

Temporary Suspension of Toronto Zenith Contracting Ltd.

Date: November 20, 2019

To: Infrastructure and Environment Committee

From: Chief Engineer and Executive Director, Engineering and Construction Services and Chief Purchasing Officer, Purchasing and Materials Management

Wards: All

SUMMARY

This report recommends that City Council declare Toronto Zenith Contracting Ltd., (TZ) ineligible to bid on or be awarded contracts on any City of Toronto tenders for a period of one year, pursuant to Chapter 195, Purchasing, Section 195-13.13, Suspension of suppliers from future solicitations.

This recommendation is based on demonstrated poor performance by TZ on two Engineering and Construction Services contracts and is made in accordance with the City's Contractor Performance Evaluation Tool. TZ's actions on these contracts demonstrated inadequate contract management, numerous health and safety violations lack of effort to adhere to the project schedule resulting in extended disruptions to the public or City operations, and risk to public safety with respect to the state of the construction site.

City Council approval is required in order to suspend a contractor from bidding on or be awarded contracts for poor performance.

RECOMMENDATIONS

The Chief Engineer and Executive Director, Engineering and Construction Services and the Chief Purchasing Officer, Purchasing and Materials Management Division, recommend that:

1. City Council declare Toronto Zenith Contracting Ltd., and any affiliated persons, as defined in Chapter 195, ineligible to bid on or be awarded any City of Toronto contracts as a supplier of goods and/or services or as a subcontractor to such a supplier, including any options, renewals or extensions of existing contracts, for a total period of one year commencing upon the date City Council approves this recommendation.

FINANCIAL IMPACT

There is no financial impact arising from this report.

The Chief Financial Officer and Treasurer has reviewed this report and agrees with the financial impact information.

DECISION HISTORY

At its meeting of June 11, 2014, the Bid Committee authorized the Chief Engineer and Executive Director, Engineering and Construction Services, to negotiate and enter into agreements with Toronto Zenith Contracting Ltd., being the lowest bidder meeting the requirements of Tender 36-2014 for the structural rehabilitation of the Prince Edward Viaduct over the Don Valley Parkway and Bayview Ave., in the amount of \$19,338,778 net of all taxes, including disbursements. The Bid Committee decision can be found at: <http://app.toronto.ca/tmmis/viewAgendaItemHistory.do?item=2014.BD184.18>

At its meeting of June 8, 2016, the Bid Award Panel authorized the Chief Engineer and Executive Director, Engineering and Construction Services, to negotiate and enter into agreements with Toronto Zenith Contracting Ltd., being the lowest bidder meeting the requirements of Tender 344-2016 for the rehabilitation and widening of the Morningside Avenue Bridge over Highland Creek in the amount of \$15,643,917 net of all taxes, including disbursements. The Bid Committee decision can be found at: <http://app.toronto.ca/tmmis/viewAgendaItemHistory.do?item=2017.BA11.8#>

COMMENTS

Contractor Performance Evaluation

As part of obtaining contracted services, Divisions are responsible for overseeing that the contractor performance is in accordance with the contract. Chapter 195, Purchasing, was revised in 2017, to codify that a contractor's poor performance could be grounds for suspending the contractor from doing business with the City.

For construction services, staff have developed a Contractor Performance Evaluation (CPE) Form and an associated procedure that sets out when staff may initiate a request to Council to suspend a contractor. Using the CPE form, the project manager will evaluate the performance of a contractor in five categories:

- A. Safety & Compliance – Laws & Standards
- B. Quality – Compliance with Contract Standards & Specifications
- C. Organization – Work Plan and Management
- D. Execution – Work Performance
- E. Administration – Contractor Performance and Diligence

Each category has its own set of questions that require ranking as follows:

- 1 – Unsatisfactory ("U")
- 2 – Improvement Needed ("I")
- 3 – Meets Expectations ("ME")
- 4 – Exceeds Expectations ("EE")
- 5 – Exceptional ("EX")

Table 1 summarizes the actions that the City may take with respect to poor performance by the Contractor, as represented by the CPE scores.

Table 1 - Action to be taken based on Contractor Performance Evaluation score

SCORE	ACTION
Any interim or final evaluation score below 2.5 (out of 5)	Warning letter to the contractor indicating risk of suspension
<p>Any one of:</p> <ul style="list-style-type: none"> • A final CPE score of 2 or less; • Two interim/final CPE scores below 2.5 within 5 years • Two interim/final criterion checks of "I" (Improvement needed) or "U" (Unsatisfactory) within 5 years for the criterion A.1 - "Did the contractor comply with OHS requirements?" • One final criterion check of "U" (Unsatisfactory) for A.1 - "Did the contractor comply with OHS requirements?" 	May initiate a report to Council recommending suspension for a period of time between 1 and 5 years

Summary of Toronto Zenith Contracting Ltd., Performance

Toronto Zenith Contracting Ltd., (TZ) has exhibited poor performance on two Engineering and Construction Services contracts (the Prince Edward Viaduct Contract and the Morningside Bridge Contract). Both contracts were in support of the Transportation Services' State of Good Repair Capital Program for bridges. The poor performance was documented through multiple interim and final Contractor Performance Evaluations and discussed with TZ during site meetings for those respective contracts. Table 2 summarizes TZ's CPE scores on the Prince Edward Viaduct Contract and the Morningside Bridge Contract.

Table 2 - Summary of TZ's CPE Scores

	Interim CPE	Final CPE
Prince Edward Viaduct Contract	<ul style="list-style-type: none"> Interim #2 - Score of "U" (Unsatisfactory) on A.1 "Did the contractor comply with OHSA requirements?" 	<ul style="list-style-type: none"> Score of "I" (Improvement needed) on A.1 "Did the contractor comply with OHSA requirements?" Final weighted total score of 2.64
Morningside Bridge Contract	<ul style="list-style-type: none"> Interim #1 - Score of "I" (Improvement Needed) Interim #2 - Score of "I" (Improvement needed) on A.1 "Did the contractor comply with OHSA requirements?" 	<ul style="list-style-type: none"> Score of "I" (Improvement Needed) on A.1. "Did the contractor comply with OHSA requirements?" Final weighted total score was 2.43

As shown in Table 2, TZ's performance on both the Prince Edward Viaduct; and Morningside Bridge contracts meet the requirements, presented in Table 1, to recommend TZ for suspension.

Pursuant to the Contractor Performance Evaluation Procedure warning letters were issued to TZ by PMMD on January 7, 2016 and December 28, 2017, respectively, following the poor performance reviews for the interim Contractor Performance Evaluations. Both letters warned TZ that their failure to meet performance expectations on the contracts could lead to suspension following a decision by Council.

TZ's performance on the above-noted contracts is characterized by:

- Violations of the Occupational Health and Safety Act (OHSA);
- Inadequate contract management resulting in significant delays during construction, and ineffective coordination of subcontractors and suppliers leading to additional delays to the overall contract completion dates;
- Failure to adhere to project schedules resulting in compounding project slippage, resulting in significant delays to the overall contract completion dates;
- Failure to minimize disruptions to the public and to City operations;
- Failure to comply with contract terms and conditions which provided for extended construction work hours to reduce the overall construction schedule;
- Failure to comply with requirements for adequate protection for workers when working in the vicinity of utilities; and,
- Substantial additional effort required on the part of City staff to manage the two contracts.

More information with respect to TZ's performance history for each contract is presented below according to the categories outlined in the City's Contractor Performance Evaluation (CPE) tool.

Prince Edward Viaduct Contract

Contract Value \$19,338,778 plus HST, awarded June 11, 2014.

Original Stipulated Contract Duration: Thirty-Four (34) weeks.

The scope of work for this contract included structural rehabilitation of the Prince Edward Viaduct over the Don Valley Parkway and Bayview Avenue consisting of concrete pier repairs, deck soffit repairs, steel repairs of cross braces, cleaning and coating of cross braces, concrete sealing, repair and/or replacement of deck drainage systems, removal and pruning of trees, and removal and decommissioning of Bell Canada conduits and the corresponding support system.

The contract challenges included coordinating work with TTC to provide subway track level access, co-ordination with utility companies, and working adjacent to the Don Valley Parkway, Bayview Extension and Metrolinx rail corridor.

The following sections present the documented instances of contractor non-compliance with the City's CPE, specifically those sections covering Safety and Compliance and Administration, on the Prince Edward Viaduct Contract:

Section A. Safety and Compliance – Laws and Standards

Compliance with Occupational Health and Safety Act (OHSA)

1. During the chipping operation of the Bloor Street sidewalk (Prince Edward Viaduct) on August 25, 2014, it was noted by the City's consultant site inspector that TZ was allowing concrete debris to fall from Bloor Street to the valley below, potentially injuring TZ employees and/or the public using the Don Valley trail system, as well as potentially damaging the overhead high-voltage hydro lines.

2. Cables belonging to Bell Canada (Bell) and Rogers Communications (Rogers) were exposed and damaged in September, 2014, with the potential for significant disruption to Bell and Rogers's service. It was also discovered on October 2, 2014, that a 600V Toronto Hydro cable and manhole, had been excavated and damaged. The damaged cable was a hazard to TZ employees and also resulted in a significant period of Don Valley Parkway (DVP) lighting outage. The damaged cable was re-buried and the incident was not reported by TZ. An Instruction Notice to Contractor was issued to TZ by The City's Contract Administrator on October 3, 2014, with instructions to stop all operations in the vicinity of the pier until Toronto Hydro could isolate the cable and ensure the safety of the area. TZ was reminded that protection of utilities are the responsibility of the Contractor.

In addition, another 600V Toronto Hydro cable near a high mast light pole was excavated on December 3, 2014. The conduit was damaged, although there was no damage to the cables themselves. This incident was a serious hazard to TZ employees and had the potential to result in significant service disruption.

3. Another Instruction Notice to Contractor was issued to TZ by the City's Contract Administrator on October 22, 2014, which documented observations regarding reoccurring safety issues throughout the work site, including:

- Working at heights without fall protection,
- Unsafe scaffold systems, and
- Poor maintenance of the construction the access roads.

The Contract Administrator documented that despite numerous conversations with TZ supervisors and employees, dangerous practices continued to be observed.

4. On October 25, 2014, the City's Contract Administrator observed that TZ had excavated a number of vertical cuts in the slope on the east side embankment of the DVP adjacent to a pier, exceeding the limits allowable by OHSA. The cuts had the potential to compromise the stability of the slope adjacent to the DVP, resulting in a significant hazard to the travelling public and TZ workers in the vicinity.

Another Instruction Notice to Contractor was issued to TZ by the City's Contract Administrator on October 25, 2014, instructing TZ to install shoring immediately, as the ground had been excavated to a height that compromised the safety of the workers in the vicinity of the excavation. At the request of the City, TZ performed temporary repairs on October 25, 26, and 27, 2014, in order to stabilize the slope and maintain public safety. A safety meeting was held on October 27, 2014, to review and document the contract safety requirements, including OHSA provisions, and to establish required measures to remedy the slope stability concerns on an emergency basis.

TZ was requested to carry out necessary remedial measures to temporarily brace the excavated areas, and provide a stamped report from a Geotechnical Engineer following the completion of the temporary remedial work indicating that the condition of the slopes were safe and identifying any permanent remedial measures required to restore the slope to its pre-construction condition. Subsequently, TZ retained MNA Engineering to provide the requested report which was submitted on October 28, 2014. TZ was advised in writing on November 3, 2014, that the submitted report from MNA Engineering was insufficient as it did not confirm that TZ's proposed remedial measures would meet the pre-construction conditions and did not address the slope stability issues created by the excavation work. Final restoration of the slope, accepted by the City, was not achieved until April 29, 2015 (i.e. nearly 6 months later).

5. Instruction Notices to Contractor were issued to TZ by the City's Contract Administrator on October 29, 2014 and November 25 and 27, 2014, to instruct TZ that access gates were to remain closed during the day and must be locked at the end of each shift and to not park construction vehicles on the shoulder of the DVP or live lanes of Bloor Street East as it would create a safety hazard to the workers and the public.

6. Despite numerous Instruction Notices to Contractor issued regarding site safety, site meeting records dated November 6, 2014, identified that additional safety issues continued to be observed by the City. TZ was continuously reminded that:

- Scaffold systems were to be inspected and approved prior to use;
- Proper fall protection was to be used for work at heights; and
- Concrete debris was not permitted to fall in a hazardous manner.

7. On December 11, 2014, a site instruction was issued by the City's Contract Administrator to address safety violations observed during a weekend closure of the Bloor-Danforth subway and TZ work TTC subway track level. The documented safety violations included:

- Scaffold systems missing handrails,
- Scaffold systems with planks missing,
- Workers not using proper fall protection,
- Workers not wearing full personal protective equipment, and
- Ignition of wood construction material at track level caused by hot metal debris.

These issues were considered a hazard to TZ and TTC employees and the public, and had the potential to result in long term closures of the Bloor-Danforth Subway.

8. On January 26 and 31, 2015, the City discovered that concrete debris had been allowed to fall onto an Imperial Oil power supply cable and rectifier cabinet down in the valley which had been damaged and also on the power traction cables at TTC subway track level. This concrete was not cleaned up at the end of TZ's TTC subway track level work. This issue was considered a serious hazard to TTC employees and the public, and had the potential to result in long term closures of the Bloor-Danforth subway.

9. A Stop Work Order was issued by the Ministry of Labour (MOL) on April 24, 2015 for lack of written measures and procedures regarding minimum distances for energized overhead electrical conductors as per OHS Regulation 213 Section 188.4(a). The Stop Work Order was withdrawn on April 27, 2015, following a subsequent MOL site visit and provision of the requested procedure. The overall schedule was not substantially impacted.

10. Another Stop Work Order was issued by the MOL on April 27, 2015, because the scaffolding system being used by TZ was deficient and did not meet the regulated safety requirements as per OHS Regulation 213 Section 130.1(b). The MOL report identified missing pins on scaffolds and that the scaffolds were not erected in accordance with the design drawings. The Stop Work Order was withdrawn on May 1, 2015 and the overall schedule was not substantially impacted.

11. TTC raised a number of concerns following observations on March 9, 2015 and April 19, 2015, with respect to:

- The lack of proper personal protective equipment at TTC subway track level,

- Working at heights without fall arrest, and
- Working at TTC track level without receiving a job briefing or signing in with a TTC representative.

12. On the City's Contractor Performance Evaluation (CPE) Interim #2, dated February 23, 2015, TZ received a Ranking of "U" (unsatisfactory) on A.1 "Did the contractor comply with OHS requirements?" On their Final CPE dated September 22, 2015, TZ received a Ranking of "I" (improvement needed) on A.1.

Section E. Administration – Contractor Performance and Diligence

1. TZ stated that the City delayed awarding the contract and argued from the start of their work that they were entitled to a schedule extension. In reality, the award was delayed due to incomplete submissions by TZ with their bid. TZ provided insufficient information with their bid, specifically the inclusion of references establishing the Contractor's minimum qualifications as prescribed in the Tender requirements, which resulted in a delay in the evaluation of their bid.

2. The slope cut at Pier A was undertaken by TZ in violation of the OHS. TZ was very slow in responding to this issue and significant effort was required by City staff and the City's Contract Administrator to force TZ to rectify the problem. TZ was reluctant to complete the remedial work and additional effort was required to obtain certification of the restored slope. TZ did not demonstrate concern or accountability for their actions, which created the slope stability issue adjacent to the DVP.

3. On two occasions, TZ disregarded the lane closure requirements on Bloor Street and kept lane closures in place well into the rush hour. Instruction notices were issued to TZ in both cases to remind the crews that disruption of rush hour traffic was not acceptable, and that this was in contravention of the contract requirements.

Morningside Bridge Contract

Contract Value \$15,643,917 plus HST, awarded March 8, 2017.

Original Stipulated Contract Duration: 210 calendar days.

The scope of work for this contract included rehabilitation and widening of the Morningside Bridge over Highland Creek (south of Ellesmere Road) including removal of the existing superstructure, supply, fabrication and erection of structural steel, new concrete deck, sidewalks and parapets, new metal railing, expansion joints, waterproofing, paving, electrical/street lighting, concrete substructure extension and repairs, landscaping and roadway approach works. The project was completed in two (2) stages with one lane of traffic in each direction on Morningside Avenue maintained at all times.

The contract challenges included working in the valley which is regulated by the Toronto Region Conservation Authority (TRCA), construction conflicts with Bell Canada utilities; and managing pedestrian traffic during various phases of the work. In between Stage 1 and Stage 2 there was an unexpected site shut down to allow Bell Canada to relocate their plant away from the bridge. The work shutdown was 78 days in length and was not the responsibility of TZ. TZ was compensated for their work interruption with 78 days of time extension and for all costs associated with this shut down.

The following sections present the documented instances of contractor non-compliance with the City's CPE, specifically those sections covering Safety and Compliance, Organization, and Execution, on the Morningside Bridge Contract:

Section A. Safety and Compliance – Laws and Standards

Compliance with Occupational Health and Safety (OHSA)

1. During the Stage 1 demolition work during the month of June 2017, the City's site inspector observed one of TZ's subcontractor workers working at a height of more than 40 feet above ground with no fall protection, increasing the potential risk of falling resulting in injury or death. This fact was recorded in the Minutes of Site Meeting No.6 dated June 29, 2017. Health and safety was discussed at each of the thirty-two (32) site meetings with regular reminders to work in a safe manner in accordance with OHSA requirements.
2. On October 24, 2017, a 16KV live electrical cable was hit by a TZ boom truck causing live electrical cables to fall onto live traffic lanes resulting in the shutdown of all traffic lanes on Morningside Avenue with a potential risk of injury or death (Attachments 1, 2, 3 and 4). MOL visited the site on October 25, 2017, and issued a Field Visit Report that requested: i) a copy of the written measures and procedures adequate to ensure that no part of a vehicle or equipment or its load encroaches on the minimum allowable distances to overhead cables; ii) a copy of the operator's manual for the boom truck, and iii) an inspection report verifying the safe operation of the equipment.
3. On November 28, 2017, an unmanned bridge inspection vehicle moved approximately 10 meters from its parked position until it struck the concrete barrier separating the work zone and the live traffic lanes, moving it approximately 5 inches while bending and pushing the fence anchored to the top of the concrete barrier partially into the live traffic lane. This incident caused damage to a passing truck and had significant potential for causing a serious accident in the live traffic lanes (Attachments 5 and 6).
4. June 8, 2018, to the morning of June 11, 2018, TZ failed to close the access gate and barriers on the north side of the bridge. At this stage of the work, half of the bridge was completely removed and vehicles or pedestrians entering the work zone through the open access point were at risk of accidentally falling off the edge into the valley, more than 40 feet below the road, with a risk of serious injury or death (Attachments 7, 8 and 9).

5. Once again, on June 18, 2018, a TZ worker and subcontractor worker were identified as working at height of more than 40 feet above ground with no fall protection method increasing the potential risk of falling resulting in injury or death (Attachment 10).

6. On CPE Interim Evaluation #1, dated September 29, 2017 and Interim Evaluation #2, dated June 25, 2018, TZ received a Ranking of "I" (improvement needed) on A.1 "Did the contractor comply with OHSA requirements"? On the Final CPE, dated October 19, 2018, TZ received a Ranking of "I" (improvement needed) on A.1 "Did the contractor comply with OHSA requirements?"

Section C. Organization – Work Plan and Management

1. This contract was awarded to TZ, where the contractor proposed a construction schedule of 210 calendar days to complete the prescribed work. The contract was awarded on March 8, 2017, with an Order to Commence Site Work issued on March 24, 2017, with April 10, 2017, as the effective start date of the contract. The original completion date with a duration of 210 days was November 6, 2017.

Immediately following the award of the contract TZ asked for a schedule extension due to lack of availability of steel for the steel girder fabrication. The City's position was that the information regarding the availability of steel for the girder fabrication were readily available during the bidding process and should have been accounted for during the calculation of number of days required to complete the project. The contract was awarded on time as stipulated in the bidding document. A satisfactory baseline schedule in compliance with the contract was never submitted by TZ. Not one of the schedules submitted by TZ reflected accurate contractual milestone dates nor correct contractual completion date of the contract.

2. TZ did not have enough personnel on-site during construction, and failed to make use of the extended work hour provisions that were specified in the contract, which resulted in delays to the schedule. Concerns about the project schedule were brought to TZ's attention at approximately twenty-five (25) construction site meetings and in several other correspondences. Extended working hours permitted in the contract were Monday to Friday 7AM to 11PM and Weekends 9AM to 11PM. TZ started the project with only one shift of workers. For a limited period of time they employed a second shift with only three (3) to four (4) workers which resulted in TZ withdrawing the second shift due to lack of productivity. The City requested, in writing, that TZ employ the resources necessary to complete the project within the contractually stipulated schedule. TZ responded that the deployment of forces is the responsibility of the contractor and no further effort was made by TZ to increase the pace of the work. The first stage of the project, which constituted approximately 50% of the work, was completed in 241 days, in stark contrast to the overall construction schedule of 210 days submitted in TZ's bid. Following a work stoppage to allow for the removal of a Bell Canada utility conflict, the second stage of the project was completed in 187 days. The total duration of the project was 428 days, more than double the 210 days that TZ included in their bid for the work.

3. In Stage 1 of the work, TZ did not effectively co-ordinate their demolition subcontractor and the schedule for the construction of the curb and gutter work appeared to be driven by their subcontractor. TZ's demolition subcontractor made changes to the approach several times during shop drawing submissions. TZ's demolition subcontractor also took substantially longer than the project schedule allowed and TZ did not make adequate effort to intervene and remedy the demolition subcontractor's slow progress. TZ allowed the subcontractor to work at a relatively slow pace and did not require the subcontractor to rely on extended work hours as permitted in the contract which further contributed to the project delay.

4. On CPE Interim Evaluation #1, dated September 29, 2017, TZ received a Ranking of "U" (unsatisfactory) on C.4 "Did the contractor adequately staff and resource the project in compliance with the contract?" and C.6 "Did the contractor effectively coordinate and manage the work of its subcontractors"?

On CPE Interim Evaluation #2, dated June 25, 2018, and the Final CPE, dated October 19, 2018, TZ received a Ranking of "U" (unsatisfactory) on C.4.

Section D. Execution – Work Performance

The project was not completed on time. In accordance with the number of days bid by the contractor and as noted above. The work was completed in two stages with TZ completing Stage 1 in 241 days, and Stage 2 in 187 days for a total of 428 days, more than double the original construction schedule of 210 days contained in TZ's bid. Accordingly Liquidated Damages were assessed and monies withheld for the delay in the contract completion.

Suspension Process

At the request of the Chief Engineer and Executive Director of Engineering and Construction Services, on January 22, 2019, the Chief Purchasing Officer issued a letter to TZ advising the company that the City was planning to suspended TZ from being awarded any City of Toronto contracts for a period of six (6) months based on the documentation of unsatisfactory performance as described in this report. The letter explained to TZ that the six (6) month suspension would form part of the suspension that would be recommended by staff in this report, and that TZ would have an opportunity to provide any additional information that might be relevant in determining whether a report should be forwarded to the Infrastructure and Environment Committee within 30 days from the notice of the letter.

Subsequently on January 30, 2019, the Chief Purchasing Officer agreed to provide more time to TZ to provide a written response to the suspension letter. In addition, TZ agreed not to bid on City work until such time as some resolution on the matter has materialized, which may include a suspension report to the Infrastructure and Environment Committee.

On March 21, 2019, TZ responded to the Chief Purchasing Officer letter of January 22, 2019, which contained information on how TZ managed and reacted to the issues that were encountered and argued that the City did not accurately capture TZ's performance related to the corrective action they may have taken to mitigate the safety issues that occurred (Attachment 11). The City provided a further response to TZ's letter on June 10, 2019, (Attachment 12), and then subsequently City staff set up a meeting with TZ representatives for August 1, 2019, in order to allow TZ an opportunity to further explain their position, and so the City could consider whether suspension was still warranted. On July 31, 2019, TZ provided an additional letter (Attachment 13) which was also discussed at the August 1, 2019, meeting.

TZ did not provide any credible explanation surrounding the circumstances leading to their poor performance on the two contracts outlined in this report. Consequently, on September 6, 2019, the Chief Purchasing Officer issued a letter to TZ advising them that Engineering and Construction Services and Purchasing and Materials Management Division would be reporting to the Infrastructure and Environment Committee with a recommendation that TZ be suspended from award of any City of Toronto contracts for a total period of one year from the date of Council's decision.

Given that TZ has voluntarily agreed to not bid on City tenders since January 2019, TZ will effectively have suspended bidding for a period of two years, if the recommendation in this report is adopted. By adopting this recommendation, City Council will clearly communicate to TZ and the wider construction industry that poor performance will not be tolerated on City of Toronto contracts.

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SIGNATURE

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ATTACHMENTS

- Attachment 1: Man lift operating in close proximity to overhead wires
- Attachment 2: Downed electrical wires over live traffic lanes
- Attachment 3: Downed electrical wires over live traffic lanes
- Attachment 4: Road closures due to downed electrical wires
- Attachment 5: Machine impact to temporary concrete barrier and chain link fence
- Attachment 6: Machine impact to temporary concrete barrier and chain link fence
- Attachment 7: Unrestricted access to work zone and drop-off to valley below
- Attachment 8: Unrestricted access to work zone and drop-off to valley below
- Attachment 9: Unrestricted access to work zone and drop-off to valley below
- Attachment 10: Worker wearing harness but not tied off
- Attachment 11: Correspondence from TZ dated March 21, 2019
- Attachment 12: Memo from ECS to PMMD in response to TZ's March 21, 2019 letter, dated June 10, 2019
- Attachment 13: Correspondence from TZ, dated July 31, 2019