



General Scope of Work

April 7, 2020

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This document to be used with the site-specific *Petroleum Scope of Work*.

GENERAL

The Suncor *Petroleum Scope of Work, General (Scope of Work), Drawing Package* and *Specifications* detail deliverables for the project. Deviation requires written authorization from the Project Representative.

The Contractor is to perform the work as outlined in the *Petroleum Scope of Work* and *Drawing Package*.

The Contractor and their Sub-trades are to conduct a thorough site visit to ensure that all facets of the scope of work are included in the price.

The *Petroleum Scope of Work* is to be read in conjunction with the *Drawing Package* and Suncor's 'General Construction Specifications'.

It is the responsibility of the Contractor to clarify and report to the Project Representative of any discrepancies discovered at time of Tender, prior to, or during construction.

The *General Scope of Work* is intended to be a general indicator of responsibilities and work to be carried out for this project.

The Contractor is to include for a full time "working" Superintendent. The superintendent is also required to manage the project in the following manner:

- Safety Enforcement
- Scheduling
- Sub-Trade coordination
- Timely ordering / delivery of materials and equipment
- Coordination of Suncor Supplied items
- Advanced detailed planning of all facets of work
- Contract administration
- Quality control & ensure all aspects of work as per contract documents

1. CONTRACTOR QUALIFICATIONS

EXPERIENCE

Installation of fuel storage systems is a highly complex field, requiring a wide range of construction knowledge and experience. The ability to recognize and react to unexplained, abnormal conditions encountered during a tank installation project requires experience, as well as skill. The Contractor must have proof of experience in the following:

- Five installations of field experience
- Five tank removals as field experience.
- Access to equipment to monitor tanks for explosive vapours or oxygen meters.
- Installation certificates for the work performed and the equipment specified (i.e. underground piping, tanks, leak detection, welding).

WORKSAFE COMPENSATION COVERAGE

The Contractor must provide evidence of payment and good standings with WorkSafe BC.

INSURANCE

The Contractor must provide documentation of the following Policies of Insurance:

- Comprehensive liability of not less than \$5,000,000 for each occurrence of bodily injury or property damage.
- Automobile liability coverage covering all vehicles engaged in the work of not less than \$5,000,000 for each incident.
- Environmental liability insurance of not less than \$2,000,000 for each occurrence.

SAFETY

The Contractor must provide documentation of an extensive company safety program and shall include, but limited to the following: company policies, safe work practices, personal protective equipment, training, emergency procedures, emergency preparedness, accident and incident investigations, installation procedures.

All workers and trades must have valid Petroleum Oriented Safety Training (P.O.S.T.).

All workers must have valid W.H.M.I.S. Training.

Contractor to allow for safety kickoff meeting, which includes attendance by all major sub-trades and contractors workers on day of project start. (Suncor representative will be in attendance).

The Contractor is required to strictly follow and enforce all regulations as set by the WorkSafe BC and all Authorities having jurisdiction.

The general contractor (Contractor) is to be the Prime Contractor.

The Contractor is responsible for the enforcement of all health & safety regulations, as per WCB, all authorities having jurisdiction and Suncor Health and Safety Rules, as well as POST

The Contractor shall provide and install six foot (6') high portable chain link fence which shall be used to surround the portions of the site under construction. Traffic Barricades shall also be supplied if directed.

The Contractor shall supply the following signage and attach to the fencing:

- Contractor name c/w contact person & phone number
- P.O.S.T. Certified workers, No Smoking, Hard Hats, Safety Vests, gloves & Safety Boots Must Be Worn
- Task Specific Warning Signage (high Noise Level, abatement, vapors, Operating equipment) as required.

The Contractor should allow for Third-Party Traffic control (if required) for entrance and exit to the site (provide this a separate line item in the bid form).

The Contractor shall have their Corporate Safety Officer perform a P.O.S.T. documentation review one (1) week into the project and provide a report to the Project Representative. An unsatisfactory report will require the Corporate Safety Officer to immediately rectify the deficiency and provide guidance.

2. **SITE UTILITIES**

The Contractor is responsible for locating all existing underground utilities and site services, as well as subsequent repair and repair costs for damage to same which may occur during excavation, backfilling and while carrying out any portion of the contract.

Copies are to be provided to Suncor before proceeding.

Identify the underground services on the As-built drawings.

3. **ADHERENCE TO CODES AND REGULATIONS**

The installation of tanks, piping and equipment shall conform to all laws, statutes, bylaws, ordinances, regulations and manufacture requirements whether it be Municipal, Provincial or Federal. The most current edition of the following codes apply:

- Municipal Building & Fire Codes
- National Fire Code of British Columbia, 2018
- National Building Code of British Columbia, 2018
- National Electrical Code of Canada, 2012
- Canadian Electric Code Change affecting 2-wire installation (Gilbarco Memorandum) Date: October 1, 2010, (refer to appendix)
- Gilbarco, Veeder Root Installation requirements
- Federal sites: Environment Canada, *Storage Tank Systems for Petroleum Products and Allied Petroleum Products Regulations*
- CCME: *Environmental Code of Practice for Aboveground and Underground Storage Tank Systems Containing Petroleum and Allied Products*. (PN1326), 2003

4. **SUNCOR SUPPLIED ITEMS**

The General Contractor is responsible for arranging delivery of all Suncor supplied items to meet project schedule. The Contractor shall notify Suncor of damage or issues that may affect the Contractors schedule of the Suncor supplied equipment.

5. **SHIPPING OF DISPENSERS**

The General Contractor is responsible to degas and ship to stock any unused dispensers (FOB Suncor approved storage facility identified in the *Petroleum Scope*).

6. PERMITS

The Contractor shall be responsible for being aware of and complying with the governing regulations at the location of the work and for obtaining any necessary permits unless otherwise stated.

7. PROJECT SCHEDULE

The Contractor is to provide a work schedule that could listing the following milestones: tank install, piping install, canopy footing install, canopy lighting, fueling apron, precision testing, , commissioning, handover.

The Contractor is to allow for high early or higher strength concrete as may be required to meet or accelerate the schedule.

The Contractor will be expected to allow for over-time, double shifts and extra crews to meet the schedule.

The General Contractor Project Manager (PM) to be in attendance at kickoff meeting. The PM should also make mid point site visit and final deficiency inspection prior to handing over to Suncor.

Environmental

EXCAVATED MATERIALS

The Contractor shall assume soil materials are considered CL- (clean fill) unless otherwise noted in the Petroleum Scope, email or drawings.

All excavated materials needs to be segregated by area for testing and categorization for different disposal locations. The Contractor is to work with the Suncor Environmental Consultant on managing soil stockpiles until characterization results are received (no moving or adding to piles unless consultant is consulted).

Note:

- The Suncor Environmental Consultant will be taking soil samples of the excavation. The Contractor shall notify the Environmental Consultant two (2) days in advance for sampling and provide material coverage with Poly wrap of material if suspect.
- Allow for three (3-4) days of excavated soil stockpiling for Environmental Consultant to test and categorize soils.

The Contractor is to allow time to assist the Suncor Environmental Consultant for soil samples of excavated materials.

The Contractor is responsible for replacement fill materials and to be “pre-approved” by Suncor Environmental Consultant before brought to site. All backfilling shall be clean fill. Contractor shall provide geotechnical engineer to certify the compaction density if questioned.

If fill requires importing to site for works, The Contractor shall provide gravel providers information on bid forms. Suncor Environmental Consultant will then go to pit to sample and pre-approve proposed imported fill. The Contractor should indicate in bid of estimated volume of imported fill required for works.

If soils are deemed:

CL- (clean), contractor is responsible for finding soils disposal facility and allowed in bid for loading, trucking, tipping fees. Suncor Environmental Consultant must pre-approve soils disposal facility. Contractor to provide name of clean soils disposal facility in bid. The Contractor shall provide Suncor with the intended disposal site for CL- (clean) fill materials.

CL+, special waste, hazardous waste (contaminated), the Suncor Environmental Consultant will inform the Contractor of an approved disposal site. The Contractor is responsible for loading, trucking and tipping fees. Any CL+ material is considered a Scope Addition.

DEWATERING

(For pricing only), the Contractor shall assume there is no dewatering required unless stated in the scope or drawings.

The Contractor shall assume the water table is negligible unless stated in the soils report or scope.

The Suncor Environmental Consultant will provide an estimate of water table height before project begins to the Project Representative.

If dewatering is required, Suncor Environmental Consultant will provide guidance on dewatering protocols prior to construction start.

Suncor Environmental Consultant will cover costs to obtain any dewatering permits. The Contractor is responsible for water storage tanks, pumps, treatment systems and all aspects of dewatering (if required). Dewatering is considered a Scope Addition.

The Contractor shall provide in their bid for unit rates to rent dewatering equipment (tanks, pumps, unit cost to operate, etc.). Dewatering costs will be managed as a change extra for the works.

WATER MANAGEMENT

The Contractor is responsible for site water and silt management and to provide sand bags to divert rain water away from excavations.

Catch Basins must be covered and protected to prevent any sediments or contaminants from entering the storm system.

TANK BUOYANCY

To prevent tank buoyancy The Contractor must ensure the following before removing the tank slab; a) Suncor has filled the tanks to 95%, b) the tank-nest water table is 500mm below the top of the tank. If these conditions change there is a possibility of floating the tanks and the Contractor will have to initiate an aggressive dewatering plan.

New tanks are to be ballasted with water. (*Refer to Suncor tank drying procedure*).

GEO-TECHNICAL

If soil report is not provided, assume Tank excavation cut to be: bottom 5' 0 straight cut slopes above 5'0 cut 3:4 as per WCB regulations.

If required, the Contractor is responsible (allow in bid price) for geo-tech engineer to satisfy WorkSafe tank nest entry requirements.

Electrical Work

Supply and install all electrical and dispenser communications supply/insulation/connections from electrical room/sales area to tank/dispenser. (Refer to drawings and Electrical matrix).

The Contractor and Electrical Contractor shall be responsible for site preparation procedures in accordance with NFPA 30A, NFPA 70, and CSA C22.1, The Canadian Electric Code (CEC). As per the British Columbia Safety Authority, data cables and AC cables are not allowed in the same conduit as specified in CEC rule 60. Separate conduits are required for data/communication cables and power cables in the following circumstances:

- New installations of fuel dispensers or other electrical equipment
- If the raceways are exposed and made readily accessible for any reason.

Separate conduits are not required for repair, modification or replacement of existing pieces of electrical equipment unless the raceways are exposed and made readily accessible.

The Electrical Contractor should allow for one (1) day of commissioning.

STP isolation relay boxes will be required if not already installed.

RGS conduits are to be properly sealed as per code requirements

Petroleum electrical work is specialized. The electrical contractor must have the following experience:

- 10 sites petroleum (gas bar) construction experience.
- Veeder Root Certification.
- Approval From Suncor Petroleum Engineer.

Petroleum Work

The Contractor shall ensure all components listed in the drawings and specifications and Suncor supplied equipment are installed with respect to the following:

All adapters, reducers, couplings, unions, flanges and bushings, etc. shall be ULC certified, 300#.

Steel piping shall be SCH 40 and be fully supported.

All pipe shall be new.

All FRP connections shall use chem packs for curing.

All piping installation and testing shall be witnessed by Suncor and the "Authority having Jurisdiction". It is the responsibility of the Contractor to contact Suncor and the Local Authority. 48 hours' notice of inspection is required.

Adhere to the installation and testing requirements listed in the manufactures installation manual and this document.

PETROLEUM TESTING REQUIREMENTS

BELOW-GRADE PRIMARY PIPE

NOTE: Lines must be isolated from the tanks prior to testing.

- Suncor shall be notified at least 48 hours prior to testing.
- Pretest lines at least 24 hours prior to Suncor Review.
- Pneumatically or hydrostatically pressurize lines to 350 kPa (50 psi) with all components, couplings, fittings, etc. in its final resting position.
- Fill turbine/transition and dispenser containment sumps with water and inspect for bubbles from submerged joints.
- Test for two hours.
- Test Failure if pressure varies +/- 35 kPa (5 psi). Use 1.0 psi graduated gauges for testing.
- Release pressure during backfilling.
- Re-pressurize to 20psi.
- Maintain pressure until the slab, asphalt and landscaping is installed and complete. Maintain daily records of the pressure reading.

BELOW-GRADE SECONDARY CONTAINMENT PIPE

- Suncor shall be notified at least 48 hours prior to testing.
- Pretest lines prior to at least 24 hours prior to Suncor Review.
- Pneumatically pressurize lines to 35 kPa (5 psi) with all components, containment boots, etc. in their final resting position.
- Fill turbine/transition and dispenser containment sumps with water and inspect for bubbles from submerged joints.
- Test for two hours.
- Test Failure if pressure varies +/- 6 kPa (1 psi). Use 0.5 psi graduated gauges for testing.
- Release pressure during backfilling.
- Re-pressurize to 5psi.
- Maintain pressure until the slab, asphalt and landscaping is installed and complete. Maintain daily records of the pressure reading.

PIPE TESTING SAFETY

Pneumatically pressured pipe may cause injury if a fitting fails and the pipe becomes loose. Therefore the following work plan should be followed:

- Before line is pressurized, ensure all fittings are secured and fixed in their permanent positions.
- Conduct a site meeting with all workers informing them of the hazards associated with the testing.

Note: lines should have the pressure removed before repair work is performed.

Note: No personnel are allowed near the sumps or near the pipe trench during the testing period.

SUMP TESTING REQUIREMENTS

Suncor shall be notified at least 48 hours prior to testing.

Water test the following:

- Dispenser sumps.
- Tank STP Sumps
- Tank fill spill containment.
- Vapour recovery
- Transition sump

After all piping and conduits, etc. have been installed and sealed. Fill the spill containers to within 75mm over the highest container opening, mark the level. The level must remain constant minimum of twenty-four (24) hours to be acceptable. (If freezing is a concern use recreational vehicle line anti-freeze)

- Mark water level with a black marker and take a time stamp photo.
- Wait 24 hours and provide a time stamp photo of the mark.
- Provide photos to the Project Representative.

Photos shall include the following views:

- Tank nest - top of tanks at time of exposure.
- Vent lines
- Tank nest - just prior to topping up of pea gravel, showing all electrical & piping.
- VES lines.
- Product and syphon lines.
- Each island / sump prior to backfill.
- Tank nest showing geotextile, prior to placement of slab sub-base material.
- Tank nest - just prior to pouring slab.
- All electrical conduit routing.

THIRD PARTY LEAK TESTING

The Contractor must arrange and pay for a precision leak test to the underground controlled product liquid system by a Third-Party Leak Testing. The test must follow the concrete installation, paving and landscaping.

Final acceptance of the project will require a satisfactory report from one of the following Third Party Companies (or a pre-approved equal):

- Leak Tech - Technologies Solutions**
- Cantest Solutions**
- Tanknology Canada**

The facility can not open until the Third-Party Test results are received by the Suncor Project Representative.

The Contractor shall adhere to the following before and final testing requirements unless stated differently in the scope of work:

Full Tank Replacement	Before Construction	During Construction	Final
Tanks & vents	No	by contractor w/ Engineer review	precision test
lines - primary	No	by contractor w/ Engineer review	precision test
lines - secondary	No	by contractor w/ Engineer review	precision test
sumps	No	by contractor w/ Engineer review	not required.
Tank top - new sumps			
Tanks & vents	precision test	by contractor w/ Engineer review	precision test
lines - primary	No	by contractor w/ Engineer review	precision test
lines - secondary	No	by contractor w/ Engineer review	precision test
sumps	No	by contractor w/ Engineer review	No
Tank top - sumps remaining			
Tanks & vents	precision test	by contractor w/ Engineer review	precision test
lines - primary	No	by contractor w/ Engineer review	precision test
lines - secondary	No	by contractor w/ Engineer review	precision test
sumps	water test	by contractor w/ Engineer review	No

** new Catch Basins and manholes will require a water test (above outlet pipe) and documentation.

Materials

LIST OF MATERIALS

The Contractor is responsible for the supply of all material unless noted in this document.

The Contractor should allow for receiving, storage and installation of Suncor supplied material and equipment, unless noted otherwise.

Substitution of materials and equipment is not permissible without written approval from the Project Representative.

The Contractor is to include the removal and disposal from site, all crating, containers, etc. from Suncor supplied items.

WARRANTY

All Contractor supplied equipment, material and labour to have 1 year warranty.

All concrete and asphalt work to have 1 year warranty against settlement and pooling.

CONCRETE

Costs associated with geotechnical testing of concrete and granular material will be the responsibility of the General Contractor. Testing may be required to meet Suncor's specification. Concrete testing is required on all structural slabs to ensure it complies with Suncor's construction specifications. Cylinders are to be cast to verify the 7 and 28 day compressive strength. Results to be submitted to Suncor. Concrete failing to meet requirements will be removed and replaced at the Contractors expense.

The concrete slab to tank nest to be 200mm thick complete with granular sub-base material. Slab shall be reinforced with 10M bars at 300mm o/c each way at mid slab depth. Concrete to be 35 MPa High Early.

All concrete placement is to be done in accordance with "good concrete" practices, with the proper pre-preparation and planning in place to protect the placement and finishing of the concrete in the event of bad weather conditions. Poor concrete finishes will not be accepted at all, requiring removal & replacement, at no cost to Suncor.

All concrete work to the islands and aprons to have a neat light broom finish (straight across lines, no waves).

Apply concrete sealer, to island and apron surfaces.

Construct concrete aprons with saw cut control joints. Ensure the maximum spacing of control joints of 5500mm in either direction.

All saw cuts to be filled with a petroleum resistant caulking.

The concrete apron shall be sloped to provide positive drainage to the catch basins.

REPAIRS

The Contractor shall repair/replace any item that is disturbed while completed the scope. The repairs shall include landscaping, column cladding, islands, aprons, crossings, building entrances, asphaltting, curbing, etc)

COMMISSIONING

The Contractor is to fully commission the system to ensure a fully operational site.

The Contractor shall provide a Commissioning Agent for commissioning of: the mechanical line leak detectors, Bulloch, POS and Veederroot.

The Contractor shall schedule and coordinate the Commissioning Agent and Fuel Delivery Carrier.

The Contractor shall train the Operator on Contractor supplied equipment and provide proof of such training. (i.e. oil water separators, intercoms, STP's, etc). The Veeder Root orientation is by Commissioning Agent.

Operational manuals for Contractor supplied equipment shall be left with the operator.

Documents

1. LAYOUT OF WORK

The Contractor shall thoroughly inspect the site prior to tendering and advise Suncor in writing of any site conditions which will interfere or prohibit the completion of the work as detailed.

The Successful Contractor shall confirm the layout of the work, alignment, dimensions and elevations of the site and compare these with the drawings and scope before proceeding and notify the Project Representative where discrepancies may occur.

The following documents could be provided. Refer to project drawing package drawing index for included drawings:

- General Scope of Work
- Petroleum Scope of Work
- Petro-Canada Specifications

2. PROJECT SPECIFIC DRAWINGS:

SP0	Existing Site Plan
DEM	Demolition Plan
SP1	Proposed Site Plan
PE1	Petroleum Electrical Plan
P01	Product Piping Plan
CAMACC	Camera System Layout (<i>optional</i>)

3. PETRO-CANADA STANDARD DRAWINGS:

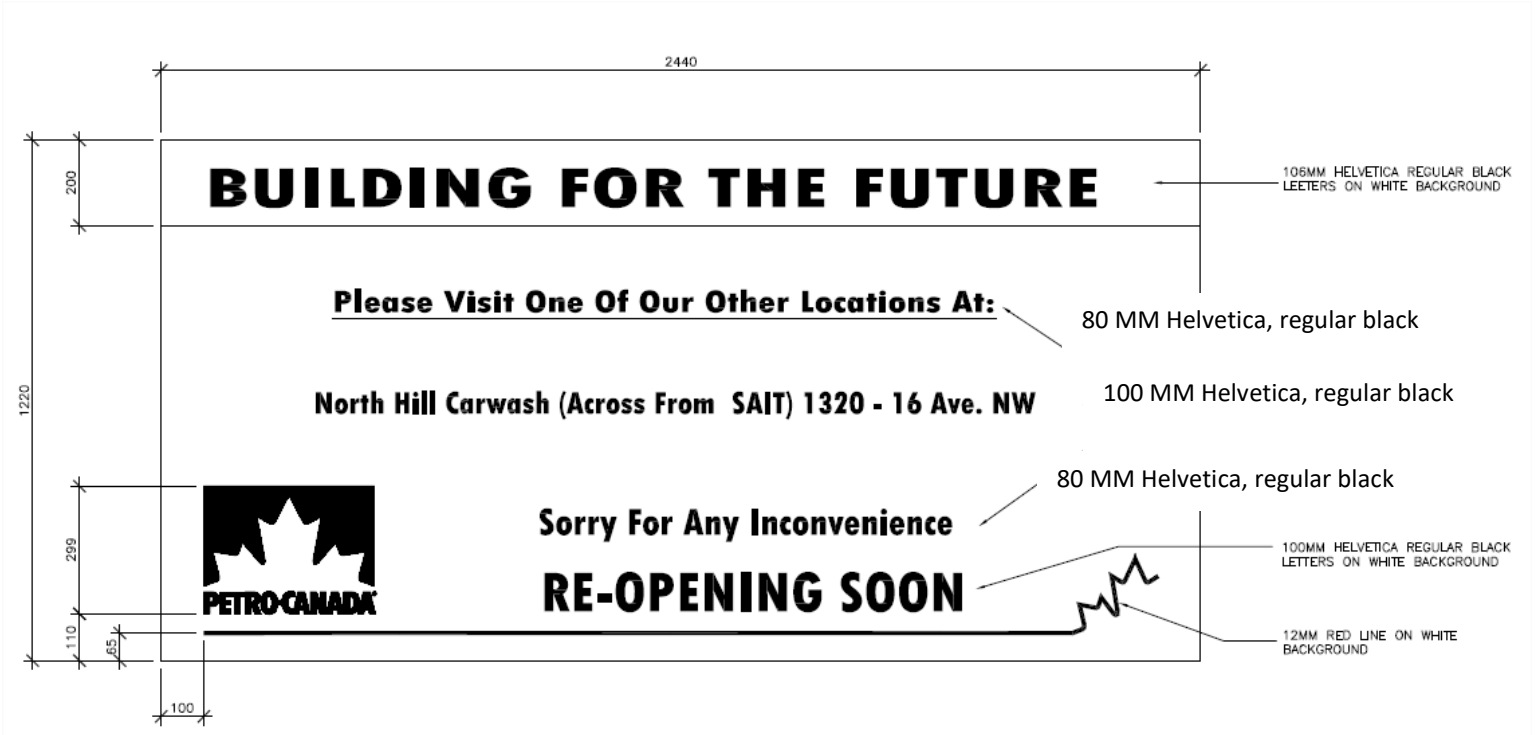
P02	Installation Details for UG Tanks
P03	Miscellaneous Details for UG Tanks
P04	Syphon and Manifold Details
P04	Piping Manifold Syphon Details
P05	Monitoring Details for SW Tanks
P06	Bill of Materials
P07	TYP Piping Details
MD	Miscellaneous details (bollards, islands, OWS, etc)

TEMPORARY CLOSED SIGNAGE:

The Contractor shall supply and install two (2) Alternate location/site Closed/Site Open signs as per the graphics template below. The alternate location to be listed on the signs are listed in the *Project and Site Details*.

Please forward sign artwork to Suncor for approval.

Additional signage may be required (i.e. Bays are OPEN), C-Store OPEN.



HANDOVER CHECKLIST

The following items are required before handover to Suncor:

- Concrete slabs sealed
- Site power washed
- Garbage removed
- Trailer and material removed
- Final electrical hook-ups completed
- Ensure all electrical seals are poured in sumps, building entrances and hazardous areas
- Intercom functional
- Cameras functional
- Dispensers mounted and operational
- Landscaping completed
- Paving completed
- Water and debris removed from all sumps
- Sump lids secured
- Third party line and tank testing report completed
- Fence removed (just prior to opening with crossing barriers available to manage traffic before site actually opens).

SUBMITTALS

The Contractor shall provide:

- Post Construction Checklist
- Tank Inventory Record

Weekly:

- Project status (including large format photos)
- Budget status
- Schedule status
- Summary of Change Orders

Upon Completion:

- set of photographs of all site work including, foundations, tank installation, piping, conduit runs and vent. (photos to be marked with date & location). Photos are to be in digital format
NOTE – photos shall be clean (not blurry) and of higher resolution (minimum 1.5MB)
- as-built drawings showing the locations of major assets, tanks, product piping, electrical conduits and vent lines
- Results of all Tank, Line and Sump Testing
- Third Party test report
- Permit copies
- Suncor Commissioning Checklist
- Contractor Commissioning Final Document Checklist
- Commissioning Agent Final Document Checklist
- Inspection report copies

END OF SECTION