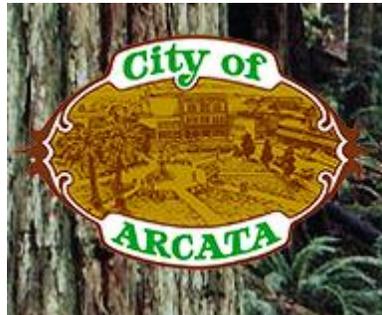


Request for Proposals

7th Street Parking Lot LID Retrofit: PLANS, SPECIFICATIONS & ESTIMATE (PS&E) SERVICES



**Environmental Services Department
City of Arcata**

January 15, 2014

REQUEST FOR PROPOSAL (RFP)

7th STREET PARKING LOT STORMWATER LOW IMPACT DEVELOPMENT (LID) RETROFIT: PLANS, SPECIFICATIONS & ESTIMATE SERVICES

Proposals must be submitted to the City of Arcata no later than 4:00 p.m. on Wednesday, February 19, 2014

Summary of Proposed Project

The City of Arcata has completed the preliminary conceptual design and environmental work for the City owned 7th Street Parking Lot Low Impact Design LID retrofit located at 7th and G Street. Low Impact Development (LID) is an innovative stormwater management approach with a basic principle that is modeled after nature: manage rainfall at the source using uniformly distributed decentralized micro-scale controls. LID's goal is to mimic a site's predevelopment hydrology by using design techniques that infiltrate, filter, store, evaporate, and detain runoff close to its source. The retrofit involves replacing existing pavement with permeable pavement and re-grading the landscaped areas to create concave bioswales and rain gardens to increase stormwater infiltration. Combined with native vegetation, these swales and retention areas will reduce stormwater runoff volume and increase stormwater pollutant removal. Five sections, each with a different type of permeable pavement, will be installed to increase permeability and provide a LID pavement demonstration site for the community. The parking lot's paved areas will be connected to the bioswales and rain gardens by curb cuts which allow stormwater to flow to these areas. The project area is 0.40 acre in extent.

The existing landscaped areas contain only a few non-native trees on flat to convex soil surfaces. These sites currently promote little stormwater infiltration or treatment. These landscaped areas are currently disconnected from the parking lot by curbing, which causes the majority of stormwater to traverse impermeable surfaces before entering the storm drain at the southwestern corner of the lot. The remainder of the lot is impervious surface.

The project is funded through Prop. 84 Grant Funds and it is intended that this funding source will cover design and construction of the project. Design of the retrofit project must be in alignment with requirements of and conceptual solutions presented within the awarded grant submission to the State Water Board. The budgeted direct construction cost for this design-bid-build project is \$187,000. The Project design-to budget shall be 95% of the budget direct construction cost (\$177,650).

Based on the level of work already done and ready by the City, it is anticipated the effort to complete the final design should not exceed \$25,000.

Project Goals

The project objective, as it pertains to design services, is as follows:

- Implement design solutions meeting the requirements of the grant that are in alignment with the conceptual solution and will require minimal long term maintenance.
- Produce 50% and 100% (final) construction plans, specifications, cost estimates and bid package, enabling the City to readily enter the construction phase of the project.

- At minimum retain the current number of parking spaces and, if possible, increase the number of parking spaces. Review feasibility of changing diagonal parking on west side of lot to match east side of parking lot.
- Ensure the City receives the maximum allowable reimbursement for the grant funds available.
- Ensure the project is designed within the available budget. Present value engineering solutions, if required, that continue to allow for maximum reimbursement for grant funds available.

Scope of Work

Presently, the City has developed the preliminary design for the project. The City has also produced and filed a categorical exclusion document and completed the environmental phase. As part of the design phase, Streamline Planning provided the City with a preliminary conceptual plan that identifies the following items that should be included in the design:

- 1) Accommodate existing underground and above ground utilities; design to include incorporating underground conduit from electrical box to existing lights and subsurface auto-irrigation system to planter areas;
- 2) Remove unused concrete sidewalks on east and south sides of lot and remove soil to from bioswales; incorporate designs on east and south side parallel with fence separating properties to prevent vehicles from hitting fence;
- 3) Utilize center and western grassed, convex strips to create concave bioswales; design to include removal of trees, stumps and root systems In preparation for bioswales;
- 4) Design two rain gardens, one in the southeastern planter area and one in the southwestern planter area; design shall incorporate intake cleanouts to remove trash/debris;
- 5) Design to consider the need for over-excavation and replacement of soil in areas 2-4, above;
- 6) Make appropriate curb cuts in interior curbs;
- 7) Design to include trench drain with clean-outs, connecting the south end of the new center island bioswale to the new southern bioswale;
- 8) Design "speed hump" water diversions as needed to direct flow to swales and rain gardens;
- 9) Include five permeable pavement types while retaining existing surfacing where possible. Suggested permeable pavement types include:
 - a. Porous asphalt,
 - b. Grasscrete,
 - c. Grassy pavers,
 - d. Permeable concrete,
 - e. Permeable pavers;
- 10) Track materials and labor costs for each permeable pavement installation, as well as for the remainder of the work (curb removal & cutting, swale & basin excavation, etc.) for interpretation/educational purposes;

- 11) Provide landscaping plan that includes:
 - a. Tree replacement (minimum 3 trees) along 7th Street to meet City tree replacement requirements,
 - b. Use of native vegetation for LID components,
 - c. Auto-Irrigation,
 - d. Top soil amendment as needed,
 - e. Mulch as needed;
- 12) Provide design that incorporates possible replacement of existing lighting with LED lights (light design to be specified by the City) and EV charging station;
- 13) Location for interpretive sign describing the LID parking lot features;
- 14) Location for covered bike parking; and
- 15) Walkway between parking lot and G Street.

The work involved with this proposal includes the following main operations, and all necessary work that is ancillary to these items:

- Attend field and City staff meetings including Design Review Commission;
- Review and research existing environmental documents, plans, surveys and other documentation;
- Develop 50% and final construction plans consistent with previous plans, surveys, preliminary design and right-of-way work;
- Develop construction specifications and cost estimate;
- Provide complete and bid-ready construction documents in a format consistent with City of Arcata state project standard construction bid documents;
- Soil testing/geotechnical design for proper functioning of LID components.

Project Limits

The project is the limits of the 7th and G Street Parking Lot and connection to the storm drain located at the southwest corner of the parking lot.

Current Project Status

The environmental phase of the project is complete, and preliminary project design and layout and technical memo has been completed. These are attached.

The funding cycle has this project programmed for design to be completed by April or May of 2014 and construction in September/October 2014.

Attached maps/figures:

1. Project Location Map
2. Sample City of Arcata Professional Services Contract
3. Insurance Requirements for Consultants
4. Technical Memo
5. Technical Memo Attachment A – Preliminary Project Layout

Project Deliverables

The deliverables for this project are:

1. Five (5) complete hard copy sets, plus one reproducible set/file (.pdf and .doc) of construction documents that will include: 1) Construction plans, construction contract bid documents including specifications, and formal estimate of construction costs;
2. Source design files that are compatible with City of Arcata software (2011 AutoCAD Civil 3D, or later version)

Inquiries

Questions regarding this RFP should be submitted in writing to:
Harold Miller, Contracts and Procurement Specialist
City Of Arcata
736 F Street
Arcata, CA 95521

Email: hmiller@cityofarcata.org
FAX: (707) 825-8018

Proposers are directed not to contact other City staff or City Council in conjunction with this request.

Substantive requests for information received may be responded to in writing by the City in the form of an addendum to this RFP and sent to all RFP recipients. Project plans will be made available once they are finalized.

4. Schedule of Events

City issues RFP	January 15, 2014
Submission deadline for project proposal	4:00 p.m. February 19, 2014
Consultant Interviews	February 24-27, 2014
Contract Award	March 5, 2014
Deliverables due date	April 7, 2014

5. Proposal Instruction

Proposal Format

The proposal should consist of the following major sections, in the order shown:

- Transmittal Letter
- Executive Summary
- Proposal Information, including firm's approach to completing project
- Key Personnel Resumes
 - * References
- A list of similar projects that the firm has completed in the past. Include the dollar value for each project budget
- Letters of Recommendation
- Sub-consultant Information & Scope (If Any)

- Design schedule showing all critical paths and key milestones
- Contract Exceptions
- Cost Proposal corresponding to the proposed scope of work.
 - (In sealed envelope—only the top-ranked consultant’s cost proposal will be opened at the time of rank determination)

The proposal shall include a transmittal letter signed by an individual authorized to bind the consultant, and shall contain a statement to the effect that the proposal is a firm offer in effect for 180 days.

It is important that the consultant address and/or acknowledge all items presented in this Request for Proposal, as well as provide any pertinent information that may be helpful in the evaluation of consultant proposals by the City. It is not necessary to submit affidavits, certificates, or proof of insurance coverage with the proposal, but this information may be submitted if desired.

Proposal Submittal

Proposals should be labeled: 7TH STREET PARKING LOT LID RETROFIT: PLANS, SPECIFICATIONS & ESTIMATE SERVICES. Proposals must be received no later than 4:00 p.m., February 19, 2014. Late proposals will not be accepted and will be returned unopened to the consultant.

Five (5) bound copies and a reproducible copy of the proposal shall be sent to:

City of Arcata
 Purchasing Department
 Attn. Harold Miller
 736 F Street
 Arcata, CA 95521

6. General Requirements and Authority of the City of Arcata

- A. All reports, studies, information, data statistics, forms and other materials produced under the agreement between the City and the successful consultant shall be the sole and exclusive property of the City of Arcata and may not be used or reproduced in any form without the express written permission of the City.
- B. While operating in good faith, the City retains the right to reject any and all proposals, or parts of proposals for any reason whatsoever. Regardless of award, the City is not responsible for costs related to responding to this RFP. In addition, the proposal and other materials provided to the City in relation to this RFP will become the property of the City.
- C. The firm selected shall notify the City of any possible conflict of interest prior to performing work requested by the City.

7. Contract

- A. A sample contract is attached. The laws of the State of California shall govern the contract executed between the successful Respondent and the City and any interpretations or constructions thereof. Further, the place of performance and

transactions of business shall be deemed to be in the City of Arcata, State of California, and in the event of litigation, the exclusive venue and place of jurisdiction shall be in the State of California and more specifically, in Humboldt County.

- B. The successful Respondent must obtain a valid City of Arcata Business License before the City can award a contract.

8. Evaluation Criteria and Selection Process

Consultant selection and award of contract will be made on the basis of the respondent receiving the most points based on the following:

1. Qualifications of the firm (Staff strength & similarity of projects) (30 POINTS)
2. Program of Work and general approach (30 POINTS)
3. General knowledge of LID Stormwater applications (15 POINTS)
4. Past performance/references (10 POINTS)
5. Cost item (please furnish cost portion in a separate sealed envelope) (15 POINTS)

City may request additional information while reviewing proposals.

9. General Scope of Consultant Services

The Consultant will furnish all services as required in order to complete construction documents for the 7th Street Parking Lot LID Retrofit project.

The prospective Consultant should submit a proposal which addresses, at least, the general scope of work as the basic package. The City believes that, at least but not limited to, the following tasks will be required to fulfill the basic package.

- A. 50% Design, 100% Final Design, and Preparation of Bid Documents
 - 1) Attend and participate in multiple meetings in the office and field possibly including State Water Board staff.
 - 2) Review and research of existing project plans, surveys and documentation.
 - 3) Using the existing preliminary design as a starting point, develop a 50% design and 100% final design by April 7, 2014 and associated construction plans.
 - 4) Provide final construction specifications.
 - 5) Provide final Engineer's Estimate for project costs.
 - 6) Provide a complete and final bid package, incorporating City of Arcata standard contract documents by April 7, 2014.
 - 7) Provide printable (.pdf) files for all plans and documents, and source files for design drawings compatible with City software.
 - 8) Provide cost information for construction management services. This item should include a \$ cost/hour and estimated number of hours for staffing for this purpose.

10. Schedule of Work

The work identified in Item 9 above, General Scope of Consultant Services, is expected in various capacities from the time of award of contract, through the production of the accepted final construction documents. Consultant work shall commence within two weeks of City Council approval of Consultant's agreement, or within two weeks of the City's "Notice to

Proceed.” The City requests that a project schedule for completing each of the tasks to be included in the submittal.

11. City Furnished Services

The City will furnish the selected Consultant existing project plans in digital pdf and printed format, existing survey data, and all project-related permits, reports, and studies. The City will also provide any existing additional information that may be helpful to the Consultant in the performance of the service.

12. Contract Exceptions

Include any proposed exception or changes to the sample contract (Exhibit A) in your response. Any proposed exceptions or changes to these provisions will be subject to City approval. If no exceptions are included, the City will expect the proposer to be able to sign the City’s contract.

13. Insurance Requirements

If selected, the consultant will be required to enter into a contract with the City. The contract will require the consultant to comply with Exhibit B, “Insurance Requirements for Consultants.” Any renewal certificates required during the course of the contract must be renewed and received by the City within 15 days prior to expiration and must meet the same criteria. No substitutions shall be allowed.

LOCATION MAP

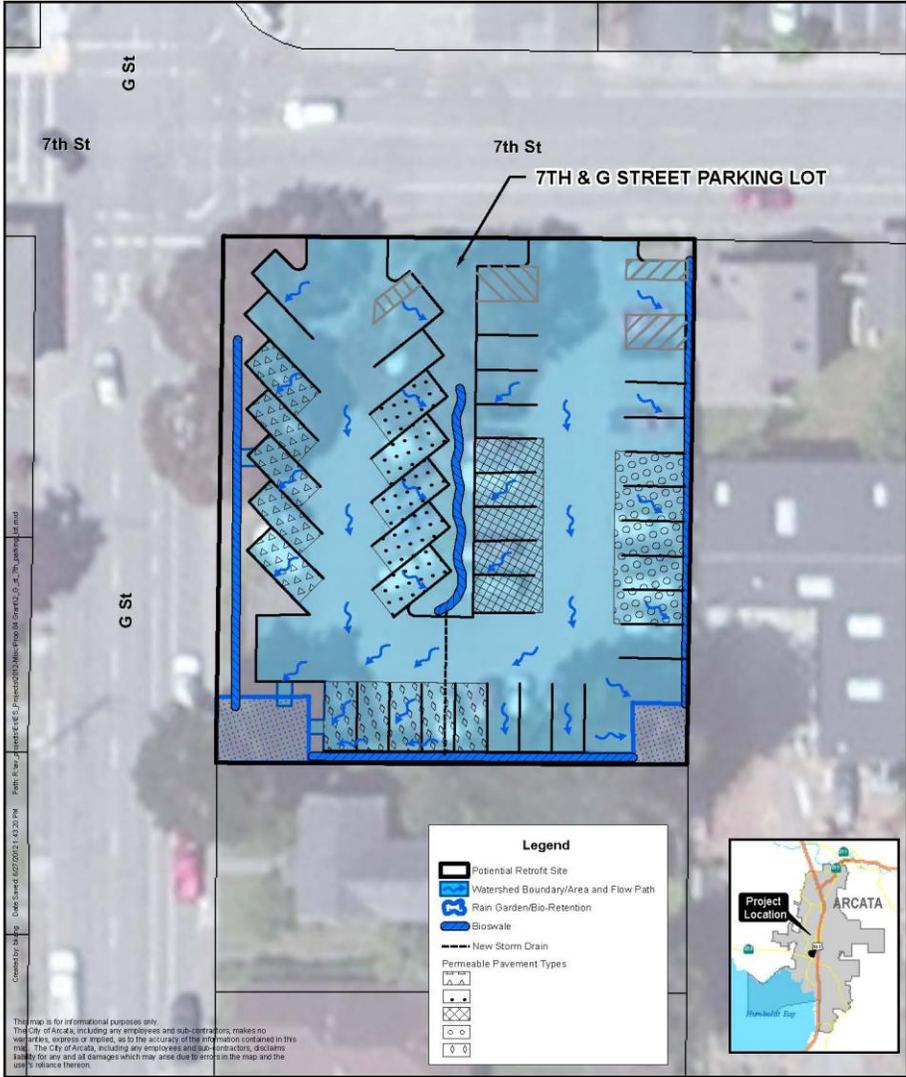


Exhibit A

ARCATA PROFESSIONAL SERVICES CONTRACT

Purchase Order No. _____

CITY OF ARCATA PROFESSIONAL SERVICES AGREEMENT WITH

FOR _____

This Agreement is made on _____ between the City of Arcata, a municipal corporation (referred to as "City"), and _____, a _____ (referred to as "Consultant").

1. Scope of Services: Consultant agrees to perform services as set out in Exhibit A, "Scope of Work, Compensation" attached hereto and incorporated herein ("Services"), described briefly as _____, and duly authorized by issuance of Purchase Order No. set out above. No purchase orders are issued without a valid Agreement.

2. Standards of Performance:
 - A. *Standard of Care*. The standard of care for all professional services performed or furnished by Consultant under this Agreement will be the care and skill ordinarily used by members of the subject profession practicing under similar circumstances at the same time and in the same locality.

 - B. *Accuracy of Services*. City shall not be responsible for discovering deficiencies in the technical accuracy of Consultant's Services. Consultant shall correct any such deficiencies in technical accuracy without additional compensation except to the extent such corrective action is directly attributable to deficiencies in City-furnished information. However, City shall be responsible for, and Consultant may rely upon, the accuracy and completeness of all requirements, programs, instructions, reports, data, and other information furnished by City to Consultant pursuant to this Agreement. Consultant may use such requirements, programs, instructions, reports, data, and information in performing or furnishing services under this Agreement.

 - C. *Special Conditions*. Consultant shall comply with all additional terms set forth in Exhibit B "Special Conditions," if any are so required: _____ Special Conditions; _____ No Special Conditions.

3. Compensation for Services, Payment:
 - A. *Compensation*. City shall pay Consultant as set forth in Exhibit A, not to exceed \$_____.

- B. *Preparation and Submittal of Invoices.* Consultant shall prepare and submit its invoices to City no more than once per month and no later than the _____ day of each month.
- C. *Payments.* All reasonable efforts will be made by City to pay undisputed invoices within ____ days of receipt. If City contests an invoice, City may withhold that portion so contested and pay the undisputed portion.
- D. *Withholding Of Payment.* The City may withhold all or any portion of the funds provided for by this Agreement in the event that the Consultant has materially violated, or threatens to materially violate, any term, provision, or condition of this Agreement; or the Consultant fails to maintain reasonable progress toward completion of the Services or any component thereof.

4. Commencement, Completion:

- A. *Commencement.* Services of Consultant shall commence upon full execution of this Agreement by all parties, and the Agreement shall remain in full force until _____. No work, services, material or equipment shall be performed or furnished under this Agreement until the City has delivered a fully executed Agreement to the Consultant. A signed Agreement is considered notice to proceed.
- B. *Time for Completion.* Consultant shall complete Services as set forth in Exhibit A. If City authorizes changes in the scope, extent, or character of the Services, then the time for completion of Consultant's services, and the rates and amounts of Consultant's compensation, shall be adjusted equitably. If Consultant fails, through its own fault, to complete the performance required in this Agreement within the time set forth, then City shall be entitled to the recovery of proximate damages resulting from such failure.
- C. *Suspension and Termination.*
 - 1) *Suspension.* City may suspend the Services upon five days written notice to Consultant.
 - 2) *Termination.* The obligation to provide further Services under this Agreement may be terminated for cause by either party upon 30 days written notice in the event of substantial failure by the other party to perform in accordance with the terms hereof through no fault of the terminating party. Notwithstanding the foregoing, this Agreement will not terminate under this paragraph if the party receiving such notice begins, within seven days of receipt of such notice, to correct its substantial failure to perform and proceeds diligently to cure such failure within no more than 30 days of receipt thereof; provided, however, that if and to the extent such substantial failure cannot be reasonably cured within such 30 day period, and if such party has diligently attempted to cure the same and thereafter continues diligently to cure the same, then the cure period provided for herein shall extend up to, but in no case more than, 60 days after the date of receipt of the notice.
- D. *Payments Upon Termination.* In the event of any termination under this Section 4, Consultant will be entitled to invoice the City and to receive payment for all

acceptable services performed or furnished and all reimbursable expenses incurred through the effective date of termination.

- E. *Delivery of Project Materials to City.* Prior to the effective date of termination, the Consultant will deliver to City all data and originals of all plans, drawings, specifications, reports, computer programs, operating manuals, notes, and other written or graphic work and other materials for which City has compensated Consultant, and all such material shall become the property of the City upon delivery.
5. **Independent Contractor:** Consultant, in performing Services, shall act as an independent contractor and shall have control of his work and the manner in which it is performed. He/she shall be free to contract for similar services to be performed for others while under contract with the City. Consultant is not to be considered an agent or employee of the City. Consultant agrees to furnish at his/her own expense all tools, equipment, services, labor and materials necessary to complete all requirements of this Agreement.
 6. **Insurance:** Consultant shall maintain insurance throughout the duration of this Agreement, and provide Certificates of Insurance, as specified below. All insurance carriers shall be admitted in the state of California and with an A.M. Bests rating of A- or better and a minimum financial size VII.
 - A. *Commercial General Liability:* Insurance Services Office (ISO) “Commercial General Liability” policy form CG 00 01 or the exact equivalent. Coverage for additional insured shall not be limited to its vicarious liability. Defense costs must be paid in addition to limits. Limits shall be no less than \$2,000,000 per occurrence for all covered losses and no less than \$2,000,000 general aggregate.
 - B. *Business Automobile Insurance:* ISO Business Auto Coverage Form CA 00 01 including symbol 1 (Any Auto) or the exact equivalent. Limits are subject to review, but in no event to be less than \$2,000,000 per accident. If Consultant or Consultant’s employees will use personal autos on this project, Consultant shall provide evidence of personal auto liability coverage for each such person.
 - C. *Workers Compensation Insurance:* covering all employees and volunteers as required by the Sate of California Consultant on a state-approved policy form.
 - D. *Excess or Umbrella Liability Insurance (Over Primary):* if used to meet limit requirements, shall provide coverage at least as broad as specified for the underlying coverages. Such policy or policies shall include a drop down provision providing coverage above a maximum \$25,000 self-insured retention for liability not covered by primary but covered by the umbrella. Coverage shall be provided on a “pay on behalf of” basis, with defense costs payable in addition to policy limits. The policy shall contain a provision obligating insurer at the time insured’s liability is determined, not requiring actual payment by the insured first. There shall be no cross liability exclusion precluding coverage for claims or suits by one insured against another. Coverage shall be applicable to City for injury to employees of Consultant, sub-contractors or others involved in performing services under this Agreement. The scope of coverage provided is subject to approval of City following receipt of proof of insurance as required herein.

E. *Professional or Errors and Omissions Insurance, As Appropriate*: written on a policy form coverage specifically designed to protect against acts, errors or omissions of Consultant and “Covered Professional Services” as designated in the policy must specifically include work performed under this Agreement. The policy limit shall be no less than \$1,000,000 per claim and in the aggregate. The policy must “pay on behalf of” the insured and must include a provision establishing the insurer’s duty to defend. The policy retroactive date shall be on or before the effective date of this Agreement.

F. *General Conditions Pertaining to Insurance*:

- 1) Consultant shall have its insurer endorse the third party general liability coverage to include as additional insureds the City, its officials, employees, volunteers and agents, using standard ISO endorsement CG 20 10.
- 2) The parties acknowledge that all insurance coverage required to be provided by Consultant is intended to apply first and on a primary, non-contributing basis in relation to any other insurance or self insurance available to the City.
- 3) Certificates shall contain a statement that the policy will not be cancelled except after thirty (30) days prior written notice to the City.
- 4) All endorsements must have an original authorized signature. Facsimile or electronic copies are insufficient.
- 5) Consultant agrees to waive subrogation rights against the City regardless of the applicability of any insurance proceeds, and to require all contractors and subcontractors to do likewise.
- 6) Proof of compliance with these insurance requirements, consisting of certificates of insurance evidencing all of the coverages required and an additional insured endorsement to Consultant’s general liability policy, shall be delivered to the City at or prior to the execution of the Agreement.
- 7) All coverage types and limits required are subject to approval, modification and additional requirements by the City, as the need arises. Consultant shall not make any reductions in scope of coverage (e.g. elimination of contractual liability or reduction of discovery period) that may affect the City’s protection without the City’s prior written consent.
- 8) The City reserves the right at any time during the term of the Agreement to change the amounts and types of insurance required by giving the Consultant ninety (90) days advance written notice of such change. If such change results in substantial additional cost to the Consultant, the City will negotiate additional compensation proportional to the increased benefit to the City.

7. **Indemnity**: When the law establishes a professional standard of care for Consultant’s services, to the fullest extent permitted by law, Consultant shall indemnify, defend and hold harmless City and any and all of its boards (including the council, boards, commissions, committees and task forces), officials, employees and agents (collectively, “Indemnified Parties”) from and against any and all losses, liabilities, damages, costs and expenses, including attorney’s fees and costs to the extent same are caused in whole or in part by any negligent or wrongful act, error or omission of Consultant, its officers, agents,

employees or sub-Consultants or any entity or individual for which Consultant shall bear legal liability in the performance of professional services under this Agreement.

Other than in the performance of professional services and to the fullest extent permitted by law, Consultant shall indemnify, defend and hold harmless City, and any all of the Indemnified Parties from and against any liability (including liability for claims, suits, actions, arbitration proceedings, administrative proceedings, regulatory proceedings, losses, expenses or costs of any kind, whether actual, alleged or threatened, including attorneys fees and costs, court costs, interest, defense costs, and expert witness fees), where the same arise out of, are a consequence of, or are in any way attributable to, in whole or in part, the performance of this Agreement by Consultant or by any individual or entity for which Consultant is legally liable, including but not limited to officers, agents, employees or sub-Consultants of Consultant.

8. Subcontracting: No services covered by the Agreement shall be subcontracted without the prior written consent of the City. Consultant shall furnish separate insurance certificates and endorsements for each subcontractor having received consent by the City in the amounts specified in Section 4 of this Agreement.
9. Document Submission and Title to Documents: Consultant agrees that all data, plans, drawings, specifications, reports, computer programs, operating manuals, notes, and other written or graphic work produced in the performance of this Agreement is considered work made for hire and shall be the property of the City upon delivery. City may disclose, disseminate and use in whole or in part, any final form data and information received, collected, and developed under this Agreement.
10. Permits and Licenses: Prior to execution of the Agreement the Consultant shall obtain and maintain throughout the contract period all licenses required by law including but not limited to a valid City of Arcata business license.
11. Modification, Amendment: No amendment or variation of the terms of this Agreement shall be valid unless made in writing, signed by the parties and approved as required. No oral understanding or Agreement not incorporated in the Agreement is binding on any of the parties.
12. Assignment. This Agreement is not assignable by the Consultant, either in whole or in part.
13. Audit of Records. Consultant shall maintain complete and accurate records of all payrolls, expenditures, disbursements and other cost items charged to the City or establishing the basis for an invoice, for a minimum of four years from the date of final payment to Consultant. All such records shall be clearly identifiable. Consultant shall allow City representatives to inspect, examine, copy and audit such records during regular business hours upon 24 hours' notice.
14. Designated Representatives. With the execution of this Agreement, Consultant and City shall designate specific individuals to act as Consultant's and City's representatives with respect to the services to be performed or furnished by Consultant and responsibilities of City under this Agreement. Such individuals shall have authority to transmit instructions, receive information, and implement the contract on behalf of each respective party.
15. Governing Law: This Agreement and performance hereunder and all suits and special

proceedings shall be construed in accordance with the laws of the State of California. In any action or proceeding that may be brought from or connected in anyway to this Agreement, the laws of the State of California shall be applicable and shall govern to the exclusion of the law any other forum. Venue shall be fixed in Humboldt County.

16. Disputes. City and Consultant agree to negotiate all disputes between them in good faith for a period of 30 days from the date of notice prior to invoking any procedures of this Agreement, or exercising their rights under law. Prior to court action, the parties agree to pursue mediation as a means to settle any dispute.
17. Entire Agreement. This Agreement together with the exhibits identified below constitutes the entire Agreement between City and Consultant for the Services and supersedes all prior written or oral understandings.
18. Nondiscrimination. During the performance of this Agreement, Consultant and its sub-contractors shall not unlawfully discriminate against, harass, or allow harassment against any employee or applicant for employment because of sex, race, religion, color, national origin, ancestry, disability, sexual orientation, medical condition, marital status, age (over 40), or denial of family-care leave, medical-care leave, or pregnancy-disability leave. Consultant and its sub-contractors shall ensure that the evaluation and treatment of their employees and applicants for employment are free of such discrimination and harassment.
19. Notices. Any notice required under this Agreement will be in writing, addressed to the appropriate party at its address on the signature page and given personally, by facsimile, by registered or certified mail postage prepaid, or by a commercial courier service. All notices shall be effective upon the date of receipt.
20. Severability. Any provision or part of the Agreement held to be void or unenforceable under any laws or regulations shall be deemed stricken, and all remaining provisions shall continue to be valid and binding upon City and Consultant, who agree that the Agreement shall be reformed to replace such stricken provision or part thereof with a valid and enforceable provision that comes as close as possible to expressing the intention of the stricken provision.
21. Survival. All express representations, waivers, indemnifications, and limitations of liability included in this Agreement will survive its completion or termination for any reason.
22. Timeliness. Time is of the essence in this Agreement. Consultant shall proceed with and complete the Services in an expeditious manner.
23. Waiver. Neither the acceptance of Consultant's work nor the payment thereof shall constitute a waiver of any provisions of this Agreement. A waiver of any breach shall not constitute a waiver of that provision, nor shall it affect the enforceability of that provision or of the remainder of this Agreement.
24. Exhibits Included. The following Exhibits are attached hereto and incorporated into this Agreement:

Exhibit A: Scope of Work, Compensation

Exhibit B: Special Conditions

25. Attorney's Fees: Should any litigation or arbitration be commenced between the parties hereto concerning this Agreement, or the rights and duties of any party in relation thereto, the party prevailing in such litigation or arbitration shall be entitled, in addition to such other relief as may be granted, to a reasonable sum as and for attorney's fees in such litigation or arbitration.

IN WITNESS WHEREOF, the person executing this Agreement on behalf of Consultant warrants and represents that he/she has the authority to execute this Agreement on behalf of Consultant and has the authority to bind Consultant to the performance of its obligations hereunder.

CITY

CONSULTANT

BY:

BY:

TITLE:

TITLE:

APPROVED AS TO FORM:

ADDRESS

EMPLOYER

ID

City Attorney

Contracts & Procurement Specialist

DESIGNATED REPRESENTATIVE:

Name

Name

Title

Title

Exhibit B
INSURANCE REQUIREMENTS FOR CONSULTANTS

Consultant shall procure and maintain for the duration of the contract insurance against claims for injuries to persons or damages to property which may arise from or in connection with the performance of the work hereunder by the Consultant, his agents, representatives, or employees.

Minimum Scope of Insurance

Coverage shall be at least as broad as:

1. Insurance Services Office Commercial General Liability coverage (occurrence form CG 0001).
2. Insurance Services Office form number CA 0001 (Ed. 1/87) covering Automobile Liability, code 1 (any auto).
3. Workers' Compensation insurance as required by the State of California and Employer's Liability Insurance.
4. Errors and Omissions liability insurance appropriate to the consultant's profession. Architects' and engineers' coverage is to be endorsed to include contractual liability.

Minimum Limits of Insurance

Consultant shall maintain limits no less than:

1. General Liability: \$2,000,000 per occurrence for bodily injury, personal injury and property damage **including operations, products and completed operations, as applicable**. If Commercial General Liability Insurance or other form with a general aggregate limit is used, either the general aggregate limit shall apply separately to this project/location or the general aggregate limit shall be twice the required occurrence limit.
2. Automobile Liability: \$2,000,000 per accident for bodily injury and property damage.
3. Employer's Liability: \$ 1,000,000 per accident for bodily injury or disease.
4. Errors and Omissions liability: \$ 1,000,000 per occurrence.

Deductibles and Self-Insured Retentions

Any deductibles or self-insured retentions must be declared to and approved by the City. At the option of the City, either: the insurer shall reduce or eliminate such deductibles or self-insured retentions as respects the City, its officers, officials, employees and volunteers; or the Consultant shall provide a financial guarantee satisfactory to the City guaranteeing payment of losses and related investigations, claim administration and defense expenses.

(continued on next page)

(continued)

INSURANCE REQUIREMENTS FOR CONSULTANTS

Other Insurance Provisions

The commercial general liability and automobile liability policies are to contain, or be endorsed to contain, the following provisions:

1. The City, its officers, officials, employees and volunteers are to be covered as insured's as respects: liability arising out of work or operations performed by or on behalf of the Consultant; or automobiles owned, leased, hired or borrowed by the Consultant.
2. For any claims related to this project, the Consultant's insurance coverage shall be primary insurance as respects the City, its officers, officials, employees and volunteers. Any insurance or self-insurance maintained by the City, its officers, officials, employees or volunteers shall be excess of the Consultant's insurance and shall not contribute with it.
3. Each insurance policy required by this clause shall be endorsed to state that coverage shall not be canceled by either party, except after thirty (30) days' prior written notice by certified mail, return receipt requested, has been given to the City.
4. **Coverage shall not extend to any indemnity coverage for the active negligence of the additional insured in any case where an agreement to indemnify the additional insured would be invalid under Subsection (b) of Section 2782 of the Civil Code.**

Acceptability of Insurers

Insurance is to be placed with insurers with a current A.M. Best's rating of no less than A:VII, unless otherwise acceptable to the city.

Verification of Coverage

Consultant shall furnish the City with original certificates and amendatory endorsements effecting coverage required by this clause. The endorsements should be on forms provided by the City or on other than the City's forms provided those endorsements conform to City requirements. All certificates and endorsements are to be received and approved by the City before work commences. The City reserves the right to require complete, certified copies of all required insurance policies, including endorsements effecting the coverage required by these specifications at any time.

###

STREAMLINE PLANNING

Technical Memo

7th & G Parking Lot Retrofit

INTRODUCTION

This document presents the drainage information for the City of Arcata's 7th and G Street parking lot low impact development (LID) retrofit. The purpose of this document:

- Identifies where stormwater will flow and infiltrate.
- Identifies the locations of ground cover types.
- Presents the calculations used to show that site development, and resultant flow volumes, will meet City of Arcata and State Water Board requirements for controlling stormwater flow and protecting water quality.
- Justifies the sizing of stormwater features.

The site currently sits on relatively flat topography at approximately 22 feet above sea level, with an elevation loss of two feet from northeast to southwest (~1.5% slope). Most of the site is paved surface with two flat landscape beds and two convex landscape hills (Attachment A).

This project will be implemented to improve water quality by retaining and infiltrating storm water up to the 85th percentile storm event onsite.

RUNOFF VOLUME DETERMINATIONS

Design Storm Intensity

The LID standard increasingly used across the nation, as well as by the State Water Board, is the 85th percentile, 24-hr storm event. This event is 0.65 inches when using the State Board's Post Construction Water Balance Calculator for Woodley Island, Humboldt County (Table 1).

<u>Source</u>	<u>Design Storm</u>	<u>Volume</u>
City of Eureka	85 th percentile, 24-hr	0.65 inches

Runoff Volume

The Rational Method has become the most commonly used equation for determining the runoff flow rate. This method is most useful for small urban watersheds lacking large storage features (Bengston 2010). From this flow rate, the required storage volume was calculated. The volume calculation method used was the City of Arcata's method which simply converts the flow rate, derived from the Rational Method, from cubic feet per second to total storage in cubic feet.

The Rational Method equation is $Q = CIA$.

Where:

- Q = Stormwater runoff flow, in cubic feet per second
- C = Typical surface runoff coefficients, available from many sources
- I = Rainfall intensity, in inches per hour
- A = Surface Area, in acres

Both pre and post-site conditions were analyzed to determine the net increase in runoff. Table 2 lists some typical runoff coefficients (C values) for use in the Rational Method calculation. Table 3 presents the surface types at the facility and their associated surface area and C values. Permeable pavement runoff coefficients were assumed to be 0.22 for the permeable portion (60% of the respective surface) and 0.96 for the remaining 40% impermeable portion (NCDENR 2010).

Table 2. Typical Runoff Coefficients (C values)			
Land Use	C	Land Use	C
Business: Downtown areas Neighborhood areas	0.70 - 0.95 0.50 - 0.70	Lawns:	
		Sandy soil, flat, 2%	0.05 - 0.10
		Sandy soil, avg., 2-7%	0.10 - 0.15
		Sandy soil, steep, 7%	0.15 - 0.20
		Heavy soil, flat, 2%	0.13 - 0.17
		Heavy soil, avg., 2-7%	0.18 - 0.22
		Heavy soil, steep, 7%	0.25 - 0.35
Residential: Single-family areas Multi units, detached Multi units, attached Suburban	0.30 - 0.50 0.40 - 0.60 0.60 - 0.75 0.25 - 0.40	Agricultural land:	
		<i>Bare packed soil</i>	
		*Smooth	0.30 - 0.60
		*Rough	0.20 - 0.50
		<i>Cultivated rows</i>	
		*Heavy soil, no crop	0.30 - 0.60
		*Heavy soil, with crop	0.20 - 0.50
		*Sandy soil, no crop	0.20 - 0.40
		*Sandy soil, with crop	0.10 - 0.25
		<i>Pasture</i>	0.15 - 0.45
*Heavy soil	0.05 - 0.25		
*Sandy soil	0.05 - 0.25		
		Woodlands	
Industrial: Light areas Heavy areas	0.50 - 0.80 0.60 - 0.90	Streets:	
		Asphaltic	0.70 - 0.95
		Concrete	0.80 - 0.95
		Brick	0.70 - 0.85
Parks, cemeteries	0.10 - 0.25	Unimproved areas	0.10 - 0.30
Playgrounds	0.20 - 0.35	Drives and walks	0.75 - 0.85
Railroad yard areas	0.20 - 0.40	Roofs	0.75 - 0.95

Source: Mountain Empire Community College online C Value Table.

Table 3. Surfaces and Runoff Coefficients			
Surface	Area (Acres)	Runoff Coefficients (C)	Weighted C Value
Pre-Retrofit Conditions			
Permeable Pavement	0	NA	
Pavement	0.33	0.95	0.8
Landscaped	0.06	0.28	0.04
<i>Weighted C Value</i>	<i>0.39 Total</i>		0.84
Post-Retrofit Conditions			
Permeable Pavement	0.02	0.22	0.01
	0.01	0.96	0.01
Pavement	0.28	0.95	0.68
Landscaped	0.08	0.23	0.05
<i>Weighted C Value</i>	<i>0.39 Total</i>		0.75

Table 4, below, shows the stormwater flows for pre- and post-construction conditions using the weighted values from above. These weighted values consider the difference in permeable area between the two conditions. Pre-development conditions reflect a higher impermeable surface. Both pre- and post-development conditions are considered according to design storm runoff only. Smaller storms and variable conditions, such as wind and higher temperatures, will produce less runoff due to evaporation and infiltration. **This project will decrease the onsite stormwater runoff flow by 11%.**

Table 4. Pre- and Post-Construction Flows		
Pre-Development Conditions		
<u>Parameter</u>	<u>Symbol</u>	<u>Value, 85th Percentile</u>
Runoff Coefficient	C	0.84
Intensity (inches/hour)	I	0.65
Total Area (acres)	A	0.39
Runoff Flow	Q _{pre}	0.213 ft ³ /second
Post-Development Conditions		
<u>Parameter</u>	<u>Symbol</u>	<u>Value, 85th Percentile</u>

Runoff Coefficient	C	0.75
Intensity (inches/hour)	I	0.65
Total Area (acres)	A	0.39
Runoff Flow	Q _{post}	0.190 ft ³ /second

City of Arcata Conversion

Storage Volume (V_{st}) = Q_{post} (60min/hr)(60sec/min) so V = 0.19 ft³/second (60min/hr)(60sec/min) = **684 ft³ required to contain the total post-construction flows** (Table 5). Since the two rain gardens will total 495 ft³ at one foot average depth, only 189 ft³ will be required to contain the remainder of the runoff on this site. The LID retrofit will allow this site to retain and treat all stormwater up to the 85th percentile storm event.

<u>Method</u>	<u>Flow</u>	<u>Storage Volume Required</u>
Arcata Conversion, Rational	0.65 inches/hour	767 ft ³ Pre-construction
Arcata Conversion, Rational	0.65 inches/hour	684 ft³ Post-construction

The site currently has two landscaped strips, running north to south, and two landscaped beds, at the southwest and southeast corners of the lot, totaling approximately 2,636 ft² (Table 6). Since the two strips are convex in topography, they provide no storage and little treatment. All four landscaped areas are disconnected from the remainder of the site by curbs, providing little storage or treatment. Connecting these areas to the parking lot using curb cuts and excavating them to create concave depressions will transform the two strips to conveyances that will provide treatment during small storm events, while the two beds will become rain gardens that will provide storage and treatment.

RAIN GARDEN CAPACITY DETERMINATIONS

Two rain gardens will be installed in the existing landscape beds at the southeastern (SE) and southwestern (SW) corners of the lot. SW will be the largest detention feature. Only a couple of strawberry trees grow in the center of these two landscape areas, with no understory vegetation. The native vegetation that will be installed in these gardens will increase evapotranspiration, infiltration and pollutant removal. Average depth will be 9.25 inches.

<u>Pond #</u>	<u>Cross-sectional Length</u>	<u>Volume</u>	<u>Pond Surface Area</u>	<u>Pond Shape</u>	<u>Side Slope</u>	<u>Maximum Depth</u>	<u>Bottom Soil Condition</u>
SW	24'x16.5'	330 ft ³	330 ft ²	Rounded Rectangle	3 to 1 (18.4°)	18"	Loam
SE	16'x15.8'	165 ft ³	165 ft ²	Rounded Rectangle	3 to 1 (18.4°)	18"	Loam
Total		495 ft ³	495 ft ²				

BIOSWALES

Three areas will be converted to bioswales including the central landscaping strip and the eastern and southern sidewalk/curbs (Table 7). Typical recommendations call for side slopes no steeper than 3:1 and bottom widths from two to eight feet (Jurries 2003). Wider channel bottoms increase residence and treatment efficiency, while shallow slopes decrease erosion from the bioswale sides. With the space constraints on this site, 2.5:1 slopes will be used, with a 1.5 foot wide bottom, to achieve a total depth of nine inches. Water that doesn't infiltrate will flow to the two rain gardens at the south end of the parking lot for retention and treatment. A one to six percent slope is generally recommended for quick drainage (Jurries 2003). This bioswale will be designed with a one percent slope to maximize residence time and efficient water treatment.

Manning's Equation for open channel flow will be used to show that the bioswale has adequate flow characteristics to conduct the site's stormwater during the design storm flows. Manning's Equation determines the flow (Q) as $Q = A (1.49/n)(R^{2/3})(S^{1/2})$, where A is the cross-sectional area of the bioswale, n = Manning's roughness coefficient (0.03 in this case), R is the hydraulic radius of the bioswale (cross-sectional area divided by the wetted perimeter) and S is the bottom slope of the bioswale. Dimensions and volumes will be shown in the table below.

Planting will include native perennial bunchgrasses installed with appropriate soil amendments. Irrigation will be used during the first dry season to help plant establishment. This swale will be mowed, in early spring, to a height of four to five inches to reduce competition from annual grasses and forbs. Mowing will be timed when annual seeds are formed but not viable. This timing is determined when annual seeds produce a white milk when crushed. Any trash, debris or large plant products such as dead bull thistles will be removed in September.

Table 7. Bioswale Data (at full capacity)

<u>Parameter</u>	<u>Central</u>	<u>Eastern</u>	<u>Southern</u>	<u>Total</u>
Bottom Soil Condition	Amended CL	To be determined upon project approval		
Shape, Aerial View	"S" Curve			
Cross-sectional Shape	Parabolic			
Length of Flow	62'			
Top Width	5.4'			
Bottom Width	1.5'			
Volume w/ 3" freeboard	430 ft ³			
Actual Surface Area	370 ft ²			
Slope (S)	1.00%			

Side Slope	2.5 to 1 (21.7°)
Depth, Total	9"
Cross-sect Area (A)	2.59 ft ²
Wetted Perimeter (P _w)	To be determined upon project approval
Hydraulic Radius (R)	
Manning's Roughness Coefficient (n)	
Flow (Q)	

POLLUTANT REDUCTION ESTIMATES

Due to a rise separating the street from the entrance/exit of the parking lot, no influent (run-on) enters this site. All pollution on this site is therefore from site accumulated constituents. The most likely contaminants on this site will be oil and grease, sediment, heavy metals, fuel, coolant, organic matter, trash and possibly nitrogen and phosphorus from organic matter decomposition from leaf accumulation. LID is still new enough that few studies have been performed on pollutant removal. Furthermore, site conditions are so variable that quantifying effectiveness is difficult. However, preliminary data from several studies demonstrates the potential for pollutant removal with LID practices. Because space constraints often limit the use of conventional, and even most LID BMPs, permeable pavement products are growing in popularity for LID retrofits. Since permeable pavement products do not require additional space, they have become an almost necessary component of any LID project, particularly retrofits. The parking lots at the Florida Aquarium in Tampa, studies at the University of Guelph in Canada and a study by Center for Urban Water Resources Management in Washington State have all consistently shown that subsurface runoff is significantly cleaner than surface runoff (Urban Design Tools 2012). Studies by the University of Maryland have shown excellent removal of heavy metals in bioretention areas, while studies by the University of Virginia have shown 86% removal for total suspended solids (TSS) and 67% for oil and grease from this BMP. The University of Maryland has shown removal greater than 98% for TSS and oil and grease (Urban Design Tools 2012). While stormwater up to the 85th percentile storm will be retained and infiltrated or evapotranspirated onsite, pollutant removal is important to maintain clean groundwater recharge. The following table outlines the ranges of pollutant removal for the BMPs used on this site:

Pollutant Removal from Selected LID BMPs						
<u>BMP</u>	<u>Bioretention</u>	<u>Bioswale</u>	<u>Pervious Concrete</u>	<u>Concrete Pavers</u>	<u>Porous Asphalt</u>	<u>Notes</u>
Total Nitrogen	Medium, 49.00%	Low	Significant	35-70%		Blank spaces indicate conclusive data is lacking.
Phosphorus	Medium, 65-87%	Low		34-65%	42.00%	
Copper	High, 43-97%	Medium	Metals =	13-79%		

Lead	High, 70-95%	Medium	75-92%	67.00%	
Zinc	High, 64-95%	Medium		71-88%	97.00%
Oil & Grease	High, 67%	Medium	good potential		
Sediment	High, 86%	Medium	91.00%	67-99%	94-99%
Organics	High	Medium			
Trash	High, 100.00%	Low			

Source: California BMP Handbook, Industrial and Commercial, California Stormwater Quality Association, 2003. Ranges from EPA BMP Fact Sheets available at: <http://cfpub.epa.gov/npdes/stormwater/menuofbmps/index.cfm?action=browse>; Italicized numbers from Urban Desing Tools @ http://www.lid-stormwater.net/lid_techniques.htm

CONCLUSION

This retrofit project will help return the hydrograph for this area toward pre-construction conditions by reducing peak flows. The primary way this will be accomplished is by increasing the permeability of the site with the installation of five types of permeable pavement and the replacement of two impermeable with bioswales. Pollutant treatment and infiltration will occur in both the bioswales and the rain gardens which have been sized to retain all of the design storm runoff onsite. The total retention volume will be over 925 ft³, with 684 ft³ required. This will effectively remove runoff, that was previously generated from this parking lot, from the local surface flows. Additionally, a network of native perennial plants will help filter and treat pollutants in these stormwater features.

REFERENCES

Bengston, Harlan. The Rational Method for Calculation of Peak Stormwater Runoff Rate. October 29, 2010. Available at: <http://www.brighthub.com/engineering/civil/articles/60842.aspx>. Visited June 28, 2011.

Jurries, Dennis. Biofilters for Stormwater Discharge Pollution Removal. State of Oregon Department of Environmental Quality. 2003. Available at: <http://www.docstoc.com/docs/26138521/Water-Quality-Stormwater-Permitting-Program-NWR>

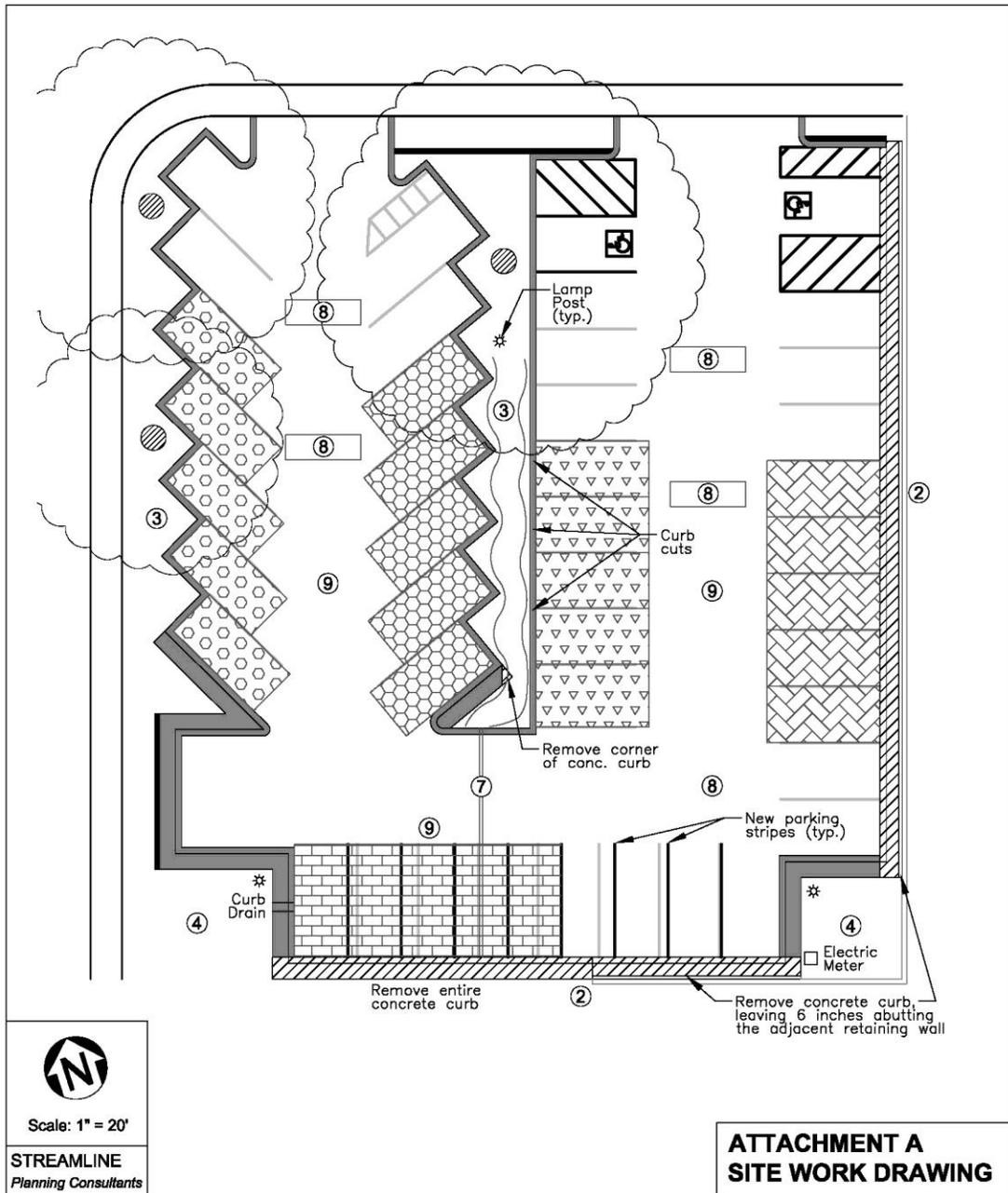
Mountain Empire Community College. C Value Table. Available at: http://water.me.vccs.edu/courses/CIV246/table2_print.htm. Visited June 28, 2011.

NCDENR Stormwater BMP Manual. September 1, 2010.

Attachments

Attachment A - Site Work Drawing

Technical Memo Attachment A – Preliminary Project Layout



Streamline Planning Consultants
June 2012

Site Work Drawing
City of Arcata