We May Disagree, but We Will Be Respectful of One Another

All Comments Will Be Directed to the Issue at Hand, and Addressed to the City Council

Personal Attacks are Unacceptable

I. CALL TO ORDER / FLAG SALUTE / ROLL CALL  8:00AM

<table>
<thead>
<tr>
<th>Council</th>
<th>Staff</th>
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<tr>
<td>Council Member Tiara Brown</td>
<td>Interim City Manager Randy Mendosa</td>
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<td>Council Member Douglas Strehl</td>
<td>City Clerk Linda McGill</td>
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<td>Mayor Pro Tem Tami Trent</td>
<td>Police Chief Bill Dobberstein</td>
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<td>Mayor Sue Long</td>
<td>City Engineer/Public Works Director Merritt Perry</td>
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II. ORAL COMMENTS FROM THE PUBLIC

Members of the Public may be heard on any item on the Closed Session Agenda. Speakers addressing the Council will be limited to 3 minutes per speaker. Be advised, by law the City Council cannot deliberate or take action on issues presented during Oral Comments that are not shown on the Agenda.

III. ADJOURN TO CLOSED SESSION

1. PUBLIC EMPLOYEE APPOINTMENT pursuant to Section 54957 of the Government Code; Title: City Manager

IV. CALL TO ORDER THE OPEN SESSION / FLAG SALUTE / ROLL CALL  9:00AM

V. REPORT OUT OF CLOSED SESSION

VI. ORAL COMMENTS FROM THE PUBLIC

Members of the Public may be heard at this time on any item within the subject matter jurisdiction of the City that is not on the Public Meeting Agenda. It is the practice of this Council to hold public comment for every item of business on the agenda at the time that item is heard. If a speaker cannot stay for a particular item of business, they may be heard during this time. Speakers addressing the Council will be limited to 3 minutes per speaker. Be advised that, by law, the City Council can only deliberate or take action on items that are included on the agenda

VII. STAFF PRESENTATION ITEMS

A. Presentation of the North Main Street Gateway Project by the Fortuna Leadership Group (Informational Item)

B. Wastewater Treatment and Disposal Preliminary Engineering Report and Wastewater Compliance Project Update (Informational Item)

VIII. ADJOURN

Pursuant to Government Code Section 54957.5, any non-confidential documents or writings that the City distributes, less than 72 hours before a regular meeting, to all or a majority of the legislative body's members must be made available to members of the public at the same time as the distribution. Documents and information related to the agenda topics are available for review at City Hall, 621 11th Street, between the hours of 8:00 AM to 5:00 PM. Members of the public are invited to come to the meeting and comment. In compliance with the Americans with Disabilities Act, if you need special assistance to participate in this meeting, please contact the City Clerk at 725-7600. Notification prior to the meeting will enable the City to make reasonable arrangements to ensure accessibility to this meeting.

Linda McGill
City Clerk
DATE: October 13, 2016

TO: Honorable Mayor and Council Members

FROM: William Dobberstein, Chief of Police

THRU: Randy Mendosa, Interim City Manager

SUBJECT: Fortuna Leadership Group Presentation to Council on North Main Street Gateway Project

EXECUTIVE SUMMARY:

In 2012 the Fortuna Chamber of Commerce held its inaugural “Leadership Fortuna” training session made up of various community leaders within the City of Fortuna. The group held weekly meetings and was introduced to a variety of community and business leaders in Fortuna. One of the goals of Leadership Fortuna is to make Fortuna a better place to live, work and enjoy for all residents. Having this in mind the leadership group opted to beautify the area of North Main St. at the entrance to the city with a Gateway project.

The first concept was to construct a “Gateway Arch” in the area of Main and North 3rd St. The group began to research Gateway arches in other cities and met regularly on this project, going as far as getting cost estimates and conducting site surveys and brainstorming designs for the arch. During the course of the planning efforts, it became apparent that the PG&E power poles and wiring in the area would create an obstruction to the arch and researching the cost of moving or undergrounding the power lines placed this gateway concept out of realm of possibility.

The leadership group continued to move forward on an iconic gateway project and focused its efforts on a large city owned traffic median on North Main St. as the site of its gateway project.

The inspiration for the proposed Fortuna North Main Street Gateway is based on the City’s local geographic context of the immediately adjacent forest covered hills, Redwood trees, a history of being a logging town and the adjacent Eel River. Additionally, the inspiration for this concept came directly from cues from the great Seal of the City of Fortuna which celebrates the Redwoods and the Eel River. This concept is conceived as a design sensitive, contextual appropriateness and as a complete vision understanding the past, present and future of Fortuna.

The location is in an existing approximately 5,500 sf central, semi-irregular (2) triangle shaped asphalt traffic median located in front of C. Crane Headquarters and to the north and the Redi-Rents facility to the south. The project site is located on Main Street as one approaches the City of Fortuna from the 101 South Off-ramp, or as one leaves Fortuna heading North on the HWY 101on-ramp. The new “Main Street Gateway” site proposes to unify the existing two partial asphalt triangle medians and associated “pass thru” into one simplified monolithic planned improvement. A total area of 950 sf (17% of the proposed improvement project) would be transformed from an asphalt “pass thru” into a continuum of the larger triangle landscaped environment. This will unify the “Gateway” concept into a singular improvement and reduce and/or remove an existing driving hazard, without compromising existing vehicular access/egress.

The new “Iconic Concept” is based on the use of dual local iconic, approximately 26 ft. high Redwood Trees (made of rusted plate steel) acting as a vertical visual Gateway and/or terminus, embraced by two sets of four each flanking American flagpoles, when entering and leaving Fortuna via Main Street and US
The rusted steel iconic abstracted Redwood Trees represent a direct connection to the forest which is our immediate backdrop to and embraces our City of Fortuna. The iconic rusted steel trees have the words “FRIENDLY” (in Script-Style lettering), in addition to the word “FORTUNA” (in Whisky Bold typeface). These carefully placed words are strategically placed on the rusted steel plate abstracted Redwood Trees, to welcome residents and guests as they enter and leave our city. The lettering for the words are also made of steel, pinned-off the steel plate, with a glossy baked-enamel finish which will be front-light during nighttime hours. The great Seal of the City of Fortuna is suspended between the trunks of the dual Redwood (steel) Trees, also illuminated.

Additionally, this iconic, Architectural Gateway Concept is proposed to be located in the center of a 45ft. diameter, raised (+3 ft. high) concrete battered-wall planter. The circular planter acts as a “center-piece” within the larger, unified triangle median improvements. The circular “center-piece” and the associated triangle median will be fully developed with an abstraction of the Eel River through the use of local, indigenous, drought resistant, low maintenance Sea-Grasses, washed river rocks, Flax plants, ground cover and large specimen boulders, resulting in a complete and contextual, time-enduring, Iconic “Gateway” setting. The new Main Street gateway will be equally successful in greeting passer-byers both in daytime and nighttime, due to its’ site-specific and contextual local design materials, local imagery references and its’ relative “Gateway” monumental quality. At nighttime this illuminated Vertical Gateway will act as a welcoming beacon and a point of reference as travelers move in, around and out of or City.

Maintenance requirements for the new “Main Street Gateway” will be minimal. Likely seasonal landscape maintenance that can be proposed to be performed by city staff or local gardening contractor, citizen or a group or business who wishes to perform or pay for maintenance services as required through an “Adopt a Gateway” program similar to the Cal-Trans “Adopt a Highway” program where the adopter in return gets his/her name or business identified on an in-stitu, identifying plaque sign. Additionally, our group is asking the City of Fortuna to make provisions for “In-Kind” donations of labor and materials. Our group plans aggressive fund raising efforts and local community support will help off-set the actual “Main Street Gateway” improvement total costs, which benefits all.

In Summary this new “Main Street Gateway” (Iconic Gateway) concept is most appropriate and uniquely contextual, in representing the City of Fortuna, through its’ inspiring, time enduring planning, design and materials which collectively recognizes Fortuna’s history, while looking to the future. The new “Main Street Gateway” improvement will be user friendly, as well as promote and evoke great civic and American pride.

This entire project would be gifted to the city upon completion.

FISCAL IMPACT:
Preliminary budget estimates indicate the entire cost of this project to be around $50,000 that our group plans to collect through fundraising efforts. The City contribution would consist of existing concrete removal and re-forming the concrete base wall forming the newly designed median and running electrical power line to the median.

RECOMMENDED COUNCIL ACTION:
1. Receive Leadership Fortuna presentation and review Council questions with staff
2. Open Public Comment
3. Close Public Comment
4. No action required. Receive report as informational item.

ATTACHMENTS:
- Overhead and Aerial view of the project site
Exhibit A

Overhead / Aerial view of the project site
DATE: October 13, 2016
TO: Honorable Mayor and Council Members
FROM: Merritt Perry, City Engineer and Doug Culbert, Chief Plant Operator
THRU: Randy Mendosa, Interim City Manager
SUBJECT: Wastewater Treatment and Disposal Preliminary Engineering Report and Wastewater Compliance Project Update

STAFF RECOMMENDATION:
Receive Update from Staff and GHD representatives regarding the Wastewater Treatment Plant Treatment and Disposal Preliminary Engineering Report (PER), (CIP# 0171)

EXECUTIVE SUMMARY:
On September 16, 2013, the City Council authorized an amendment in the amount of $101,605 for GHD to complete a Preliminary Engineering Report (PER) to further analyze the three recommended wastewater disposal alternatives recommended for further study in the pre-feasibility analysis, and evaluate treatment only for a fourth option. A draft copy of the PER was completed submitted to the City and Council was last provided an update on October 6, 2014.

The purpose of the PER was to prepare the City to make decisions and select the best approach to address the compliance issues the City is currently facing, including:

- The requirement to implement a new summer disposal system instead of continuing to use the existing percolation ponds
- The requirement to restrict flows to Strongs creek to 1% of the creek flow
- The requirement to comply with nutrient effluent limitations which are anticipated to be included in the City’s next National Pollution Discharge Elimination System permit (NPDES) permit in 2016.

In Late 2015 GHD completed the draft PER after a lengthy review process with several iterations of staff comments on the draft document. The document was completed in August and is comprised of several tech technical memoranda combined into one report including:

1. Executive Summary
2. Flows and Loads Analysis
3. Disposal Alternatives
4. Treatment Alternatives
5. Condition and Capacity Assessment
6. Cost Estimates
7. Sampling Plan
The PER is intended to serve as a detailed analysis that the council can use to make decisions to address the compliance issues listed above. The final PER will serve as a Wastewater Facilities Plan and include analyses typically required for the application for State and Federal funding programs.

The Regional Water Quality Control Board has still not completed the City’s 2016 discharge permit but has indicated that they plan to include a required schedule for the City to stop using the existing percolation ponds for discharge. This schedule will necessitate that the City choose and implement a disposal alternative within the not too distant future.

Staff has applied for and anticipates receiving a $500,000 grant (with no city match) to complete the next required steps toward final selection of an alternative including:

- Evaluating the site characteristics for potential disposal sites
- Sampling and Analyzing Eel River to determine potential for year around discharge
- Identifying collection system problems to quantify the amount of inflow and infiltration and develop a cost to reduce inflow and infiltration opposed to treating it
- Develop an additional treatment alternative that would be for a retrofit rather than a completely new treatment process
- Develop a conceptual design for the alternative ultimately selected by the City
- Complete an initial study under CEQA for the selected alternative
- Completion of a draft Report of Waste Discharge and permit applications for the selected alternative
- Initiation of outreach to private property owners for land acquisition

A copy of the scope of work submitted with the grant application is attached and included as Attachment A.

FINANCIAL IMPACT:

This staff report is intended to provide an update only and no decision regarding the expenditure of funds is being made.

The City currently has $500,000 budgeted this FY for the planning for the wastewater treatment plant treatment and disposal improvements as a part of the Summer Discharge Compliance item (#0171) and are included in the FY 16/17 CIP. Funding was originally intended to come from fund 560, the Wastewater Reserve Fund however it is now anticipated to be paid for with grant funds from the State Clean Water State Revolving Fund.

RECOMMENDED COUNCIL ACTION:

1. Receive staff presentation and review Council questions with staff
2. Open Public Comment
3. Close Public Comment
4. No action required. Receive report as informational item.

ATTACHMENTS:

- Attachment A – DRAFT Contract Amendment with Scope of Services
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Introduction

The City of Fortuna (City) is actively pursuing funding through the Clean Water State Revolving Fund (CWSRF) for planning of the Wastewater Treatment and Disposal System Upgrade Project (the Project) for the community. The objective of the Project is to address compliance issues related to the disposal of treated effluent.

The City's Wastewater Treatment Facility (WWTF) is regulated under the North Coast Regional Water Quality Control Board (NCRWQCB), and operates under waste discharge requirements issued by the NCRWQCB in Order No. R1-2011-0004 which was effective as of January 26, 2011.

The Fortuna WWTF has a permitted annual average day flow (ADF) capacity of 1.9 mgd and currently treats an ADF of approximately 1.0 mgd. Approximately 90% of the connections to the collection system are residential and commercial users and the remaining 10% are industrial. The Fortuna WWTF was originally constructed in 1974 under the City of Fortuna Water Pollution Control Facilities Project. In June 2007, an upgrade was completed to provide additional preliminary treatment, secondary clarification and solids handling facility. The existing liquid treatment facilities include screening, grit removal, equalization, primary clarification, secondary treatment for BOD and TSS removal, secondary clarifiers, and chlorination/dechlorination.

From May 15 through September 30, effluent is discharged into two percolation ponds located along the banks of the Eel River. From October 1 through May 14, treated effluent is discharged into either the percolation ponds or Strongs Creek, a tributary of the Eel River. The City has been presented with restrictions on both existing methods of discharge due to environmental concerns, and as a result, must identify and implement alternative methods of effluent disposal or reuse.

The City is evaluating wastewater treatment, disposal, and reuse alternatives to address the compliance challenges related to the City’s discharge permit with the North Coast Regional Water Quality Control Board (Regional Board). The purpose of this Project is to prepare the City for making the necessary decisions for addressing the following compliance challenges:

- The Regional Board has told the City that a new summer disposal system will be required to replace the existing percolation ponds located on the banks of the Eel River.
- Winter discharge to Strongs Creek is likely to exceed 1% of the creek flow at times; therefore a Discharge Rate Restriction exception for Strongs Creek is required for continued use of this discharge location.
- The City has been told that nutrient effluent limits will be required in the future and should be anticipated in a future permit, likely as soon as the 2020/2021 permit renewal cycle.

The City has prepared an initial Preliminary Engineering Report that evaluated several treatment and disposal options. The preferred alternatives for disposal were year round disposal to the Eel River with a Basin Plan amendment and summertime disposal to irrigation fields/ percolation ponds with wintertime disposal to the Eel River or Strongs Creek. Treatment options to support either disposal alternative were also evaluated. To continue to move forward, the City must conduct effluent and surface water quality monitoring to fully understand the costs and feasibility of year round discharge to the Eel. The City is currently coordinating with Staff at the North Coast Regional Water Quality Control Board (NCRWQCB) as they work on the Triennial Review of the Basin Plan which will address year-round discharge in the current cycle. The City must also conduct land searches and groundwater evaluations to understand the feasibility of summertime land disposal.
The plan of study presented herein has been prepared with the best information available at the time of preparation; however, the full scope of several of these items may change when additional information is obtained during the course of the planned evaluations and environmental review process. The scope of work proposed under this plan of study is presented in the next section.

**Plan of Study Scope**

This section describes the work proposed to be completed for the planning components of the City Wastewater Treatment and Disposal System Upgrade Project. The last section presents the estimated planning costs and preliminary schedule.

**Task 1 – Disposal Site Specific Evaluations**

The City needs to conduct soils and groundwater tests at the proposed irrigation/percolation pond sites to support system design and Regional Board permitting. The soils evaluation will classify soils on site, confirm soil properties, and determine land requirements needed for disposal. The groundwater evaluation will determine existing gradients and direction of flow and support an anti-degradation analysis. This task will be performed concurrently with Task 2. The following subtasks will be included in the disposal site evaluations:

**Task 1.1 Soils Evaluations**

The infiltration and permeability testing is necessary to identify the rate at which treated effluent may be applied to the site and to determine the associated acreage needed for disposal.

- **Exploratory Test Pits** - In order to identify disposal area soil and hydraulic characteristics, an initial exploratory phase will be conducted in which soil scientists will classify the soils using USDA/USCS classification and dig up to 8, roughly eighteen foot deep test pits which will result in soils data on the general site characteristics. Boring logs will be developed for each of the test pits dug under this task. This task also includes a book level soils classification to determine the most appropriate locations for the test pits.

- **Infiltration and Permeability** - Following completion of the above task, more detailed soil testing will performed to determine infiltration and permeability rates of the potential disposal site(s). This task includes double ring infiltrometer testing on site and collection of soil cores to conduct falling head permeability tests in the lab. These tests are needed to more accurately characterize the infiltration and permeability rates into the soils. This task also includes collection of representative soil samples for fertility testing of the soils at potential irrigation site(s) to further characterize the soils and guide long-term management strategies for maintaining the viability and fertility of the irrigation site(s).

**Task 1.2 Groundwater Evaluation**

The groundwater evaluation includes four subtasks which are described below.

- **Develop Groundwater Monitoring Plan** - A groundwater monitoring plan will be developed that includes a description of the protocols to be used for installation of the wells and the methods that will be used to sample the monitoring wells.

- **Installation of Groundwater Monitoring Wells** - In order to determine groundwater gradient and obtain background and pre-project levels of various water quality constituents at the site, a
subsurface investigation will be performed. Activities for this effort include pre-field tasks such as marking the site for underground service alert, and obtaining a drilling permit from the Humboldt County Department of Environmental Health. Up to six soil borings will then be installed at the site(s) for the purpose of classifying soils, collecting soil samples (including Shelby tube samples) and installing a monitoring well in each of the borings. The new monitoring wells will be surveyed, developed, and sampled as part of this phase of work.

- Initial Groundwater Monitoring - Initial samples will be collected just after the groundwater wells are installed. Each of the monitoring wells at the potential disposal/irrigation site(s) will be purged and samples collected will be analyzed for pH, Nitrate as N, Nitrite as N, Ammonia, TDS, and Sodium as recommended by the Regional Board.
- Groundwater Monitoring - Collection of data on depth to water on monthly basis during the wet weather or as necessary to obtain groundwater levels, and potentially samples for laboratory analysis. Depth to groundwater data will be collected at the monitoring wells at the site(s) and then the wells will be purged and samples collected will be analyzed for pH, Nitrate as N, Nitrite as N, Ammonia, TDS, and Sodium as recommended by the Regional Board.

**Task 1.3 Disposal Site Evaluation Report**

A draft and final Disposal Site Evaluation Report documenting the procedures and results of the test pits, soil logs, drilling, sampling, well installation, well development, wellhead survey, and laboratory analytical results. The report will include an analysis of the groundwater data and conclude if potential sites may be compatible with effluent disposal. The report will also include figures, tables, field notes, boring logs, survey data and other pertinent items, including laboratory reports.

**Task 2 Deliverables:**

- *Final Disposal Site Evaluation Report documenting the procedures and results*

**Task 2 – Surface Water Disposal Evaluation**

The most likely constraints to year round surface water disposal include: bacteria and viruses, biostimulatory substances (e.g. carbon, nitrogen, and phosphorus), priority pollutants, toxicity to aquatic life, and chemicals of emerging concern.

The allowable impacts to beneficial uses and water quality standards for these are governed by the North Coast Basin Plan water quality criteria and objectives, and other California State policies and plans such as the Policy for Implementation of Toxics Standards for Inland Surface waters, Enclosed Bays, and Estuaries for California (SIP), and California Code of Regulations Title 22 water reuse criteria, which set strict effluent limits or criteria regarding bacteria, priority pollutants and toxics.

It is currently required that communities discharging effluent to surface waters in the North Coast Region meet water quality based effluent limits for bacteria, priority pollutants and toxicity at the "end of pipe" prior to discharging to receiving waters. Consequently, the NCRWQCB current policies and practices regarding bacteria, priority pollutants and toxicity essentially remove these constituents as a constraint for effluent discharge to waters in Strongs Creek or the Eel River during the discharge prohibition period. Thus, the most restrictive constraints regarding low-flow discharge during summer months will be associated with discharging biostimulatory substances, primarily nitrogen and phosphorus, and chemicals of emerging concern (CECs).

The following subtasks will be included in the surface water disposal evaluations:

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**Task 2.1 Water Quality Monitoring Plan**

A water quality monitoring plan will be developed for approval by the NCRWQCB. The plan will include proposed locations and constituents to be monitored and sampling protocols. Surface water quality monitoring for impacts due to biostimulatory effects is anticipated to include nitrogen (total nitrogen, organic nitrogen, ammonia, and nitrite/nitrate), phosphorus (total phosphorus, organic phosphorus and ortho-phosphate), chlorophyll, dissolved oxygen, temperature, and pH. Constituents to be sampled as part of CEC analysis will be developed in coordination with the NCRWQCB.

**Task 2.2 Water Quality Monitoring**

Once the sampling plan is approved, constituents will be monitoring for at least one summer season. The data will be compiled into a monitoring report that will be shared with the NCRWQCB.

**Task 2.3 Water Quality Modelling**

Once instream data is collected a model of the Strong creek/ Eel River area will be developed to evaluate changes in water quality due to input of treated wastewater into the river in the summer. It is anticipated that an EPA approved surface water quality model that is capable of at least 2 dimensional analysis will be used to evaluate changes in water quality. The model will be capable of analyzing water quality responses to natural phenomena and manmade input for various effluent discharge scenarios including evaluating both biostiumlatory and organic chemical loading effects.

**Task 2.4 Surface Water Evaluation Report**

A draft and final Surface Water Evaluation Report documenting the procedures and results of the water quality monitoring and modelling will be prepared. The report will include an analysis of the water quality monitoring and modelling and discuss the potential for year round discharge to be pursued. The report will also include figures, tables, field notes, and other pertinent items, including laboratory reports.

**Task 2 Deliverables**

- Surface Water Evaluation Report documenting the procedures and results

**Task 3 – Sanitary Sewer Evaluation Study**

The tasks below have been developed to meet the CWSRF guidelines for preparation of a Sanitary Sewer Evaluation Study (SSES).

**Task 3.1 Identify Collection System Problems**

This task involves identifying existing problems within the collection system through a systematic investigation and approach. This task will build on the existing staff knowledge of problems areas in the system.

A kick-off meeting will be held to develop a project execution strategy, and to obtain all available existing information needed for the analysis. Collection system mapping will be reviewed and used to divide the collection system into up to five subsystems, and key manholes which are located at the outlet of each subsystem will be identified for flow monitoring under this task. Additionally, existing flow records at the wastewater treatment plant will be reviewed. The meeting will also be used to develop the flow monitoring schedule and establish a date for initial installation of the necessary equipment, discussed below.
Flow monitoring will be conducted at each of the key manholes identified in the kick-off meeting to compare observed flows with expected flows from each subsystem. In this manner, problem subsystems will be identified and a determination will be made as to whether further study is warranted in these problem subsystems. The initial determination of problem subsystems will be made following data collection and analysis of the data and capturing of at least one significant rainfall event. It is assumed problem subsystems will continue to be monitored for an additional time, with flow monitoring equipment being moved after the first one month period to better define conditions in the higher priority problem subsystems. Following data collection in problem subsystems, the data will be analyzed under Task 3.2 and determinations made as to whether the excessive flow problem is due to infiltration or inflow (or both).

**Task 3.2 Define Infiltration/Inflow (I/I) Problem**

Following identification of the problem subsystems in Task 3.1, the I/I issues will be further defined through field reconnaissance and physical inspections. Field reconnaissance will be conducted during rain events to characterize I/I sources within the designated subsystems. This task includes field reconnaissance during the flow monitoring period. Field reconnaissance can be scheduled at night during low sanitary flow periods to identify “clear water,” which represents mostly I/I and very little wastewater.

Physical inspections of manholes within the identified problem areas will also be conducted to identify physical or structural deficiencies that are contributing to I/I. Manholes will be inspected on the walls and floor for weeping water, mineral deposits, and sand/silt deposits. Construction and pipe materials will also be inspected for misalignment, structural deformities, and other potential physical issues which may be allowing stormwater or groundwater to enter the system. Following these inspections, a manhole inspection report will be prepared which contains the manhole number, size, type of pipe, structural condition, amount of deposit, and root growth.

The report will also include a recommendation for the preferred rehabilitation and/or cleaning method for each sewer section. In problem subsystems where inflow and infiltration are anticipated to be contributing factors to excessive flow, efforts will be made to identify root causes of inflow or infiltration. Problem subsystem flow data will be compared to rainfall data collected at the Fortuna River Lodge.

**Task 3.3 Prepare Map and Field Report**

Following completion of the Tasks 3.1 and 3.2, a GIS map will be prepared locating and presenting identified problem sewers and manholes. The map will include subsystem delineations and color coding to differentiate pipe sizes, pipe materials, and estimated quantities of normalized I/I. Inflow and infiltration will be normalized by subsystem by length of collection system piping and pipe diameter. The direction of sewer flow will also be indicated on the map.

A draft field inspection report will also be prepared which incorporates the information from field reconnaissance, including all field notes and measurements, the manhole inspection report, and the smoke testing report.

**Task 3.4 Conduct Cost Effectiveness Analysis**

After all data and results have been analyzed and summarized in the draft field report, a cost-effectiveness analysis will be conducted to determine the cost of recommended I/I reduction measures for up to 10 grouped projects, and at which point the investments are no longer cost effective for the estimated reduction in I/I. Costs for transporting and treating existing I/I will be estimated including operation and maintenance costs. Order of magnitude costs for I/I reduction will include repair, rehabilitation, replacement, engineering, environmental and permitting, and construction management.
costs. The total costs of transporting, treating, and reducing I/I will then be plotted with the various estimated percentages of I/I reduction to determine the cost-effective cut-off point, as set forth in SWRCB guidelines for this type of analysis.

**Task 3.5 Prepare Final I&I Reduction Report**

Following completion of the cost effectiveness analysis, a draft report will be prepared summarizing the results of the analysis and recommendations made for I/I reduction in problem subsystems, including the basis for recommendations and a short term and long term action plan and schedule. The draft report will include the subsystem analysis, flow monitoring, results of field reconnaissance, and manhole inspection report and recommendations. The goal of the recommendations will be to identify cost effective I/I projects that would bring the City within the EPA I/I limits of 120 gallons per capita per day (gpcd) for average dry weather flow and 275 gpcd for average wet weather flows.

**Task 3 Deliverables:**

*Kick Off workshop agenda and meeting summary.*

*Draft and Final Field Inspection Report*

*Draft and Final SSES Report*

**Task 4 – Preliminary Engineering Report Update**

The City has completed an initial Preliminary Engineering Report (PER). At the conclusion of that report additional questions were raised about input loading rates and assumptions used to develop treatment alternatives, and additional treatment options were identified. Under this task the initial PER will be updated to reflect revised loadings to the treatment plant and to develop a fourth treatment upgrade option, which would be a more direct upgrade of the existing facilities instead of new treatment technologies. The PER update is anticipated to incorporate information from Tasks 1 and 2 as well. The preliminary engineering report will also include an evaluation of rate impacts from the proposed alternatives. This PER will include a description of the City's preferred alternative for implementation.

**Task 4 Deliverables:**

*Preliminary Engineering Report Update. This document will include updates from the last PER to reflect changes in assumptions regarding treatment plant loading and updated treatment system costs. The document will also incorporate results from the land disposal and surface water disposal analyses.*

**Task 5 – Wastewater Treatment and Disposal System Conceptual Design**

Based on the preferred alternative selected in the PER, a conceptual design will be developed that can be used in support of CEQA and permitting. The conceptual design component of the project will include the following:

*Influent and effluent sampling to refine treatment system design*

*Process flow diagrams, liquid and solids balances, design criteria, hydraulic profiles, and electrical loads.*

*Facility layout and site grading requirements. This information is necessary for developing drainage permits, potential easements, and environmental permitting.*

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• Structural design approaches will be developed and presented as necessary for operational and treatment facilities, especially related to reuse of existing facilities.
• The electrical/instrumentation and control design criteria will be established and schematic designs developed. This will include preliminary load calculations.
• A Class 3 cost estimate as defined by the American Association of Cost Engineers (AACE) will be prepared. At this stage of the design process, it is critical to establish budgetary constraints. Scope of the project can be adjusted as necessary to conform to the City’s estimated budget and funding.
• Operational costs in terms of labor, power, chemicals, and materials will be refined from the PER analysis.
• A Project Delivery Analysis (PDA) will be prepared to describe, in detail, how this project will be implemented. The PDA will address issues such as schedule, bid packaging, procurement options, bidding options, construction sequencing, maintenance of process compliance during construction, and funding.

**Task 5 Deliverables:**

- **Conceptual Project Design Technical Memorandum.** This document will include a summary of the analyses presented above and document design assumptions in the conceptual design.
- **Class 3 Cost Estimate**
- **Conceptual Project Design Plans**

**Task 5 – CEQA**

It is anticipated that the final proposed project will require a mitigated negative declaration for California Environmental Quality Act (CEQA) Compliance. This task will start with the preparation of an Administrative Draft Initial Study and Proposed Mitigated Negative Declaration (IS/MND) for the project. The most current version of the Initial Study checklist (Appendix G of the 2015 CEQA Guidelines) will be used. The approach for the CEQA checklist resource categories to be included in the Administrative Draft IS/MND is as follows:

- **Project Description** – A detailed project description will be prepared including but not limited to project background, environmental setting and existing conditions, project components, construction schedule, other public agency approvals, and environmental protection actions incorporated into the project. The project conceptual design will be used as the basis for the project description.

- **Aesthetics** – The existing visual setting of the project area will be described. Visual aspects of the proposed project components will be analyzed.

- **Agriculture and Forest Resources** – The existing setting, within the project area will be described and potential impacts will be analyzed. Depending on potential impacts to agricultural resources, a Land Evaluation and Site Assessment (LESA) model may need to be completed.

- **Air Quality** – The potential air quality impacts associated with the project would be emissions from construction vehicles and equipment and disposal of excavated material. The North Coast Unified Air Quality Management City does not require the quantification of construction emissions but does require compliance with best available dust control measures. Dust control measures will be described, sensitive receptors in the vicinity of the project site will be identified, and if applicable, appropriate mitigation measures will be incorporated. This scope and cost does include an emissions model run.
• **Biological Resources** – Potential biological resources impacts will be described and, if appropriate, mitigation measures will be identified. Biological resources reports prepared for the project will be used in the analysis.

• **Cultural Resources** – Potential cultural resources impacts will be described and, if appropriate, mitigation measures will be identified. The analysis will be based on the cultural resources analysis under the Background Studies Task.

• **Geology/Soils** – Potential seismic impacts will be identified. Potential erosion impacts associated with project construction will be described, and if appropriate, mitigation measures will be identified.

• **Greenhouse Gas Emissions** – The existing environmental setting and regulations will be described and analyzed against proposed project activities, as required by CEQA.

• **Hazards and Hazardous Materials** – A qualitative description of potential hazards and hazardous materials impacts will be provided.

• **Hydrology/Water Quality** – Potential impacts of the proposed project on water quality and hydrology will be identified.

• **Land Use and Planning** – The existing General Plan Land Use and Zoning designations in the project area and regulations affecting the proposed project will be described and analyzed.

• **Mineral Resources** – Any existing mineral resources in the project area will be identified and analyzed against proposed project activities.

• **Noise** – The existing noise environment in the project area will be described and nearby sensitive receptors identified. The potential noise impacts associated with the proposed project would be from temporary construction activities.

• **Population and Housing** – The existing population and housing stock in the project area will be described and analyzed for potential effects from the proposed project.

• **Public Services** – Existing public services and utilities in the project area will be described and analyzed based on information obtained from various local resources.

• **Recreation** – The existing recreational amenities in the project area will be described and analyzed for potential effects from the proposed project.

• **Transportation/Traffic** – Daily vehicle trips to and from the project site during construction are expected to be minor. Truck trips associated with project construction will be analyzed. Temporary impacts to roadways and bicycle/pedestrian paths will be described and mitigation measures identified as appropriate. A traffic impact study is not a part of this plan of study.

• **Utilities and Service Systems** – The existing utilities and service systems in the project area will be described and analyzed for potential effects from the proposed project.

**Task 6 Deliverables:**

- Administrative Draft Initial Study and Mitigated Negative Declaration
- IS/MND Circulation List
- Initial Study and Proposed Mitigated Negative Declaration

**Task 7 – Report of Waste Discharge**

The City will need to complete a Report of Waste Discharge (RWD) Application as part of the wastewater system upgrade. The improvement project will potentially result in a new wastewater treatment process.
and new wastewater disposal system for which a new report of waste discharge will be required. The Regional Board will issue a new NPDES permit and associated waste discharge requirements (WDRs), which will be based in part on the RWD, which will describe the new treatment facilities and disposal practices. Additional details on anticipated tasks are described below.

**Form 200**

A Form 200 will be completed and submitted to the State. This is the required form which contains all the basic information about the City’s system as well as administrative and processing information.

**Hydrogeologic/Anti-Degradation Analyses**

An anti-degradation analysis will be completed demonstrating that the disposal practices will not degrade baseline surface or groundwater quality and will not impact any of the beneficial uses designated for the receiving water.

The anti-degradation analyses will require expected effluent strength and groundwater quality data. Baseline and pre-project groundwater and surface water data collected under the previous tasks will be utilized in the analysis as well as the disposal site soil investigation and PER information.

**NPDES/WDR Permit Coordination/Review**

This sub-task will consist of coordination with the Regional Board on finalizing the City’s NPDES/WDR permit. Coordination efforts include providing additional information and analysis not requested as part of the Report of Waste Discharge; follow up clarifications on how and why the disposal system is laid out the way it is; and negotiations for the most appropriate and flexible effluent limits possible.

**Task 7 Deliverables**

Completed Report of Waste Discharge for submission to the North Coast Regional Water Quality Control Board.

**Task 8 – Additional Permit Applications**

Depending on the final preferred alternative selected, additional permits beyond the report of waste discharge may be required. This plan of study assumes the permits listed below will be needed, however the final determination on permits will be made once the preferred alternative is selected. Depending on regulatory requirements additional permit support beyond what is outlined in the plan of study may be needed. Permitting requirements will be taken into consideration during the update to the PER so that the project can be configured to address associated permit requirements upfront. Project permits can take many months to make it through local, state, and federal regulatory agency review processes. Early coordination on permits is essential to project success and timely construction.

The application requirements and process are heavily driven by the regulating agency and the specific regulator involved with the process. This plan of study lays out the preparation of permit applications in a logical fashion, with appropriate agency coordination included to get regulatory input up front to address potential issues that can arise during the permit process.

**Army Corps of Engineers (COE) Section 404**

"
As part of the CEQA process, a field level reconnaissance will be conducted along with a review of the National Wetlands Inventory Map. In the event of no wetland impacts, a No Permit Required Concurrence Letter will be prepared. In the event of potential wetland impacts, a Section 404 Permit Application will be prepared to submit to the COE. If a Wetlands Mitigation Plan is ultimately required by the Army Corps, it will need to be prepared and submitted with the 404 permit application. It is currently assumed that a Wetlands Mitigation Plan will not be required by the Army Corps. It is also assumed that a 404(b)(1) Alternatives Analysis will not be required by the COE.

**North Coast Regional Water Quality Control Board (RWQCB) Section 401 Water Quality Certification**

If work is anticipated to occur below the Ordinary High Water (OHW) line during installation of the disposal system, a Section 401 permit application will need to be obtained from the RWQCB prior to constructing the system. If required, a Section 401 Water Quality Certification Application will be completed including graphics for submission to the RWQCB.

**California Department of Fish and Wildlife (CDFW) Section 1602**

As the CDFW jurisdiction is area below the top of bank, a Section 1602 permit application will need to be obtained prior to construction if work will be required below top of bank. If required, the application for a CDFW 1602 Notification of Streambed Alteration Agreement including a re-vegetation plan will be completed. The term of Streambed Alteration Agreement and re-vegetation success monitoring is 5 years. This task does not include any special biological surveys or studies or the 5-year monitoring task.

**Conditional Use Permit**

Depending on the final selection of the wastewater treatment plant and disposal sites, and the current zoning for those lands, a conditional use permit may be required prior to construction. If required, a Conditional Use Permit application will be completed for submission to Humboldt County along with the necessary supporting documentation.

**Encroachment Permits**

The City’s wastewater development project may include areas where pipelines may cross through Humboldt County or Caltrans Right of Way. Encroachment permits must be obtained from the County and/ or Caltrans for work performed within their right of way. This task will consist of the Encroachment Permit application and supporting information and coordination on the completion of the permit.

**Task 8 Deliverables**

Completed Permit Applications submitted to responsible agencies.

**Task 9 – Lands and Right of Way Acquisition Negotiations**

This task is to provide support to the City related to land purchase for the construction of the potential land disposal site, as well as acquisition of easements for pipelines or other structures located off of City land and outside of existing public right of way. This task includes negotiations with landowners and coordination with the City’s attorneys to draft land use requirements to be reflected in any potential purchase or lease agreements, as well as preforming the necessary land surveying and recording of easements. This task does not include the actual purchasing of land or easements. The level of effort for
this task is dependent on the final system layout, cooperation the City gets from landowners, the nature of the final potential purchase agreements, and other factors, and a final level of effort is impossible to gauge at this point and a rough cost estimate has been provided.

**Task 9 Deliverables**

Completed Permit Applications submitted to responsible agencies.

**Task 10 – Project Administration**

This task is to cover the costs to administer the project. This includes preparation of regular reimbursement requests to the SWRCB, progress reporting, and project closeout. This task also covers coordination efforts between the City and the consultant team completing the project. Staff input is valuable in developing quality information about the state of the existing system, recent repairs that have been completed, and preferences.

**Task 10 Deliverables**

Project Reporting including: reimbursement requests, progress reporting, and project closeout documentation.

**Planning Budget**

Table 1 presents an estimate of the planning budget needed to complete the scope described above. This is a budgetary cost estimate. Effort was made to capture all costs, however as more detailed information is developed there may be additional effort that is needed beyond what is presented here.

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<tr>
<th>Task Name</th>
<th>Budget Level Estimate of Costs</th>
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<td>Task 2 - Surface Water Disposal Evaluation</td>
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<td>Task 3 – Sanitary Sewer Evaluation Study</td>
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<td>Task 4 – Preliminary Engineering Report Update</td>
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<td>Task 5 – Wastewater Treatment &amp; Disposal System Prelim Design</td>
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# Planning Schedule

The project planning schedule is presented in Table 2 below.

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