

INVITATION TO TENDER "ITT" PS20162024
BURRARD MARINA UPLAND INFRASTRUCTURE

ADDENDUM NO. 1

March 23, 2017

1. SPECIFICATIONS: SECTION 01 00 00 - GENERAL INSTRUCTIONS

Delete Section 01 00 00 - General Instructions in the Specifications and replace with Section 01 00 00 dated March 22, 2017 attached hereto.

2. DRAWINGS: ELECTRICAL CABLE ROUTING

Add to the Drawings the following drawing also attached hereto:

Sheet No.	Sheet Title	Revision
307071-01059-01-EL-DAL-4002	Burrard Civic Marina 2017 Marina Upgrade Onshore - Electrical Cable Routing	G

All other conditions and specifications remain unchanged.

This addendum must be completed and attached to the Tenderer's Tender.

If the Tenderer has already submitted its Tender, this addendum shall be submitted to the Supply Chain Management Office, City of Vancouver, 453 West 12th Avenue, Vancouver, British Columbia, Canada, V5Y 1V4, (courier delivery and drop off is at the drop box at the Supply Chain Management Office on the 4th Floor of the same address), prior to the Closing Time: 3:00 p.m. Vancouver Time, Tuesday, April 11, 2017 in an envelope clearly marked "Addendum No. 1 to ITT No. PS20162024: Burrard Marina Upland Infrastructure."

NAME OF VENDOR

SIGNATURE OF AUTHORIZED SIGNATORY

DATE

1.1 Related Sections

- .1 01 74 19 - Project Waste Management.

1.2 Summary of Work

- .1 The Work includes, but is not limited to, the following major items of Work:
Burrard Marina – Upland Infrastructure – Electrical and Water Distribution
Refer documents prepared by Advisian/Worley Parsons
- .2 Work by other contractors under a separate contract:
Burrard Marina – Float Renewal, including pile driving and utilities distribution

1.3 Documents Required

- .1 Retain on site or have digital access to the following documents on site at all times:
- .1 As well as the Documents listed in the Invitation to Tender and the General Conditions, the Documents at the site shall also include:
 - a) Vancouver Building By-law – latest revision in force.
 - b) Reviewed Shop Drawings.
 - c) Contemplated Change Orders.
 - d) Change Orders.
 - e) Supplemental Instructions.
 - f) Field Test Reports.
 - g) Approved and Current Construction Schedule.
 - h) Manufacturer's installation and application instructions.
 - i) Approved colour schedule and colour board.
 - j) Letters of Environmental Approval
 - k) WCB Regulations.
 - l) Contractor Safety Manual.

1.4 Specifications

- .1 The Specifications are complementary to the Drawings and Details and what is required by any one shall be as binding as if required by all.
- .2 The General Conditions of the Contract, Supplementary General Conditions, and General Requirements all form an integral part of each individual section of the Specifications. Read, interpret, and coordinate with all other parts.

1.5 Notification and Regulatory Requirements

- .1 Notification of Authorities:

- a) Notify the appropriate authorities of intention to carry out operations in the vicinity of a utility or structure at least one (1) week prior to commencement of such operation.
- b) Obtain approval for access to any operations carried out on adjacent public and private property.

1.6 Site Superintendent

- .1 Provide Construction Manager's and Site Superintendent's mobile phone numbers and email addresses to the Project Manager.

1.7 Noisy Work Hours of Operation

- .1 Conform to the City of Vancouver Noise By-Laws.

Testing Laboratory Services and Inspections

- .1 The Contractor is responsible for coordination and costs of inspections and tests required by laws, ordinance, rules, guaranties/warranties, contract documents, regulations, orders or approvals of public authorities relating to the work and for the preservation of public health and construction safety. Such inspections shall be included, arranged and paid for directly by the Contractor.

Refer to specific sections of the specifications for other required inspections to be arranged and paid for by the Contractor as part of this Contract.

- .2 The Owner will employ and pay for the following inspections:
 - i. Geotechnical testing by the geotechnical engineering firm that prepared the geotechnical
 - ii. reports accompanying these documents, as outlined by the geotechnical reports and where required by the Contract Documents.
 - iii. Concrete testing as outlined in 03 30 00.
 - iv. Welding Engineer and Testing Agency (if applicable) as outlined in 05 10 00.
 - v. Other inspections as noted in the Contract Documents.
- .3 The Contractor shall inform the Owner about the schedule for such inspections, co-operate with inspectors and facilitate the execution of all inspection services.

Particular requirements for inspection and testing to be carried out by testing laboratory approved by the Owner or Consultant, if one is retained, are specified under various sections.

Where tests or inspections by designated testing laboratory reveal Work not in accordance with contract requirements, the Contractor is responsible to pay costs for additional tests or inspections as the Owner or Consultant may request in order to verify acceptability of corrected Work.
- .4 The contractor shall be responsible for site surveying, providing a utility locate survey and complete a BC One Call "before you dig" before excavation of the site in order to complete the work.

Part 2 Administrative Requirements

2.1 Separate Contracts

- .1 The Owner reserves the right to enter into other contracts in connection with this Work. Provide reasonable opportunity to other contractors for execution of their Work and proper connection and coordination of their Work.
- .2 The Contractor is to remain the designated "prime contractor" under the WorkSafe BC Rules for the site for the duration of the Work unless other specific arrangements are made with the Owner.
- .3 If any part of the Work depends on proper execution of the Work of any other contractor, inspect and promptly report to the Owner or Consultant if one is retained any defects in such Work that render it unsuitable. Failure to so inspect and report will constitute an acceptance of the other contractor's Work as fit and proper. A defect which may develop later in the other contractors' Work is an exception.

2.2 Construction Progress Schedule

- .1 Provide, within seven (7) Working days after Contract award or as otherwise specified in the contract documents, schedule showing anticipated progress stages and final completion of Work within time period required by the Contract Documents.
- .2 Provide Schedule in a Critical Path Method Bar (GANTT) Chart format as otherwise required by the Owner or Consultant.
- .3 Throughout the duration of the Work, revise schedule whenever any significant change occurs that, in the opinion of the Owner or Consultant if one is retained, necessitates revisions.
- .4 the Burrard Marina is to remain fully operational with limited disruptions and the contractor shall maintain the life safety requirements during the work, which includes and monitory fixed physical exit path of travel. The contractor shall schedule the construction work with limited number 2 partial closures lasting 1 day. The contractor shall coordinate and provide a detailed construction schedule of the intended closures for coordination with the marina staff and its member and public.

2.3 Pre-construction Meeting

- .1 Within one week after award of the Contract, the Consultant will request a meeting to discuss and resolve administrative procedures and responsibilities.
- .2 Ensure representatives of the Owner, Contractor and major Subcontractors are in attendance.
- .3 Establish time and location of meeting and notify all parties concerned to attend. Notify all parties minimum 5 days before meeting.
- .4 The Agenda includes the following:
 - a) Appointment of official representatives of participants in the Work.
 - b) Schedules of work, progress scheduling.
 - c) Schedule and procedures for submission of shop drawings, products, materials, samples and mock-ups.
 - d) Requirements for temporary facilities, offices, storage sheds, utilities,

- hoarding, temporary dust tight partitions.
- e) Traffic Management Plan – when required by schedule.
- f) Substitutions.
- g) Delivery schedule of specified equipment.
- h) Site security.
- i) Change Directives, Notices of Contemplated Changes, Change Orders, procedures, approvals required, time extensions, overtime, administrative requirements.
- j) Owner-provided products.
- k) Quality Control.
- l) Discuss communication by correspondence, transmittals, reports and the like, between parties.
- m) Review adequacy of distribution of Contract Documents.
- n) Record Drawings.
- o) Maintenance Manuals.
- p) Take-over procedures, acceptance, warranties.
- q) Monthly progress claims, administrative procedures, photographs, hold-backs.
- r) Appointment of inspection and testing agencies or firms.
- s) Insurances, transcript of policies.
- t) Mutually agreed variations to Tender or Contract Documents.
- u) Site Use Plan.

2.4 Progress Meetings

- .1 Schedule and administer regular progress meetings twice monthly throughout the progress of the Work. Be responsible to:
 - a) Prepare agenda for meetings.
 - b) Distribute written notice of each meeting two (2) days in advance of meeting date.
 - c) Make physical arrangements for meetings.
 - d) Preside at meetings.
 - e) Record minutes to include significant proceedings and decisions.
 - f) Reproduce and distribute copies of minutes.
 - g) Include health and safety, security, hazardous materials management, waste management, schedule and upcoming work as standard agenda items.
- .2 Be prepared to discuss the progress of the Work including but not limited to the

following:

- a) Review progress report updates.
 - b) Review critical Work sequences.
 - c) Review possible disruptions and disputes caused by industries and trades.
 - d) Review potential delivery and delay problems and strategies to correct or resolve.
 - e) Review and identify all shop drawings, samples and mock-ups required.
 - f) Review of Contractor's quality control program and testing.
 - g) Review off-site fabrication of materials.
 - h) Delivery, delays, substitutions, colour samples.
 - i) Review of Contemplated Changes to the Work and Change Orders.
 - j) Review of applications for payment.
 - k) Review of any observations, requests for clarification, problems, conflicts and coordination that may impede Work progress.
- .3 Representatives of Subcontractors and Suppliers shall attend progress meetings as required and be qualified and authorized to act on behalf of the entity each represents.

2.5 Safety Requirements

- .1 Observe and enforce all construction safety measures by the Canadian Construction Safety Code supplemented by the Vancouver Building By-Law, applicable WorkSafe BC requirements, and local statutes and By-laws.
- .2 In the event of conflict between any provisions of the above authorities, the most stringent will apply.
- .3 Employ a Construction Safety Officer as required for compliance with the Vancouver Building By-Law and/or WorkSafe BC regulations.
- .4 Submit a Fire Safety Plan for the duration of the contract which shall include:
 - a) Plans as necessary to provide temporary access (day to day for patrons) and emergency egress and emergency access for Fire Fighters and other Emergency personnel.
 - b) Provide directional and wayfinding signage – large and commercially printed to aid in access for patrons and emergency responders. Change sign locations as necessary to suit the work.
- .5 Provide a fire watch to be in effect whenever the fire suppression system is not in operation.

2.6 Workers' Compensation (WorkSafe BC)

- .1 Prior to commencing Work provide evidence of compliance with all requirements of WorkSafe BC, including submission of all requirements and Notice of Project. The Contractor shall act as Prime Contractor for the purposes of WorkSafe BC regulations for the defined project area.

- .2 At any time during the term of the Contract, when requested by the Owner or Consultant, provide such evidence of compliance for any or all subcontractors.

2.7 Submittals

- .1 The Contractor shall submit to the Consultant all submittals required for review by the Consultant with reasonable promptness and in an orderly sequence so as to not to cause delay in the Work. Allow for a minimum of seven (7) days review time. Submit the following as applicable: Shop drawings and samples as specified or noted on drawings; waste management plan.
- .2 Work affected by the submittals shall not proceed until review is complete.
- .3 The Contractor shall review submittals prior to submission to the Consultant. This review indicates that necessary requirements have been determined and verified, or will be, and that each submittals has been checked and coordinated with the requirements of the Work and the Contract Documents. Submittals not stamped, signed, dated and identified as to the specific project will be returned without being examined and shall be considered rejected.
- .4 The Contractor shall verify that the field measurements and affected adjacent Work are co-ordinated.
- .5 The Contractor's responsibility for errors and omissions in submission is not relieved by the Consultant's review of submittals.
- .6 The Contractor's responsibility for deviations in submission from requirements of the Contract Documents is not relieved by the Consultant's review.
- .7 The Contractor will keep one reviewed copy of each submission on site.

2.8 Shop Drawings:

- .1 The Contractor shall submit to the Consultant prior to starting work, a detailed list of all shop drawings that he intends to submit for review.
- .2 Prepare Shop Drawings which illustrate appropriate portion of Work; showing fabrication, layout, setting or erection details and as specified in relevant Sections.
 - a) Review shop drawings, product data, and samples prior to submission.
 - b) Verify and clearly identify on each shop drawing:
 - .1 Field measurements.
 - .2 Field construction criteria.
 - .3 Catalogue numbers and similar data.
 - c) Coordinate each submission with requirements of the Work and Contract Documents.
 - d) Include the Contractor's stamp, initialed or signed, certifying review of submission, verification of field measurements and compliance with the Contract Documents.

- e) The Contractor's responsibility for errors and omissions is not relieved by the Owner or Consultant's review of submittals.
- f) The Contractor's responsibility for deviations in submission from requirements of the Contract Documents is not relieved by the Owner or Consultant's review of submission, unless the Owner or Consultant gives written acceptance of specified deviations.
- g) Notify the Owner or Consultant in writing, at time of submission, of deviations from requirements of the Contract Documents.
- h) Schedule submissions at least ten (10) Working days before dates that reviewed submissions will be needed.

.3 Product Data:

- a) Preparation:
 - .1 Clearly mark each copy to identify pertinent products or models.
 - .2 Show performance characteristics and capacities.
 - .3 Show dimensions and clearances required.
 - .4 Show wiring or piping diagrams and controls.
- b) Manufacturer's Standard Schematic Drawings and Diagrams:
 - .1 Modify drawings and diagrams to delete information which is not applicable to the Work.
 - .2 Supplement additional information to provide information specifically applicable to the Work.

.4 Samples:

- a) Provide office samples of sufficient size and quantity to clearly illustrate:
 - .1 Functional characteristics of the product, with integrally related parts and attachment devices.
 - .2 Full range of colour, texture, and pattern.
- b) Field Samples:
 - .1 Provide Field Samples as requested in relevant Sections.
- c) Number of submittals required:
 - .1 Product data: Submit the number of copies which the Contractor requires, plus three copies which will be retained by the Consultant if one is retained and Owner Representative.
 - .2 Samples: Submit the number stated in each Specification Section.
 - .3 Shop Drawings: Submit one reproducible plus six prints which will be retained by the Consultant/Owner Representative or as specified in Structural, Mechanical, and Electrical divisions.
- d) Submittals shall contain:
 - .1 The date of submission and the dates of any previous submissions.
 - .2 The project title and number.
 - .3 Contract identification.
 - .4 The names of the Contractor, the Supplier and the Manufacturer.
 - .5 Identification of the product, with the specification number.
 - .6 Field dimensions, clearly identified as such, in imperial.

- .7 Relation to adjacent or critical features of the Work or materials.
- .8 Applicable standards, such as CSA, CGSB or ASTM.
- .9 Identification of deviations from Contract Documents.
- .10 Identification of revisions on resubmittals.
- .11 The Contractor's stamp, initialled or signed, certifying to review of submittal, verification of products, field measurements and field construction criteria, and coordination of the information within the submittal with requirements of the Work and of the Contract Documents.
- .12 Provide Engineer's seal where required.

2.9 Project Record Documents

- .1 Record Drawings:
 - a) The Contractor shall keep one (1) set of black-line prints of all Contract drawings and all addenda, revisions, clarifications, change orders and reviewed shop drawings, in the site office and shall label each document "PROJECT RECORD" in neat large printed letters.
Project Record documents shall be used for the sole purpose of recording "as-built conditions".
 - b) As the Work proceeds, the Contractor shall record, concurrently with construction progress, clearly and indelibly in red ink, as-built conditions wherever they deviate from the original directions of the Contract Documents. The Contractor shall not conceal work until required information is recorded.
Failure to maintain current record documents shall be considered a deficiency against the monthly progress claims.
 - c) The Contractor shall legibly mark to record actual construction:
 - i) Depth of various elements of foundation in relation to finish first floor datum.
 - ii) Horizontal and vertical locations of underground utilities and appurtenances, referenced to visible and accessible features of the structure.
 - iii) Location of internal utilities and appurtenances, concealed in the construction, referenced to visible and accessible features of the structure.
 - iv) Filed changes of dimension and detail.
 - v) Changes made by Supplemental Instruction or by Change Order.
 - vi) Details not on original drawings
 - vii) All water lines, along with invert elevations at each junction, direction change and every 30 meters of run. Indicate type of material used.
 - viii) All sewer lines along with invert elevations and location at each manhole and clean- out. Indicate type of material used.
 - ix) All storm drains and sewers along with invert elevations at each

- manhole, clean-out, change of direction, junctions, both end of culverts and every 30 meters of run. Indicate type of material used.
- x) All electrical ducts and conduits, including telephone, sound, radio and TV systems, fire alarm and other signal systems, along with invert elevations at each pulling pit, high point, low point (if not a pulling pit) and at change of direction.
 - xi) All gas lines along with invert elevations at each junction, entry to building, change of direction, and at high & low points.
 - xii) All irrigation piping.
- d) Approval for backfilling of underground services will not be given before the Owner is satisfied that the exact location of all underground services has been surveyed and recorded. The Contractor must employ a qualified surveyor to record the horizontal and vertical location of underground services. This survey information is to be shown on record drawings and must indicate the location of all buried services, as well as those capped or exposed by the work of this contract.
 - e) The Contractor shall certify by seal and signature that the site "Record Documents" and subsequent amended drawings represent the work "as-built".
 - f) At the time of substantial performance, the Contractor shall turn over to the Consultant, the sealed and signed "Record Documents" from all disciplines, showing all deviations, including those called for by addenda, revisions, clarifications, shop drawings and change orders.
 - g) The cost of transcribing Record Documents into electronic files for the architectural, structural, landscape and civil disciplines is included in the Contract Price through the General Contractor's cash allowance as defined in Part 1.2 of the Stipulated Price Bid Form.
 - h) The cost of transcribing Record Documents into electronic files for the mechanical and electrical disciplines is included in the Contract Price through cash allowances carried by the mechanical and electrical sub-contractors (refer to mechanical and electrical specifications).
 - i) The procedures for transcribing Record Documents into electronic files for the electrical and mechanical disciplines are described by divisions 20 through 26.

2.10 Maintenance Manuals

- .1 General Requirements:
 - a) The Contractor shall control, administer and expedite the submission of maintenance manuals.
 - b) Manuals shall include:

- i) Full operating and maintenance instructions for all building elements, systems, equipment, fixtures and finishes, etc. provided by the contract.
 - ii) Complete sets of shop drawings bearing all markings and approvals in good condition. Drawings larger than 11x17 are to be submitted in roll form for flat storage.
 - iii) A maintenance schedule for the building and a section where the Owners can record maintenance tasks.
- c) Three (3) sets of complete manuals, plus a PDF version on disk shall be provided to the Consultant for Owner's future use.

.2 Preparation of Manuals:

- a) Prepare separately bound manuals for architectural, landscaping, electrical and mechanical instructions.
- b) The title sheet in each manual shall identify the project, the date and the owner and shall state the names, addresses, and telephone numbers of the Consultant, applicable consultants, Contractor and applicable sub-contractor.
- c) Instructions shall be clear, simple and complete for installation, operation and maintenance of all components. Data generally shall consist of the description of the item; the manufacturer's name, the local representative, distributors or service firm; and the recommended practice of maintenance, repair or replacement.
- d) Where applicable, include information such as:
 - i) Names of sub-trades and suppliers with addresses and phone numbers.
 - ii) Trade name, make.
 - iii) Model numbers.
 - iv) Part numbers.
 - v) Colour numbers or description and finish.
 - vi) Gauges, thickness and dimensions.
 - vii) Special ratings.
 - viii) Installation, assembly, removal procedures.
 - ix) Cleaning, handling, compatibility requirements.
 - x) Guarantees, warranties and bonds specifying name of project, commencement date and duration.
 - xi) Signature and seal of Contractor.

.3 Preparation schedule

- a) Draft copies (1 only for each discipline) of the proposed manuals are to be submitted to the Consultant for ongoing approval at 75% construction

completion. The contractor will forward additional inserts as they become available with the intent that at substantial performance, most if not all shop drawings, brochure information and warranty certificates will be compiled. Failure to submit the draft manual at 75% completion will result in a deficiency holdback on progress claims, an amount determined by the consultant.

- b) After the manuals are reviewed and returned to the Contractor, 2 complete revised sets of the manuals are to be prepared and submitted to the Consultant prior to release of Deficiency Holdback monies and as a condition thereof.

.4 Bindings for Manuals

- a) The information shall be printed on letter sized heavy bond or offset book paper, all punched, trimmed and bound in a type "D" ring binder, heavy duty, with metal hinge covers.

2.11 Construction Site Safety Plan

- .1 Provide Construction Site Safety Plans and execute the work in strict accordance with the Vancouver Building By-Law, the B.C. Workers Compensation Act and other municipal and provincial regulations.
- .2 The Contractor shall provide and maintain a traffic management plan that will involve the operations of the Marina and the Sea Wall traffic; pedestrian cycling and vehicular. The traffic management plan shall be related to schedule of the work, include signage to WorksafeBC and COV engineering standards and have (TCP) Traffic Management Personnel adequate to direct safe movement at the work site.

Part 3 Quality Requirements

3.1 Codes and Standards

- .1 Execute the Work in accordance with the Vancouver Building By-Law (latest revision) and the B.C. Workers Compensation Act.
- .2 Conform to the latest issue of codes and standards specified, as amended and revised on the date of receipt of Tenders unless otherwise required to meet applicable Codes and Standards.
- .3 Materials and Workmanship: Comply with or exceed applicable standards of Canadian Government Specification Board (CGSB), Canadian Standards Association (CSA), American Society for Testing and Materials (ASTM), and other referenced organizations.
- .4 If required by the Owner or Consultant, furnish documentation indicating compliance with the specified requirements including certification by a Professional Engineer registered in the Province of British Columbia.

3.2 Fees, Permits, Licenses

- .1 Unless otherwise specified, any required Development and Building Permits will be obtained and paid for by the Owner contingent on any information required to be provided by the Contractor.

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- .2 Obtain and pay for Abatement Permit, Street Use Permits all other permits, trade permits, licenses including business license and certificates required for performance of the Work.
 - .3 Provide inspection authorities with plans and information as required for issue of acceptance certificates.
 - .4 Provide inspection certificates in evidence that installed Work complies with the requirements of the authority having jurisdiction.

Part 4 Temporary Facilities and Controls

4.1 Protection of Public Work and Property

- .1 Assume responsibility for any damage to existing paving, walks, adjacent building and property, services, etc., caused by construction operations and make good any damaged areas.
- .2 Be mindful of the existence and possible existence of aerial and underground power lines, pipelines and other concealed services, and other public or private improvements within or adjacent to the Work area, that may not be shown in the Contract Documents.
 - a) Ascertain the existence, position and ownership of all such structures that may be subject to damage by reason of his operations.
 - b) Take every precaution to preserve and protect any such improvement from injury or damage during the Work.
- .3 Notify the Owner immediately of any damage to existing amenities or services.
 - a) Maintain access to existing manholes, catch basins, electrical pull boxes, fire hydrants, valve boxes and allied services underground and on the surface.

4.2 Cooperation and Coordination

- .1 Cooperate with the authorities having jurisdiction and other contractors engaged in simultaneous work and tender packages (including hazardous materials abatement work) on site or adjacent facilities. Coordinate access to the site, the location, removal or adjustment of temporary fences, sheds and utility services.
- .2 Other contractors may be independently appointed by the Owner. Cooperate with these other contractors and allow them to proceed with their Work.
- .3 the contractor shall make all necessary structural and utility service connections for the new floats to the existing floats of the Marina;

4.3 Construction Facilities and Temporary Controls

- .1 Installation/Removal:
 - a) Provide construction facilities and temporary controls in order to execute Work expeditiously.
 - b) Remove from site all such facilities after use.
- .2 Security: The Contractor is responsible for security of the site during the course of the work.

Hoarding:

- a) Erect hoarding around entire perimeter of site to protect public, Workers, public and private property from injury or damage.
- b) Provide hoarding, as specified or at a minimum Moduloc 6 feet high with lockable gates for access to site by workers and vehicles.
- c) Maintain public access to walking and cycling paths in the vicinity of the work. Minimize disruption and provide flagging personnel if work is carried out in proximity to these facilities.

.3 Guard Rails and Barricades

- a) Provide as required by governing authorities, secure, rigid guard railings and barricades around deep excavations, open shafts, open stair wells, open edges of floors and roofs.

.4 Dewatering

- a) Provide temporary drainage and pumping facilities to keep excavations and site free from standing water.
- b) Obtain discharge permits as required, and comply with Metro Vancouver and municipal regulations.

.5 Sanitary Facilities:

- a) Provide sufficient sanitary facilities for Workers in accordance with local health authorities.
- b) Maintain in clean condition.

.6 Water Supply:

- a) Provide a continuous supply of potable water for construction use.
- b) Water may be available from the existing building until service is discontinued as required for the progress of the Work.
- c) Contractor to arrange and coordinate water disconnection work when it is required.
- d) Once water is discontinued the Contractor shall arrange and pay for water supply.
- .1 Owner assumes no responsibility for inconvenience or costs incurred due to loss of water or interruptions.

.7 Temporary Power and Lighting

- a) Power may be available from the existing building until service is discontinued as required for the progress of the Work.
- b) Contractor to arrange and coordinate power disconnection work when it is required.
- c) Once power is discontinued the Contractor shall arrange and pay for temporary power required during deconstruction for temporary lighting and operating of power tools.
- d) Arrange for connection with appropriate utility company. Pay costs for installation, maintenance and removal.
- e) Provide connections from designated take-off points.
- f) Provide and maintain temporary lighting throughout the Project..

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- g) Temporary power for electric cranes and other equipment shall be the responsibility of the Contractor.
 - h) Owner assumes no responsibility for inconvenience or costs incurred due to loss of power or interruptions.
 - i) Provide and pay for temporary telephones necessary for own use.
- .8 Construction offices:
- a) Provide and maintain in clean condition during progress of Work, adequately lighted, heated and ventilated space for filing and layout of Contract Documents and Contractor's normal site office staff.
 - b) Provide adequate required first aid facilities.
 - c) Subcontractors may provide their own offices as necessary. Direct the locations of these offices.
- .9 Equipment/tool/Materials Storage:
- a) Provide and maintain, in clean and orderly condition, lockable weatherproof sheds for storage of tools, equipment and materials.
 - b) Locate materials not required to be stored in weatherproof sheds on site in manner to cause least interference with Work activities.
- .10 Access to Site:
- a) Provide and maintain access roads, sidewalk crossings, ramps and construction runways as may be required for access to the Work.
- .11 Construction Parking:
- a) Subject to the approval of the Owner, parking will be permitted on site provided it does not disrupt the performance of Work.

4.4 Project Sign

- .1 Placement of signs will be at the discretion of the Consultant or Owner. No other signs or advertisements other than warning signs shall be exhibited on the site.

Part 5 Product Requirements

5.1 Workmanship

- .1 General:
 - a) Workmanship shall be the best quality, executed by Workers experienced and skilled in the respective duties for which they are employed. Immediately notify the Owner or Consultant if required Work is such as to make it impractical to produce required results.
 - b) Do not employ any unfit person or anyone unskilled in their required duties. The Owner or Consultant reserves the right to require the dismissal from the site, Workers deemed incompetent, careless, insubordinate or otherwise objectionable.
 - c) Decisions as to the quality or fitness of Workmanship in cases of dispute rest solely with the Owner or Consultant if one is retained, whose decision is final.
- .2 Coordination:

- a) Ensure cooperation of Workers in laying out the Work. Maintain efficient and continuous supervision.
- b) the contractor shall make all necessary structural and utility service connections for the new floats to the existing floats of the Marina;

Part 6 Execution and Closeout Requirements

6.1 Adjacent Property

- .1 Conduct construction operations with minimum interference to adjacent roadways, sidewalks, and access facilities in general.
- .2 Keep such areas free from materials, debris, and equipment at all times. Confine operations to areas designated by the Consultant and/or Owner.
- .3 Maintain fire vehicular access to existing building at all times.
- .4 Use of streets and public rights of way is only permitted if the Contractor obtains all permits from the City of Vancouver.

6.2 Repair and Replacement of City Sidewalk

- .1 Coordinate and cooperate with the Municipality to perform sidewalk repair, and replacement and repair of lane to Municipality standards for any damage caused by deconstruction activities. The cost of such Work will be paid for by the Contractor, directly to the Municipality.

6.3 Location of Fixtures and Equipment

- .1 Location of equipment, fixtures, and outlets indicated or specified are to be considered as approximate. Location of service runs, ducts, conduits, piping, suspension systems, and other concealed items shown on drawings are diagrammatic.
- .2 Contractor shall employ a qualified utility location company to verify the location of all services within the site.

6.4 Execution

- a) Perform work in accordance with the contract Documents.
- b) Perform cutting, fitting, and patching including excavation and fill, to complete the Work.
- c) Remove and replace defective and nonconforming Work.
Perform Work to avoid damage to other Work and to neighbouring properties and streets.

6.5 Field Engineering

- .1 Survey Requirements
 - a) Survey work is to be done by a qualified registered land surveyor, acceptable to Owner.
 - b) Locate, confirm and protect control points prior to starting site Work. Preserve permanent reference points during construction.

- c) Establish two (2) permanent bench marks on site, referenced to established bench marks by survey control points. Record locations, with horizontal and vertical data in Project Record Documents.
 - d) Establish lines and levels, locate and lay out, by instrumentation.
 - e) Maintain a complete, accurate log of control and survey Work as it progresses.
 - f) On completion of construction, prepare certified survey showing dimensions, locations, angles and elevations of any element of the existing building or structures that is retained.
 - g) Establish all lines and levels required for construction of the Work, from existing buildings. Provide all lines and stakes and provide required instruments and labour for placing and maintenance of such lines and stakes.
 - h) All lines and levels shall be subject to checking by the Owner or Consultant.
 - i) Contractor shall cooperate by making the Work available for such checking at suitable times, as required by the Owner or Consultant. This checking does not relieve the Contractor from his responsibility for the correctness of the layout Work.
- .2 Subsurface Conditions
- a) Refer to General Conditions, GC6.4, CONCEALED OR UNKNOWN CONDITIONS.
- .3 Toxic and Hazardous Substances and Materials
- a) Also refer to General Conditions, GC9.2, TOXIC AND HAZARDOUS SUBSTANCES.
 - b) Site remediation has been completed or will be completed by the City's Contaminated Sites Team to ensure compliance with the Contaminated Sites Regulation. Should suspect contaminated material be encountered, the project will be immediately shut down and the Contaminated Sites Team must be contacted.
 - c) Asbestos discovery: Disturbance of asbestos-containing materials may be hazardous to health. Should known or suspect asbestos-containing material be encountered in the course of the Work, stop Work and notify Owner immediately. Do not proceed until written instructions have been received from the City's Hazardous Materials Team.
 - d) All hazardous material remediation must be verified by a third party acceptable to the Owner and overseen by the City's Hazardous Materials Team.

6.6 Waste Management

- .1 Refer to ITT Document and Form of Agreement for Project Waste Management requirements.

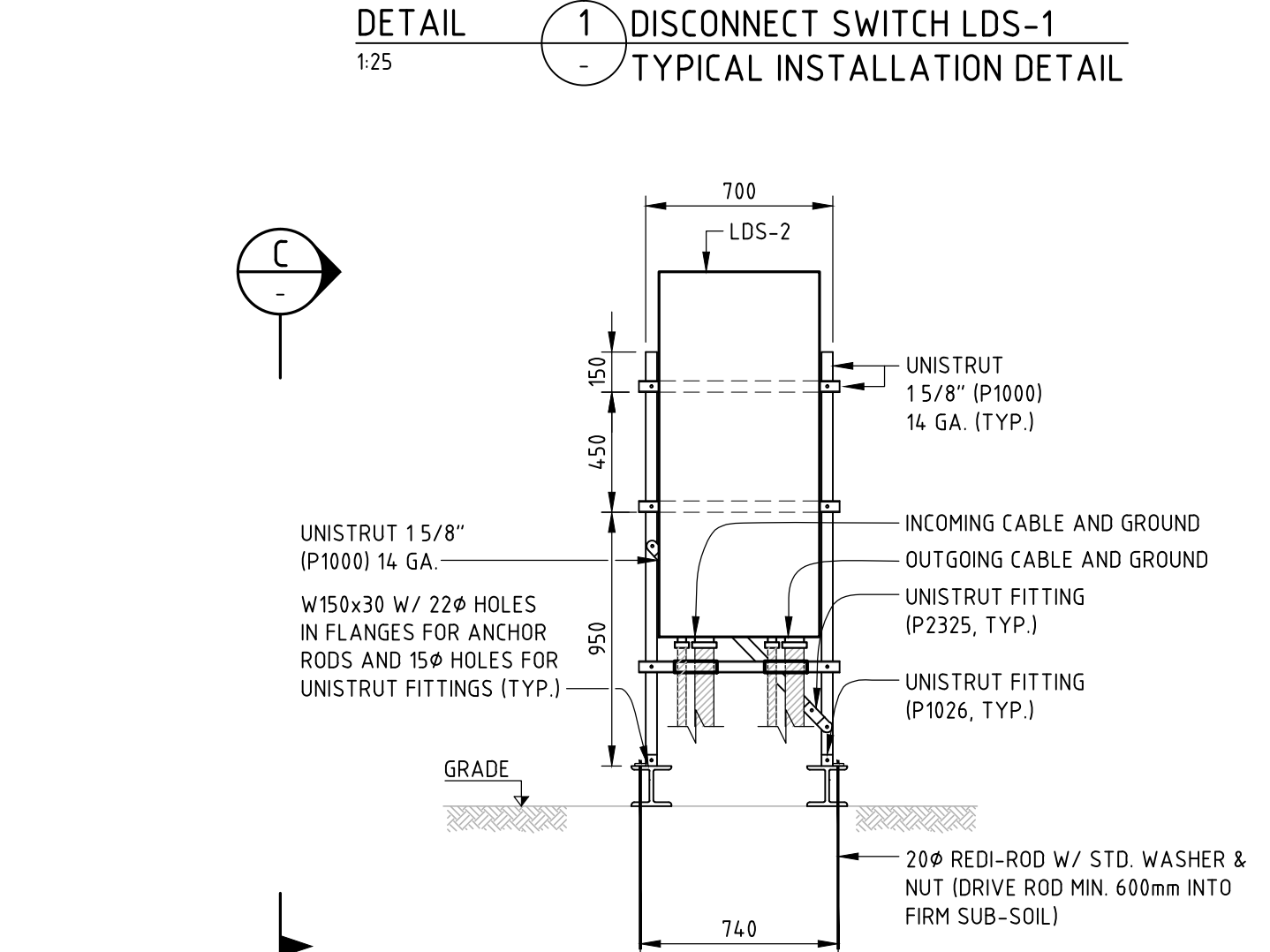
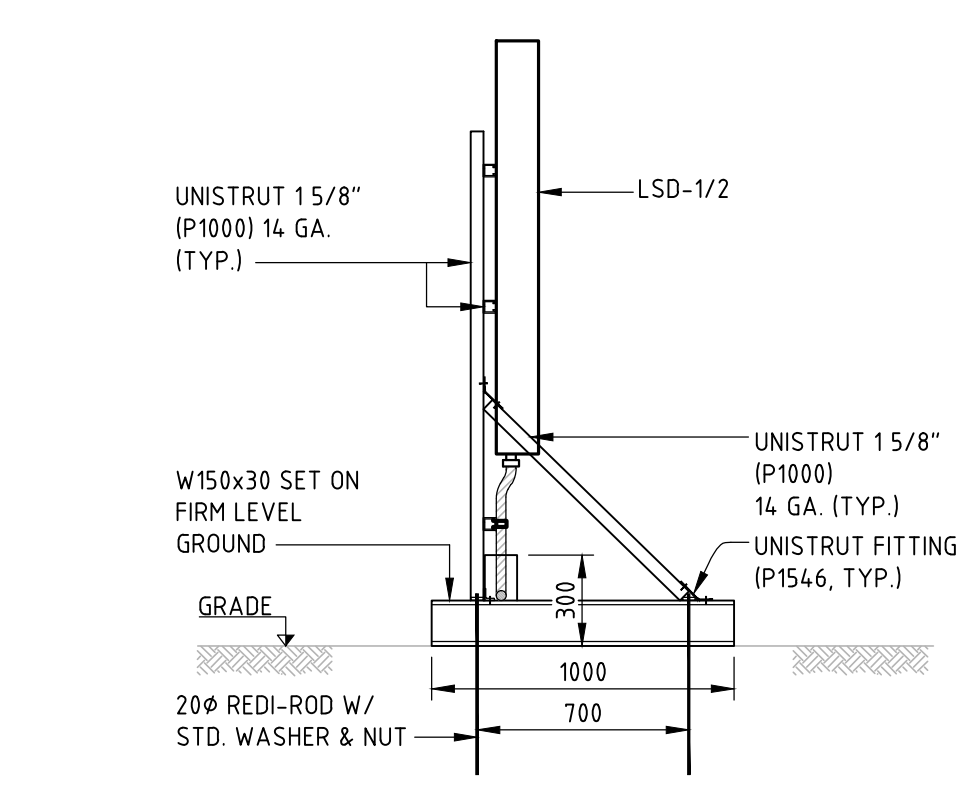
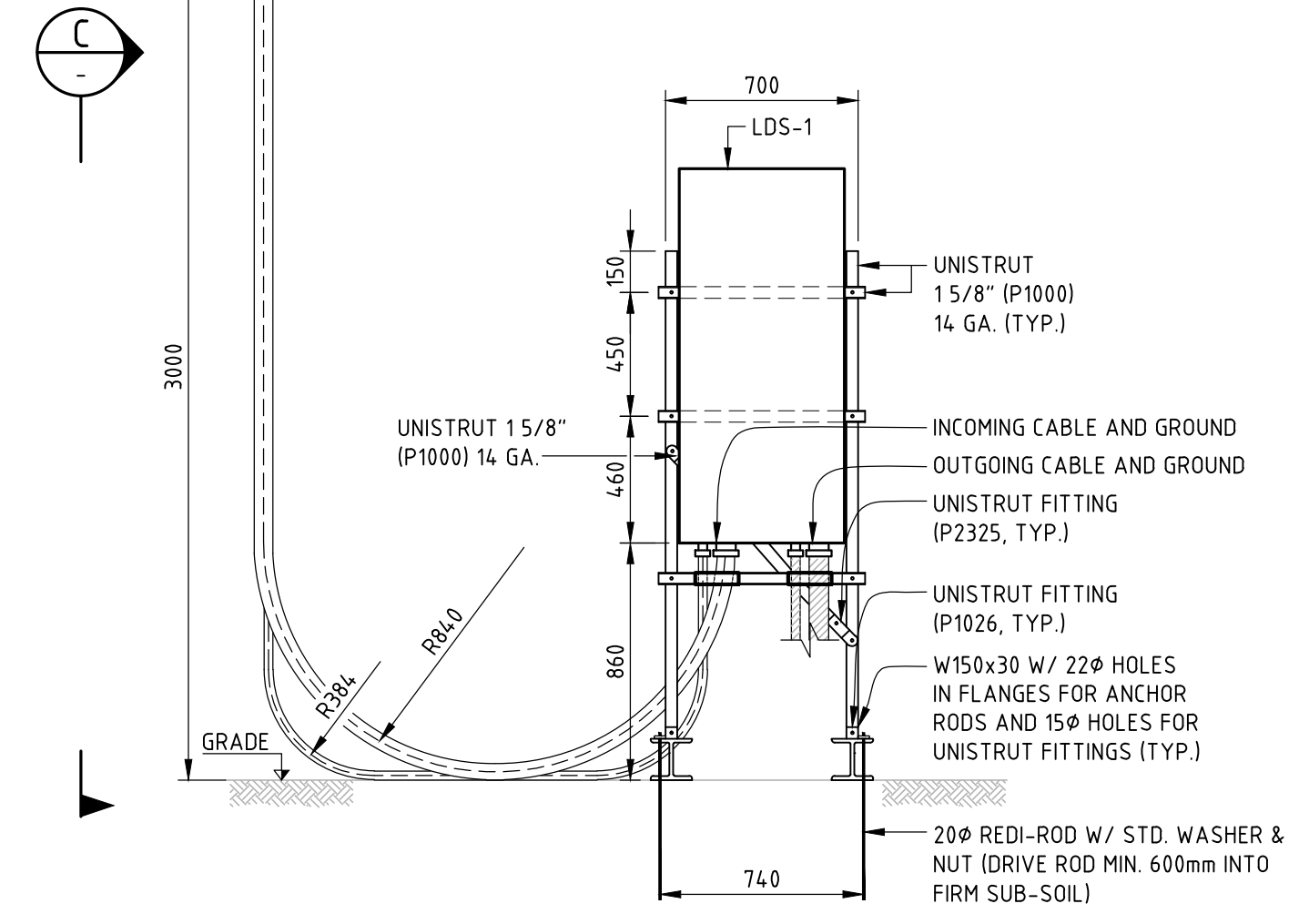
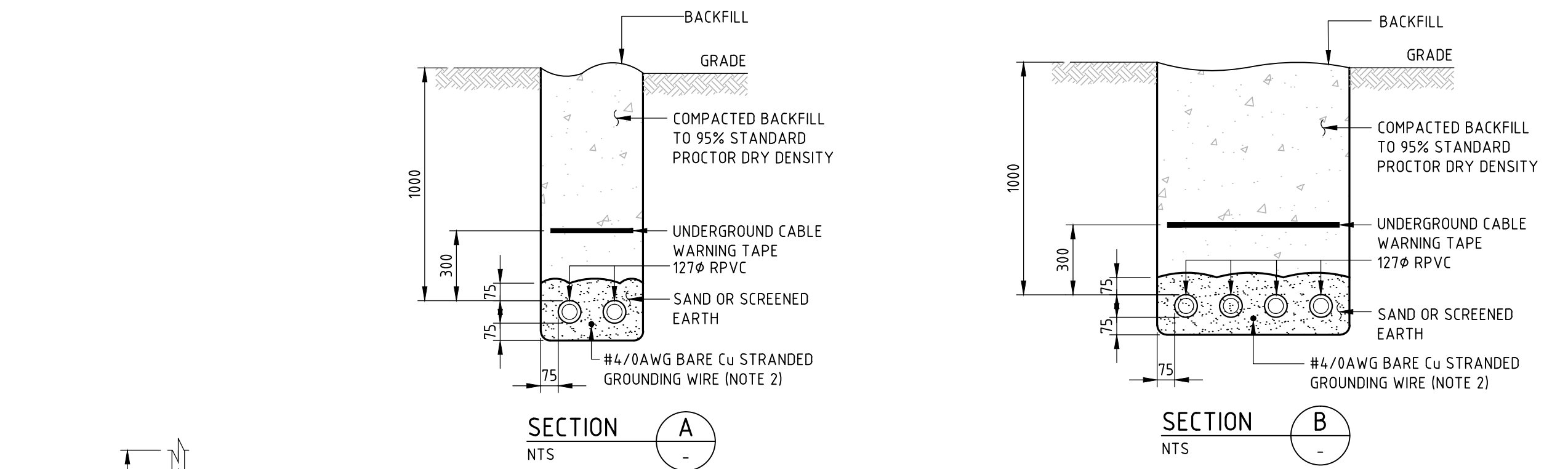
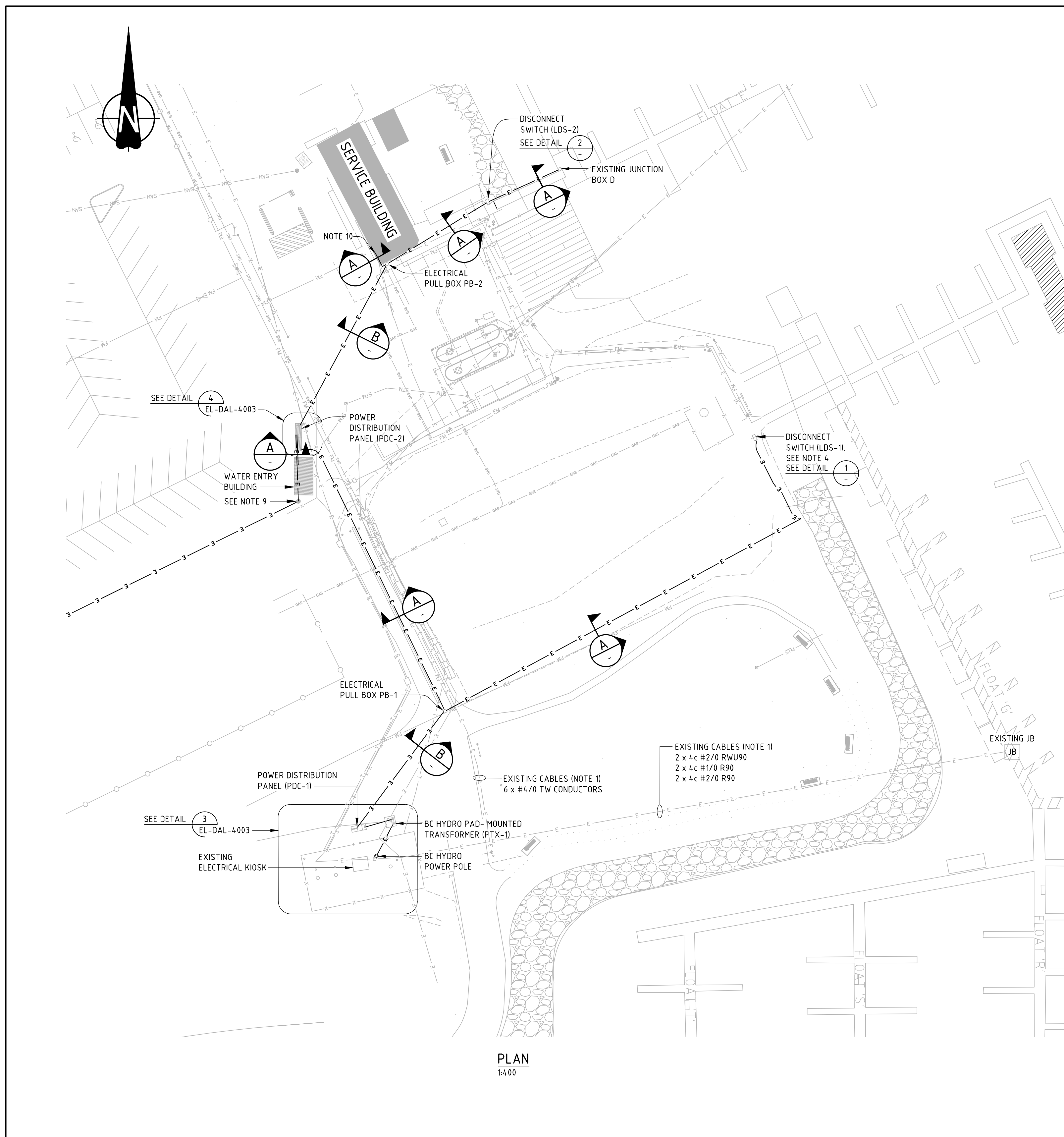
6.7 Erosion and Sedimentation Control

- .1 The Contractor will provide Site Erosion and Sediment Control Plan fourteen (14) days before date established for commencement of the Work on Site.
- .2 Site Erosion and Sediment Control Plan
 - .1 The sediment and erosion control plan will be in compliance with, municipality requirements. Plan will comply with following objectives:
 - .1 Prevent loss of soil during construction by storm water runoff.

-
- .2 Prevent loss of soil during construction by wind erosion.
 - .3 Prevent sedimentation of storm sewer or receiving streams.
 - .4 Prevent polluting the air with dust and particulate matter.
 - .2 Obtain approval by authority having jurisdiction prior to work beginning on site, and submit a copy of the approved plan to the Owner or Consultant.
 - .3 Comply with monitoring activities and procedures.
- 6.8 Cleaning During Construction**
- .1 Maintain project grounds and public properties free from accumulations of waste materials and rubbish.
- 6.9 Making Good**
- .1 Make good all surfaces and installations disturbed in any way by the Work of the Contract.
 - .2 Refinish surfaces to match adjacent finishes; for continuous, surfaces refinish to nearest intersection; for assembly, refinish entire unit.
- 6.10 Project Closeout**
- .1 Final Cleaning
 - a) Also refer to General Conditions, GC3.13, CLEANUP.
 - b) Remove waste materials and debris from site at regularly scheduled times or dispose of as directed by Consultant or Owner. .
 - c) Broom clean and wash exterior walks, steps and surfaces.
 - d) Remove dirt and other disfigurements from exterior surfaces.
 - .2 Collect reviewed submittals and assemble documents executed by Subcontractors, suppliers, and manufacturers.
 - .1 Submit materials prior to final Application for Payment.
 - .2 Submit record (as-built) drawings.
 - .3 Provide warranties [and bonds] fully executed and notarized. Execute transition of Performance and Labour and Materials Payment Bond to warranty period requirements.
 - .4 Submit final Waste Tracking Form and a summary of all Waste Tracking forms.
 - .3 Submit a final statement of accounting giving total adjusted Contract Price, previous payments, and monies remaining due.
 - .4 Inspection/Takeover Procedures
 - .1 Prior to application for certificate of Substantial Performance, carefully inspect the Work and ensure it is complete, that deficiencies are complete, defects are corrected and site is clean.
 - .2 When Contractor considers deficiencies and defects have been corrected and requirements of Contract have been performed, make application for certificate of

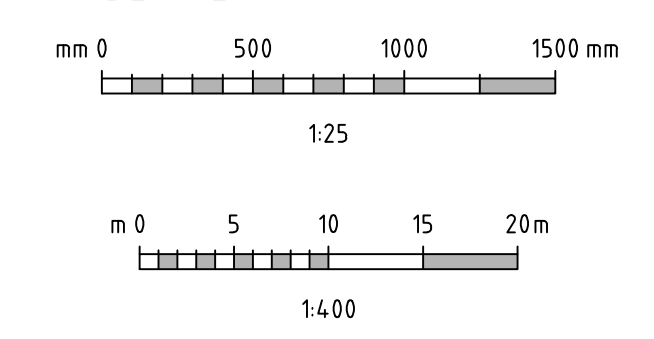
Substantial Performance. Refer to General Conditions Article GC5.4,
SUBSTANTIAL PERFORMANCE OF THE WORK, for specifics to application.

END OF SECTION



- LEGEND:**
- - - EXISTING ELECTRICAL CONDUIT ROUTING
 - JB JUNCTION BOX
 - - - NEW ELECTRICAL CONDUIT ROUTING
- NOTES:**
1. CONTRACTOR SHALL COORDINATE WITH THE CITY OF VANCOUVER AND EMPLOY A QUALIFIED FIRM TO SURVEY AND IDENTIFY ALL UNDERGROUND SERVICES IN THE CONSTRUCTION AREA PRIOR TO ANY EXCAVATION ACTIVITIES. REFER TO RECORD DRAWING AS-21374-00-108 FOR APPROXIMATE DUCT LAYOUTS.
 2. INSTALL ONE #4/0 AWG BARE Cu STRANDED GROUNDING WIRE ALONG THE ELECTRICAL POWER CABLE CONDUIT(S).
 3. CONDUIT ROUTING IS DIAGRAMMATIC ONLY.
 4. END CABLE DUCT AT THE EDGE OF THE BRIDGE FOUNDATION. EXTEND CABLES UP 3m ALONG BRIDGE FOUNDATION AND DOWN TO LDS-1. SEE DETAIL 1.
 5. RPVC CONDUIT SHALL CONFORM TO CSA C22.2 NO. 211.2. COUPLINGS, ADAPTORS, BENDS, AND FITTINGS SHALL CONFORM TO CSA C22.2 NO. 85. RPVC CONDUITS SHALL BE INSTALLED WITH CSA CERTIFIED CEMENT.
 6. CONDUITS SHALL BE INSTALLED TO DRAIN TO PULLBOXES.
 7. ALL EMPTY CONDUITS SHALL BE CAPPED AND HAVE 6mmφ NYLON PULL STRING.
 8. SURFACE RESTORATION IN GRASS AREAS TO INCLUDE 100mm OF TOP SOIL AND HYDROSEED. HARD SURFACES SHALL BE RESTORED TO ORIGINAL CONDITION OR BETTER.
 9. APPROXIMATE LOCATION OF INLINE CABLE SPLICE. REFER TO DRAWING 307071-01059-01-EL-DSL-4001.
 10. USE EXISTING CONDUIT AT BUILDING FOUNDATION TO RUN NEW FEEDER CABLE (PDC2-PANELLDD-F1) TO PANEL DD. INSTALL NEW CONDUIT BETWEEN EXISTING CONDUIT AND PULL BOX PB2. INSTALL SECOND CONDUIT TO THE EDGE OF THE BUILDING AND EXTEND CONDUIT 103mm ABOVE FINAL GRADE.

PRELIMINARY
DO NOT USE FOR CONSTRUCTION
Last Saved: Nov. 23/16 11:02am



REV	DATE	REVISION DESCRIPTION	DRAWN	DRAFT CHK	DESIGNED	ENG CHK	APPROVED	CUSTOMER	REF DRAWING No	REFERENCE DRAWING TITLE
G	23-NOV-16	ISSUED FOR TENDER	WLR	RM	BA	PWE	RED	-		
F	07-OCT-16	ISSUED FOR CLIENT REVIEW	WLR	-	RJT	-	RED	-		
E	04-OCT-16	ISSUED FOR INTERNAL REVIEW	WLR	-	RJT	-	RED	-		
D	31-AUG-16	ISSUED FOR CLIENT REVIEW	WLR	-	RJT	-	RED	-		
C	21-JUL-16	ISSUED FOR BC HYDRO REVIEW	WLR	-	SX	-	RED	-		
B	15-JUN-16	ISSUED FOR CLIENT REVIEW	CBD	-	CBD	RJT	-	-	21374-00-108	BURRARD BRIDGE CIVIC MARINA - ELECTRICAL PLAN - SHORE ALTERATIONS
A	30-MAY-16	ISSUED FOR INTERNAL REVIEW	CBD	-	CBD	RJT	-	-	01-EL-DAL-4003	ONSHORE - ELECTRICAL - 500kVA PMT DETAILS

D SHEET SCALE SHOWN

Oneway
to zero harm

ENGINEERING AND PERMIT STAMPS (As Required)

CUSTOMER

WORLEYPARSONS PROJECT No
307071-01059

CITY OF VANCOUVER

"This drawing is prepared for the use of the contractual customer of WorleyParsons Canada Services Ltd. and WorleyParsons Canada Services Ltd. assumes no liability to any other party for any representations contained in this drawing."

WorleyParsons
resources & energy

**BURRARD CIVIC MARINA
2017 MARINA UPGRADE
ONSHORE - ELECTRICAL
CABLE ROUTING**

DRG No **307071-01059-01-EL-DAL-4002** REV **G**

LOCATION: U:\YVR\307071\01059_COV_COVBOURBMA11_DRAWINGS\03_ELEC\307071-01059-01-EL-DAL-4002.DWG
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 PLOT DATE & TIME: 23/11/2016 11:02:31 AM
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