressor to the storage. The compressor could flow too much to fill a small cylinder, which would cause back pressure. The pressure transducer at the station will shut the station down too early & not fill the vehicle properly.