

1.1 SUBMITTALS

- .1 Upon acceptance of bid and prior to commencement of work, submit to Departmental Representative the following work management documents:
 - .1 Work Schedule as specified herein.
 - .2 Shop Drawing Submittal Schedule specified in section 01 33 00.
 - .3 Hot Work Procedures specified in section 01 35 24.
 - .5 Health and Safety Plan specified in section 01 35 29.
 - .6 Environmental Plan specified in section 01 35 43.
 - .7 List of workers requiring security clearance and those to be placed on Site Security Control list as specified in section 01 35 54. **N/A**
 - .8 Dust Control Plan specified in section 01 50 00 Temporary Facilities and Controls.
 - .9 Construction/Demolition Waste Management & Disposal Plan specified in section 01 74 21.

1.2 WORK SCHEDULE

- .1 Upon acceptance of bid submit:
 - .1 Preliminary work schedule within 7 calendar days of contract award.
 - .2 Detailed work schedule within 21 calendar days of contract award.
- .2 Schedule to indicate all calendar dates from commencement to completion of all work within the time stated in the accepted bid.
- .3 Provide sufficient details in preliminary schedule to clearly illustrate entire implementation plan, depicting efficient coordination of tasks and resources, to achieve completion of work on time and permit effective monitoring of work progress in relation to established milestones.
- .4 Preliminary work schedule content to include as a minimum the following:
 - .1 Bar (GANTT) Charts, indicating all work activities, tasks and other project elements, their anticipated durations, planned dates for achieving key activities and major project milestones supported with;
 - .2 Written narrative on key elements of work illustrated in bar chart, providing sufficient details to demonstrate a reasonable implementation plan for completion of project within designated time.
 - .3 Generally Bar Charts derived from commercially available computerized project management system are preferred but not mandatory.
- .5 Detailed Work Schedule:
 - .1 Prepare by use of Critical Path Method (CPM) indicating:

- .1 Complete and detailed sequence of all construction activities. Show projected start and completion dates for each activity.
- .2 Number of calendar days required to carryout each activity.
- .3 Critical path items with resulting critical dates, non-critical activities and resulting float time.
- .4 Actual workdays from non-working days such as weekend and statutory days etc.
- .5 Projected and actual percentage of work completed for each major work activity.
- .2 Prepare CPM schedule by use of well recognized and widely used electronic software. Submit copy of schedule in paper format and one electronic version on diskette for each submission.
- .3 Accompany CPM with written narrative as required and in sufficient detail to fully describe work and demonstrate a reasonable implementation plan for completion of project within designated time.
- .6 Work schedule must take into consideration and reflect the work phasing, required sequence of work, special conditions and operational restrictions as specified below and indicated on drawings.
- .7 Schedule work in cooperation with the Departmental Representative. Incorporate within Detailed Work Schedule, items identified by Departmental Representative during review of preliminary schedule.
- .8 Completed schedule shall be approved by Departmental Representative. When approved, take necessary measures to complete work within scheduled time. Do not change schedule without Departmental Representative's approval.
- .9 Ensure that all sub-trades and subcontractors are made aware of the work restraints and operational restrictions specified.
- .10 Schedule Updates:
 - .1 Submit on a monthly basis when requested by Departmental Representative.
 - .2 Provide information and pertinent details explaining reasons for necessary changes to implementation plan.
 - .3 Identify problem areas, anticipated delays, impact on schedule and proposed corrective measures to be taken.
- .11 Departmental Representative will make interim reviews and evaluate progress of work based on approved schedule. Frequency of such reviews will be as decided by Departmental Representative. Address and take corrective measures on items identified by reviews and as directed by Departmental Representative. Update schedule accordingly.
- .12 In every instance, change or deviation from the Work Schedule, no matter how minimal the risk or impact on safety or inconvenience

to tenant or public might appear, will be subject to prior review and approval by the Departmental Representative.

1.3 PROJECT PHASING

- .1 Be aware that Facility [and tenants] must be kept operational for the full duration of work of this contract. Building services to areas

under use by tenants must also be maintained at all times during the Facility's operational hours and as specifically defined in operational restrictions specified in this section.

- .2 Unless indicated or approved otherwise, complete all work of a particular phase prior to commencement of another phase. Obtain Departmental Representative's permission prior to moving between phases.

1.4 OPERATIONAL RESTRICTIONS

- .1 The Contractor must recognize that building occupants will be affected by implementation of this Contract. The Contractor must perform the work with utmost regard to the safety and convenience of building occupants and users. All work activities must be planned and scheduled with this in mind. The Contractor will not be permitted to disturb any portion of the building without providing temporary facilities as necessary to ensure safe and direct passage through disturbed or otherwise affected areas.
- .2 Contractor to meet with the Departmental Representative on a weekly basis to identify intended work areas, activities and scheduling for the coming week.
- .3 To assure that construction work may proceed productively without risk to safety of building occupants and the public, and due to the nature of the tenant's operation be aware that certain work of this contract must be carried out during "Off-Hours".
- .4 Off Hours: means a period of time which is outside the daily operational hours of the tenants of the Facility. For the purposes of this contract, Off-Hours are defined as follows:
 - .1 Weeknight Off-Hours: between the hours of 18:00 and 07:00 for each weekday Monday to Thursday inclusive.
 - .2 Weekend Off-Hours: between the hours of 18:00 Friday evening to 07:00 Monday morning.
 - .3 Dependent on the nature and location of the construction activity and due to an unanticipated operational requirement of the Tenant, certain off-hour periods may be redefined by adjusting the start and end time periods or cancellation of a specific off-hour workshift during the course of the Work.

- .5 The following work shall be performed during Off-Hours:
 - .1 Erection and dismantling of dust barriers, hoarding or other protective devices to separate areas of Facility occupied and under use by public and tenants from work areas;
 - .2 Erection of site enclosure fencing and temporary hoarding at building entrances and fire exits to keep them operational during work;
 - .3 Asbestos abatement;
 - .4 Demolition of any masonry or concrete inside building;
 - .5 All work involving saw cutting or boring of openings through masonry and concrete walls, floors, ceilings or roof;
 - .6 Work which requires the use of products controlled by WHMIS and for which MSDS sheets indicate toxic or hazardous materials requiring special handling and application procedures;
 - .7 Use of materials having high solvent content or other content emitting strong noxious fumes or odours;
 - .8 Painting or repainting;
 - .9 Removal of demolition debris from the building [including cleaning of premises];
 - .10 Cleaning and preparing of occupied areas for daytime use by tenants immediately following an off-hour workshift;
 - .11 Work within a tenant occupied area including corridors, stairwells and other circulation routes under use];
 - .12 Work which requires the temporary disconnection of power and communication services to occupied areas;
 - .13 Testing of fire alarms and other emergency annunciating system;
 - .14 Delivery of materials and equipment from exterior to the interior of building when access routes are located in tenant occupied spaces.
 - .15 Work which creates excessive noise or vibration creating interference with tenant operations.
- .6 Departmental Representative reserves the right to stop certain daytime work activities, if the nature of that activity generates excessive noise or dust and have Contractor re-schedule that particular work to be performed during the Off-Hour period.
- .7 Ensure that all trades are aware of the "Off-Hour" requirements of this Contract and ensure that any extra costs incurred as a result is included in the Contractor's bid amount for the work. No extra cost will be paid due to failure by General Contractor or his sub-contractors to recognize the off-hour requirements and other restrictions specified herein and to include all necessary allowances within their bids.
- .9 Facility circulation maintained:
 - .1 Ensure that entrances, corridors, stairwells, fire exits and other circulation routes are maintained free and clear providing safe and uninterrupted passage for Facility users and public at all times during the entire work.

- .2 Maintain those areas clean and free of construction materials and equipment. Provide temporary dust barriers and other suitable enclosures to ensure users are not exposed to construction activities and are protected from exposure to dust, noise and hazardous conditions.
 - .3 Provide temporary corridors, walkways, passageways, access to offices, etc. when required due to nature of work. Such circulation routes must be constructed to barrier free requirements unless approved otherwise by Departmental Representative.
 - .4 Maintain fire escape routes accessible and fire fighting access open all times for the duration of the project.
 - .5 Do not under any circumstances block fire exit doors. Do not leave construction materials or debris in corridors, stairwells building entrances and exits.
- .10 Safety Signage:
- .1 Provide on site, and erect as required during progress of work, proper bilingual signage, mounted on self-supporting stands, warning the public and building occupants of construction activities in progress and alerting need to exercise caution in proceeding through disturbed areas of the facility, and directing building occupants through any detours which may be required.
 - .2 Signage to be professionally printed and mounted on wooden backing, coloured and to express messages as directed by the Departmental Representative.
 - .3 Generally maximum size of sign should be in the order of 1.0 square meters. Number of signs required will be dependent on number of areas in facility under renovation at any one time.
 - .4 Include costs for the supply and installation of these signs in the bid amount.
- .12 Dust and Dirt Control:
- .1 See Section 01 50 00 and 01 74 11 for dust control and cleaning requirements.
 - .2 Effectively plan and implement dust control measures and cleaning activities as an integral part of all construction activities. Review all measures with the Departmental Representative before undertaking work, especially for major dust generating activities.
 - .3 Do not allow demolition debris and construction waste to accumulate on site and contribute to the propagation of dust.
 - .4 As work progresses, maintain construction areas in a tidy condition at all times. Remove gross dust accumulations by cleaning and vacuuming immediately following the completion of any major dust generating activity.
 - .5 Immediately remove all debris and dust from within occupied areas as generated by work therein during a given workshift.
 - .6 Disconnect and seal-off ductwork of HVAC servicing the construction area to stop spread of dust into other areas of Facility.

- .7 Avoid situations and practices which results in dust and dirt being brought from the construction areas or from the exterior and tracked inside the building into occupied areas used by tenants and the public.
- .8 Stop workers with soiled footwear from entering building. This includes roofing mechanics and heavy civil workers.
- .9 Inform workers and make them sensitive to the need for dust and dirt control. Stringently enforce rules and regulations, immediately address non-compliance.
- .10 Keep access doors to work areas closed at all times. Use only designated doors for entry or egress.
- .13 Work in Occupied Areas:
 - .1 Where work must be carried out in an occupied area beyond the boundaries of the enclosed construction site, perform such work during the non-operational off-hour periods of the Facility.
 - .2 Ensure that all dust, dirt, debris, construction waste, materials, tools and equipment are completely removed at the end of each "off-hour" workshift. Clean and reinstate area ready for daytime use by tenant.
 - .3 Provide temporary dust barriers around immediate work areas and place fabric drop sheets over workstations, equipment and other furnishings located immediately adjacent to such work.
 - .4 Conduct work in such a way as to minimize the creation of dust and to avoid contaminating areas beyond the immediate location.
 - .5 Discuss and obtain Departmental Representative's approval beforehand on the type and extent of dust barriers, protective devices and measures needed.
 - .6 Be responsible for temporarily moving office furnishings, workstations, computer equipment and other objects as needed to gain access and conduct work. Reinstall all dislocated items at end of each workshift making the area operational again.
 - .7 Disconnect and reconnect any power and communications systems feeding workstations as required.
 - .8 Clean such areas as well as those corridors and routes used to gain entry and access.
- .14 Cleaning of tenant occupied areas used by Contractor:
 - .1 Clean lobbies, corridors, stairs and other circulation routes used by workers to gain access to work by conducting cleaning, vacuuming and washing of floors, walls and other soiled surfaces.
 - .2 Obtain and pay for the services of a professional cleaning company to perform this cleaning. Cleaning staff shall remain on site one hour beyond the end of each off-hour workshifts to address any Tenant complaints or concerns and carryout additional cleaning functions as directed by Departmental Representative or by a pre-designated person(s) representing the tenant(s).
 - .3 Meager attempts at controlling dust and ineffective unprofessional cleaning procedures will not be tolerated.
 - .4 Failure to provide effective dust control, allowing construction dust and dirt to escape beyond construction areas and

contaminate occupied areas and building circulation areas will result in Contractor being ordered to immediately provide professional cleaning services without delay to remedy the situation and conduct all cleaning to the extent as determined by Departmental Representative. Alternatively, Departmental Representative may, at certain times and at own discretion, obtain the services of an independent building cleaning agency when cleaning being provided by Contractor is ineffective or tardy in response. Costs of such services will be charged against Contractor in the form of financial penalties or holdback assessments against the Contract.

- .15 Ensure that all sub-trades are made aware of and abide by the contents of this section and in particularly the work restrictions specified herein due to tenant operational requirements.

1.5 PROJECT MEETINGS

- .1 Schedule and administer project meetings, held on a minimum weekly basis, for entire duration of work and more often when directed by Departmental Representative as deemed necessary due to progress of work or particular situation.
- .2 Prepare agenda for meetings.
- .3 Notify participants in writing 4 days in advance of meeting date.
 - .1 Ensure attendance of all subcontractors.
 - .2 Departmental Representative will provide list of other attendees to be notified.
- .4 Hold meetings at project site or where approved by Departmental Representative.
- .5 Preside at meetings and record minutes.
 - .1 Indicate significant proceedings and decisions. Identify action items by parties.
 - .2 Distribute to participants by mail or by facimile within 3 calendar days after each meeting.
 - .3 Make revisions as directed by Departmental Representative.
 - .4 Departmental Representative will advise whether submission of minutes by Email is acceptable. Decision will be based on compatibility of software among participants.
- .6 Departmental Representative will arrange project meetings and assume responsibility for setting times and recording minutes.

1.6 WORK COORDINATION

- .1 General Contractor is responsible for coordinating the work of the various trades and predetermining where the work of such trades interfaces with each other.
 - .1 Designate one person from own employ having overall

responsibility to review contract documents and shop drawings, plan and manage such coordination.

- .2 General Contractor shall convene meetings between trades whose work interfaces and ensure that they are fully aware of the areas and the extent of where interfacing is required.
 - .1 Provide each trade with the plans and specs of the interfacing trade, as required, to assist them in planning and carrying out their respective work.
 - .2 Develop coordination drawings when deemed required illustrating potential interference between work of various trades and distribute to all affected parties including structural trade.
 - .1 Pay particularly close attention to overhead work above ceilings and within or near to building structural elements.
 - .2 Coordination drawings to identify all building elements, services lines, rough-in points and indicate from where various services are coming.
 - .3 Review coordination drawings at purposely called meetings. Have subcontractors sign-off on drawings and publish minutes of each meeting.
 - .4 Plan and coordinate work in such a way to minimize quantity of service line offsets.
 - .5 Submit copy of coordination drawings and meeting minutes to Departmental Representative for information purposes.
- .3 Submission of shop drawings and ordering of prefabricated equipment or prebuilt components shall only occur once coordination meeting for such items has taken place between trades and all conditions affecting the work of the interfacing trades has been made known and accounted for.
- .4 Work Cooperation:
 - .1 Ensure cooperation between trades in order to facilitate the general progress of the work and avoid situations of spatial interference.
 - .2 Ensure that each trade provides all other trades reasonable opportunity for the completion of the work and in such a way as to prevent unnecessary delays, cutting, patching and the need to remove and replace completed work.
- .5 No extra costs to the Contract will be considered by the Departmental Representative as a result of Contractor's failure to effectively coordinate all portions of the Work. Disputes between the various trades as a result of their not being informed of the areas and extent of interface work shall be the sole responsibility of the General Contractor to be resolved at own cost.

END OF SECTION