

**CITY OF CHARLOTTE
OFFICE OF INTERNAL AUDIT**

MEMORANDUM

To: City Manager's Office and Charlotte Water
From: Tina Adams, City Auditor
Re: RSM Storm Water Design-Build Internal Audit Report

October 31, 2023

Please see the attached report from RSM LLP US (RSM) – Design-Build Contract Analysis.

Conclusion

RSM has recommended controls and/or best practices to address risks associated with selected Storm Water design-build projects.

Objective

RSM's objectives were to assess whether the system of internal controls over procurement and administration of selected Storm Water design-build construction contracts was adequate and appropriate for effective monitoring and administration.

Results Summary

RSM reviewed the Coulwood and Valley Haven Water Quality Enhancement Projects and noted that the RFQ processes were in accordance with the requirements established. RSM's procedures were performed during planning and Phase 1 contract negotiation for both projects. As such, most of the recommended controls are based on best practices and can only be evaluated as the project progresses. RSM prepared a matrix, identifying best practices, control procedures, and Storm Water's planned actions to address each risk. RSM did not note any significant exceptions with contract language or Storm Water's planned actions.

RSM Recommendations and City's Response

The risks and recommended controls are summarized on pages 6 - 8 of RSM's attached report. Appendix A details each risk, the recommended controls, and Storm Water's planned actions.

Actions Planned

Internal Audit will follow-up with management to ensure the recommended controls are implemented throughout the project lifecycle.



DESIGN BUILD CONTRACT ANALYSIS

Coulwood & Valley Haven Water Quality Enhancement Projects



June 2023

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Transmittal Letter

June 2, 2023

Tina Adams, City Auditor
City of Charlotte, North Carolina
600 East 4th Street
Charlotte, NC 28202

Pursuant to our Statement of Work – Design Build Contract Analysis, we hereby submit the following report related to the Couldwood Water Quality Enhancement Project and the Valley Haven Water Quality Enhancement Project. Our report is organized in the following sections:

Executive Summary	This section provides background information on the projects reviewed and summarizes our procedures.
Risk and Control Matrix	This section details the risks and recommended controls identified during our analysis of the contracts
Objectives and Approach	The objectives of our procedures and our approach to the execution of those procedures are expanded upon in this section.

We would like to thank the staff and all those involved in assisting us in connection with this review.

Respectfully Submitted,

RSM US LLP

Executive Summary

Project background

City of Charlotte and Mecklenburg County Storm Water departments (collectively, “Storm Water”) issued a Request for Qualifications (“RFQ”) 2021-560 for design build services to design and construct the Coulwood Stream and Valley Haven Stream Water Quality Enhancement Projects. These projects are intended to reduce erosion and restore aquatic habitats in streams and wetlands, while addressing surface water runoff.

The projects will be performed in two phases. Phase 1 will consist of preconstruction and design work. The construction and restoration scope will be performed in Phase 2. The services also require the design builder to perform seven (7) years of monitoring, maintenance, and repair of the restoration work.

	Couldwood	Valley Haven
RFQ Issued	October 15, 2021	
RFQ Awarded	December 20, 2021	
Contract Executed	June 2023 (expected)	
Design Builder	Wildlands Engineering, Inc.	North State Environmental, Inc.
Anticipated Budget	\$5 million	\$5 million

Executive Summary

Scope, objectives, approach

Our objective was to assess whether the system of internal controls over procurement and administration of these design build construction contracts was adequate and appropriate for effective monitoring and administration. The projects were selected based on the anticipated project budget and for the use of new contract templates. We performed the following procedures:

- Reviewed the DBIA 544 Progressive Design-Build Agreement and DBIA 535 Standard Form of General Conditions of Contract Between Owner and Design-Builder for each project
- Conducted process walkthroughs with Storm Water project management team
- Examined procurement documents for the award of RFQ 2021-560.

Our procedures were performed during the planning and Phase 1 contract negotiation phase for both projects.

Summary of results

Procurement

We examined the procurement records related to RFQ 2021-560 for compliance with City of Charlotte Uniform Guidance Procurement Policy, Code of Federal Regulations Part 200, Uniform Administrative Requirements for Federal Awards, and North Carolina General Statutes §143-128.1.A Design-build contracts. We noted the RFQ process was in accordance with the requirements established.

Contract and Project Management

At the conclusion of our contract evaluation procedures, we prepared a risk and control matrix, identifying best practices and control procedures for contract management, and obtained Storm Water's responses for each risk and control identified. The risk and control matrix is summarized on the following pages and detailed in Appendix A.

Risk and Control Matrix Summary

The risks and recommended controls are summarized in the table below. For each area, we assigned a risk rating based on the frequency of the activity and the impact an error would have on the project. The detailed risk and control matrix and Storm Water's responses are included in Appendix A.

Risk Category	Risk	Likelihood/ Impact	Recommended Control
Project Planning	Owner and DB do not establish expectations early	M / H	<i>Best practice:</i> Owner and DB should meet upon execution of the contract to establish project management expectations, utilizing a detailed agenda to address specific risk areas of contract management
Design	DB does not include appropriate site conditions; Owner does not evaluate design for completeness	L / M	<i>Best practice:</i> Owner should evaluate design submissions for accuracy and completeness; perform independent assessment for quantities
Cost Proposal	Phase 1 Design – Owner does not pre-audit DB labor rates Phase 2 Construction – DB cost proposal is not transparent; cost proposal is not reviewed by Owner	M / L	<i>Control recommendation:</i> Phase 1 Design – Owner should review the support for the DB's proposed labor rates <i>Control recommendation:</i> Phase 2 Construction – Owner should obtain all supporting documents and calculations for the DB's cost proposal, including labor, labor burden, equipment and subcontractor bids
Labor Costs	DB labor rates and burden exceeds actual cost	M / L	<i>Control recommendation:</i> DB should provide detailed support for labor and burden rates; Owner should review and recalculate for accuracy and reasonableness
Pay Applications	DB does not support pay applications; pay applications are not transparent	M / M	<i>Control recommendation:</i> Owner should review pay application submission for completeness and accuracy; Owner should establish a pay application review procedure and checklist

Risk and Control Matrix Summary

Risk Category	Risk	Likelihood/ Impact	Recommended Control
Cost of Work	Rental charges – equipment fees are not established Insurance & bonds – DB bills for more than actual cost General conditions – contract language “reasonableness” is vague	L / L	<i>Control recommendation:</i> Rental charges – Equipment rates should be recorded as an exhibit to the contract <i>Control recommendation:</i> Insurance & bonds – DB should bill for actual cost <i>Control recommendation:</i> General conditions – Owner should define “reasonable” and establish expectations of the DB
Unit Prices	The DB uses unit prices, resulting in extra fee billed; Owner does not review and/or approve unit prices utilized	M / L	<i>Control recommendation:</i> DB should provide detailed support for proposed unit priced; Owner should review support to verify accuracy and fee application
Schedule	Project duration is seven (7) years; loss of project management knowledge due to turnover	L / L	<i>Best practice:</i> Owner should establish and document procedures, meetings, etc. to preserve project-wide knowledge
Change Orders	Change orders are not supported; DB inflates effort to prepare change order proposals	H / M	<i>Control recommendation:</i> DB should provide supporting documents and isolate costs appropriately; Owner should validate accuracy of costs proposed
Allowances	Use of allowances is unsupported/ not approved	M / M	<i>Best practice:</i> DB should provide supporting documents; Owner should track for project savings

Risk and Control Matrix Summary

Risk Category	Risk	Likelihood/ Impact	Recommended Control
Contingency	Owner approval is not required for use of funds; inappropriate use of contingency funds; trade buy-out savings is not realized; contingency use is not transparent	M / M	<i>Best practice:</i> Owner should review contingency use reporting; include contract language to realize trade buy-out savings; DB should provide trade buy-out tracker
Self-performed Work	DB awards self-performed work without competition; DB inflates fee with self-performed work	L / M	<i>Best practice:</i> DB should obtain competitive bids for scope of work; Owner to review self-performed billing for accuracy and allowable costs
Conflicts of Interest	The contract does not address conflicts of interest	M / M	<i>Best practice:</i> Owner should require the DB to disclose all related parties

Objectives and Approach

Objective

The objective of this project was to assess whether the system of internal controls over the procurement and administration of the design-build construction contracts is adequate and appropriate for effective monitoring and administration.

The scope of our work included the following areas as it relates to the individual design-build projects:

- Procurement
- Contracting

Approach

Our approach consisted of the following phases:

Phase 1: Discovery

We conducted interviews with the Storm Water contract administrator(s) for each project to gain an understanding of the current process and controls for procuring and administering each design build contract. We reviewed solicitations, contracts, proposals, invoices, and other information relevant to our scope of work.

Phase 2: Project Evaluation

We reviewed procurement documentation for evidence of adherence to best practice, processes, and internal controls. We reviewed each design build contract to identify opportunities for improvement, articles which include vague or unclear language, omissions of key provisions, or contradictory terms. We evaluated the adequacy of the control environment as it relates to the review and approval of billings.

Phase 3: Reporting

We worked with Internal Audit to develop an appropriate deliverable format to communicate any findings, recommendations, or improvement opportunities identified during our procedures.

Our procedures were performed during the planning and Phase 1 contract negotiation phase for both projects.

Appendix A – Risk and Control Matrix

Included on the pages that follow

Appendix A - Risk and Control Matrix

CITY OF CHARLOTTE

Coulwood Water Quality Enhancement Project & Valley Haven Water Quality Enhancement Project Design Build Agreement Risk Assessment

Item	Risk Category	Document	Article	Language/ Topic	Risk	Likelihood/ Impact	Recommended Control	Storm Water Control / Response
1	Cost Proposal	544	1.2.1	1) Phase 1 Services. Design-Builder shall perform the services of design, pricing, scheduling, and other services for the Project based on Owner's Project Criteria, as may be revised in accordance with Section 1.1 hereof, as set forth in Exhibit B, Scope of Services. 2) The Contract Price for Phase 2 shall be developed during Phase 1 on an "open-book" basis.	1. The Design Builder (DB) uses labor rates which are greater than the actual cost. Labor rates include additional mark-up / profit. 2. The DB does not provide adequate detail or source information to support the Phase 2 cost proposal. The Owner team does not evaluate the cost proposal for mathematical accuracy, reasonableness, or compliance with the contract terms.	L / M	Control recommendation 1. Phase 1 rates: the Owner team should obtain supporting source documents to substantiate the proposed labor rates (see item 9) and review the DB's fee calculation for mathematical accuracy, reasonableness, and compliance with the contract terms. Owner team may consider running a pre-audit of labor expenses needed. 2. Phase 2 proposal: the Owner team should obtain supporting schedules, calculations, and source documents to substantiate the Phase 2 cost proposal. This may include, but should not be limited to: - Labor and burden costs (see item 9) - Equipment fees (see item 11) - Subcontractor bid evaluations (Form 535 Sections 2.1.6.2 and 2.7.3, Owner shall be notified of/ approve all subcontractors) and executed subcontracts For all costs, the Owner team should review the DB's fee calculation for mathematical accuracy, reasonableness, and compliance with the contract terms to avoid "bid shopping". Additionally, the Owner team may consider obtaining an independent cost estimate for high-cost scope elements to benchmark the DB's proposed costs. The Owner team may negotiate the GMP proposal per Section 1.3.2.1.	1. Phase 1 professional services are paid based on labor expended by the Design Consultant at rates approved by the City, per Section 6.5.1.6 of the Agreement. The City will verify that the professional services labor rates are reasonable and consistent with other current and historical professional engineering contracts. 2. The Phase 2 proposal/GMP will be developed on an open book basis, with all material and labor rates being verified by the City during negotiation. The City will require the DB to submit all supporting information and to develop a cost model per Section 2.1.7 of the General Conditions, which it will review to ensure conformance with Section 6.5 of the Agreement (Cost of the Work). The City will review all costs for accuracy and reasonableness.
2	Schedule	544	5.2.1	Substantial completion date	DB does not meet substantial completion date	L / L	Best practice Section 5.4 defines liquidated damages should the DB not attain substantial completion by the specified date.	No response necessary
3	Schedule	544	5.2.3	Final completion date	DB does not meet final completion date. Contract 535 1.2.8 defines requirements for final completion, but does not specify the final completion date (for example, 60 days following substantial completion). There are no liquidated damages for not attaining final completion.	L / L	Best practice The Owner team should verify the benchmark schedule referenced in Exhibit E shows the final completion date. Because the project is anticipated to take seven (7) years to fully complete we recommend the Owner team document the policies, risk control measures, communications, and other relevant records in the project file. In the event of Owner or contractor management turnover during the project, this will reduce the risk of critical knowledge of the project being lost.	Per Section 1.2.8 of the General Conditions, Final Completion is achieved at the final release of mitigation credits. This could occur in seven years, or could take longer if the requisite number of bank-full events have not been achieved per the "Wilmington District Stream and Wetland Compensatory Mitigation Update" North Carolina Interagency Review Team October 24, 2016 guidance document . Therefore, a concrete Final Completion date cannot be set. Storm Water is currently working an Owner's Representative to establish a documentation process, communication plan, and relevant project-specific information.
4	Cost Proposal	544	6.1.1	Phase 1 services contract sum	Contract price is not yet defined. DB exceeds budget and/or Phase 1 design contract sum.	L / L	Control recommendation The Owner team should consider establishing a NTE fee for labor and expenses for Phase 1. Billing for labor and expenses should be evidenced by supporting records (see item 1).	Phase 1 NTE fee is known and will be inserted into the agreement prior to execution.
5	Pay Applications	544 & 535	7 (544) & 6.2 (353)	Progress payments	The Owner does not review pay applications for completeness, accuracy, and approves payment for inappropriate costs.	L / M	Control recommendation Commonly, different individuals or departments review the pay application for different attributes (i.e. work completed, mathematical accuracy, approvals, support, etc.). To reduce the risk of a gap in the review process, the Owner team should establish a workflow for pay application review. The cumulative review should include: - Verify all required supporting documentation is provided with the submission (see items 14 & 19) - The support provided and costs are allowable for the project. - The pay application is mathematically accurate (including calculation of fee and other rates) - Accuracy of percent complete compared to the work performed.	The City will review all supporting documentation associated with pay applications to ensure completeness, accuracy, and conformance with the Contract Documents.
6	Cost Proposal	544	6.5.1.1	Wages of direct employees of Design-Builder performing the Work at the Site or, with Owner's agreement, at locations off the Site, provided, however, that the costs for those employees of Design-Builder performing design services shall be calculated on the basis of prevailing market rates for design professionals performing such services or, if applicable, those rates set forth in an exhibit to this Agreement.	1. DB does not pay on-site workers prevailing wage. 2. The term "prevailing market rates" is ambiguous. DB bills more than the actual wages+burden of salaried/ design professionals.	M / L	Control recommendation 1. Owner should record the applicable prevailing wage in an exhibit to the agreement. DB should provide certified payroll records (for DB workforce and subcontractor workforce) to the Owner for each billing period. 2. Design professionals are typically salaried personnel. Their labor should be billed in accordance with 6.5.1.2. See also items 7 and 9.	1. Prevailing wage will be included in the Phase 2 cost amendment. City will ensure submission of certified payroll information with each pay application. 2. Professional engineering services associated with Phase 1 or Phase 2 will be billed per Section 6.5.1.6 of the Agreement.

Appendix A - Risk and Control Matrix

Item	Risk Category	Document	Article	Language/ Topic	Risk	Likelihood/ Impact	Recommended Control	Storm Water Control / Response
7	Cost Proposal	544	6.5.1.2	Wages or salaries of Design-Builders supervisory and administrative personnel engaged in the performance of the Work and who are located at the Site or working off-Site to assist in the production or transportation of material and equipment necessary for the Work.	1. DB bills more than the actual wages+burden of the employees. 2. DB bills for time/ employees not attributable to the project	M / L	<i>Control recommendation</i> 1. See item 9 2. All employee time billed to the project should be supported by time sheets, payroll reports, or other applicable documentation. Key personnel are identified in Exhibit B to Form 535. The Owner should approve in writing any change to key personnel (Form 535 Section 2.5.3)	1. The City will review all supporting documentation associated with pay applications to ensure completeness, accuracy, and conformance with the Contract Documents. 2. Per Section 2.5.3 of the General Conditions, the City will have approval authority over changes in key personnel.
8	Labor Costs	544	6.5.1.3	Wages or salaries of Design-Builders personnel stationed at Design-Builders principal or branch offices, but only to the extent said personnel are identified in Exhibit F and performing the function set forth in said Exhibit. The reimbursable costs of personnel stationed at Design-Builders principal or branch offices shall include a _____ percent (____%) markup to compensate Design-Builders for the Project-related overhead associated with such personnel.	1. The overhead markup for home-office personnel is a duplicative cost of the DB fee. 2. See also items 7 and 9	M / L	<i>Control recommendation</i> 1. In the event Owner agrees to a labor rate card (see item 9), there should be no additional overhead fees on top of the established labor rates. 2. See items 7 and 9	1. The City will ensure that additional overhead for home-office personnel is not included per section 6.5.1.3 of the Agreement, but that it is appropriately reflected in the fully loaded labor rates negotiated during Phase 2 cost proposal negotiations.
9	Labor Costs	544	6.5.1.4	Costs incurred by Design-Builders for employee benefits, premiums, taxes, insurance, contributions and assessments required by law, collective bargaining agreements, or which are customarily paid by Design-Builders, to the extent such costs are based on wages and salaries paid to employees of Design-Builders covered under Sections 6.5.1.1 through 6.5.1.3 hereof.	DB bills more than the actual wages+burden of the employees.	M / L	<i>Control recommendation</i> We recommend establishing labor rates to be inclusive of labor and burden, and recommend the following: - Labor rates should be pre-audited during the GMP development phase (see item 1 above). - Base labor rates of salaried personnel should be evidenced with payroll records, employee pay stubs, etc. - The burden multiplier should be evidenced with records to show actual cost paid for employee benefits, taxes, insurance, contributions, etc. with payroll records, employee pay stubs, insurance invoices, and other calculation schedules. We recommend burden not exceed 40% of the base salary. - Overtime rates should only apply to construction labor (i.e. non-salaried personnel). OT rate should be 150% of the base rate, but the burden should not increase from the base rate. - Salaried personnel are not eligible to be billed at an overtime rate. - The accepted loaded (labor+burden) rates should be recorded in an exhibit to the agreement. - For multi-year projects, the Owner should establish if the labor rate is fixed for the duration of the project, or may be adjusted periodically. If the rate is allowed to be adjusted, the contract should specify how often the adjustment may take place. If the DB bills for actual cost (labor + burden) of employees, the Owner team should require the DB to substantiate the actual cost incurred for the employees' time with each pay application, such as payroll reports, employee pay stubs, etc.	The City will pre-audit fully loaded labor rates negotiated during Phase 2 cost proposal development and will require submission of appropriate supporting documentation for all labor charges billed, which it will verify for accuracy, reasonableness, and compliance with the Contract Documents.
10	Cost of Work	544	6.5.1.5	The reasonable portion of the cost of travel, accommodations and meals	"Reasonable" is ambiguous	L / L	<i>Best practice</i> The Owner team should define what it considers reasonable and implement expectations consistently. All billed expenses should be supported by receipts and invoices.	The City will review all billed expenses for reasonableness. For the purpose of these contracts, travel costs consistent with the IRS mileage rates and/or United States GSA per-diem daily lodging and meals & incidentals rates for Charlotte, North Carolina in effect at the time that costs are incurred shall be considered reasonable. Anticipated overnight travel expenses will be evaluated as part of the GMP negotiations.
11	Pay Applications	544	6.5.1.12	Rental charges	The contract does not address rates for DB-owned equipment. The DB could charge above market rate for the use of its capital equipment.	L / M	<i>Control recommendation</i> The Owner team should establish the basis of rental rates for DB-owned equipment and record the allowable rates in an exhibit, since the cost of renting DB owned equipment could be reasonably lower than third party rentals. For example, rental rates of DB-owned equipment would be a percentage of the market rental rate.	The City will establish rental rates as part of Phase 2 cost proposal negotiations and will ensure, per 6.5.1.12, that rates are appropriate whether equipment is rented from Design-Builders or others

Appendix A - Risk and Control Matrix

Item	Risk Category	Document	Article	Language/ Topic	Risk	Likelihood/ Impact	Recommended Control	Storm Water Control / Response
12	Contingency	544	6.6.2	Contingency uses	1. The contract does not require Owner approval for DB contingency use. 2. DB uses contingency for additional general conditions. The contract (and GC 535) does not address that general conditions may not be increased unless by an approved schedule extension. 3. Trade buy out savings is not realized. 4. The DB is incentivized to use all the contingency, as the contract does not indicate unused amounts are to be credited back to the Owner. The contract does not address project savings. 5. DB applies costs to the contingency line, rather than transferring contingency funds to the relevant cost line. Billing against the contingency line directly does not provide transparency for the use of funds.	M / M	Best practice 1. The Owner should review the monthly status report for current and anticipated contingency uses and assess for reasonableness, accuracy, and allowability. 2. We recommend the Owner include language which specified general conditions costs may not be increased unless by an approved schedule extension through a change order. 3. DB should provide a subcontractor/ trade buy out tracker. Owner should validate the tracker against subcontractor bid evaluations and executed subcontract values. 4. We understand 6.6.3 <i>Savings</i> was red-lined from the agreement. We recommend the Owner consider including language addressing the treatment of unused contingency. 5. The Owner should review the monthly pay applications to verify the contingency cost line decreases when contingency is used, and the funds are appropriately applied to the relevant cost lines. The deduction should be equal to that period's contingency use, per the monthly report. Additionally, the Owner team may consider including a requirement that the contingency not exceed more than [x]% of the total contract price. Following subcontractor buyout, any excess of [x]% contingency should be returned to the Owner as savings.	The City will review monthly status reports for contingency use and will assess for reasonableness and accuracy. Given that the Agreement requires the DB to bill contingency (and all other) items based on actual cost plus fee, any "unused" contingency will be unbilled, and will therefore accrue to the benefit of the City. The City will track trade buyouts/subcontractors to ensure conformance with the contract documents and approved pricing, to include ensuring that the City requires that the DB provides a subcontractor/trade buyout tracker. This tracker will be validated against subcontractor bid evaluations and executed subcontract values.
13	Allowances	544	6.7	Allowances	Use of allowances is not supported and/or approved. The contract does not address project savings for unused allowances.	M / M	Best practice DB should provide supporting records (i.e. subcontractor or vendor invoices, receipts, proposals, etc.) to substantiate use of the allowance funds. Owner should review these records before granting approval. See also item 12 above regarding savings.	Requirements for the use of allowances are provided in Section 6.7 of the Agreement. Allowances, if any, will be developed during Phase 2 cost proposal negotiations.
14	Cost of Work	544	7	Progress payment support	Progress payments are unsupported or do not include the required documentation	M / H	Control recommendation The Owner team should develop a submission checklist to verify completeness of the pay application package. This may include, but not be limited to: - General conditions/ requirements supporting schedules, receipts, time sheets, payroll reports - Subcontractor and vendor pay applications - Payment affidavits (per 544 Section 7.5) - Tax statements (per 544 Section 7.7) - Certified payroll (for prevailing wages) - Conditional lien releases for DB and subcontractors - DBE documentation, as applicable We recommend the Owner team include Internal Audit in the development of the checklist.	The City will develop a check list to ensure completeness of pay application submittals.
15	Pay Applications	535	2.1.2	Monthly status report	DB does not provide the monthly status report, or information is incomplete, inaccurate, or not provided timely.	M / H	Best practice The Owner team should review the monthly status report to verify completeness and accuracy of the information. While the contracts list specific information that must be included, the Owner team can require the DB to provide additional or supplemental information at any time to aid in project management. The report should contain, but not be limited to: - Schedule - Contract document discrepancies, conflicts, ambiguities - Safety and health issues - Contingency uses (Form 544 Section 6.6.2) - Items requiring resolution (including submittals, RFIs, etc.) - Change order log - Allowance use log - Subcontractor buyout tracker - Permit/ Inspection log - Progress photos	The City will require that the DB submit a monthly status report, per Section 2.1.2 of the General Conditions.
16	Design	535	2.4.1.3 and 2.4.3	Owner review of design submissions and contract documents	The Owner does not review the design submissions or contract documents, or the DB does not provide the information	L / M	Best practice The Owner should review and evaluate the design submissions for accuracy, reasonableness, and perform an independent assessment of quantities in relation to pricing proposed by the DB.	The City will review design submissions for accuracy, applicability, and quantity verification.
17	Design	535	4.2	Differing site conditions	DB does not include site conditions in the contract documents which should have been identified during the design phase. The contract allows contract price and/or time adjustment for differing site conditions.	L / M	Best practice See item 16 for design submission review. The Owner should evaluate DB notices of differing site conditions for reasonableness and allowability.	The City will evaluate design submissions for accuracy with respect to site conditions.

Appendix A - Risk and Control Matrix

Item	Risk Category	Document	Article	Language/ Topic	Risk	Likelihood/ Impact	Recommended Control	Storm Water Control / Response
18	Cost of Work	544	6.5.1.13	Premiums for insurance and bonds	DB bills Owner for more than the cost of insurance and bonds.	L / M	<p><i>Control recommendation</i></p> <p>In the agreement's current form, the DB shall bill the owner for the actual cost of insurance premiums and bonds. Supporting documents should include invoices from the insuring/bonding entity and any supplemental mathematical schedules, and should be submitted with the pay applications as costs as billed.</p> <p>If the Owner agrees to a rate in the GMP amendment, the Owner should pre-audit the rate by obtaining records referenced above to evaluate the proposed rate for reasonableness (as allowed by Form 544 Section 1.2.1). For public sector work, the industry standard for Insurance + Bonds each is 1% of the total contract value.</p>	The City will require that the DB submit appropriate substantiating information related to the actual cost of premiums for bonds and insurance.
19	Pay Applications	535	6.2	Progress payments	The DB does not provide the pay application and support as required by the contract or in a way which is easily reviewed and understood by the Owner team.	L / M	<p><i>Control recommendation</i></p> <p>Before the first payment request is submitted, we recommend the Owner require the DB to submit a template of the pay application package for the Owner to review for format and content.</p> <p>The pay application should include the following (see also Item 14 above):</p> <ul style="list-style-type: none"> - Stored materials support (including date-stamped photos of the material, Title naming the Owner, insurance, and tracking logs) - Lien releases - Discounts offered by subcontractors 	The City will work with the DB to ensure that pay applications and supporting information are submitted in a way that is clear and understandable to the City.
20	Project Planning	535	2.1.4	The parties will meet within fifteen (15) days after execution of the Agreement to discuss issues affecting the administration of the Work and to implement the necessary procedures, including those relating to submittals and payment, to facilitate the ability of the parties to perform their obligations under the Contract Documents.	The Owner / DB team does not meet, or does not discuss procedures in full, or does not record agreed upon procedures for obligations and project management.	M / H	<p><i>Best practice</i></p> <p>The Owner team should hold a meeting with the DB to discuss the administrative procedures for project management. The agreed upon procedures should be recorded in a memo or meeting minutes and distributed to the Owner and DB teams for clarity and transparency. Administrative procedures to be discussed may include, but should be limited to:</p> <ul style="list-style-type: none"> - System of record to be used (i.e. e-Builder) and electronic data (Form 535 Article 12) - Method of communication for submissions and approvals for design submissions, GMP proposals, contract amendments, RFIs, submittals, change orders, contingency uses, allowance uses, etc. (i.e. e-builder process flows) - Process for payment applications (including timeline for pencil draft, levels of review, and final submission) and required supporting documentation - Owner and DB organization charts and reporting tree - Define if any costs are cost-reimbursable or fixed cost (this will aid in clarifying what supporting documentation should be provided and reviewed with each billing submission and how the costs are represented in the GMP proposal). - Self-performed scopes of work 	The City will hold a project kickoff meeting with the DB within 15 days of execution of the Agreement in order to discuss project administration. The minutes of this meeting will be recorded.
21	Pay Applications	535	6.7	Final payment	The DB does not provide the required documentation to support its submission for final payment	M / M	<p><i>Control recommendation</i></p> <p>The Owner team should review the DB's final payment submission for completeness, including:</p> <ul style="list-style-type: none"> - Affidavit there are no claims or obligations - General lien release by the DB - Consent of DB's surety to final payment, where applicable - All operating manuals, warranties, etc. submitted to Owner - Certificates of insurance - We also recommend obtaining unconditional lien releases by the subcontractors <p>Before final payment, we recommend the Owner (or a representative) perform a cost evaluation and reconciliation of the DB's actual costs, to verify all billed costs were allowable and per the contract terms, subcontractors have been paid in full, all credits due to the Owner have been appropriately recognized, and all required project documents have been submitted to the Owner. (Form 544 Section 7.6)</p>	The City will require that appropriate information be submitted with the final pay application.
22	Change Orders	535	9.1.1.3	If Owner requests a proposal for a change in the Work from Design-Builder and subsequently elects not to proceed with the change, a Change Order shall be issued to reimburse Design-Builder for reasonable costs incurred for estimating services, design services and services involved in the preparation of proposed revisions to the Contract Documents.	The DB inflates its level of effort to provide change estimates for Owner directed change orders which are not approved.	H / M	<p><i>Control recommendation</i></p> <p>The Owner team should require the DB to differentiate or isolate costs associated with preparing change proposals versus costs associated with approved work. The Owner team should review the costs for providing the estimates for reasonableness and accuracy.</p>	The City will require that the DB provide separate accounting of costs associated with the development of potential change orders. These costs will be reviewed for reasonableness and accuracy by the City.

Appendix A - Risk and Control Matrix

Item	Risk Category	Document	Article	Language/ Topic	Risk	Likelihood/ Impact	Recommended Control	Storm Water Control / Response
23	Unit Prices	535	9.4.1	Contract price increases may be unit prices or costs + fee	1) Unit prices are fully loaded (include fee) and are not reviewed for reasonableness by Owner 2) Cost + fee change proposals are not supported or accurate	M / L	<i>Control recommendation</i> 1) Owner should evaluate any proposed unit price for reasonableness, and request supporting documentation from the DB (i.e. labor rates, equipment rates, materials costs, and added fee rate) before accepting the unit rate. Additionally, because unit rates include fee, the DB should not be permitted to apply additional fee on unit rate cost lines. 2) For cost + fee change requests, DB should provide supporting records (i.e. subcontractor or vendor invoices, detailed calculation schedules, etc.) to substantiate the change order cost. Owner should review these records before granting approval.	In either case, the City will review all appropriate supporting information necessary to determine that the unit prices or the cost+fee proposed appropriately account for the cost of the work and the DB's fee.
24	Unit Prices	535	9.4.2	Unit prices can be adjusted	The DB does not provide adequate support to warrant an adjustment (increase) to established unit prices.	M / L	<i>Control recommendation</i> The Owner team should require the DB to provide detailed supporting documentation to substantiate an adjustment to established unit prices, including subcontractor and vendor invoices for labor and materials. The Owner should also assess that the increase in price is not due to the DB delaying ordering the work or materials.	Any adjustment to unit prices will require the DB to provide substantiating information acceptable to the City. The City will use this information to validate the request to ensure that price increases are not the result of the DB's action or inaction.
25	Self-Performed Work	535	2.7	Self-performed work	The contract does not address if the DB may self-perform scopes of work. The cost of the DB's work may be more than a competitive subcontractor bid.	L / M	<i>Best practice</i> The Owner should require the DB to obtain a minimum of three bids from competitors for the proposed self-performed scope, and provide same bid-leveling support as required for other subcontractor-procured work for Owner approval (Form 535 Sections 2.1.6.2 and 2.7). Additionally, the Owner can require all self-performed work to be billed at actual cost. This option should be used if the Owner does not require the DB to obtain bids from competitors. The Owner should review self-performed billings for accuracy and verify the DB has not included a fee for self-performed work plus a fee as the prime contractor.	The City will require the DB to bill all self-performed work at actual cost plus fee. Per Article 6.2 of the General Conditions of Contract, "[DB's] Application for Payment shall be accompanied by all supporting documentation required by the Contract Documents and/or established at the meeting required by Section 2.1.4 [thereof]." This includes all documentation necessary to support actual costs incurred and billed by the DB while self-performing work at the project site.
26	Conflicts of Interest	544 & 535	[none]	Conflicts of interest and related parties	The 544 & 535 agreements do not address conflicts of interest (either between the Owner and DB, DB and subs, or Owner and subs) or disclosure of related parties. There could be undisclosed conflicts or related parties.	M / M	<i>Best practice</i> The Owner should require the DB to disclose any and all conflicts of interest and related parties for this project prior to beginning work.	Disclosure of conflict of interest is a requirement of the RFQ Form 1 - Offeror Information

Likelihood / Impact Legend:

H / M or M / H
M / M or M / L
L / M or L / L

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