STORMWATER TREATMENT DEVICE
ACCESS AND MAINTENANCE AGREEMENT

Doc #: 2019-094180
08/29/2019 09:45:59 AM
Page: 1 of 34 Fee: $113.00
Steve J. Bestolarides
San Joaquin County Recorders
Paid By: SHOWN ON DOCUMENT

After recorded, return to:
~~Teri Chapa~~ Mario Caballero
City of Stockton
Municipal Utilities Department
2500 Navy Drive
Stockton, CA 95206

MUNICIPAL UTILITIES DEPARTMENT
After Recording Transmit Copy to:

___ Owner of Record
___ Municipal Utilities Department
___ City Clerk (Original)

OWNER NAME (S) (as shown on deed) & **MAILING ADDRESS**: IDIG Stockton LLC
601 South Figueroa Street, Suite 2200, Los Angeles, CA 90017

O&M CONTACT PERSON & PHONE #: Brian Gagne, Senior Vice President and Regional Director
(213) 330-8066

FACILITY NAME AND ADDRESS: Amazon 615K
3929 S. B. Street, Stockton, CA 95206

ASSESSOR PARCEL NO. 177-140-37, 177-140-38

THIS AGREEMENT is made and entered into in Stockton, California, this 1 day of July 2019, by and between IDIG Stockton LLC, hereinafter referred to as "Owner" and the CITY OF STOCKTON, a municipal corporation, located in the County of San Joaquin, State of California hereinafter referred to as "CITY,"

WHEREAS, the Owner owns real property ("Property") in the City of Stockton, County of San Joaquin, State of California, depicted in Exhibit "A" and intends to install a pollution control system described in Exhibit "B", both of which are attached hereto and incorporated herein by this reference;

2019-07-02-5001 P

OR 23452462

WHEREAS, at the time of initial approval of development project known as Amazon 615K within the Property described herein, the City required the project to employ on-site control measures to minimize pollutants in urban runoff;

WHEREAS, the Owner has chosen to install a twelve (12) Bioretention Areas, hereinafter referred to as "Device", as the on-site control measure to minimize pollutants in urban runoff;

WHEREAS, said Device has been installed in accordance with the requirements of the City of Stockton Stormwater Quality Control Criteria Plan and the Owner's plans and specifications accepted by the City;

WHEREAS, said Device, with installation on private property and draining only private property, is a private facility with all operation, maintenance and replacement, therefore, the sole responsibility of the Owner in accordance with the terms of this Agreement;

WHEREAS, the Owner is aware that periodic and continuous maintenance, including, but not necessarily limited to, sediment removal, is required to assure peak performance of Device and that, furthermore, such maintenance activity will require compliance with all Local, State, or Federal laws and regulations, including those pertaining to confined space and waste disposal methods, in effect at the time such maintenance occurs;

NOW THEREFORE, it is mutually stipulated and agreed as follows:

1. Owner hereby provides the City or City's designee complete access, of any duration, to the Device and its immediate vicinity at any time, upon reasonable notice, or in the event of emergency, as determined by City's Director of Municipal Utilities with no advance notice, for the purpose of inspection, sampling, testing of the Device, and in case of emergency, to undertake all necessary repairs or other preventative measures at owner's expense as provided in paragraph 3 below. The Owner/Operator shall retain all operation and maintenance records at the facility for City inspection, and a copy shall be provided to the City if requested. City shall make every effort at all times to minimize or avoid interference with Owner's use of the Property.

2. Owner shall use its best efforts to diligently maintain the Device in a manner assuring peak performance at all times. All reasonable precautions shall be exercised by Owner and Owner's representative or contractor in the removal and extraction of material(s) from the Device and the ultimate disposal of the material(s) in a manner consistent with all relevant laws and regulations in effect at the time. When requested from time to time by the City, the Owner shall provide the City with documentation identifying the material(s) removed, the quantity, and disposal destination.

3. In the event Owner, or its successors or assigns, fails to accomplish the necessary maintenance contemplated by this Agreement, within five (5) days of being given written notice by the City, the City is hereby authorized to cause any maintenance necessary to be done and charge the entire cost and expense to the Owner or Owner's successors or assigns, including administrative costs, attorney's fees and interest thereon at the maximum rate authorized by the Civil Code from the date of the notice of expense until paid in full, and Owner hereby agrees to pay such charge within 30 days of receipt of City's written demand for payment.

4. The City may require the owner to post security in form and for a time period satisfactory to the City of guarantee the performance of the obligations stated herein. Should the Owner fail to perform the obligations under the Agreement, the City may, in the case of a cash bond, act for the Owner using the proceeds from it, or in the case of a surety bond, require the sureties to perform the obligations of the Agreement. As an additional remedy, the Director may withdraw any previous stormwater related approval with respects to the property on which a Device has been installed until such time as Owner repays to City its reasonable costs incurred in accordance with paragraph 3 above.

5. This agreement shall be recorded in the Office of the Recorder of San Joaquin County, California, at the expense of the Owner and shall constitute notice to all successors and assigns of the title to said Property of the obligation herein set forth, and also a lien in such amount as will fully reimburse the City, including interest as herein above set forth, subject to foreclosure in event of default in payment.

6. In event of legal action occasioned by any default or action of the Owner, or its successors or assigns, then the Owner and its successors or assigns agree(s) to pay all costs incurred by the City in enforcing the terms of this Agreement, including reasonable attorney's fees and costs, and that the same shall become a part of the lien against said Property.

7. It is the intent of the parties hereto that burdens and benefits herein undertaken shall constitute covenants that run with said Property and constitute a lien there against.

8. The obligations herein undertaken shall be binding upon the heirs, successors, executors, administrators and assigns of the parties hereto. The term "Owner" shall include not only the present Owner, but also its heirs, successors, executors, administrators, and assigns. Owner shall notify any successor to title of all or part of the Property about the existence of this Agreement. Owner shall provide such notice prior to such successor obtaining an interest in all or part of the Property. Owner shall provide a copy of such notice to the City at the same time such notice is provided to the successor.

9. Time is of the essence in the performance of this Agreement.

10. Any notice or demand for payment to a party required or called for in this Agreement shall be served in person, or by deposit in the U.S. Mail, first class postage prepaid, to addresses listed on Page 1 of this agreement either for the Owner or City. Notice(s) shall be deemed effective upon receipt, or seventy-two (72) hours after deposit in the U.S. Mail, whichever is earlier. A party may change a notice address only by providing written notice thereof to the other party.

IN WITNESS THEREOF, the parties hereto have affixed their signatures as of the date first written above.

CITY OF STOCKTON, a
Municipal Corporation

ATTEST: APPROVED AS TO FORM:

By _____ Scott R. Carney Deputy City Manager
KURT O. WILSON
CITY MANAGER

OFFICE OF THE CITY ATTORNEY

By _____
City Attorney

IDIG Stockton LLC
NAME OF PROPERTY OWNER

By _____
PROPERTY OWNER

Name Brian Gagne

Title Senior Vice President and Regional Director

ATTEST:
CLERK OF THE CITY OF STOCKTON

By _____

CITY ACKNOWLEDGMENT

A notary public or other officer completing this certificate verifies only the identity of the individual who signed the document to which this certificate is attached, and not the truthfulness, accuracy, or validity of that document.

STATE OF CALIFORNIA
COUNTY OF SAN JOAQUIN)

On 7-1-19 before me, Karen A. Costa, Notary Public
(insert name and title of the officer)

personally appeared Scott R. Carney
who proved to me on the basis of satisfactory evidence to be the person~~(s)~~ whose name~~(s)~~ is/~~are~~ subscribed to the within instrument and acknowledged to me that he/~~she/they~~ executed the same in his/~~her/their~~ authorized capacity~~(ies)~~, and that by his/~~her/their~~ signature~~(s)~~ on the instrument the person~~(s)~~, or the entity upon behalf of which the person~~(s)~~ acted, executed the instrument.

I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.

Signature _____ (Seal)

KAREN A. COSTA
Commission # 2130153
Notary Public - California
San Joaquin County
My Comm. Expires Nov 10, 2019

OWNER ACKNOWLEDGMENT

A notary public or other officer completing this certificate verifies only the identity of the individual who signed the document to which this certificate is attached, and not the truthfulness, accuracy, or validity of that document.

STATE OF CALIFORNIA)
COUNTY OF Los Angeles)

On October 18, 2017 before me, Jessica An, a notary public,
(Insert Name and Title of Officer)

personally appeared Brian Gagne,
who proved to me on the basis of satisfactory evidence to be the person(~~s~~) whose name(~~s~~) is/~~are~~ subscribed to the within instrument and acknowledged to me that he/~~she/they~~ executed the same in his/~~her/their~~ authorized capacity(~~ies~~), and that by his/~~her/their~~ signature(~~s~~) on the instrument the person(~~s~~), or the entity upon behalf of which the person(~~s~~) acted, executed the instrument.

I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.

Signature of Notary

(Seal)

JESSICA AN
Comm. #2120066
Notary Public - California
Los Angeles County
Comm. Expires Jul 19, 2019

OWNER ACKNOWLEDGMENT

A notary public or other officer completing this certificate verifies only the identity of the individual who signed the document to which this certificate is attached, and not the truthfulness, accuracy, or validity of that document.

STATE OF CALIFORNIA)
COUNTY OF _____)

On _____before me, _____
(Insert Name and Title of Officer)

personally appeared _____,
who proved to me on the basis of satisfactory evidence to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

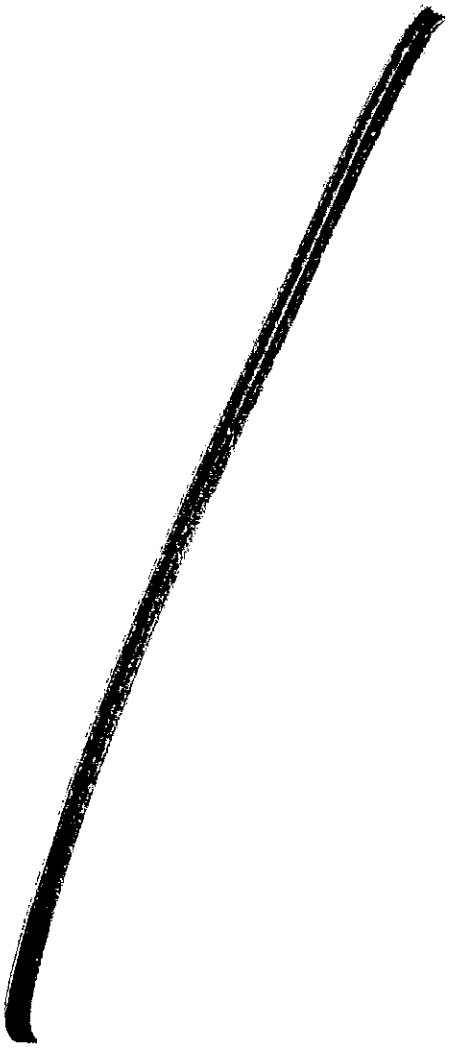
I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.

_____ **(Seal)**
Signature of Notary

EXHIBIT A

(Deed Copy)



Doc #: 2016-127785
10/19/2016 08:23:08 AM
Page: 1 of 8 Fee: $43.00
Steve J. Bestolarides
San Joaquin County Recorders
Paid By: SHOWN ON DOCUMENT

Please return to:

City of Stockton
Community Development Department
Planning & Engineering Services Div.
425 North El Dorado Street
Stockton CA 95202

LLA 16-06

CERTIFICATE OF LOT LINE ADJUSTMENT

WHEREAS, IDI SERVICES GROUP, LLC, a Georgia limited liability company, property owner, has requested a lot line adjustment between:

All that real property situated in the City of Stockton, County of San Joaquin, State of California, described as follows:

SEE ATTACHED EXHIBIT A

THE LOTS AFTER ADJUSTMENT ARE MORE PARTICULARLY DESCRIBED AS FOLLOWS:

SEE ATTACHED EXHIBIT AA

WHEREAS, the land from one parcel is added to the adjacent parcel, and a greater number of parcels than originally existed is not thereby created;

WHEREAS, no additional lots or building sites are created;

WHEREAS, the lot line adjustment will not result in the creation of an additional substandard lot, or in a decrease in size of an existing substandard lot;

NOW THEREFORE, the City Engineer and Director of Community Development of the City of Stockton duly recognize the appropriateness of and approve said lot line adjustment pursuant to the authority of the Subdivision Map Act (Government Code Section 66412) and the Stockton Municipal Code Section 16-200.020.

Date: June 13, 2016

ERIC ALVAREZ, R.C.E. C 57830
PUBLIC WORKS DEPARTMENT
CITY ENGINEER
CITY OF STOCKTON
(Registration Expiration Date: 6/30/16)
State of California

ACKNOWLEDGMENT

A notary public or other officer completing this certificate verifies only the identity of the individual who signed the document to which this certificate is attached, and not the truthfulness, accuracy, or validity of that document.

State of California
County of San Joaquin)

On June 13, 2016 before me, Analissa Nunez, Notary Public Offic Specialist
(insert name and title of the officer)

personally appeared Eric Alvarez,
who proved to me on the basis of satisfactory evidence to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.

ANALISSA NUNEZ
Commission # 2021088
Notary Public - California
San Joaquin County
My Comm. Expires Apr 20, 2017

Signature _____ (Seal)

Additional information Certificate of Lot Line Adjustment 16-06

EXHIBIT "A"

BEFORE ADJUSTMENT
LOT LINE ADJUSTMENT 16-06
LEGAL DESCRIPTION

Parcel 1 of parcel map COS 15-05 as filed on April 7, 2016, in Book 26 of Parcel Maps, at Page 51, San Joaquin County Records, lying in a portion of Section 36, C. M. Weber Grant, City of Stockton, County of San Joaquin ,State of California.

Containing: 43.455 Ac. more or less.

END OF DESCRIPTION

#15170
06/06/16

LASZLO ZOLD P.L.S. 8247
LICENSE EXPIRES: 12-31-17

EXHIBIT "A"

BEFORE ADJUSTMENT
LOT LINE ADJUSTMENT 16-06
LEGAL DESCRIPTION

Parcel 2 of parcel map COS 15-05 as filed on April 7, 2016, in Book 26 of Parcel Maps, at Page 51, San Joaquin County Records, lying in a portion of Section 36, C. M. Weber Grant, City of Stockton, County of San Joaquin ,State of California.

Containing: 28.966 Ac. more or less.

END OF DESCRIPTION

#15170
06/06/16

LASZLO ZOLD P.L.S. 8247
LICENSE EXPIRES: 12-31-17

EXHIBIT "A"

BEFORE ADJUSTMENT
LOT LINE ADJUSTMENT 16-06
LEGAL DESCRIPTION

Parcel 4 as described in a deed recorded March 18, 2016 in Document No. 2016-031329, San Joaquin County Records, said Parcel 4 being a 3.893 acre parcel of land described as a 50 foot right of way for North Little Johns Creek, lying in a portion of Section 36, C. M. Weber Grant, City of Stockton, County of San Joaquin, State of California.

Containing: 3.893 Ac. more or less.

END OF DESCRIPTION

#15170
06/06/16

LASZLO ZOLD P.L.S. 8247
LICENSE EXPIRES: 12-31-17

EXHIBIT "AA"

LOT LINE ADJUSTMENT 16-06
LEGAL DESCRIPTION

PARCEL 1

Parcel 1 of parcel map COS 15-05 as filed on April 7, 2016, in Book 26 of Parcel Maps, at Page 51, San Joaquin County Records, lying in a portion of Section 36, C. M. Weber Grant, City of Stockton, County of San Joaquin ,State of California.

TOGETHER WITH a portion of Parcel 4 as described in a deed recorded March 18, 2016 in Document No. 2016-031329, San Joaquin County Records, said Parcel 4 being a 3.893 acre parcel of land described as a 50 foot right of way for North Little John's Creek, in Book 22 of parcel maps, at Page 145, San Joaquin County Records, said portion lying easterly of the southerly projection of the westerly line of said Parcel 1

Containing: 45.445 Ac. more or less.

END OF DESCRIPTION

NOTE:
The above described adjusted parcel is to be merged to create a single parcel and is subject to all existing easements.
This legal description is prepared in conformance with "LLA 16-06" as approved by the City of Stockton.
Attached hereto is a plat entitled Exhibit "B" which by this reference is made a part hereof.

#15170
06/06/16

LASZLO ZOLD P.L.S. 8247
LICENSE EXPIRES: 12-31-17

EXHIBIT "AA"

LOT LINE ADJUSTMENT 16-06
LEGAL DESCRIPTION

PARCEL 2

Parcel 2 of parcel map COS 15-05 as filed on April 7, 2016, in Book 26 of Parcel Maps, at Page 51, San Joaquin County Records, lying in a portion of Section 36, C. M. Weber Grant, City of Stockton, County of San Joaquin ,State of California.

TOGETHER WITH a portion of Parcel 4 as described in a deed recorded March 18, 2016 in Document No. 2016-031329, San Joaquin County Records, said parcel 4 being a 3.893 acre parcel of land described as a 50 foot right of way for North Little John's Creek, in Book 22 of parcel maps, at Page 145, San Joaquin County Records, said portion lying westerly of the southerly projection of the easterly line of said Parcel 2.

Containing: 30.867 Ac. more or less.

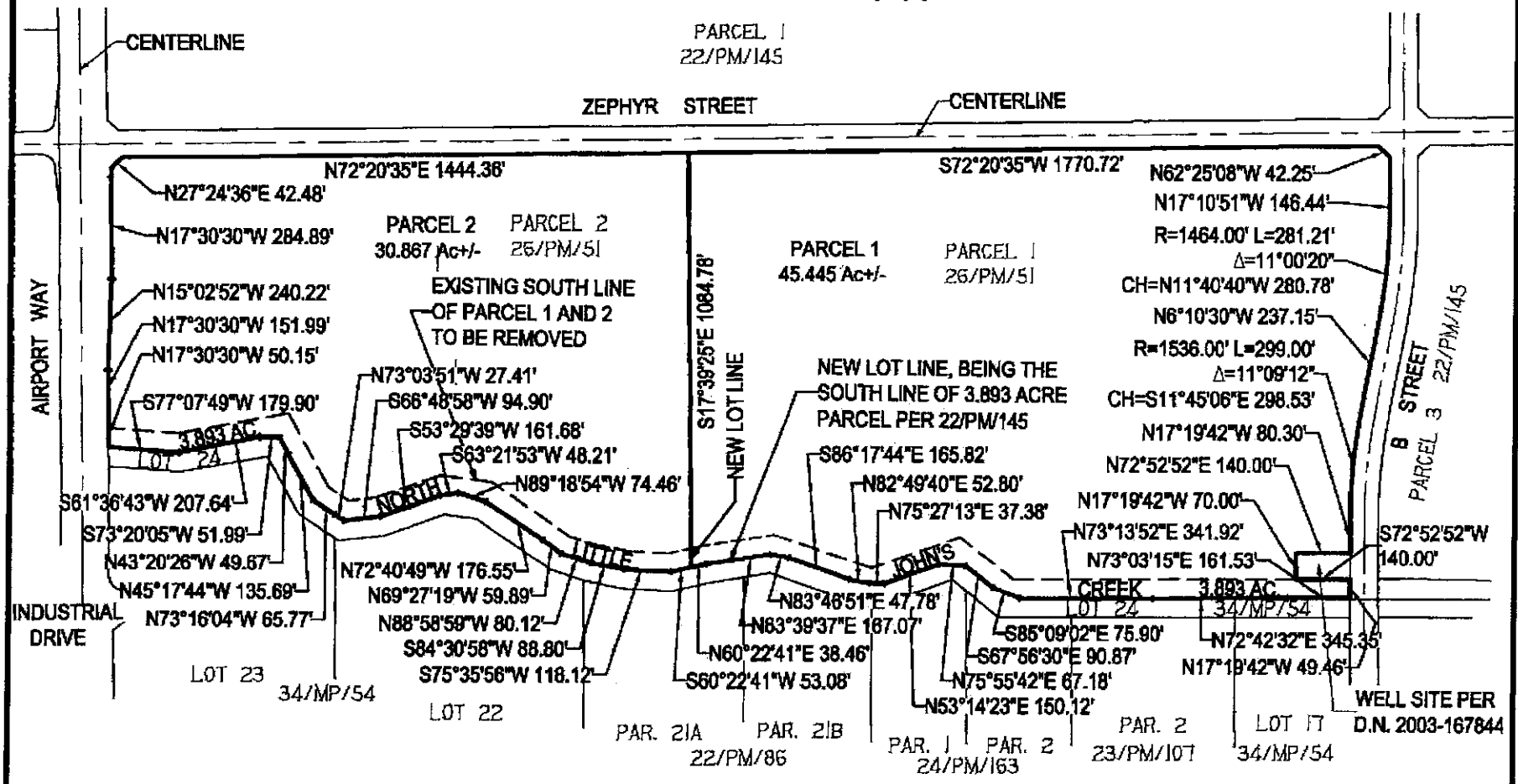
END OF DESCRIPTION

NOTE:
The above described adjusted parcel is to be merged to create a single parcel and is subject to all existing easements.
This legal description is prepared in conformance with "LLA 16-06" as approved by the City of Stockton.
Attached hereto is a plat entitled Exhibit "B" which by this reference is made a part hereof.

#15170
06/06/16

LASZLO ZOLD P.L.S. 8247
LICENSE EXPIRES: 12-31-17

EXHIBIT "B" LLA 16-06

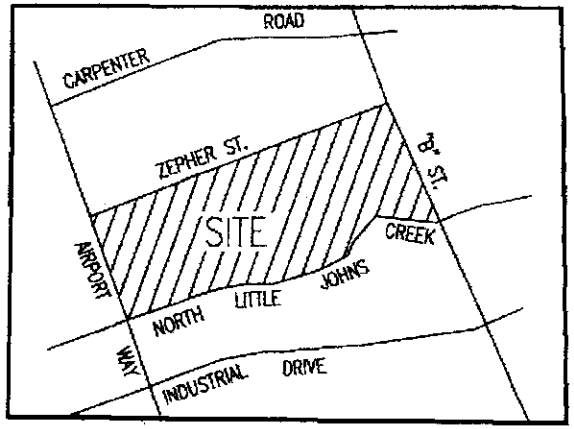


0' 200' 400' 800'

SCALE: 1"=400'

VICINITY MAP

SCALE: NTS



SIEGFRIED
9244 Brookside Road
Suite 100
Stockton, California 95219
209-948-2021
Fax- 209-942-0214
www.siegfriedeng.com

PROJECT

IDI GAZELEY
LLA

STOCKTON, CA

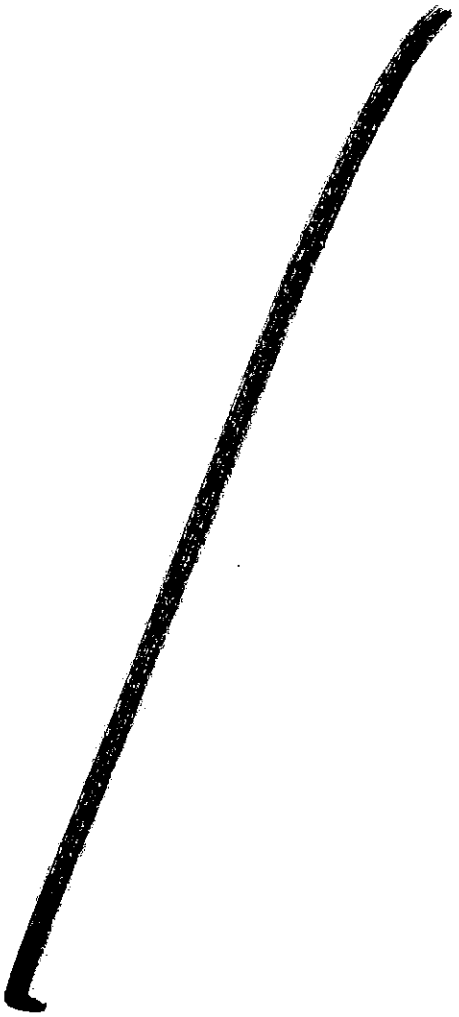
SHEET TITLE

LOT LINE ADJUSTMENT 16-06 SITE MAP

Proj Mgr	MC
Drawn by	LZ
Date	6-6-16
Scale	As Shown
Job No.	15170
SHEET:	1

EXHIBIT B

(Operation & Maintenance Plan)



MAINTENANCE PLAN

(in accordance with FINAL Stormwater Quality Control Criteria Plan, March 2009, Appendix E-2, Maintenance Plan Guidance)

AMAZON 615K

3923 B Street
Stockton, CA

Assessor's Parcel No. 177-140-37
177-140-38

Prepared For:

IDIG STOCKTON LLC
601 South Figueroa Street, Suite 2200
Los Angeles, CA 90017
Contact: Brian Gagne
Senior Vice President and Regional Director
(213) 330-8066

Prepared By:

SIEGFRIED
3244 Brookside Road, Suite 100
Stockton, CA 95219
(209) 943-2021

Date Prepared: 09/01/2017

A. Site

1. The main stormwater pollutants of concern associated with the new on-site development are sediment and trash/debris. The installed storm water treatment controls are intended to minimize the impacts of these pollutants to the environment. The maintenance plan described herein is a critical component of ensuring that the removal efficiency of the storm water treatment controls remains at an optimum level. Refer to the Facility Map on Page 13.

B. Baseline Descriptions

1. Owner: IDIG Stockton LLC
601 South Figueroa Street, Suite 2200
Los Angeles, CA 90017

Site Contact: Brian Gagne
Senior Vice President and Regional Director
IDIG Stockton LLC
(213) 330-8066

Maintenance Manager: N/A
N/A
N/A
N/A

2. The operation and maintenance of the storm water treatment controls will be funded as part of the facilities operating budget.

3. **Storm Water Treatment Controls**

The following treatment controls will be employed:

A. Bioretention: a vegetated, shallow depression that is designed to receive, retain, and infiltrate rainwater runoff from downspouts, piped inlets, or sheet flow from adjoining paved areas. A shallow surcharge or ponding zone is provided above the vegetated surface for temporary storage of the captured runoff. During stormwater events, runoff accumulates in the surcharge zone and gradually infiltrates the surface and filters through the engineered soil matrix, filling the void spaces of the matrix before infiltrating the underlying soil or being collected by an underdrain system.

4. **Maintenance Procedures & Guidelines**

A. Bioretention
- Remove void areas, treat diseased trees and shrubs
- Inspect soil and repair eroded areas
- Remove litter and debris
- Remove and replace dead and diseased vegetation
- Add additional mulch
- Remove sediment in inlet areas
- Replace tree stakes and wire

B. Site inspection procedures will be performed in accordance with the Operation and Maintenance Plan per the Stormwater Treatment Device

Access and Maintenance Agreement Exhibit A. The section above also describes the inspections required to maintain the stormwater treatment controls. Table A (attached) shall be printed and filled out each year. Records of the maintenance schedule for the stormwater treatment controls (refer to attachments) shall be kept for five (5) years.

C. Refer to the Maintenance and Inspection Schedule in Attachments, Table A

D. Required equipment and material for maintenance:
- Lawn Mower, edger, clippers, rakes, shovels, brooms, gloves, etc. for lawn and landscaping maintenance
- Dirt, sod and extra planting material to repair damaged area due to erosion, vandalism, etc.
- Trees, plants, tree stakes, rope, etc. to replace landscaping due to dead and/or diseased vegetation

5. **Potential Illicit Discharges**
Inlets within the project site area include grates and signs, which both discourage and minimize the potential for illicit discharges into the storm drain system.

C. Spill Plan

1. Site Contact: Brian Gagne
Senior Vice President and Regional Director
IDIG Stockton LLC
(213) 330-8066

Safety Manager: Brian Gagne
Senior Vice President and Regional Director
IDIG Stockton LLC
(213) 330-8066

2. Spills and contaminants will not be routed to one of the treatment controls within the project site area. Spills shall be contained and disposed, and recorded.

3. The treated stormwater from the project site area terminally discharges into the City of Stockton storm drain, then to North Little Johns Creek.

INSTRUCTIONS

Each facility can use this template by filling in the blanks and completing the attached:

__ Spills that require Special Cleanup,

__ Materials Inventory,

__ Maximum Cleanup Amounts,

__ Facility Map,

__ Spill Kit Inventory and labeling, and the

__ Employee Training Log.

Once completed, this Plan becomes the facility's individual Plan and must be properly implemented and maintained. The finished Plan should be reviewed and updated at least annually.

Plan Implementation Date: _____
Revision Date(s): _____
_____

Facility's Responsible Person(s) in charge of spill response planning, implementation and maintenance of this Plan:

Brian Gagne
Senior Vice President and Regional Director
IDIG Stockton LLC
(213) 330-8066

RESPONSIBILITIES

- The **Facility Responsible Person** has primary responsibility for coordinating the response to emergencies, including chemical spills.
- **Supervisors** should ensure that employees are familiar with these procedures and receive any necessary training.
- **All employees** should follow these procedures in the event of a chemical spill.

EMERGENCY CONTACT NUMBERS

The following telephone numbers should be posted near telephones and in other conspicuous locations:

- Outside emergency services (police, fire department, ambulance service): 911
- Hospital: [St. Joseph's Medical Center (209) 943-2000, Dameron Hospital (209) 944-5550, San Joaquin General Hospital (209) 835-4934], Other: _____
- Facility Responsible Person: Brian Gagne, Senior Vice President and Regional Director, IDIG Stockton LLC, (213) 330-8066
- Safety Department: (if applicable): _____
- Poison Control Center: (916) 227-1400
- Regional EPA Office: (415) 947-8000
- State environmental agency [California Department of Public Health: (916) 558-1784]
- OSHA area office: (415) 625-2547
- National Response Center: (800) 424-8802
- California Office of Emergency Management: (916) 845-8510
- San Joaquin County Illicit Discharge Hotline: (866) 755-4955
- City of Stockton Dispatch (Non-emergency): (209) 937-8377
- Others: _____
  _____
  _____

CLEAN-UP PROCEDURES

Spilled chemicals should be effectively and quickly contained and cleaned up. Employees should clean up spills themselves ***only if properly trained and protected.*** Employees who are not trained in spill cleanup procedures should report the spill to the Responsible Person(s) listed above, warn other employees, and leave the area.

The Maximum Cleanup Amounts that properly trained employee can cleanup **are listed in this document**. In the event of spills greater than these amounts, contact the appropriate responders listed in the Emergency Contact Numbers listed above.

The following general guidelines should be followed for evacuation, spill control, notification of proper authorities, and general emergency procedures in the event of a chemical incident in which there is potential for a significant release of hazardous materials.

1. **Evacuation**
   Persons in the immediate vicinity of a spill should *immediately evacuate* the premises (except for employees with training in spill response in circumstances described below). If the spill is of "medium" or "large" size, or if the spill seems hazardous, immediately notify emergency response personnel.

2. **Spill Control Techniques**
   Once a spill has occurred, the employee needs to decide whether the spill is small enough to handle without outside assistance. Only employees with training in spill response should attempt to contain or clean up a spill.
   NOTE: If you are cleaning up a spill yourself, make sure you are aware of the hazards associated with the materials spilled, have adequate ventilation, and proper personal protective equipment. Treat all residual chemical and cleanup materials as hazardous waste.

   Spill control equipment should be located wherever significant quantities of hazardous materials are received or stored. MSDSs, absorbents, over-pack containers, container patch kits, spill dams, shovels, floor dry, acid/base neutralizers, and "caution-keep out" signs are common spill response items.

3. **Spill Response and Cleanup**
   Chemical spills are divided into three categories: Small, Medium and Large. Response and cleanup procedures vary depending on the size of the spill.

   Small Spills: Any spill where the major dimension is less than 18 inches in diameter. Small spills are generally handled by internal personnel and usually do not require an emergency response by police or fire department HAZMAT teams.

   - Quickly control the spill by stopping or securing the spill source. This could be as simple as uprighting a container and using floor-dry or absorbent pads to soak up spilled material. Wear gloves and protective clothing, if necessary.
   - Put spill material and absorbents in secure containers if any are available.
   - Consult with the Facility Responsible Person and the MSDS for spill and waste disposal procedures.
   - In some instances, the area of the spill should not be washed with water. Use Dry Cleanup Methods and **never** wash spills down the drain, onto a storm drain or onto the driveway or storage lot.
   - Both the spilled material and the absorbent may be considered hazardous waste and must be disposed of in compliance with state and federal environmental regulations.

Medium Spills: Spills where the major dimension exceeds 18 inches, but is less than 6 feet. Outside emergency response personnel (police and fire department HAZMAT teams) should usually be called for medium spills. Common sense, however, will dictate when it is necessary to call them.

- Immediately try to help contain the spill at its source by simple measures only. This means quickly uprighting a container, or putting a lid on a container, if possible. Do not use absorbents unless they are immediately available. Once you have made a quick attempt to contain the spill, or once you have quickly determined you cannot take any brief containment measures, leave the area and alert Emergency Responders at 911. Closing doors behind you while leaving helps contain fumes from spills. Give police accurate information as to the location, chemical, and estimated amount of the spill.
- Evaluate the area outside the spill. Engines and electrical equipment near the spill area must be turned off. This eliminates various sources of ignition in the area. Advise Emergency Responders on how to turn off engines or electrical sources. Do not go back into the spill area once you have left. Help emergency responders by trying to determine how to shut off heating, air conditioning equipment, or air circulating equipment, if necessary.
- If emergency responders evacuate the spill area, follow their instructions in leaving the area.
- After emergency responders have contained the spill, be prepared to assist them with any other information that may be necessary, such as MSDSs and questions about the facility. Emergency responders or trained personnel with proper personal protective equipment will then clean up the spill residue. Do not re-enter the area until the responder in charge gives the all clear. Be prepared to assist these persons from outside the spill area with MSDSs, absorbents, and containers.
- Reports must be filed with proper authorities. It is the responsibility of the spiller to inform both his/her supervisor and the emergency responders as to what caused the spill. The response for large spills is similar to the procedures for medium spills, except that the exposure danger is greater.

Large Spills: Any spill involving flammable liquid where the major dimension exceeds 6 feet in diameter; and any "running" spill, where the source of the spill has not been contained or flow has not been stopped.

- Leave the area and notify Emergency Responders (911). Give the operator the spill location, chemical spilled, and approximate amount.
- From a safe area, attempt to get MSDS information for the spilled chemical for the emergency responders to use. Also, be prepared to advise responders as to any ignition sources, engines, electrical power, or air conditioning/ventilation systems that may need to be shut off. Advise responders of any absorbents, containers, or spill control equipment that may be available. This may need to be done from a remote area, because an evacuation that would place the spiller far from the scene may be needed. Use radio or phone to assist from a distance, if necessary.
- Only emergency response personnel, in accordance with their own established procedures, should handle spills greater than 6 feet in any dimension or that are continuous. Remember, once the emergency responders or HAZMAT team is on the job cleaning up spills or putting out fires, the area is under their control and no one may re-enter the area until the responder in charge gives the all clear.
- Provide information for reports to supervisors and responders, just as in medium spills.

REPORTING SPILLS

All chemical spills, regardless of size, should be reported as soon as possible to the Facility Responsible Person. The Responsible Person will determine whether the spill has the potential to affect the environment outside of the facility and must be reported to 911 or the National Response Center at 800-424-8802. Examples of spills that could affect the outside environment include spills that are accompanied by fire or explosion and spills that could reach nearby water bodies.

Accidental releases of certain toxic substances must be reported to the California Office of Emergency Management: and the San Joaquin County Disaster Preparedness Team, as required by the Emergency Planning and Community Right-to-Know Act. The Responsible Person will also make this determination.

SPILLS (MATERIALS) THAT REQUIRE SPECIAL CLEANUP

Describe any materials used your facility that in require special materials and procedures for cleanup procedures beyond those listed above. Provide details regarding hazards associated with these.

Material	***Hazards***

MATERIAL INVENTORY

List all materials or wastes that may require clean up. List the average and maximum amounts on site and their storage locations. *(Example materials are listed for convenience only. Ignore any that do not apply and add any other materials of concern that are onsite. Use additional sheets if necessary.)*

Material	Amount (avg/max)	Location(s)
Fertilizers		
Herbicides		
Paints/Stains		
Pesticides		
Other		

MAXIMUM CLEANUP AMOUNTS

Identify the maximum volume of spill that may be cleaned up by facility employees or contractors base on material (use 1 qt or 1 lb unless other information is available). Also identify how wastes from a spill of any material will be disposed (for example, absorbed and placed in dumpster) and the name and address of the offsite facility to which clean-up wastes will be sent for hazardous waste disposal, if applicable:

Material	Maximum Volume to be cleaned	Disposal Method/Location

LABEL SPILL KITS
(Refer to the Spill Kit Inventory in Attachments, Table B)

- Label each spill kit prominently with the words "SPILL KIT" or "ABSORBENTS" etc.
- Label or stencil the necessary emergency telephone number(s) or pager number(s) of persons to be contacted in case of a spill or leak that is beyond the training and equipment available on or near each spill locker:

Facility Responsible Person/Phone No.: Brian Gagne, Senior Vice President and Regional Director, IDIG Stockton LLC, (213) 330-8066

Spill Response Contractor(if any)/Phone No.: _____/(___)_____-____

State 24-Hour Emergency Spill Reporting Hot-Line: (800) 876-4766

- Stencil the following warning *PROMINENTLY* on each spill locker:

  "WARNING: NEVER HOSE DOWN A SPILL!
  CLEAN IT UP PROMTLY AND DISPOSE OF THE WATER PROPERLY."

D. Facility Changes

1. There are no anticipated changes to the facility or use of the facility once the improvements are constructed. If the function or use of the site is to change the owner should notify the City and County. If there are any changes to the site or stormwater quality control measure the Maintenance Plan needs to be modified.

E. Training (*Refer to the Training Log in Attachments, Table D*)

1. Training should include:
   A. Good housekeeping procedures defined in the plan
   B. Proper maintenance of all pollution mitigation devices
   C. Identification and cleanup procedures for spills and overflows
   D. Large-scale spill or hazardous material response
   E. Safety concerns when maintaining devices and cleaning spills

F. Basic Inspection and Maintenance Activities (*Refer to the Inspector Log in Attachments, Table C*)

1. Once annually, perform testing of any mechanical or electrical devices prior to wet weather.
2. Report any significant changes in stormwater control measures to the site management. As appropriate, assure mechanical devices are working properly and/or landscaped BMP plantings are irrigated and nurtured to promote thick growth.
3. Note any significant maintenance requirements due to spills or unexpected discharges.
4. As appropriate, perform maintenance and replacement as scheduled and as needed in a timely manner to assure stormwater control measures are performing as designed and approved.
5. Assure *unauthorized* low-flow discharges from the property do not by-pass stormwater control measures.
6. Perform an annual assessment of each pollution generation operation and its associated stormwater control measures to determine if any part of the pollution reduction train can be improved.

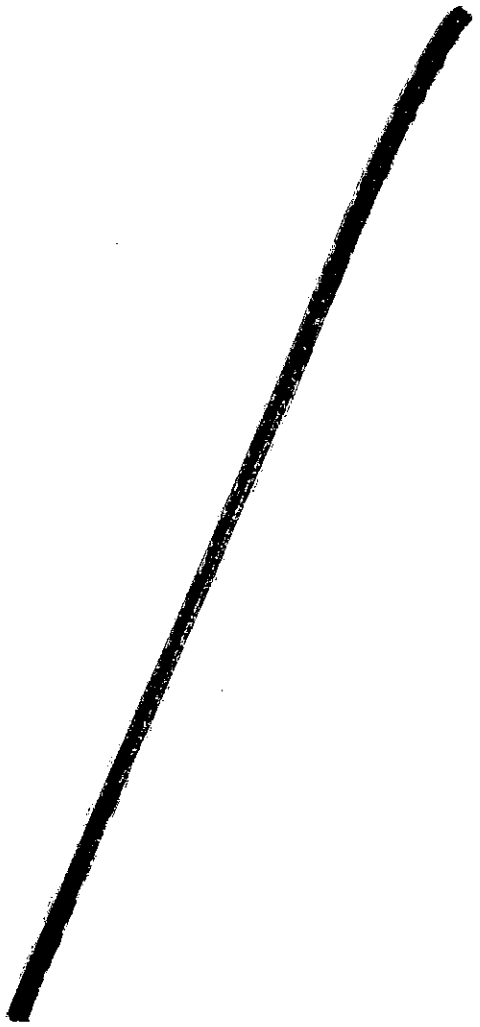
G. Revisions to Pollution Mitigation Measures

1. If future correction or modification of pass stormwater control measures or procedures is required, the owner shall obtain approval from the governing stormwater agency prior to commencing any work. Corrective measures or modifications shall not cause discharges to by-pass or otherwise impede existing stormwater control measures

H. Monitoring & Reporting Program

1. Monitor and Report the Stormwater Control Measures are performing adequately to the City of Stockton and San Joaquin County as necessary and as each municipality requires.
2. Performance testing shall be done in accordance with the requirements by City of Stockton and San Joaquin County, if requested.

Attachments



Amazon 615K, 3923 B Street, Stockton, CA 95206

Table A: Maintenance and Inspection Schedule

Maintenance Activity	Frequency of Maintenance	January	February	March	April	May	June	July	August	September	October	November	December
Inspect catch basin inlets and clean all debris and sediment, repair storm drain signage if illegible	Bi-Annual												
Notes/By whom/Services Performed	*Staff*												
Remove void areas, treat diseased trees and shrubs	As required												
Notes/By whom/Services Performed	*Staff*												
Inspect soil, repair eroded areas, and remove litter and debris	Monthly												
Notes/By whom/Services Performed	*Staff*												
Remove and replace dead and diseased vegetation	Bi-Annual												
Notes/By whom/Services Performed	*Staff*												
Add additional mulch and replace tree stakes and wire	Annual												
Notes/By whom/Services Performed	*Staff*												
Irrigate to ensure healthy vegetation	As required												
Notes/By whom/Services Performed	*Staff*												

Note: Maintenance activities shall be performed in accordance with the Maintenance Plan. Mark an "X" when the maintenance activity has been performed and provide notes below each marked "X".

Amazon 615K, 3923 B Street, Stockton, CA 95206

Table A: Maintenance and Inspection Schedule

Maintenance Activity	Frequency of Maintenance	January	February	March	April	May	June	July	August	September	October	November	December
Mow grass within swales to maintain a height of 4 to 6 inches	As required												
Notes/By whom/Services Performed	*Staff*												
Remove grass clippings, trash, and debris from the swale	As required												
Notes/By whom/Services Performed	*Staff*												
Use integrated pest management techniques	As required												
Notes/By whom/Services Performed	*Staff*												
Inspect swale for signs of erosion, vegetation damage/coverage, channelization problems, debris accumulation, invasive vegetation, pools of standing water, and excessive sedimentation	Bi-Annual, including at the end of the wet (rainy) season												
Notes/By whom/Services Performed	*Staff*												

Note: Maintenance activities shall be performed in accordance with the Maintenance Plan. Mark an "X" when the maintenance activity has been performed and provide notes below each marked "X".

AMAZON 615K, 3923 B STREET, STOCKTON, CA 95206

TABLE B: SPILL KIT INVENTORY

List the spill response equipment that will be maintained in each locker (refer to the Maintenance Plan to determine recommended clean-up methods and supplies):

LOCKER NUMBER OR LOCATION	ABSORBENTS (bags of loose absorbents, pigs, rolls of sheets, containers of neutralizing agents)	TOOLS (shovels, brooms, dust pans, waste containers, squeegees, etc.)	PERSONAL PROTECTIVE EQUIPMENT (impervious gloves, goggles, aprons, boots, dust masks, etc.)	OTHER SUPPLIES (warning tape, labels, markers, MSDSs, etc.)

PERSON RESPONSIBLE FOR MAINTAINING THIS INVENTORY:_____

AMAZON 615K, 3923 B STREET, STOCKTON, CA 95206

TABLE C: INSPECTOR LOG

Identify the Inspector, date and which items were checked; provide additional notes as necessary:

Inspector Name	Date	Stormwater Control Device Inspected/Maintained	Bioretention area is maintained and debris is picked up	Drain inlets inspected, clear of debris and no visual damage, "do not dump" signage visible	Pavement is swept and debris is picked up	Additional Notes
		Bioretention Area 1				
		Bioretention Area 2				
		Bioretention Area 3				
		Bioretention Area 4				
		Bioretention Area 5				
		Bioretention Area 6				
		Bioretention Area 7				
		Bioretention Area 8				
		Bioretention Area 9				
		Bioretention Area 10.1				
		Bioretention Area 10.2				
		Bioretention Area 10.3				
		Bioretention Area 11.1				
		Bioretention Area 11.2				
		Bioretention Area 11.3				
		Bioretention Area 12.1				
		Bioretention Area 12.2				
		Bioretention Area 12.3				

AMAZON 615K, 3923 B STREET, STOCKTON, CA

TABLE D: EMPLOYEE TRAINING LOG

Identify the spill response training provided to each employee or contractor who is charged with responsibility for spill response:

EMPLOYEE OR CONTRACTOR NAME	INSTRUCTOR'S NAME	DATE OF TRAINING

STORMWATER QUALITY CONTROL PLAN (SWQCP)

AMAZON 615K

3923 S. B Street
Stockton, CA

APN: 177-140-37
177-140-38

Prepared For:

IDIG STOCKTON LLC
601 South Figueroa Street, Suite 2200
Los Angeles, CA 90017
(213) 330-8066
Attn: Brian Gagne
Senior Vice President and Regional Director

Prepared By:

SIEGFRIED ENGINEERING, INC.
3244 Brookside Road, Suite 100
Stockton, CA 95219
(209) 943-2021

Date Prepared: 09/01/2017

TABLE OF CONTENTS

TABLES AND FORMS

OWNER'S CERTIFICATION

STORMWATER QUALITY CONTROL PLAN

for

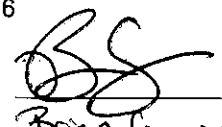
AMAZON 615K

This Stormwater Quality Control Plan (Plan) was prepared for Amazon 615K by Siegfried Engineering, Inc. This Plan is intended to comply with all requirements specified in the City of Stockton Stormwater Quality Control Criteria Plan (SWQCCP) for new development and redevelopment projects.

The undersigned understands that stormwater pollution control measures are enforceable requirements under the SWQCCP. The undersigned, while owning the property on which such control measures are to be implemented, is responsible for the implementation of the provisions of this Plan and for the maintenance of all structural stormwater pollution control measures and agrees to ensure that the conditions on the project site conform to the requirements specified in the SWQCCP.

Once the undersigned transfers its interest in the project property, its successors-in-interest shall bear the aforementioned responsibility to maintain structural stormwater pollution control measures and to implement and amend this Plan.

IDIG Stockton, LLC
Attn: Brian Gagne
Senior Vice President and Regional Director
601 South Figueroa Street, Suite 2200
Los Angeles, CA 90017
(213) 330-8066

Signature	
Print Name	Brian Gagne
Title	SVP + Regional Director
Date	10/18/17

STORMWATER QUALITY CONTROL PLAN

for

AMAZON 615K

I. WATER QUALITY

A. Regulatory Requirements

Surface water quality is subject to federal, state, and local water quality requirements. General requirements are shown in the following table and discussed in more detail below.

Water Quality Requirement	Enforcing Agency
Clean Water Act	United States Environmental Protection Agency (USEPA), but largely delegated to the SWRCB and RWQCB.
National Pollutant Discharge Elimination System Permit (NPDES)	California State Water Resources Control Board (SWRCB)
Municipal Separate Storm Sewer System Permit (MS4)	Regional Water Quality Control Board (RWQCB)
Stormwater Quality Control Criteria Plan (SWQCCP)	City of Stockton

The Federal Clean Water Act (33 U.S.C. §§1251 et seq.) is the principal federal statute governing water quality. The goal of the Clean Water Act is to protect the physical, chemical, and biological integrity of the waters of the United States. The Clean Water Act requires the State to adopt water quality standards for water bodies and have those standards approved by EPA. The California state agencies that set water quality standards are the California State Water Resources Control Board (SWRCB) and the Regional Water Quality Control Boards (RWQCBs) that are under the SWRCB's purview. Water quality standards consist of a designated beneficial use or uses for a particular water body, along with water quality objectives based upon these uses {40 C.F.R. §131.3(i)}. Designated beneficial uses of water bodies describe the appropriate uses of that water body, such as contact recreation, warm water habitat, and municipal or drinking water uses. Water quality objectives are limits or levels of water pollutants and/or narrative statements that represent the quality of water that support a particular use.

Under the Clean Water Act, National Pollutant Discharge Elimination System (NPDES) permits require effluent limits necessary to meet water quality standards for pollutants that may cause or contribute to an exceedance of a State Water Quality Standard (40C.F.R. § 122.44). NPDES permits may establish enforceable effluent limitations on discharges, require monitoring of discharges, designate reporting requirements, or require the permittee to perform Best Management Practices (BMPs). BMPs are procedures designed to minimize the release of pollutants. BMPs may be used in addition to numeric effluent limitations, or, in some cases, in lieu of numeric effluent limitations {40 C.F.R. § 122.44(k)}. When application of numeric effluent limitations is technically infeasible, such as in permits governing stormwater discharges, effluent limitations are expressed as BMPs.

The medium MS4 (Order No. R5-2007-0173) is the NPDES permit governing stormwater discharges and certain non-stormwater discharges to the public storm drain system within the City of Stockton and County of San Joaquin under the Central Valley RWQCB. The medium MS4

Permit relies primarily on the SWQCCP, which sets forth BMPs and other water quality control measures to manage water quality for stormwater discharges to the municipal storm drain system. The SWQCCP is administered by the City of Stockton Municipal Utilities Department. The Central Valley RWQCB has determined that compliance with the SWQCCP (as it will be modified pursuant to the MS4 Permit) meets the permitting requirements of the medium MS4. The SWQCCP is the principal policy and guidance document for the area-wide NPDES Stormwater Program, and the SWQCCP addresses post-construction, long-term water quality management.

II. PROJECT DESCRIPTION

A. Project Category (per Table 2-2 of the SWQCC Plan)

_____	Significant Redevelopment (≥ 5,000sf)
X	Commercial Developments (≥ 5,000sf)
_____	Automotive Repair Shops
_____	Retail Gasoline Outlets
_____	Restaurants
_____	Parking Lots (≥ 5,000sf or 25 spaces)
_____	Streets and Roads (> 1 acre paved surface)
_____	Home Subdivisions (≥ 10 units)

B. Development Characteristics

Size of development, details, and anticipated uses:

This project consists of the construction of an 615,440 sf warehouse building and surrounding parking facilities, totaling 71.2 acres.

Parcel's Zoned: Industrial General (IG)

Refer to the exhibits provided in Section VI of this document showing the proposed site layout, site characteristics, and BMP locations.

III. SITE DESCRIPTION

The Project site is herein referred to as the Amazon 615K Project. Refer to the Vicinity Map exhibit provided in Section VI of this document for location of the Project site and surrounding planning areas.

A. Site Specifics

- General location: City of Stockton, County of San Joaquin, California
- Specific location: The Project site is currently vacant land, and is bound by Zephyr Street to the north, South B Street to the east, North Little John's Creek to the south and the South Airport way to the west. The project site area totals 71.2 acres (or 3,102,145 square feet, as shown in Exhibit A) and is located on 3923 B Street, in Stockton, California. The project parcel is in an urban community. The pollutants that are expected to contribute in the runoff are trash and debris, and could also include sediment, nutrients, oxygen demand, toxic organics, and bacteria.
- Watershed: North Little Johns Creek.

- Site activities: The Project site consists of a warehouse for receiving, sorting, storing, and delivering retail goods with trailer truck, employee, and visitor parking areas, as well as trailer truck loading and unloading areas.

B. Site Drainage Characteristics

The proposed site is divided into 12 drainage management areas (DMA's) that each drain to a bioretention area. The new impervious runoff from the truck parking area on the west side of the building will surface drain to bioretention facilities on the north and east side of the truck parking area. The new impervious runoff from the traditional parking lot to the east of the building will be split into 3 tributary areas at the two main east-west running drive aisles that run through the proposed parking lot. These tributary areas will consist of 3 interconnected bioretention facilities using a storm drain pipe that allow each of the inter-connected sub-basins to pond equally and thus act a single bioretention area. Downspouts from the proposed warehouse building will surface drain roof runoff to bioretention areas north and south of the building.

If the stormwater quality design volume (SQDV) is exceeded, each basin has an overflow inlet that discharges the excess stormwater to the existing storm drain on B Street and Zephyr Street.

Refer to Exhibits A and B.

IV. STORMWATER POLLUTION CONTROL MEASURES

This section discusses the Best Management Practices (BMPs) for New Development and Redevelopment to reduce predictable pollutants in runoff entering storm drain systems that drain to the Delta. The Site Design Control Measures and the Source Control Measures listed herein are taken from Section 3 and Section 4, respectively, of the Final Stormwater Quality Control Criteria Plan (SWQCCP), dated March 2009. A summary of the control measures of the BMPs listed herein (see Attachment C) are taken from Table 2-2 provided in SWQCCP, March, 2009.

A. General Site Design Control Measures

1. Conserve Natural Areas (G-I)

__X__ applicable _____ not applicable

As much as possible, naturally vegetated areas will be conserved and environmental impacts will be minimized.

2. Protect Slopes and Channels (G-2)

__X__ applicable _____ not applicable

All slopes within the Project site will be vegetated with full-cover grass.

3. Minimize Soil Compaction (G-3)

__X__ applicable _____ not applicable

As much as feasibly possible, equipment access will be limited to the new development envelope.

4. Minimize Impervious Area (G-4)

__X__ applicable _____ not applicable

Reduced building and sidewalk area.

BMP NAME	BMP DESCRIPTION
Bioretention	Provide conveyance of storm water, while removing fine and coarse sediments.

B. Site Specific Source Control Measures

1. Storm Drain Message and Signage (S-I)
per Figure 4-1 of SWQCCP attached with their plan

__X__ applicable _____ not applicable

All storm drain inlets or catch basins constructed in will be required to include a storm drain message and signage per Exhibit F.

2. Outdoor Material Storage Area Design (S-2)

_____ applicable __X__ not applicable

Materials are not intended to be stored outside of the building.

3. Outdoor Trash Storage Area & Waste Handling Design (S-3)

__X__ applicable _____ not applicable

The warehouse has three trash augers and one compactor connected to four dock doors. The area with the trash augers and compactor is surrounded by walls to prevent stormwater run-on and discharge. After compaction, trash is picked up by a waste disposal contractor. The trash storage area is hydraulically isolated, and drains via trench drains to a sewer line served by a sand/oil separator.

4. Outdoor Loading/Unloading Dock Area Design (S-4)

__X__ applicable _____ not applicable

The outdoor docks and loading areas are graded so runoff drains to the bioretention area.

5. Outdoor Repair/Maintenance Bay Design (S-5)

_____ applicable __X__ not applicable

6. Outdoor Vehicle/Equipment/Accessory Washing Area Design (S-6)

_____ applicable __X__ not applicable

7. Fueling Area and Maintenance Design (S-7)

_____ applicable __X__ not applicable

C. Volume Control Measures

1. Rain Garden (V-1)

_____ applicable __X__ not applicable

2. Rain Barrel/Cistern (V-2)

_____ applicable __X__ not applicable

3. Vegetated Roof (V-3)

_____ applicable __X__ not applicable

4. Interception Trees (V-4)

_____ applicable __X__ not applicable

5. Grassy Channel (V-5)

_____ applicable __X__ not applicable

6. Vegetated Buffer Strip (V-6)

_____ applicable __X__ not applicable

D. Volume Reduction Requirements

New development projects are not eligible for volume reduction credits. Therefore, the storm volume (for volume reduction requirements) is 0.51 in.

Storm Volume = 0.51 in

Table 1. Determination of Pre-Project Volume

Site Element	Element Area, ft^2 ($A_{element}$)	Fraction of Total Area ($A_{element}/A_{site}$)	Element Runoff Coefficient (C_r)	Weighted Runoff Coefficient (C_{ra})	0.51-inch Storm Volume, ft^3
Disturbed Soils: Type C/D Soil	3,096,387	3,096,387 / 3,102,145 = 0.9981	0.25	0.9981 x 0.250 = 0.2495	
Asphalt/ Concrete Pavement	5,758	5,758 / 3,102,145 = 0.0019	0.95	0.0019 x 0.950 = 0.0018	
Total	**3,102,145**			**0.2513**	**33131.6**

Table 2. Determination of Post-Project Volume

Site Element	Element Area, ft^2 ($A_{element}$)	Fraction of Total Area ($A_{element}/A_{site}$)	Element Runoff Coefficient (C_r)	Weighted Runoff Coefficient (C_{ra})	0.51-inch Storm Volume, ft^3
Managed Turf: Type C/D Soil	663,246	663,246 / 3,102,145 = 0.2138	0.25	0.2138 x 0.250 = 0.0534	
Asphalt/ Concrete Pavement	1,687,497	1,687,497 / 3,102,145 = 0.5440	0.95	0.5440 x 0.950 = 0.5168	
Roofs	615,440	615,440 / 3,102,145 = 0.1984	0.95	0.1984 x 0.950 = 0.1885	
Bioretention	135,962	135,962 / 3,102,145 = 0.0438	1.00	0.0438 x 1.000 = 0.0438	
Total	**3,102,145**			**0.8025**	**105,806.5**
Pre-Project Volume					**33,131.6**
Volume Reduction Requirement					**72,674.9**

According to the March 2009 SQCCP, bioretention (L-1) contributes towards volume reduction. Bioretention areas were chosen over other options as they are economical, enhance site aesthetics, and provide both treatment and volume reduction benefits. The bioretention areas capture runoff that drains away from the site via sheet flow. Since the site has poorly draining soils, each bioretention area will be installed with a subdrain to reduce ponding. See Sheet 4 of Exhibit A for bioretention areas.

E. Treatment Control Measures

1. Volume Reduction

The following treatment control measures were selected for this new development:

A. Bioretention: a bioretention system located within the base of a swale for the purpose or conveyance of water, while removing fine and coarse sediments

This treatment control measure was selected not only for its ability to convey storm water, but also for its ability to simultaneously serve as a treatment media. There will be one bioretention area parallel and adjacent to the proposed building along the south, as well as two bioretention areas parallel and adjacent to the proposed building along the north.

Bioretention area calculations are provided in Exhibit E.

A summary of the calculations of each bioretention area is shown below. For the location of the bioretention areas, see Exhibit A.

Bioretention #1

$V_{reduction,1} = (D_{PZ} \times A_{PZ} \times 0.25) + (D_{PM} \times A_{PM} \times 0.1) + (DG_Z \times AG_Z \times 0.3)$

D_{PZ} = Depth of Ponding Zone = 1.0 ft

A_{PZ} = Area of Ponding Zone = 6,375.0 ft²

D_{PM} = Depth of Planting Media Layer = 1.5 ft

A_{PM} = Area of Planting Media Layer = 6,375.0 ft²

DG_Z = Depth of Gravel Zone = 0.50 ft

A_{GZ} = Area of Gravel Zone = 6,375.0 ft²

$\mathbf{V_{reduction,1} = 3,506.3\ ft^3}$

Bioretention #2

$V_{reduction,2} = (D_{PZ} \times A_{PZ} \times 0.25) + (D_{PM} \times A_{PM} \times 0.1) + (DG_Z \times AG_Z \times 0.3)$

D_{PZ} = Depth of Ponding Zone = 1.0 ft

A_{PZ} = Area of Ponding Zone = 4,179.0 ft²

D_{PM} = Depth of Planting Media Layer = 1.5 ft

A_{PM} = Area of Planting Media Layer = 4,179.0 ft²

DG_Z = Depth of Gravel Zone = 0.50 ft

A_{GZ} = Area of Gravel Zone = 4,179.0 ft²

$\mathbf{V_{reduction,2} = 2,298.5\ ft^3}$

Bioretention #3

$V_{reduction,3} = (D_{PZ} \times A_{PZ} \times 0.25) + (D_{PM} \times A_{PM} \times 0.1) + (DG_Z \times AG_Z \times 0.3)$

D_{PZ} = Depth of Ponding Zone = 1.0 ft

A_{PZ} = Area of Ponding Zone = 4,225.0 ft²

D_{PM} = Depth of Planting Media Layer = 1.5 ft

A_{PM} = Area of Planting Media Layer = 4,225.0 ft²

DG_Z = Depth of Gravel Zone = 0.50 ft

A_{GZ} = Area of Gravel Zone = 4,225.0 ft²

$\mathbf{V_{reduction,3} = 2,323.8\ ft^3}$

Bioretention #4

$V_{reduction,4} = (D_{PZ} \times A_{PZ} \times 0.25) + (D_{PM} \times A_{PM} \times 0.1) + (DG_Z \times AG_Z \times 0.3)$

D_{PZ} = Depth of Ponding Zone = 1.0 ft

A_{PZ} = Area of Ponding Zone = 8,875.0 ft²

D_{PM} = Depth of Planting Media Layer = 1.5 ft

A_{PM} = Area of Planting Media Layer = 8,875.0 ft²

DG_Z = Depth of Gravel Zone = 0.50 ft

A_{GZ} = Area of Gravel Zone = 8,875.0 ft²

$V_{reduction,4}$ **= 4,881.3 ft³**

Bioretention #5

$V_{reduction,5} = (D_{PZ} \times A_{PZ} \times 0.25) + (D_{PM} \times A_{PM} \times 0.1) + (DG_Z \times AG_Z \times 0.3)$

D_{PZ} = Depth of Ponding Zone = 1.0 ft

A_{PZ} = Area of Ponding Zone = 13,377.0 ft²

D_{PM} = Depth of Planting Media Layer = 1.5 ft

A_{PM} = Area of Planting Media Layer = 13,377.0 ft²

DG_Z = Depth of Gravel Zone = 0.50 ft

A_{GZ} = Area of Gravel Zone = 13,377.0 ft²

$V_{reduction,5}$ **= 7,357.4 ft³**

Bioretention #6

$V_{reduction,6} = (D_{PZ} \times A_{PZ} \times 0.25) + (D_{PM} \times A_{PM} \times 0.1) + (DG_Z \times AG_Z \times 0.3)$

D_{PZ} = Depth of Ponding Zone = 1.0 ft

A_{PZ} = Area of Ponding Zone = 1,830.0 ft²

D_{PM} = Depth of Planting Media Layer = 1.5 ft

A_{PM} = Area of Planting Media Layer = 1,830.0 ft²

DG_Z = Depth of Gravel Zone = 0.50 ft

A_{GZ} = Area of Gravel Zone = 1,830.0 ft²

$V_{reduction,6}$ **= 1,006.5 ft³**

Bioretention #7

$V_{reduction,7} = (D_{PZ} \times A_{PZ} \times 0.25) + (D_{PM} \times A_{PM} \times 0.1) + (DG_Z \times AG_Z \times 0.3)$

D_{PZ} = Depth of Ponding Zone = 1.0 ft

A_{PZ} = Area of Ponding Zone = 10,449.0 ft²

D_{PM} = Depth of Planting Media Layer = 1.5 ft

A_{PM} = Area of Planting Media Layer = 10,449.0 ft²

DG_Z = Depth of Gravel Zone = 0.50 ft

A_{GZ} = Area of Gravel Zone = 10,449.0 ft²

$V_{reduction,7}$ = **5,747.0 ft³**

Bioretention #8

$V_{reduction,8} = (D_{PZ} \times A_{PZ} \times 0.25) + (D_{PM} \times A_{PM} \times 0.1) + (DG_Z \times AG_Z \times 0.3)$

D_{PZ} = Depth of Ponding Zone = 1.0 ft

A_{PZ} = Area of Ponding Zone = 39,282.0 ft²

D_{PM} = Depth of Planting Media Layer = 1.5 ft

A_{PM} = Area of Planting Media Layer = 39,282.0 ft²

DG_Z = Depth of Gravel Zone = 0.50 ft

A_{GZ} = Area of Gravel Zone = 39,282.0 ft²

$V_{reduction,8}$ = **21,605.1 ft³**

Bioretention #9

$V_{reduction,9} = (D_{PZ} \times A_{PZ} \times 0.25) + (D_{PM} \times A_{PM} \times 0.1) + (DG_Z \times AG_Z \times 0.3)$

D_{PZ} = Depth of Ponding Zone = 1.0 ft

A_{PZ} = Area of Ponding Zone = 6,902.0 ft²

D_{PM} = Depth of Planting Media Layer = 1.5 ft

A_{PM} = Area of Planting Media Layer = 6,902.0 ft²

DG_Z = Depth of Gravel Zone = 0.50 ft

A_{GZ} = Area of Gravel Zone = 6,902.0 ft²

$V_{reduction,9}$ = **3,796.1 ft³**

Bioretention #10

$V_{reduction,10} = (D_{PZ} \times A_{PZ} \times 0.25) + (D_{PM} \times A_{PM} \times 0.1) + (DG_Z \times AG_Z \times 0.3)$

D_{PZ} = Depth of Ponding Zone = 1.0 ft

A_{PZ} = Area of Ponding Zone = 25,832.0 ft²

D_{PM} = Depth of Planting Media Layer = 1.5 ft

A_{PM} = Area of Planting Media Layer = 25,832.0 ft²

DG_Z = Depth of Gravel Zone = 0.50 ft

A_{GZ} = Area of Gravel Zone = 25,832.0 ft²

$\mathbf{V_{reduction,10} = 14,207.6\ ft^3}$

Bioretention #11

$V_{reduction,11} = (D_{PZ} \times A_{PZ} \times 0.25) + (D_{PM} \times A_{PM} \times 0.1) + (DG_Z \times AG_Z \times 0.3)$

D_{PZ} = Depth of Ponding Zone = 1.0 ft

A_{PZ} = Area of Ponding Zone = 9,449.0 ft²

D_{PM} = Depth of Planting Media Layer = 1.5 ft

A_{PM} = Area of Planting Media Layer = 9,449.0 ft²

DG_Z = Depth of Gravel Zone = 0.50 ft

A_{GZ} = Area of Gravel Zone = 9,449.0 ft²

$\mathbf{V_{reduction,11} = 5,197.0\ ft^3}$

Bioretention #12

$V_{reduction,12} = (D_{PZ} \times A_{PZ} \times 0.25) + (D_{PM} \times A_{PM} \times 0.1) + (DG_Z \times AG_Z \times 0.3)$

D_{PZ} = Depth of Ponding Zone = 1.0 ft

A_{PZ} = Area of Ponding Zone = 5,187.0 ft²

D_{PM} = Depth of Planting Media Layer = 1.5 ft

A_{PM} = Area of Planting Media Layer = 5,187.0 ft²

DG_Z = Depth of Gravel Zone = 0.50 ft

A_{GZ} = Area of Gravel Zone = 5,187.0 ft²

$\mathbf{V_{reduction,12} = 2,852.9\ ft^3}$

Table 3. Summary of Volume Reduction

Control Measure	Volume Reduction (ft^3)
Bioretention Area #1 Volume Reduction	3,506.3
Bioretention Area #2 Volume Reduction	2,298.5
Bioretention Area #3 Volume Reduction	2,323.8
Bioretention Area #4 Volume Reduction	4,881.3
Bioretention Area #5 Volume Reduction	7,357.4
Bioretention Area #6 Volume Reduction	1,006.5
Bioretention Area #7 Volume Reduction	5,747.0
Bioretention Area #8 Volume Reduction	21,605.1
Bioretention Area #9 Volume Reduction	3,796.1
Bioretention Area #10 Volume Reduction	14,207.6
Bioretention Area #11 Volume Reduction	5,197.0
Bioretention Area #12 Volume Reduction	2,852.9
Total Volume Reduction Provided	21,605.1
Volume Reduction Requirement (from Table 2)	**72,674.9**
Volume Reduction Remaining	**-2,104.2**

Based upon the summary of volume reduction shown in Table 3 above (refer to Exhibit D for printouts from the City's volume reduction calculator), the proposed treatment control measures provide a cumulative total volume reduction that exceeds the calculated volume reduction requirement of 72,674.9 ft^3.

2. Stormwater Quality Design Volume (SQDV)

According to Fact Sheet T-0 of the March 2009 SWQCCP, the treatment controls used on this project must treat the Stormwater Quality Design Volume (SQDV). The bioretention area used on this project has a design drawdown of 12 hours. Since this project does not have area credits, the bioretention area must treat runoff from the tributary area of the site.

In DMA's with interconnected sub-basins acting as a single bioretention area, the DMA is divided into sub-areas, which each sub-area consisting of the tributary area

of a single sub-basin. A SQDV was calculated for each sub-area, as well as a net SQDV for the entire DMA. The calculations demonstrate that in DMA's with interconnected sub-basins the total treatment provided by the sub-basins is sufficient for treating the entire DMA. Since these sub-basins may not be sufficient for treatment alone, the interconnection of basins will allow the required treatment. DMA sizing calculations are provided in Exhibit E.

Table 4. Stormwater Quality Design Volume (SQDV) Calculations

		OVERALL SITE	DMA 1	DMA 2	DMA 3	DMA 4	DMA 5	DMA 6	DMA 7	DMA 8
Tributary Area	ft^2	3,102,145.0	176,984.0	117,317.0	189,353.0	247,761.0	327,010.0	58,528.0	429,666.0	724,259.0
Tributary Impervious Area Credit	ft^2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Effective Tributary Area	ft^2	3,102,145.0	176,984.0	117,317.0	189,353.0	247,761.0	327,010.0	58,528.0	429,666.0	724,259.0
Design Drawdown (Fact Sheet T-0 from March 2009 SWQCCP)	hr	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0
Weighted Runoff Coefficient		0.8025	0.7116	0.8130	0.7872	0.7733	0.8264	0.6314	0.8593	0.8281
Unit Basin Storage Volume (Figure 6-1 from March 2009 SWQCCP)	in	0.2723	0.2411	0.2759	0.2671	0.2623	0.2805	0.2136	0.2918	0.2811
SQDV (Unit Basin Storage Volume * Effective Tributary Area * 1ft/12in)	ft^3	70,391.0	3,556.3	2,697.2	4,213.9	5,415.4	7,642.8	1,041.8	10,447.1	16,963.3
Planting Zone Area Provided	ft^2	135,962.0	6,375.0	4,179.0	4,225.0	8,875.0	13,377.0	1,830.0	10,449.0	39,282.0
Planting Zone Area Required	ft^2	70,391.0	3,556.3	2,697.2	4,213.9	5,415.4	7,642.8	1,041.8	10,447.1	16,963.3
Difference ($PZ_{req'd} - PZ$)	ft^2	-65,571.0	-2,818.7	-1,481.8	-11.1	-3,459.6	-5,734.2	-788.2	-1.9	-22,318.7

(continued on the next page)

(continued from the previous page)

Table 4. Stormwater Quality Design Volume (SQDV) Calculations

		DMA 9	**DMA 10 Overall**	DMA 10.1	DMA 10.2	DMA 10.3	**DMA 11 Overall**	DMA 11.1	DMA 11.2	DMA 11.3
Tributary Area	ft^2	210,949.0	253,836.0	121,628.0	58,466.0	73,742.0	206,143.0	110,363.0	51,755.0	44,025.0
Tributary Impervious Area Credit	ft^2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Effective Tributary Area	ft^2	210,949.0	253,836.0	121,628.0	58,466.0	73,742.0	206,143.0	110,363.0	51,755.0	44,025.0
Design Drawdown (Fact Sheet T-0 from March 2009 SWQCCP)	hr	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0
Weighted Runoff Coefficient		0.7998	0.7746	0.8210	0.7099	0.7492	0.8517	0.8685	0.8608	0.7990
Unit Basin Storage Volume (Figure 6-1 from March 2009 SWQCCP)	in	0.2714	0.2627	0.2786	0.2405	0.2540	0.2892	0.2949	0.2923	0.2711
SQDV (Unit Basin Storage Volume * Effective Tributary Area * 1ft/12in)	ft^3	4,770.1	5,556.9	2,824.1	1,171.9	1,560.9	4,967.3	2,712.2	1,260.6	994.6
Planting Zone Area Provided	ft^2	6,902.0	25,832.0	1,608.0	2,786.0	21,438.0	9,449.0	1,571.0	1,574.0	6,304.0
Planting Zone Area Required	ft^2	4,770.1	5,556.9	2,824.1	1,171.9	1,560.9	4,967.3	2,712.2	1,260.6	994.6
Difference ($PZ_{req'd} - PZ$)	ft^2	-2,131.9	-20,275.1	1,216.1	-1,614.1	-19,877.1	-4,481.7	1,141.2	-313.4	-5,309.4

(continued from the previous page)

Table 4. Stormwater Quality Design Volume (SQDV) Calculations

		DMA 12 Overall	DMA 12.1	DMA 12.2	DMA 12.3
Tributary Area	ft^2	160,339.0	96,623.0	36,677.0	27,039.0
Tributary Impervious Area Credit	ft^2	0.0	0.0	0.0	0.0
Effective Tributary Area	ft^2	160,339.0	96,623.0	36,677.0	27,039.0
Design Drawdown (Fact Sheet T-0 from March 2009 SWQCCP)	hr	12.0	12.0	12.0	12.0
Weighted Runoff Coefficient		0.6891	0.6960	0.7080	0.6391
Unit Basin Storage Volume (Figure 6-1 from March 2009 SWQCCP)	in	0.2334	0.2358	0.2399	0.2163
SQDV (Unit Basin Storage Volume * Effective Tributary Area * 1ft/12in)	ft^3	3,118.8	1,898.3	733.2	487.3
Planting Zone Area Provided	ft^2	5,187.0	803.0	798.0	3,586.0
Planting Zone Area Required	ft^2	3,118.8	1,898.3	733.2	487.3
Difference ($PZ_{req'd}$ – PZ)	ft^2	-2,068.2	1,095.3	-64.8	-3,098.7

Since each bioretention area's design planting zone area is greater than the required planting zone area, the bioretention areas are sized sufficiently to treat the SQDV. In DMA's 10, 11, and 12, since the planting zone area of the total interconnected bioretention area is greater than the sum of the planting zone required for each interconnected sub-basin, the interconnected bioretention areas are sufficiently sized for the overall DMA's which they were sized for.

In general, due to the large difference between the pre-construction and post-construction runoff coefficients, the volume reduction requirement governed basin sizing rather than SQDV.

V. MAINTENANCE/INSPECTION RESPONSIBILITY FOR BMPs

The following table indicates BMP inspection and maintenance responsibility. These tables identify the party responsible for inspection and maintenance, a description of the inspection and/or maintenance activity, and a frequency for the inspection and/or maintenance activity. Records of maintenance and inspections shall be kept for a period of five (5) years and shall be made available for review by government agencies.

Responsible party details as indicated in the table are as follows:

IDIG Stockton will serve as the responsible party for installation, inspection, implementation, and maintenance of the structural and non-structural BMPs outlined in this SWQCCP. The funding for the maintenance of the BMPs will be part of the facilities operating budget. Maintenance will be conducted in accordance with Table 6 - BMP Inspection and Maintenance Responsibility.

The City will record the Maintenance Agreement as part of executing the agreement. The agreement, along with the Operation and Maintenance Plan and Deed Copy, will be submitted as a separate package to be signed and executed between the City and Property Owner for this project.

Property Owner

Contact: Brian Gagne, Senior Vice President and Regional Director
Company: IDIG Stockton LLC
Address: 601 South Figueroa Street, Suite 2200
Phone Number: (213) 330-8066

Table 5. BMP Inspection and Maintenance Responsibility

BMP Designation	Responsible Party	Description of Inspection & Maintenance Activity	Frequency of Maintenance
Drain Inlets	Owner	Inspect and clean all debris and sediment.	Bi-Annual
Bioretention (L-1)	Owner	Remove void areas, treat diseased trees and shrubs.	As required
		Inspect soil, repair eroded areas, and remove litter and debris.	Monthly
		Remove and replace dead and diseased vegetation.	Bi-Annual
		Add additional mulch and replace tree stakes and wire.	Annual

VI. EXHIBITS

Exhibit A – Vicinity Map and Stormwater Site Plans

Exhibit B – Site Improvement Plans

Exhibit C – Table 2-2 from SWQCC Plan

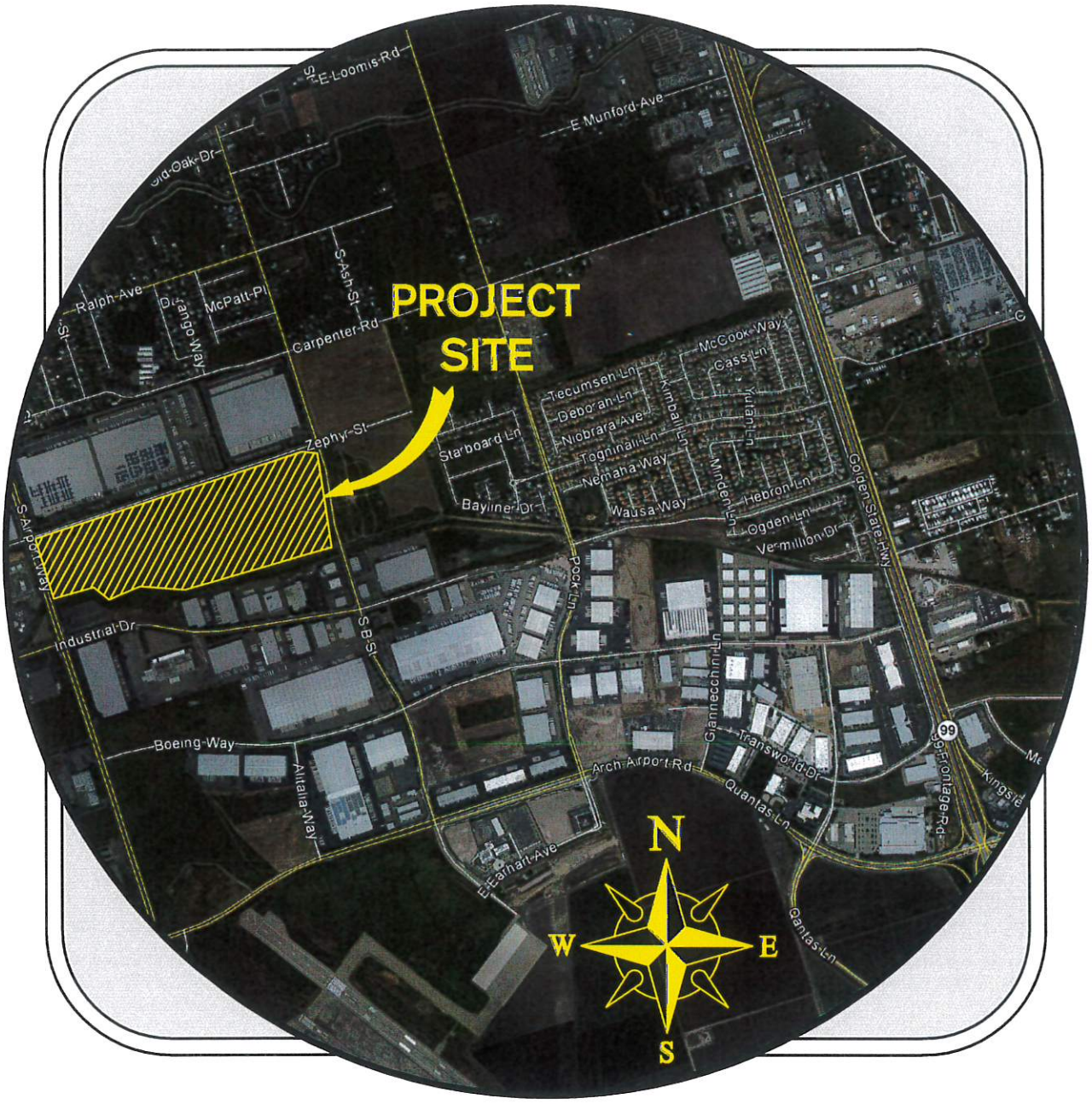
Exhibit D – Volume Reduction Calculator Printouts

Exhibit E – Bioretention Area SQDV Calculation Printouts

Exhibit F – S-1 Storm Drain Message and Signage

EXHIBIT A

VICINITY MAP AND STORMWATER SITE PLANS



Project 12
Stockton California

Zephyr Street
Stockton, California 95206

VICINITY MAP

DATE	07/26/2017
DESIGN	GW
DRAWN	GW
JOB NO.	15170

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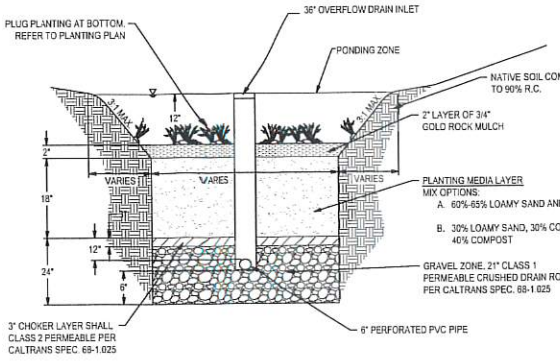
SCALE:	NOT TO SCALE
SHEET	1
OF:	1

09/13/17 F:\15Projects\15170 Zephyr & B Street Development\1100 Stockton Logistics Center 2017\SWQCP\CAD\15170 Vicinity Map.dwg

EXHIBIT B

SITE IMPROVEMENT PLANS



1 BIORETENTION SECTION
NO SCALE

A 1
EA #1

A 2
EA #2

A 3
EA #3

A 4
EA #4

A 5
EA #5

A 6
EA #6

A 7
EA #7

A 8
EA #8

A 9
EA #9

A 10
EA #10

A 11
EA #11

A 12
EA #12

NEWLY GENERATED (PROJECT) STORMWATER AREA (3,102,146 SF)

DRAINAGE MANAGEMENT AREA BOUNDARY

SUB-AREA BOUNDARY

DIRECTION OF FLOW

01

50' 100' 200'
SCALE: 1"=100'

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ONSITE PRE-PROJECT RUNOFF COEFFICIENT				
SITE ELEMENT	ELEMENT AREA	FRACTION OF TOTAL AREA	ELEMENT RUNOFF COEFFICIENT	WEIGHTED RUNOFF COEFFICIENT
ASPHALT/ CONCRETE PAVEMENT	5,758	0.0019	0.9500	0.2495
DISTURBED SOILS	3,096,387	0.9981	0.2500	0.0018
TOTAL SITE	3,102,145			0.2513

50' 100' 200'
SCALE: 1"=100'

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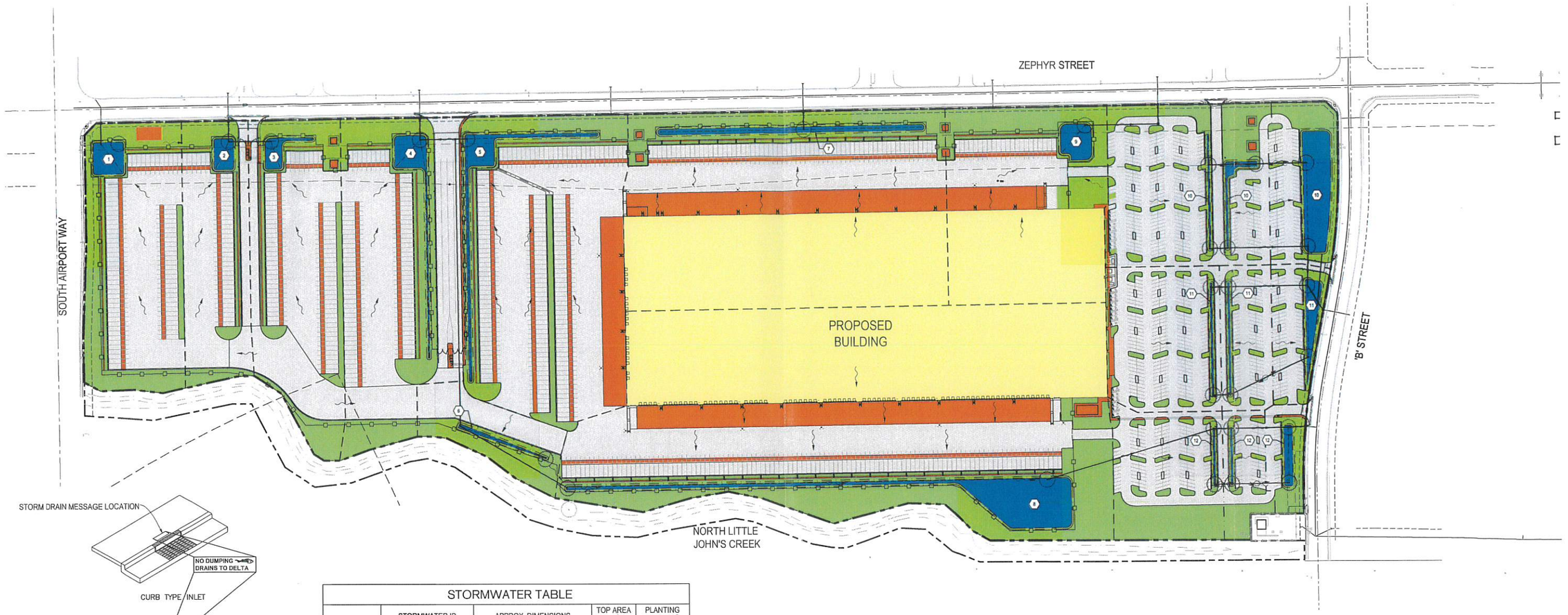

NOTES:

1. DESIGN OF STORM DRAIN MESSAGE SHALL BE IN ACCORDANCE WITH DETAILS SHOWN ABOVE.
2. FOR NEW DEVELOPMENT, MESSAGE AND SYMBOL SHALL BE PERMANENTLY PLACED WITH THE USE OF BOMANITE, STAMPED INTO THE CONCRETE, OR OTHER METHODS APPROVED BY THE CITY ENGINEER.
3. FOR REDEVELOPMENT, MESSAGE AND SYMBOL SHALL BE PLACED WITH THE USE OF THERMOPLASTIC PAVEMENT MARKINGS.
4. PAINTING SHALL NOT BE ALLOWED FOR NEW DEVELOPMENT OR REDEVELOPMENT. PAINTING SHALL ONLY BE ALLOWED IN EXISTING AREAS FOR COMMUNITY AWARENESS ACTIVITIES. LETTERS SHALL BE 1-1/2 INCHES IN HEIGHT. OUTSIDE DIMENSION OF PUBLIC NOTICE BACKGROUND SHALL FIT BACK OF INLET OR BE PLACED IN SIDEWALK IMMEDIATELY BEHIND INLET AND SHALL BE 8 INCHES X 24 INCHES MINIMUM. LETTERING AND GRAPHIC SHALL BE BLACK WITH GRAY BACKGROUND UNLESS OTHERWISE APPROVED BY CITY ENGINEER.
5. DRIVEWAY INLETS SHALL HAVE NOTICE IN DRIVEWAY ADJACENT TO INLET.

FIGURE 4-1: STORM DRAIN MESSAGE LOCATION (SEE ALSO C5.1 OF CONSTRUCTION PLANS)

1 NO SCALE

STORMWATER TABLE

	STORMWATER ID	APPROX. DIMENSIONS	TOP AREA (FT^2)	PLANTING AREA (FT^2)
1	BIORETENTION AREA #1	83.3' X 76.531'	7,666	6,375
2	BIORETENTION AREA #2	80.3' X 52.042'	5,251	4,179
3	BIORETENTION AREA #3	80.3' X 52.615'	5,859	4,225
4	BIORETENTION AREA #4	106.9' X 83.022'	14,129	8,875
5	BIORETENTION AREA #5	156.8' X 85.313'	21,246	13,377
6	BIORETENTION AREA #6	244.1' X 7.497'	3,887	1,830
7	BIORETENTION AREA #7	697.8' X 14.974'	16,150	10,449
8	BIORETENTION AREA #8	303.2' X 129.558'	50,554	39,282
9	BIORETENTION AREA #9	86.0' X 80.256'	8,234	6,902
10	BIORETENTION AREA #10	SUB-AREA #10.1: 298.6' X 5.384' SUB-AREA #10.2: 225.9' X 12.333' SUB-AREA #10.3: 315.0' X 68.057'	33,791	25,832
11	BIORETENTION AREA #11	SUB-AREA #11.1: 291.8' X 5.384' SUB-AREA #11.2: 293.4' X 5.365' SUB-AREA #11.3: 273.2' X 23.075'	16,803	9,449
12	BIORETENTION AREA #12	SUB-AREA #12.1: 149.4' X 5.375' SUB-AREA #12.2: 149.4' X 5.341' SUB-AREA #12.3: 157.3' X 22.797'	9,191	5,187

NUMBER CHECK : 6375+4179+4225+8875+13377+1830+10449+39282+6902+25832+9449+5187 = 135,962 SF

ONSITE POST-PROJECT RUNOFF COEFFICIENT

SITE ELEMENT	ELEMENT AREA	FRACTION OF TOTAL AREA	ELEMENT RUNOFF COEFFICIENT	WEIGHTED RUNOFF COEFFICIENT
MANAGED TURF	663,246	0.2138	0.2500	0.0534
ASPHALT / CONCRETE PAVEMENT	1,687,497	0.5440	0.9500	0.5168
ROOFS	615,440	0.1984	0.9500	0.1885
BIORETENTION	135,962	0.0438	1.0000	0.0438
TOTAL SITE	3,102,145	71.2 ACRES		0.8025

LEGEND

- BIORETENTION AREA
- PROPOSED PERVIOUS - MANAGED TURF/LANDSCAPE
- PROPOSED IMPERVIOUS - CONCRETE
- PROPOSED IMPERVIOUS - ASPHALT CONCRETE
- PROPOSED IMPERVIOUS - ROOFS
- STORMWATER BOUNDARY
- DRAINAGE MANAGEMENT AREA BOUNDARY
- SUB-AREA BOUNDARY
- N.A.P. NOT A PART OF PROJECT
- LOCATION OF DRAIN INLET OR DISCHARGE POINT, S-1 SIGNAGE LOCATION PER DETAIL 1, ON THIS SHEET
- DIRECTION OF FLOW

03

AMAZON 615K

STORMWATER TRIBUTARY AREAS EXHIBIT - POST DEVELOPMENT

Stockton, California
07.25.2017

0' 50' 100' 200'
SCALE: 1"=100'

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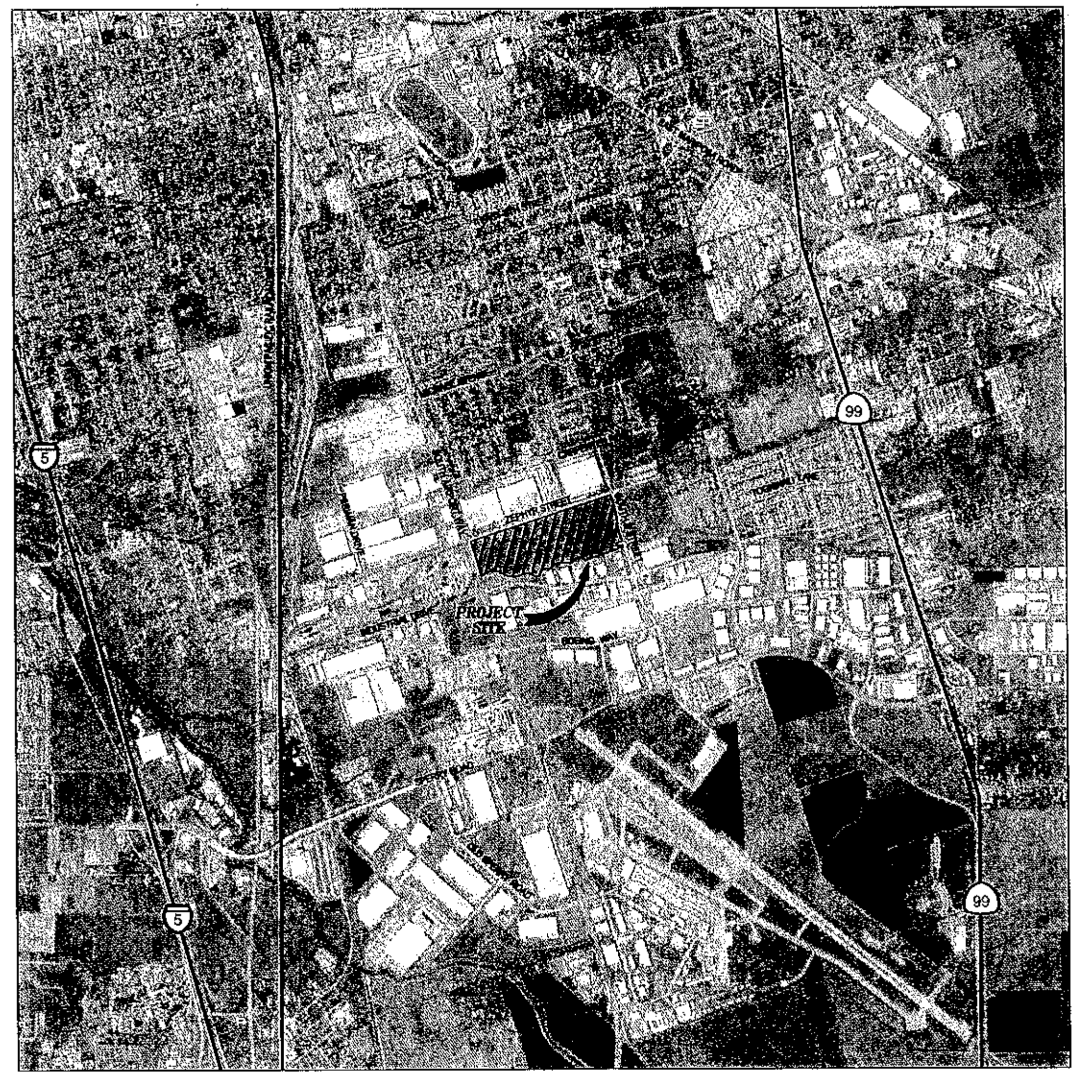
PROJECT 12 615K

STOCKTON, CA

LEGEND

EXISTING		PROPOSED
	UNDERGROUND ELECTRIC LINE	
	FIBER OPTIC LINE	FO FO
11.93TC 11.43FL	TOP OF CURB ELEVATION FLOW LINE ELEVATION	11.93TC 11.43FL
11.93C	CONCRETE ELEVATION	11.93C
11.93P	PAVEMENT ELEVATION	11.83P
	CENTER LINE	
	PROPERTY & R/W LINE	
	FENCING	
	SAW CUT LINE	
	SANITARY SEWER LINE	
	STORM DRAIN LINE	
	WATER LINE	12"W
	BENCHMARK	
	CATCH BASIN	
	MAINTENANCE HOLE	
	FIRE HYDRANT	
	GATE VALVE	
	STREET LIGHT	
	CENTERLINE MONUMENT	
	SURVEY MONUMENT	
	SIGN	
	ELECTRICAL BOX	
	UTILITY VAULT	
	NOTE CALLOUT	1
	DETAIL REFERENCE	DETAIL NUMBER 5 C-21 SHEET NUMBER
	TREE	



VICINITY MAP
NOT TO SCALE

SHEET INDEX

PROJECT CONTACT:

CIVIL ENGINEER:
SIEGFRIED ENGINEERING, INC.
3244 BROOKSIDE ROAD, SUITE 100
STOCKTON, CA 95219
CONTACT: R. MICHAEL EBENAL, P.E.
(209) 943-2021
mebenal@siegfriedeng.com

OWNER:
IDI GAZELEY
1100 PEACHTREE STREET, NE, SUITE 1000
ATLANTA, GA 30309
CONTACT: HEATHER PECHTER
(404) 840-2150
heather.pechter@idigazeley.com

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irvine, ca
92612
tel: 949-863-1770
fax: 949-863-0851
email: hpa@hparchs.com

Owner:
IDI Gazeley

IDI GAZELEY
26632 Towne Centre Dr. #320
Foothill Ranch, CA 92610
tel: 949-614-8200
fax: 949-614-8230

Project:
PROJECT 12
615K

3923 B Street
Stockton, CA

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Stockton, California 95219
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LANDSCAPE ARCHITECTURE
SURVEYING
PLANNING

REGISTERED PROFESSIONAL ENGINEER
R. MICHAEL EBENAL
CIVIL
STATE OF CALIFORNIA
DATE SIGNED: 10/09/17

Title:
COVER SHEET

Project Number: 15170
Drawn by: RME
Date: 10/09/17

Revision:
A ADDENDUM A - REVISION 2017-08-31 PER OWNER REQUEST/CITY CORRECTION
B ADDENDUM B - REVISION 2017-10-09 CITY CORRECTION

Sheet:
C1.0

GENERAL NOTES

1. ALL IMPROVEMENTS SHALL BE CONSTRUCTED IN STRICT ACCORDANCE WITH THE CITY OF STOCKTON STANDARD SPECIFICATIONS AND PLANS, LATEST EDITION, AND ALL AMENDMENTS THERE TO-DATE.

2. FOR ELEVATIONS REFER TO BENCHMARK REFERENCED ON SHEET C2.0.

3. PRIOR TO AND DURING CONSTRUCTION, THE CONTRACTOR SHALL BE RESPONSIBLE FOR BEING FAMILIAR WITH THE CURRENT CITY OF STOCKTON STANDARDS AND ALL UPDATES AND REVISIONS MADE TO ANY OF THE CITY OF STOCKTON STANDARD DETAILS SHOWN ON THESE PLANS. THE CONTRACTOR IS ALSO RESPONSIBLE FOR BEING FAMILIAR WITH THE WRITTEN SPECIFICATIONS AND/OR OTHER STANDARD DETAILS NOT SHOWN BUT WHICH ARE INCLUDED IN THE "CITY OF STOCKTON STANDARD SPECIFICATIONS AND PLANS".

4. DRAWING NUMBERS SHOWN ON THE PLANS REFER TO CITY OF STOCKTON STANDARD PLANS, SHOWN THUS: COS STD. DWG. NO.

5. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTING FROM DAMAGE ALL EXISTING IMPROVEMENTS THAT ARE TO REMAIN. SUCH IMPROVEMENTS THAT ARE DAMAGED BY THE CONTRACTOR SHALL BE REPLACED AT HIS EXPENSE.

6. ALL TRENCH EXCAVATION SHALL BE IN ACCORDANCE WITH CITY OF STOCKTON STANDARD SPECIFICATIONS.

7. EXCAVATION OF 5 FEET OR MORE IN DEPTH WILL REQUIRE AN EXCAVATION PERMIT FROM THE STATE OF CALIFORNIA DEPARTMENT OF INDUSTRIAL SAFETY.

8. THE CONTRACTOR SHALL DEMOLISH, EXCAVATE, REMOVE AND DISPOSE OF ALL EXISTING CONCRETE CURB, GUTTER OR SIDEWALK, ASPHALT CONCRETE PAVING, AND DELETERIOUS MATERIAL AS REQUIRED TO CONSTRUCT THE CONTRACT WORK. ALL SUCH EXCESS MATERIAL GENERATED SHALL BE DISPOSED OF FROM THE SITE BY THE CONTRACTOR.

9. THE CONTRACTOR SHALL OBTAIN AN ENCROACHMENT PERMIT FOR ANY WORK DONE WITHIN THE CITY RIGHT-OF-WAY FROM THE CITY OF STOCKTON PUBLIC WORKS DEPARTMENT, AND NOTIFY THE CITY 48 HOURS IN ADVANCE OF STARTING ANY WORK TO BE ACCEPTED FOR OWNERSHIP AND MAINTENANCE BY THE CITY OF STOCKTON.

10. EXISTING UTILITIES ARE SHOWN AS THEY ARE BELIEVED TO EXIST. THE OWNER AND THE ENGINEER DO NOT ACCEPT RESPONSIBILITY FOR THEIR ACCURACY. PRIOR TO COMMENCING ANY WORK, THE CONTRACTOR SHALL HAVE EACH UTILITY COMPANY ACCURATELY LOCATE IN THE FIELD THEIR MAINS AND SERVICE LINES. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO PROTECT ALL EXISTING UTILITIES.

11. ATTENTION IS CALLED TO: SECTION 1540 (A) (1) OF THE CONSTRUCTION SAFETY ORDERS (TITLE 8 CALIFORNIA ADMINISTRATION CODE SECTION 1540), ISSUED BY THE OCCUPATIONAL SAFETY AND HEALTH STANDARDS BOARD PURSUANT TO THE CALIFORNIA OCCUPATIONAL SAFETY AND HEALTH ACT OF 1973, AS AMENDED, WHICH STATES:

 "PRIOR TO OPENING AN EXCAVATION, EFFORT SHALL BE MADE TO DETERMINE WHETHER UNDERGROUND INSTALLATION I.E., SEWER, WATER, FUEL, ELECTRIC LINES, ETC., WILL BE ENCOUNTERED AND, IF SO, WHERE SUCH UNDERGROUND INSTALLATIONS ARE LOCATED. WHEN THE EXCAVATION APPROACHES THE APPROXIMATE LOCATION OF SUCH AN INSTALLATION, THE EXACT LOCATION SHALL BE DETERMINED BY CAREFUL PROBING OR HAND DIGGING AND WHEN IT IS UNCOVERED, ADEQUATE PROTECTION SHALL BE PROVIDED FOR THE EXISTING INSTALLATION. ALL KNOWN OWNERS OF UNDERGROUND FACILITIES IN THE AREA CONCERNED SHALL BE ADVISED OF PROPOSED WORK AT LEAST 48 HOURS PRIOR TO THE START OF ACTUAL EXCAVATION."

12. THE CONTRACTOR SHALL CONTACT THE CITY OF STOCKTON AT LEAST 72 HOURS IN ADVANCE OF THE CONTRACTOR'S INTENT TO CONNECT TO PUBLIC UTILITIES TO COORDINATE THE CONNECTION TO PUBLIC WATER, SEWER AND STORM DRAINAGE SYSTEMS.

13. PRIOR TO COMMENCING ANY WORK, IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO HAVE EACH UTILITY COMPANY LOCATE IN THE FIELD THEIR MAIN SERVICE LINES. THE CONTRACTOR SHALL NOTIFY MEMBERS OF THE UNDERGROUND SERVICE ALERT (U.S.A.) 48 HOURS IN ADVANCE OF PERFORMING EXCAVATION WORK BY CALLING THE TOLL-FREE NUMBER (800-227-2600).

14. THE CONTRACTOR SHALL CHECK WITH THE UTILITY COMPANIES AND VERIFY ALL UTILITY LOCATIONS. IT SHALL BE CONTRACTOR'S SOLE RESPONSIBILITY TO PROTECT ALL EXISTING UTILITIES SO THAT NO DAMAGE RESULTS TO THEM DURING THE PERFORMANCE OF HIS CONTRACT. THE CONTRACTOR SHALL BE REQUIRED TO COOPERATE WITH OTHER CONTRACTORS AND UTILITY COMPANIES INSTALLING NEW STRUCTURES, UTILITIES AND SERVICES TO THE DEVELOPMENT.

15. WHENEVER EXISTING PAVEMENT IS BROKEN OR CUT DURING THE INSTALLATION OF THE WORK COVERED BY THESE PLANS AND SPECIFICATIONS, THE PAVEMENT SHALL BE REPLACED WITH PAVEMENT MATERIALS EQUAL TO OR BETTER THAN THE MATERIALS USED IN THE ORIGINAL PAVING. THE FINISHED PAVEMENT SHALL BE SUBJECT TO THE APPROVAL OF THE CITY ENGINEER IF LOCATED WITHIN CITY RIGHT-OF-WAY.

16. PAYMENT FOR PAVEMENT WILL BE MADE FOR THE AREAS SHOWN ON THE PLANS. REPLACEMENT OF PAVEMENT WHICH IS BROKEN OR CUT IN THE INSTALLATION OF THE IMPROVEMENTS COVERED BY THESE PLANS AND SPECIFICATIONS, AND WHICH LIES OUTSIDE OF SAID AREAS, SHALL BE INCLUDED IN THE STREET CONTRACTOR'S UNIT PRICE FOR PAVEMENT, AND NO ADDITIONAL PAYMENT SHALL BE MADE FOR SUCH WORK.

17. THE CONTRACTOR SHALL EXPOSE EXISTING STORM DRAINS, WATER MAINS, AND SANITARY SEWERS WHERE CONNECTIONS AND CROSSINGS ARE TO BE MADE SO EXISTING FLOWLINES AND LOCATIONS CAN BE VERIFIED BEFORE THE START OF CONSTRUCTION.

18. THE CONTRACTOR AGREES THAT HE SHALL ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR JOB SITE CONDITIONS DURING THE COURSE OF CONSTRUCTION OF THIS PROJECT INCLUDING SAFETY OF ALL PERSONS AND PROPERTY, THAT THIS REQUIREMENT SHALL APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS, AND THAT THE CONTRACTOR SHALL DEFEND, INDEMNIFY AND HOLD THE OWNER AND THE ENGINEER HARMLESS FROM ANY AND ALL LIABILITY, REAL OR ALLEGED, IN CONNECTION WITH THE PERFORMANCE OF WORK ON THIS PROJECT, EXCEPTING FOR LIABILITY ARISING FROM THE SOLE NEGLIGENCE OF THE OWNER OR THE ENGINEER.

19. CONSTRUCTION STAKING: CONSTRUCTION STAKING IS NORMALLY PERFORMED BY THE ENGINEER WHO PREPARED THE PLAN. THIS PERMITS APPROPRIATE ON-SITE INTERPRETATION AND ADJUSTMENT OF THE PLANS, IF NECESSARY. CONTRACTOR SHALL NOTIFY THE ENGINEER FORTY-EIGHT (48) HOURS PRIOR TO THE ACTUAL NEED FOR STAKING. ANY STAKING REQUESTED BY THE CONTRACTOR OR HIS SUBCONTRACTORS WHICH EXTENDS BEYOND THE ORIGINAL SCOPE OF WORK DEFINED IN THESE PLANS SHALL BE SUBJECT TO AN EXTRA WORK CHARGE TO THE CONTRACTOR. THIS NOTE GIVES FORMAL NOTICE THAT THE FIRM OF SIEGFRIED ENGINEERING, INC. CANNOT, AND WILL NOT, TAKE RESPONSIBILITY FOR ERRORS OR OMISSIONS, IF ANY, WHICH MIGHT OCCUR AND WHICH COULD HAVE BEEN AVOIDED OR DETECTED AND/OR CORRECTED OR MITIGATED HAD SIEGFRIED ENGINEERING, INC. PERFORMED THE CONTRACT STAKING WORK.

20. THE CONTRACTOR SHALL OBTAIN A PERMIT FROM THE CITY OF STOCKTON FOR USE OF WATER FROM FIRE HYDRANTS FOR CONSTRUCTION PURPOSES. THE PERMIT SHALL BE APPROVED BY THE CITY OF STOCKTON FIRE DEPARTMENT.

21. THE PROPERTY OWNERS, DEVELOPERS, AND/OR SUCCESSORS IN INTEREST SHALL COMPLY WITH THE PROVISIONS OF THE CALIFORNIA GENERAL CONSTRUCTION ACTIVITY STORM WATER PERMIT AND STATE WATER RESOURCES CONTROL BOARD ORDER NUMBER 99-08-DWQ COMPLIANCE IS MANDATORY PER THE CITY OF STOCKTON'S GRADING AND EROSION CONTROL STANDARDS.

22. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL PERMITS AND LICENSES REQUIRED FOR THE CONSTRUCTION AND COMPLETION OF THE PROJECT. THE CONTRACTOR SHALL OBTAIN AN ENCROACHMENT PERMIT AND A GRADING AND EROSION CONTROL PERMIT PRIOR TO STARTING ANY WORK, UNLESS OTHERWISE APPROVED BY THE CITY.

23. DUST CONTROL SHALL BE PERFORMED AT ALL TIMES, AT THE CONTRACTORS' EXPENSE, TO MINIMIZE ANY DUST NUISANCE AND SHALL BE IN ACCORDANCE WITH SECTION 10 OF CALTRANS STANDARD SPECIFICATIONS AND THE REQUIREMENTS OF THE CITY OF STOCKTON.

24. THE CONTRACTOR SHALL FURNISH, INSTALL OPERATE AND MAINTAIN ALL MACHINERY, APPLIANCES AND EQUIPMENT TO MAINTAIN ALL EXCAVATIONS FREE FROM WATER DURING CONSTRUCTION, AND SHALL DEWATER AND DISPOSE OF THE WATER SO AS TO NOT CAUSE INJURY TO PUBLIC OR PRIVATE PROPERTY, OR TO CAUSE A NUISANCE OR MENACE TO THE PUBLIC. THE DEWATERING SYSTEM SHALL BE INSTALLED AND OPERATED SO THE GROUNDWATER LEVEL OUTSIDE THE EXCAVATION IS NOT REDUCED TO THE EXTENT WHICH WOULD CAUSE DAMAGE OR ENDANGER ADJACENT STRUCTURES OR PROPERTY. ALL COSTS FOR DEWATERING SHALL BE INCLUDED IN THE UNIT PRICE BID FOR ALL PIPE CONSTRUCTION. THE STATIC WATER LEVEL SHALL BE DRAWN DOWN A MINIMUM OF 1 FOOT BELOW THE BOTTOM OF EXCAVATION OF ANY FILL TO THE SPECIFIED DENSITY. DISPOSAL OF WATER SHALL BE IN ACCORDANCE WITH THE APPROVED SWPPP AND SHALL NOT DAMAGE PROPERTY, CREATE A PUBLIC NUISANCE OR VIOLATE THE LAW. THE CONTRACTOR SHALL HAVE ON HAND, PUMPING EQUIPMENT AND MACHINERY IN GOOD WORKING CONDITION FOR EMERGENCIES AND SHALL HAVE WORKMEN AVAILABLE FOR ITS OPERATION. THE DEWATERING SYSTEM SHALL OPERATE CONTINUOUSLY UNTIL BACK-FILL HAS BEEN COMPLETED TO 1 FOOT ABOVE THE NORMAL STATIC GROUNDWATER LEVEL.

25. SITE PREPARATION SHALL INCLUDE STRIPPING AND REMOVAL OF ALL VEGETATION AND ANY DEBRIS FROM THE CONSTRUCTION AREAS. THE DEPTH OF STRIPPING ONSITE SHALL BE EVALUATED BY THE OWNER'S SOILS ENGINEER.

26. ANY VOIDS LEFT BY THE REMOVAL OF UNDERGROUND UTILITIES OR OTHER BURIED OBJECTS SHALL BE CLEANED OF ALL LOOSE SOILS AND SHALL BE PROPERLY BACKFILLED WITH ENGINEERED FILLED THAT THE OWNER'S SOIL ENGINEER APPROVES, MONITORS, TESTS, AND APPROVES.

27. THE SUBGRADE SOILS BENEATH ALL PAVING AREAS SHOULD BE COMPACTED TO A MINIMUM OF 95% OF THE DRY DENSITY WHICH THE OWNER'S SOIL ENGINEER SPECIFIES.

28. IF ANY SOFT OR LOOSE SOIL POCKETS ARE FOUND ONSITE DURING THE STRIPPING OR RECOMPACTION PROCESS, THEY SHALL BE OVER EXCAVATED AND RECOMPACTED.

29. ENGINEERED FILL SHALL BE PLACED IN HORIZONTAL LAYERS A MAXIMUM OF 8 INCHES IN LOOSE THICKNESS AND BE COMPACTED TO A MINIMUM OF 90 PERCENT OF MAXIMUM DRY DENSITY AS DETERMINED BY THE OWNER'S SOIL ENGINEER.

30. SUBGRADE SOILS UNDER EXTERIOR CONCRETE SHALL BE MOISTURE CONDITIONED AS APPROVED, TESTED AND INSPECTED BY THE OWNER'S SOIL ENGINEER.

31. CONTRACTOR SHALL MAINTAIN MOISTURE CONDITION RIGHT UP TO POURING OF CONCRETE.

32. ALL CITY OF STOCKTON STANDARD DETAILS REFER TO CITY OF STOCKTON PUBLIC WORKS DEPARTMENT STANDARD SPECIFICATIONS AND DETAILS 2015 UNLESS OTHERWISE NOTED.

33. WHERE COMBINATIONS OF SIDEWALK OR CURB AND GUTTER ARE POURED CONTIGUOUS TO EXISTING, ALL ADJOINING EXISTING CONCRETE VERTICAL FACES SHALL BE DOWELED. ALL ABUTTING SIDEWALK ENDS SHALL BE DOWELED MID-SECTION VERTICALLY WITH TWO DOWELS FOR FOUR THROUGH SIX-FOOT WIDE SIDEWALK AND THREE DOWELS FOR WIDER SIDEWALK. ABUTTING CURB AND GUTTER ENDS SHALL BE DOWELED TWICE, 18 INCHES APART AT GUTTER PAN MID-SECTION. DOWEL CONNECTIONS OF LONGITUDINAL RUNS OF SIDEWALK TO BACK OF CURB SHALL BE THREE FEET ON CENTER. ALL DOWELS SHALL BE 18 INCHES LONG, GRADE 60, #4 REBAR PENETRATING FOUR INCHES. THE DOWEL HOLE SHALL BE 5/8-INCH DIAMETER AT A SLIGHT HORIZONTAL ANGLE FROM PERPENDICULAR. THE PENETRATING PORTION OF THE DOWEL AND THE ENTIRE (CLEANED) VERTICAL SURFACE OF THE ADJOINING, EXISTING CONCRETE SHALL BE THOROUGHLY COATED WITH STATE STANDARD TWO-PART EPOXY.

811
Know what's below.
Call before you dig.

CITY OF STOCKTON GENERAL NOTES

1. ALL MATERIAL AND WORK SHALL CONFORM TO CITY OF STOCKTON SPECIFICATIONS AND PLANS. THE IMPROVEMENTS ARE SUBJECT TO THE INSPECTION AND APPROVAL OF THE PUBLIC WORKS DEPARTMENT. CONTACT THE ADMINISTRATION OFFICE AT (209) 937-8411 TWO (2) WORKING DAYS (48 HOURS) PRIOR TO THE START OF ANY WORK TO ARRANGE FOR INSPECTION.

2. PRIOR TO EXCAVATING NEAR ANY UNDERGROUND UTILITIES, CALL U.S.A. AT LEAST 48 HOURS IN ADVANCE AT PHONE 811.

3. THESE PLANS HAVE BEEN CHECKED BY THE CITY OF STOCKTON AND/OR ITS AUTHORIZED REPRESENTATIVE, BUT SUCH CHECKING AND/OR APPROVAL DOES NOT RELIEVE THE DEVELOPER AND CONTRACTOR FROM HIS/HER RESPONSIBILITY TO CORRECT ERRORS, OMISSIONS OR MAKE CHANGES REQUIRED BY CONDITIONS DISCOVERED IN THE FIELD DURING THE COURSE OF CONSTRUCTION.

4. RELOCATION OF DESIGNED UTILITY SYSTEMS MORE THAN 25' MUST BE REVIEWED BY THE PUBLIC WORKS DEPARTMENT PRIOR TO CONSTRUCTION AND SHALL BE ACCURATELY SHOWN ON REVISED PLANS STAMPED AND SHALL BE APPROVED BY CITY STAFF AND THE DESIGN ENGINEER PRIOR TO THE INSTALLATION OF THE IMPROVEMENTS.

5. ALL CONSTRUCTION STAKING FOR CURB, GUTTER, AND SIDEWALK, SANITARY SEWERS, STORM DRAINS, WATER LINES, FIRE HYDRANTS, AND ELECTROLIERS, ETC. SHALL BE DONE UNDER THE DIRECTION OF A CIVIL ENGINEER OR AN INDIVIDUAL LICENSED TO PERFORM LAND SURVEYING UNDER THE CALIFORNIA BUSINESS & PROFESSIONS CODE.

6. HOUSE SERVICES, FIRE HYDRANT LATERALS, GAS AND TELEPHONE LINES, AND ALL OTHER UNDERGROUND UTILITIES SHALL BE INSTALLED PRIOR TO CURB, GUTTER, AND SIDEWALK CONSTRUCTION AND STREET PAVING.

7. ALL LINES ABANDONED DURING CONSTRUCTION SHALL BE REMOVED.

8. FOR ALL PROJECTS, REGARDLESS OF SIZE, THE CONTRACTOR SHALL IMPLEMENT BEST MANAGEMENT PRACTICES TO ELIMINATE OR MINIMIZE POLLUTION DISCHARGE CAUSED BY CONSTRUCTION (SEE CHAPTER 16).

9. MATERIAL TESTING:
 a. ALL INDEPENDENT MATERIAL TESTING AND INSPECTION CALLED FOR BY THE CITY ENGINEER SHALL BE FURNISHED AND PAID FOR BY THE DEVELOPER OR CONTRACTOR.
 b. SUBGRADE TESTING FOR R-VALUES IS REQUIRED PRIOR TO THE INSTALLATION OF BASE ROCK.
 c. CONTRACTOR SHALL FURNISH MATERIAL CERTIFICATIONS OF PRE-MANUFACTURED MATERIAL WHEN CALLED FOR BY THE CITY ENGINEER.

13. STREET STRIPING SHALL INCLUDE STOP BARS, CENTERLINE STRIPING OR MARKERS, CROSSWALKS AND ALL OTHER MARKINGS REQUIRED BY THE CITY ENGINEER. STRIPING SHALL BE DONE WITH THERMOPLASTIC AND REFLECTIVE MARKERS.

14. WHEN WIDENING THE PAVEMENT ON AN EXISTING ROAD, THE EXISTING PAVEMENT SHALL BE CUT TO A NEAT LINE AND REMOVED BACK TO AN EXISTING ADEQUATE STRUCTURAL SECTION, OR TO THE ORIGINAL ROAD SECTION. AN EXPLORATORY TRENCH, OR POT-HOLING, MAY BE REQUIRED TO DETERMINE THE LIMITS OF PAVEMENT REMOVAL.

15. EXISTING CURB AND SIDEWALK WITHIN THE PROJECT LIMITS THAT ARE DAMAGED OR DISPLACED, EVEN THOUGH THEY WERE NOT TO BE REMOVED, SHALL BE REPAIRED OR REPLACED PER CITY STANDARD DETAILS EVEN IF DAMAGE OR DISPLACEMENT OCCURRED PRIOR TO ANY WORK PERFORMED BY THE CONTRACTOR.

16. ASBESTOS CEMENT PIPE (ACP) OR FITTINGS SHALL NOT BE USED WITHIN THE CITY OF STOCKTON.

17. PRIOR TO TRENCHING FOR ANY SEWER, WATER, OR STORM DRAIN PIPE, THE CONTRACTOR SHALL VERIFY, IN THE FIELD, THE SIZE AND LOCATION OF THE EXISTING PIPE AT THE POINT OF CONNECTION. ANY DEVIATION FROM THE PLANS SHALL BE RESOLVED BY THE DESIGN ENGINEER PRIOR TO TRENCHING.

18. MANHOLES, VALVES, CLEANOUTS, ETC. SHALL BE BROUGHT TO FINISH GRADE BY THE UNDERGROUND CONTRACTOR AFTER THE FINAL PAVING COURSE IS PLACED.

19. FOR PIPES GREATER THAN 30" ON SEWER AND 36" ON STORM DRAIN, 60" INSIDE DIAMETER, MANHOLES SHALL BE USED.

20. STREET CLOSURE OR LANE CLOSURE WILL REQUIRE A TRAFFIC CONTROL PLAN AND THE DESIGNATION OF A QUALIFIED INDIVIDUAL FOR ITS IMPLEMENTATION AND SAFE MAINTENANCE.

21. THE CONTRACTOR SHALL ATTEND A PRE-CONSTRUCTION CONFERENCE WITH UNION PACIFIC RAILROAD, THE CITY OF STOCKTON, AND SAN JOAQUIN COUNTY PRIOR TO STARTING ANY WORK.

22. CONTRACTOR SHALL CONTACT JASON ENDER (209) 937-8381 OF THE CITY OF STOCKTON FOR A PRE-CONSTRUCTION CONFERENCE A MINIMUM OF THREE (3) WORKING DAYS PRIOR TO THE COMMENCEMENT OF WORK.

23. CONTRACTOR SHALL INSTALL A BLUE REFLECTOR 6-INCHES FROM THE CENTERLINE ON FIRE HYDRANT SIDE AT ALL FIRE HYDRANT LOCATIONS PER MUTCD, CALIFORNIA SUPPLEMENT, SECTION 3B.11 AND FIGURE 3B-102. CONTRACTOR SHALL PAINT FIRE HYDRANTS WITH ENAMEL SAFETY YELLOW PAINT. FIRE HYDRANT STEM BREAKAWAY MUST COINCIDE WITH BREAKAWAY SPOOL.

24. THE CONTRACTOR SHALL MAINTAIN A NEATLY MARKED SET OF FULL-SIZE AS-BUILT RECORD DRAWINGS SHOWING THE FINAL LOCATION AND LAYOUT OF ALL MECHANICAL; ELECTRICAL AND OTHER INSTRUMENTATION EQUIPMENT; PIPING AND CONDUITS, STRUCTURES AND OTHER FACILITIES. THE AS-BUILTS OF THE ELECTRICAL SYSTEM SHALL INCLUDE THE STREET LIGHT LAYOUT PLAN SHOWING LOCATION OF LIGHTS, CONDUITS, CONDUCTORS, POINTS OF CONNECTIONS TO SERVICES, PULLBOXES, AND WIRE SIZES. AS-BUILT RECORD DRAWINGS SHALL REFLECT CHANGE ORDERS, ACCOMMODATIONS, AND ADJUSTMENTS TO ALL IMPROVEMENTS CONSTRUCTED. WHERE NECESSARY, SUPPLEMENTAL DRAWINGS SHALL BE PREPARED AND SUBMITTED BY THE CONTRACTOR.

GRADING NOTES

1. GRADING AND LAND STABILIZATION SHALL INCLUDE EXCAVATION AND FILL OF STREETS IN ACCORDANCE WITH THE SPECIFICATIONS OF THE SOILS ENGINEER AND UNDER THE DIRECTION, SUPERVISION, MONITORING, TESTING AND APPROVAL OF THE OWNER AND OWNER'S SOILS ENGINEER.

2. GRADING AND LAND STABILIZATION SHALL INCLUDE COST OF DEWATERING; REMOVING FROM THE SITE ALL STRIPPED VEGETATION, DEBRIS, STRUCTURES, POWER POLES, EXISTING PAVEMENT, BUILDINGS, TREES, AND OTHER DELETERIOUS MATERIALS.

3. STOCKPILES OF EXISTING DELETERIOUS MATERIAL SHALL BE DISPOSED OF UNDER THE DIRECTION AND SUPERVISION OF THE OWNER AND OWNER'S SOILS ENGINEER.

4. ALL IMPORTED FILL SHALL BE APPROVED BY THE SOILS ENGINEER.

5. TOPOGRAPHICAL INFORMATION SHOWN REFLECTS A TOPOGRAPHY SURVEY PERFORMED BY SIEGFRIED ENGINEERING.

6. ANY AND ALL SEDIMENT AND/OR EROSION CONTROL DETAILS CONTAINED WITHIN THESE PLANS ARE TO BE CONSIDERED AS "REFERENCE DETAILS" ONLY AND THE CITY'S APPROVAL OF THESE PLANS AND "REFERENCE DETAILS" DOES NOT RELIEVE THE OWNER/DEVELOPER FROM COMPLIANCE WITH THE STORM WATER POLLUTION PREVENTION PLAN AS APPROVED BY THE CITY'S STORM WATER DIVISION.

GEOTECHNICAL NOTES

1. CONTRACTOR TO REFERENCE GEOTECHNICAL REPORT FOR ALL SUBGRADE PREPARATION, PAVEMENT RECOMMENDATIONS, SLAB ON GRADE THICKNESS, ETC. AND COMPARE WITH ANY RECOMMENDATIONS ON THE PLANS. IF ANY DISCREPANCIES EXISTING NOTIFY THE ENGINEERS IMMEDIATELY.

2. GEOTECHNICAL ENGINEERING REPORT PREPARED BY TERRACON DATED JULY 26, 2017. TERRACON PROJECT NO. NA175062

ABBREVIATIONS

ABBREVIATION	DESCRIPTION
@	AT
AB	AGGREGATE BASE
AC	ASPHALT CONCRETE
ADA	AMERICANS WITH DISABILITIES ACT
BC	BEGINNING OF CURVE
BW	BACK OF WALK
C	CONCRETE
C,G, & SW	CURB, GUTTER, AND SIDEWALK
CL	CENTERLINE
CC or C/C	CENTER TO CENTER
CO	CLEANOUT
C.O.S.	CITY OF STOCKTON
D	DEPTH
DIA	DIAMETER
DWG	DRAWING
EC	END OF CURVE
EL	ELEVATION
EMB.	EMBEDMENT
EP	EXISTING PAVEMENT
EQ	EQUAL, EQUIDISTANT, EQUIVALENT
ESMT	EASEMENT
EX.	EXISTING
FL	FLOWLINE
FOC	FACE OF CURB
FH	FIRE HYDRANT
G	GROUND
GB	GRADE BREAK
HP	HIGH POINT
HORIZ	HORIZONTAL
LF	LINEAR FEET
L	LEFT
MAX	MAXIMUM
MH	MAINTENANCE HOLE
MIN	MINIMUM
NO.	NUMBER
NTS	NOT TO SCALE
O.C.	ON CENTER
P	PAVEMENT
PC	POINT OF CURVATURE
PP	POWER POLE
PSI	POUNDS PER SQUARE INCH
PT	POINT
PUE	PUBLIC UTILITY EASEMENT
PVC	POLYVINYL CHLORIDE
PL	PROPERTY LINE
R	RADIAL OR RADIUS
R/W	RIGHT-OF-WAY
RC	ROLL-CURB
SD	STORM DRAIN
SF	SQUARE FEET
SS	SANITARY SEWER
SL	STREET LIGHT
SW	SIDEWALK
SDMH	STORM DRAIN MAINTENANCE HOLE
SSMH	SANITARY SEWER MAINTENANCE HOLE
STA	STATION
STD	STANDARD
ST	STREET
SWPPP	STORM WATER POLLUTION PREVENTION PLAN
TC	TOP OF CURB
TI	TRAFFIC INDEX
TYP	TYPICAL
U.O.N.	UNLESS OTHERWISE NOTED
VERT	VERTICAL
W	WATER
WS	WATER SERVICE
(W)	WEST
(E)	EAST
(S)	SOUTH
(N)	NORTH
±	PLUS OR MINUS
(L)	LEFT SIDE OF ROAD
(R)	RIGHT SIDE OF ROAD

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- CIVIL
- STRUCTURAL
- LANDSCAPE ARCHITECTURE
- SURVEYING
- PLANNING

REGISTERED PROFESSIONAL ENGINEER
MICHAEL EBERLE
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Exp. 03/31/19
CIVIL
STATE OF CALIFORNIA

DATE SIGNED: 10/09/17

Title:

NOTES SHEET

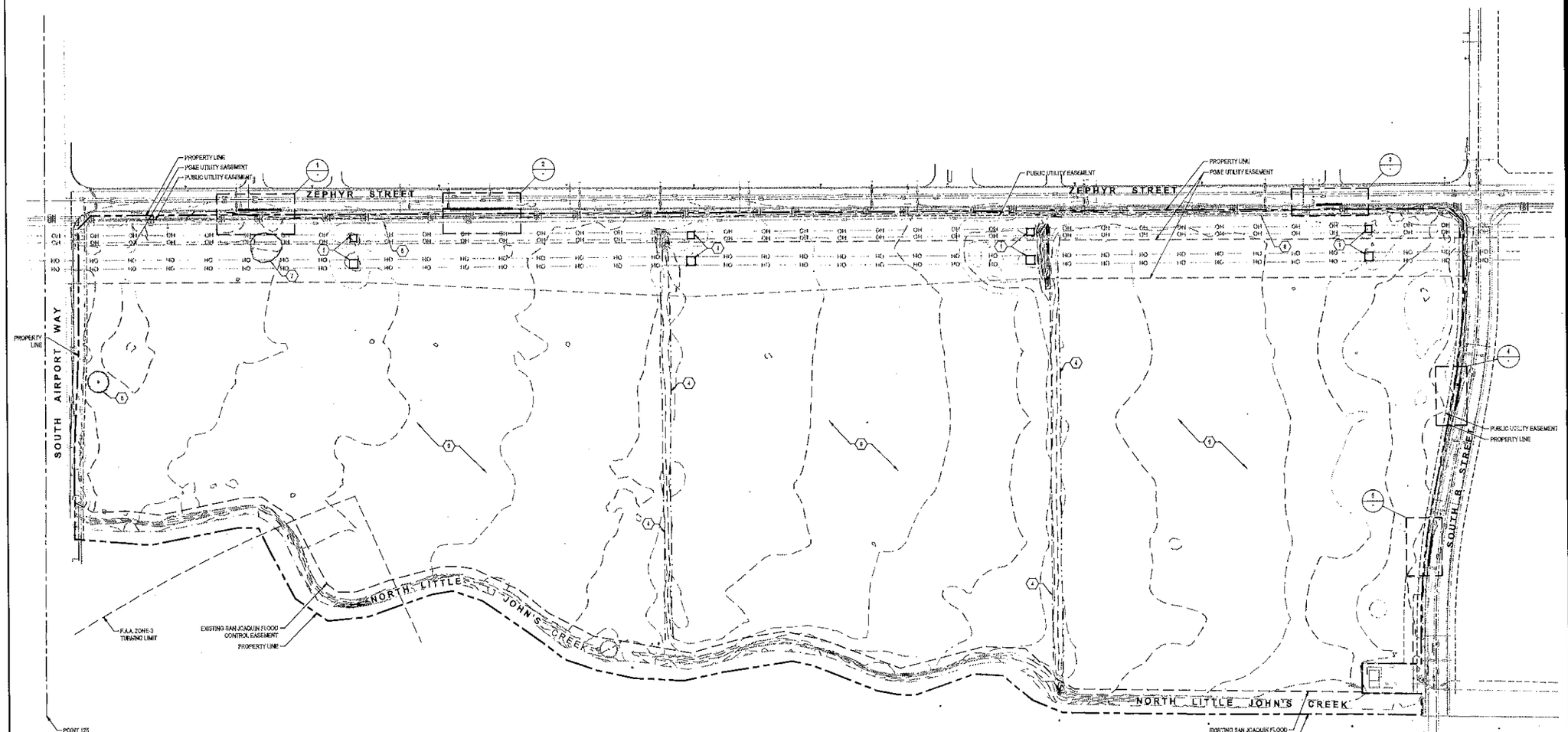
Project Number:	16170
Drawn by:	RME
Date:	10/09/17

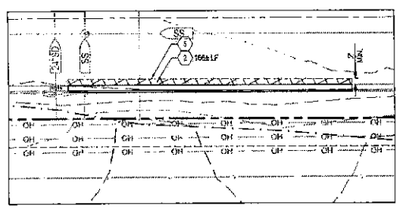
Revision:

A	ADDENDUM A - REVISION 2017-08-31 PER OWNER REQUEST/CITY CORRECTION
B	ADDENDUM B - REVISION 2017-10-09 CITY CORRECTION

Sheet:

C1.1





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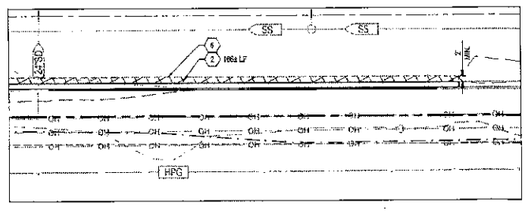
1" = 20'



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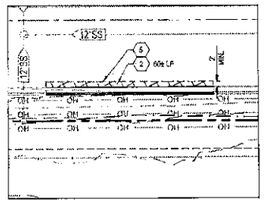
1" = 20'



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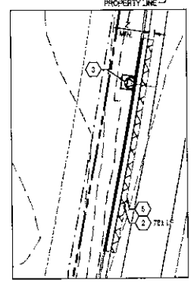

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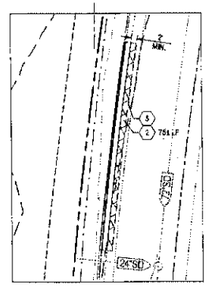
1" = 20'



5 DRIVEWAY DETAIL 5
1" = 20'

NOTES:

1. PRIOR TO COMMENCEMENT OF GRADING ACTIVITIES, THE CONTRACTOR SHALL HAVE THE EXISTING DRY UTILITIES POT HOLED FOR VERIFICATION OF LOCATION AND DEPTH, AT SUCH TIME, POTHOLE DATA SHALL BE PROVIDED TO THE ENGINEER FOR DETERMINATION OF ADEQUATE CLEARANCE AND SEPARATION.
2. ALL EXCAVATIONS SPOILS, INCLUDING, BUT NOT LIMITED TO CONCRETE AND PAVEMENT EXCAVATION, SHALL BE EXPORTED AND DISPOSED OF BY THE CONTRACTOR.
3. EXISTING STRUCTURES, CONCRETE, PAVEMENT, FENCES, CURBS, UTILITY BOXES, LIGHTS, GATES, ETC. NOT CALLED OUT IN PLANS TO BE REMOVED OR REMOVED SHALL BE PROTECTED IN PLACE.
4. CONTRACTOR, TO PROVIDE TREE PROTECTION AS NECESSARY DURING CONSTRUCTION TO PRESERVE EXISTING TREES. TREES NOT IDENTIFIED AS TO BE REMOVED OR TO REMAIN ARE ASSUMED TO REMAIN.

POINT	NORTHING	EASTING	ELEVATION	DESCRIPTION
125	2155962.36	6342855.06	22.13'	MF BD SS-2
160	2155351.92	6341764.19	19.2'	MF BC SS-17

KEY NOTES:

1. PROTECT IN PLACE EXISTING TRANSMISSION TOWER, AND OVERHEAD ELECTRICAL LINES
2. REMOVE EXISTING CURB & GUTTER
3. RELOCATE EXISTING FIRE HYDRANT AS SHOWN ON UTILITY PLAN
4. EXISTING DITCH TO BE BACKFILLED DURING GRADING OPERATIONS
5. REMOVE EXISTING ASPHALT CONCRETE
6. PROTECT EXISTING GAS LINES IN PLACE, COORDINATE WITH PG&E.
7. REMOVE EXISTING VEGETATION
8. REMOVE EXISTING TREE & ROOTS
9. CLEAR AND GRUB. EARTHWORK SHALL ACCOMMODATE DEPTH OF PROPOSED IMPROVEMENTS AND BE DONE IN ACCORDANCE WITH THE PROJECT GEOTECHNICAL REPORT

LEGEND:

REMOVE AND DISPOSE OF EXISTING ASPHALT PAVEMENT. REMOVAL DEPTH SHALL ACCOMMODATE DEPTH OF PROPOSED IMPROVEMENTS.

0' 50' 100' 200'
SCALE: 1"=100'

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PLANNING

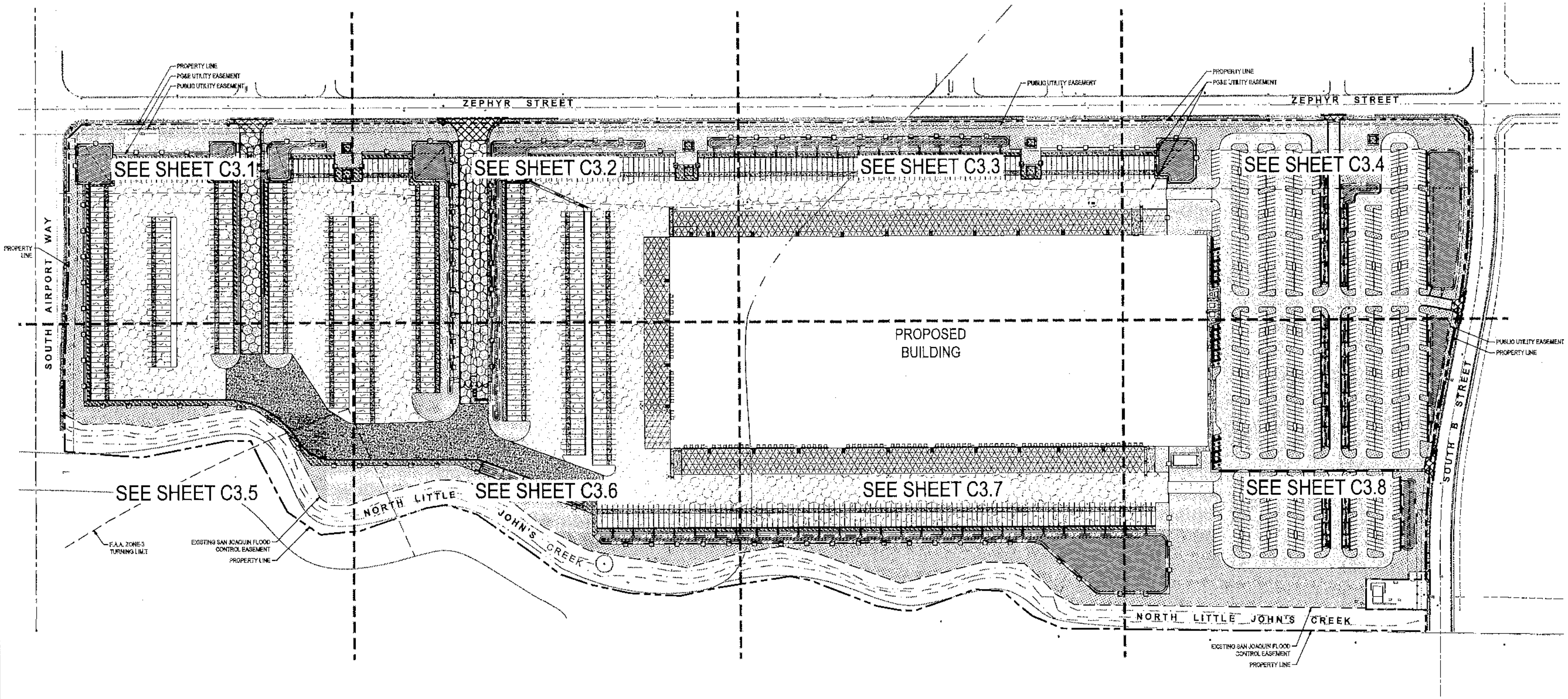
REGISTERED PROFESSIONAL ENGINEER MICHAEL ZIEGFRIED STATE OF CALIFORNIA
DATE SIGNED: 10/06/17

Title:
DEMOLITION PLAN KEY MAP

Project Number:	15170
Drawn by:	RME
Date:	10/06/17

Revision:
A ADDENDUM A - REVISION 2017-08-31 PER OWNER REQUESTED CORRECTION
B ADDENDUM B - REVISION 2017-10-09 CITY CORRECTION

Sheet:
C2.0



GENERAL PAVING AND DIMENSIONING NOTES:

ALL MATERIAL AND CONSTRUCTION PROCEDURES WITHIN THE SCOPE OF THE PROJECT SHALL CONFORM TO ALL APPLICABLE CITY OF STOCKTON STANDARD SPECIFICATIONS (LATEST EDITION).

1. CONTRACTOR SHALL IMMEDIATELY NOTIFY ENGINEER OF ANY QUESTION THAT MAY ARISE CONCERNING THE INTENT, PLACEMENT, OR LIMITS OF DIMENSIONS NECESSARY FOR CONSTRUCTION OF THIS PROJECT.
2. ALL DIMENSIONS ARE TO FACE OF CURB, FACE OF BUILDING, CENTER OF PAINT STRIPING OR PERPENDICULAR TO THE PROPERTY LINE. CONTRACTOR SHALL VERIFY DIMENSIONS MATCH STRUCTURAL AND ARCHITECTURAL PLANS PRIOR TO CONSTRUCTION.
3. ALL COORDINATE POINTS ARE AT FACE OF CURB OR RADIUS POINT. BUILDING CONTROL POINTS ARE AT THE OUTER MOST EDGE OF THE BUILDING ENVELOPE.
4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ACQUIRING ALL NECESSARY PERMITS PRIOR TO CONSTRUCTION.
5. THE CONTRACTOR SHALL VERIFY THE EXACT LOCATION OF EXISTING UTILITIES PRIOR TO CONSTRUCTION. ANY UTILTIES DAMAGED BY THE CONTRACTOR SHALL BE REPLACED AT CONTRACTOR'S EXPENSE.
6. CONTRACTOR SHALL BE RESPONSIBLE FOR RESTORING TO ITS ORIGINAL OR BETTER CONDITIONS, ANY DAMAGE DONE TO EXISTING UTILITIES, FENCE, PAVEMENT, CURBS, DRIVEWAYS OR SIDEWALKS TO REMAIN (NO SEPARATE PAY ITEM).
7. THE CONTRACTOR SHALL SAWCUT EXISTING PAVEMENT, CURBS, AND SIDEWALKS AT NEW PAVEMENT, CURB AND SIDEWALK JUNCTURES. NO JAGGED OR IRREGULAR CUTS WILL BE ALLOWED OR ACCEPTED.
8. REFER TO SITE PAVING PLAN, ARCHITECTURAL, STRUCTURAL, MECHANICAL, ELECTRICAL, IRRIGATION AND LANDSCAPING PLANS FOR ADDITIONAL INFORMATION.
9. SEE CIVIL DETAIL SHEET FOR APPLICABLE DETAILS.
10. REFER TO PROJECT SPECIFICATIONS FOR ADDITIONAL INFORMATION.
11. THE CONTRACTOR SHALL VERIFY ELEVATIONS AND LOCATIONS OF EXISTING FACILITIES AND NOTIFY THE ENGINEER OF ANY CONFLICTS PRIOR TO BEGINNING CONSTRUCTION.
12. ALL PAINT SHALL BE 4" WIDE REFLECTIVE PAINT: WHITE ON ASPHALT PAVING AND WHITE ON TOP OF 6" WIDE BLACK STRIPE ON CONCRETE UNLESS OTHERWISE NOTED ON THE DRAWINGS.
13. ALL PAVEMENT MARKINGS SHALL RECEIVE TWO COATS OF PAINT.
14. NO WORK SHALL BE PERFORMED IN A PUBLIC RIGHT-OF-WAY WITHOUT A PERMIT.
15. ALL SIGNS SHALL CONFORM TO MUTCD, LATEST EDITION.
16. (A) ALL CONCRETE SIDEWALK SHALL BE 6' IN WIDTH UNLESS OTHERWISE SPECIFIED. CONTRACTOR TO ENSURE 5' MINIMUM WIDTH, SLOPED AT 1.25% TOWARDS CURB, WHEN GOING AROUND EXISTING HYDRANTS, UTILITY POLES, LIGHT POLES, AS NEEDED.
17. ALL CONCRETE SIDEWALK STEPS TO BE DESIGNED BY OTHERS.
18. ALL CURBS ARE 6" HIGH UNLESS OTHERWISE NOTED.
19. CONTRACTOR TO REFER TO GEOTECHNICAL REPORT FOR CONSTRUCTION JOINT SPACING REQUIREMENTS IN CONCRETE PAVEMENT.
20. (A) FOR ACCESSIBLE PATH OF TRAVEL, SEE ARCHITECTURAL SITE PLAN A1.0, A1.1, AND A1.2.

LEGEND:

ENTRY & EXIT HEAVY DUTY ASPHALT CONCRETE (T.I. = 10.0)
6.0" ASPHALT CONCRETE OVER 8" CLASS II AGGREGATE BASE OVER 18" LIME TREATED SUBBASE OVER SUBGRADE COMPACTED TO 95% R.C.

HEAVY DUTY ASPHALT CONCRETE (T.I. = 8.0)
5.0" ASPHALT CONCRETE OVER 4" CLASS II AGGREGATE BASE OVER 15" LIME TREATED SUBBASE OVER SUBGRADE COMPACTED TO 95% R.C.

LIGHT DUTY ASPHALT PAVEMENT (T.I. = 6.0)
3.0" ASPHALT CONCRETE OVER 4" CLASS II AGGREGATE BASE OVER 12" LIME TREATED SUBBASE OVER SUBGRADE COMPACTED TO 95% R.C.

PEDESTRIAN CONCRETE
6.0" (3000 PSI) CONCRETE W / #3 @ 24" O.C. OVER 4" CLASS II AGGREGATE BASE OVER MOISTURE TREATED SUBGRADE COMPACTED TO 95% R.C.

TRUCK DOCK CONCRETE (T.I. = 9.0)
7.0" (3500 PSI) CONCRETE W / #4 @ 18" O.C. OVER 4" CLASS II AGGREGATE BASE OVER 12" LIME TREATED SUBBASE OVER SUBGRADE COMPACTED TO 95% R.C.

TRUCK DOLLY PADS & MANEUVERING AREAS (T.I. = 11.0)
9.0" (3500 PSI) CONCRETE W / #4 @ 18" O.C. OVER 4" CLASS II AGGREGATE BASE OVER 12" LIME TREATED SUBBASE OVER SUBGRADE COMPACTED TO 95% R.C.

DRIVEWAY ENTRY CONCRETE (T.I. = 11.0)
8.0" (4500 PSI) CONCRETE W / #4 @ 18" O.C. OVER 4" CLASS II AGGREGATE BASE OVER 12" LIME TREATED SUBBASE OVER SUBGRADE COMPACTED TO 95% R.C.

LANDSCAPE AREA
SEE LANDSCAPE PLANS FOR PLANTING AND IRRIGATION DETAILS.

STORM WATER TREATMENT AREA
AREA TO BE USED FOR BIORETENTION FOR STORMWATER TREATMENT, SEE DETAIL 1, SHEET C5.0. SEE LANDSCAPE PLANS FOR PLANTING AND IRRIGATION DETAILS.

COBBLE
SEE LANDSCAPE PLANS FOR PLANTING AND IRRIGATION DETAILS.

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SCALE: 1"=100'

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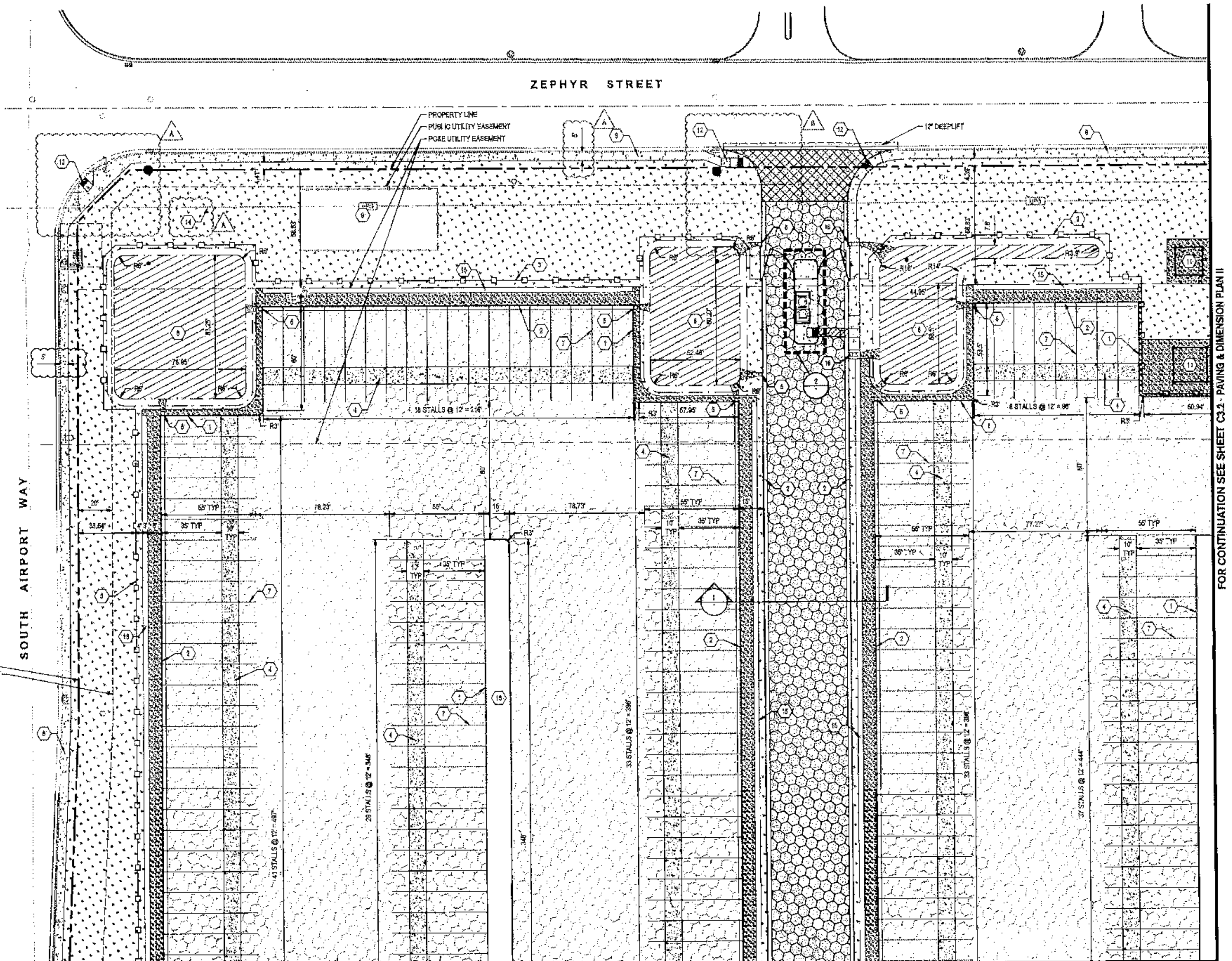
DATE SIGNED: 10/09/17

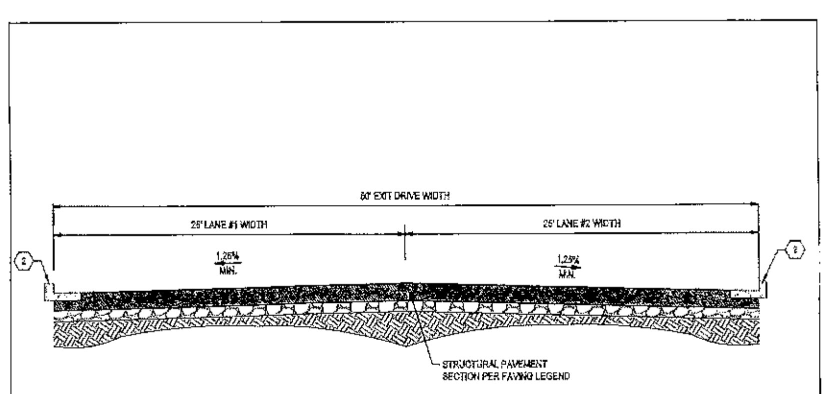
Title: PAVING & DIMENSION PLAN KEY MAP
Project Number: 15170
Drawn by: RME
Date: 10/09/17
Revision:
A — ADDENDUM A - REVISION 2017-08-31 PER OWNER REQUEST/CITY CORRECTION
B — ADDENDUM B - REVISION 2017-10-09 CITY CORRECTION

Sheet: C3.0

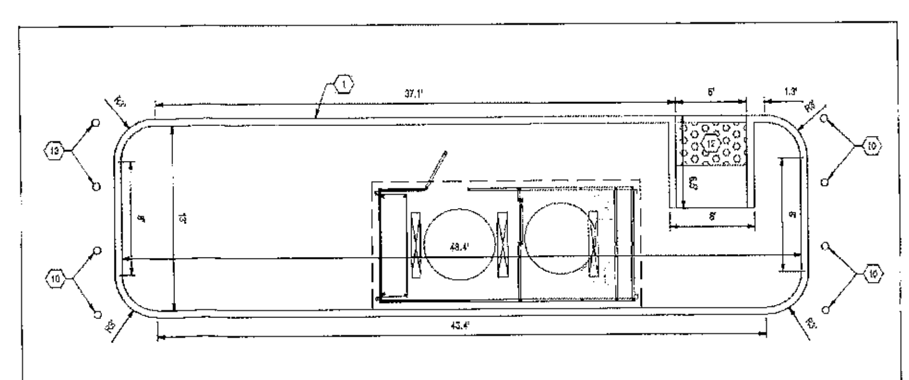


FOR CONTINUATION SEE SHEET C3.2 - PAVING & DIMENSION PLAN II

FOR CONTINUATION SEE SHEET C3.5 - PAVING & DIMENSION PLAN V



1 EXIT DRIVE AISLE SECTION
NO SCALE



2 EXIT GUARD HOUSE PAD DETAIL
NO SCALE

LEGEND:

ENTRY & EXIT HEAVY DUTY ASPHALT CONCRETE (T.I. = 10.0)
5.0" ASPHALT CONCRETE OVER 6" CLASS II AGGREGATE BASE OVER 18" LIME TREATED SUBBASE OVER SUBGRADE COMPACTED TO 95% R.C.

HEAVY DUTY ASPHALT CONCRETE (T.I. = 8.0)
5.0" ASPHALT CONCRETE OVER 4" CLASS II AGGREGATE BASE OVER 15" LIME TREATED SUBBASE OVER SUBGRADE COMPACTED TO 95% R.C.

LIGHT DUTY ASPHALT PAVEMENT (T.I. = 5.0)
3.0" ASPHALT CONCRETE OVER 4" CLASS II AGGREGATE BASE OVER 12" LIME TREATED SUBBASE OVER SUBGRADE COMPACTED TO 95% R.C.

PEDESTRIAN CONCRETE
6.0" (3000 PSI) CONCRETE W / #3 @ 24" O.C. OVER 4" CLASS II AGGREGATE BASE OVER MOISTURE TREATED SUBGRADE COMPACTED TO 95% R.C.

TRUCK DOCK CONCRETE (T.I. = 9.0)
7.0" (3500 PSI) CONCRETE W / #4 @ 18" O.C. OVER 4" CLASS II AGGREGATE BASE OVER 12" LIME TREATED SUBBASE OVER SUBGRADE COMPACTED TO 95% R.C.

TRUCK DOLLY PADS & MANEUVERING AREAS (T.I. = 11.0)
8.0" (3500 PSI) CONCRETE W / #4 @ 18" O.C. OVER 4" CLASS II AGGREGATE BASE OVER 12" LIME TREATED SUBBASE OVER SUBGRADE COMPACTED TO 95% R.C.

DRIVEWAY ENTRY CONCRETE (T.I. = 11.0)
8.0" (4500 PSI) CONCRETE W / #4 @ 18" O.C. OVER 4" CLASS II AGGREGATE BASE OVER 12" LIME TREATED SUBBASE OVER SUBGRADE COMPACTED TO 95% R.C.

LANDSCAPE AREA
SEE LANDSCAPE PLANS FOR PLANTING AND IRRIGATION DETAILS.

STORM WATER TREATMENT AREA
AREA TO BE USED FOR BIORETENTION FOR STORMWATER TREATMENT PER DETAIL 1, SHEET C5.0.. SEE LANDSCAPE PLANS FOR PLANTING AND IRRIGATION DETAILS.

COBBLE
SEE LANDSCAPE PLANS FOR PLANTING AND IRRIGATION DETAILS.

KEY NOTES:

1. INSTALL 6" VERTICAL CURB PER DETAIL 1 ON SHEET C7.1
2. INSTALL 6" VERTICAL CURB AND GUTTER PER DETAIL 2 ON SHEET C7.1
3. FENCE PER ARCHITECTURAL PLANS
4. INSTALL CONCRETE DOLLY PAD PER PAVING LEGEND ON THIS SHEET
5. INSTALL CURB CUT PER DETAIL 6 ON SHEET C7.1
6. INSTALL SIDEWALK PER PAVING LEGEND ON THIS SHEET
7. INSTALL 4" WHITE STRIPING PER CITY OF STOCKTON STANDARDS
8. INSTALL BIORETENTION PER DETAIL 1 ON SHEET C5.0
9. EXISTING PG&E GAS DISTRIBUTION YARD
10. INSTALL BOLLARD PER DETAIL 7 ON SHEET C7.1
11. EXISTING ELECTRICAL TOWER
12. INSTALL TRUNCATED DOMES PER DETAIL 9 ON SHEET C7.1
13. INSTALL ACCESSIBLE RAMP PER CITY OF STOCKTON STANDARD DETAIL R-64.
14. EXISTING PG&E 3" HIGH PRESSURE GAS. EXACT LOCATIONS AND DEPTHS UNKNOWN, CONTRACTOR TO POTHOLE AND EXERCISE CAUTION
15. TRAILER INSPECTION PATH, 3/4" CLASS II AGGREGATE BASE AT 4" DEPTH MINIMUM, OVER SUBGRADE COMPACTED TO 95% R.C.
16. INSTALL CURB-O-LET TCD-327 OR EQUIVALENT THROUGH CURB DRAIN, DAYLIGHT TO COBBLE AT BIORETENTION

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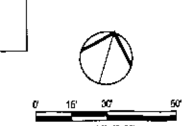
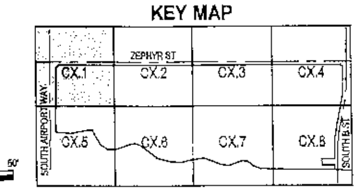


KEY MAP



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DATE SIGNED: 10/09/17

Title:

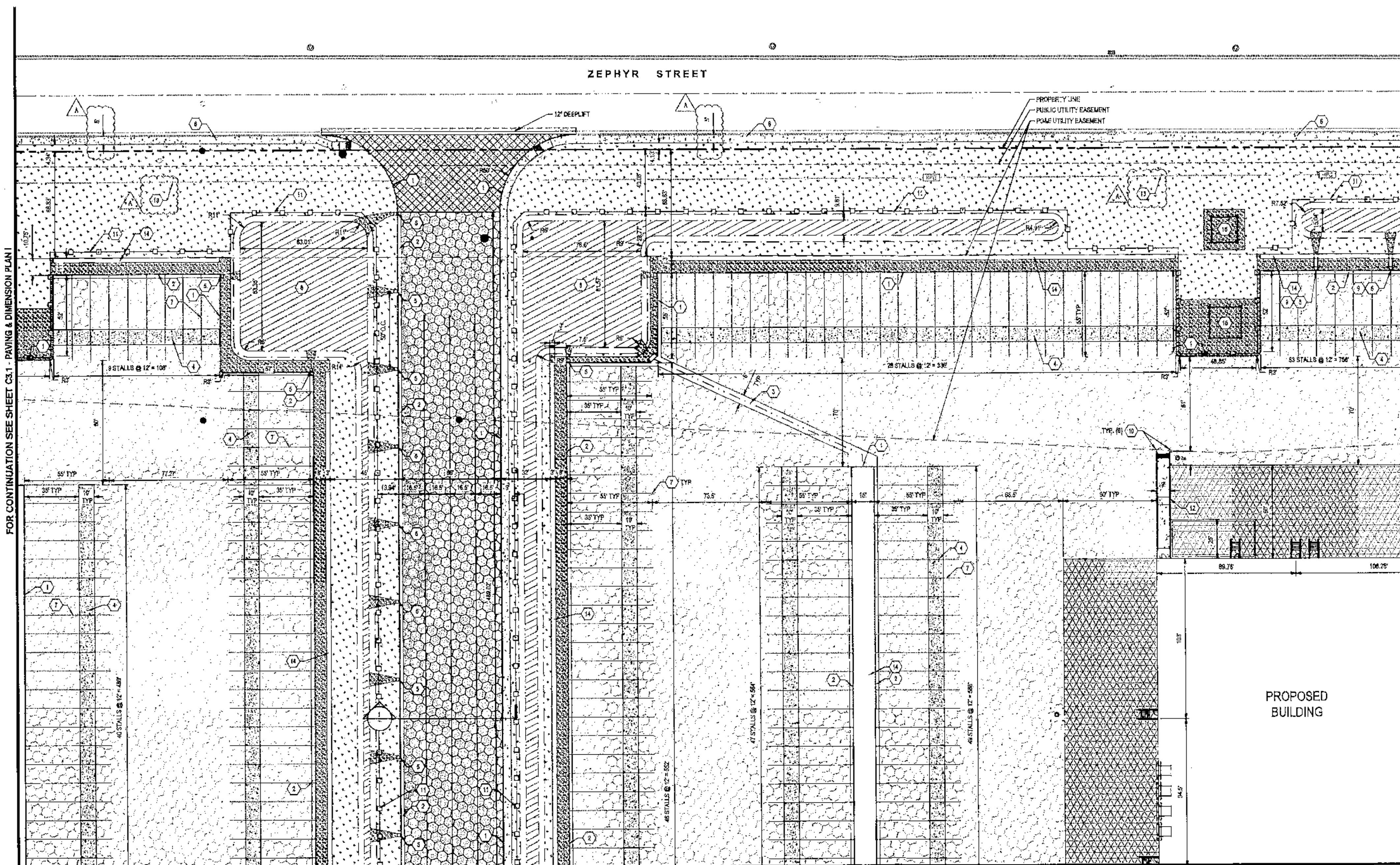
PAVING & DIMENSION PLAN I

Project Number: 15170
Drawn by: RME
Date: 10/09/17

Revision:
A ADDENDUM A - REVISION 2017-08-31 PER OWNER REQUEST/CITY CORRECTION
B ADDENDUM B - REVISION 2017-10-09 CITY CORRECTION

Sheet:

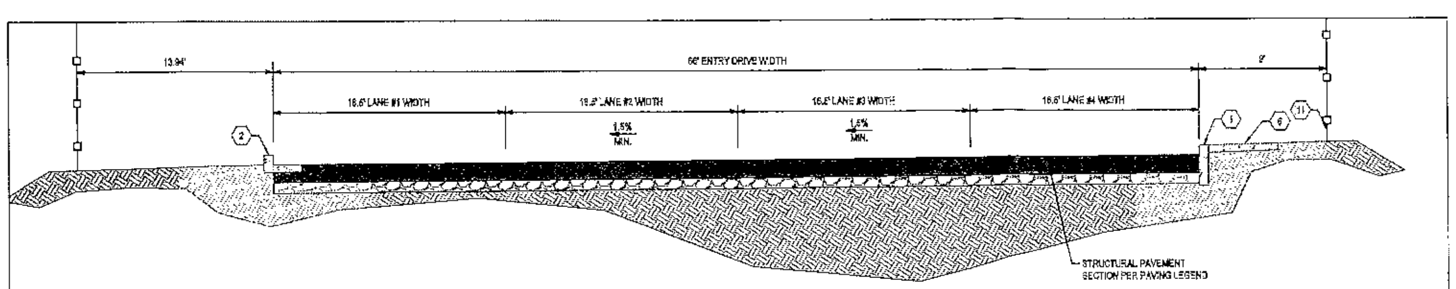
C3.1



FOR CONTINUATION SEE SHEET C3.1 - PAVING & DIMENSION PLAN I

FOR CONTINUATION SEE SHEET C3.3 - PAVING & DIMENSION PLAN III

FOR CONTINUATION SEE SHEET C3.6 - PAVING & DIMENSION PLAN VI



1 ENTRY DRIVE AISLE SECTION
NO SCALE

LEGEND:

ENTRY & EXIT HEAVY DUTY ASPHALT CONCRETE (T.I. = 10.0)
6.0" ASPHALT CONCRETE OVER 6" CLASS II AGGREGATE BASE OVER 18" LIME TREATED SUBBASE OVER SUBGRADE COMPACTED TO 95% R.C.

HEAVY DUTY ASPHALT CONCRETE (T.I. = 8.0)
6.0" ASPHALT CONCRETE OVER 4" CLASS II AGGREGATE BASE OVER 15" LIME TREATED SUBBASE OVER SUBGRADE COMPACTED TO 95% R.C.

LIGHT DUTY ASPHALT PAVEMENT (T.I. = 5.0)
3.0" ASPHALT CONCRETE OVER 4" CLASS II AGGREGATE BASE OVER 12" LIME TREATED SUBBASE OVER SUBGRADE COMPACTED TO 95% R.C.

PEDESTRIAN CONCRETE
6.0" (3000 PSI) CONCRETE W/ #3 @ 24" O.C. OVER 4" CLASS II AGGREGATE BASE OVER MOISTURE TREATED SUBGRADE COMPACTED TO 95% R.C.

TRUCK DOCK CONCRETE (T.I. = 9.0)
7.0" (3500 PSI) CONCRETE W/ #4 @ 18" O.C. OVER 4" CLASS II AGGREGATE BASE OVER 12" LIME TREATED SUBBASE OVER SUBGRADE COMPACTED TO 95% R.C.

TRUCK DOLLY PADS & MANEUVERING AREAS (T.I. = 11.0)
8.0" (3500 PSI) CONCRETE W/ #4 @ 18" O.C. OVER 4" CLASS II AGGREGATE BASE OVER 12" LIME TREATED SUBBASE OVER SUBGRADE COMPACTED TO 95% R.C.

DRIVEWAY ENTRY CONCRETE (T.I. = 11.0)
8.0" (4500 PSI) CONCRETE W/ #4 @ 18" O.C. OVER 4" CLASS II AGGREGATE BASE OVER 12" LIME TREATED SUBBASE OVER SUBGRADE COMPACTED TO 95% R.C.

LANDSCAPE AREA
SEE LANDSCAPE PLANS FOR PLANTING AND IRRIGATION DETAILS.

STORM WATER TREATMENT AREA
AREA TO BE USED FOR BIORETENTION FOR STORMWATER TREATMENT. SEE DETAIL 1, SHEET C5.0. SEE LANDSCAPE PLANS FOR PLANTING AND IRRIGATION DETAILS.

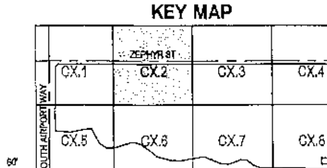
COBBLE
SEE LANDSCAPE PLANS FOR PLANTING AND IRRIGATION DETAILS.

KEY NOTES:

1. INSTALL 6" VERTICAL CURB PER DETAIL 1 ON SHEET C7.1
2. INSTALL 6" VERTICAL CURB AND GUTTER PER DETAIL 2 ON SHEET C7.1
3. INSTALL 6' VALLEY GUTTER PER DETAIL 4 ON SHEET C7.1
4. INSTALL CONCRETE DOLLY PAD PER PAVING LEGEND ON THIS SHEET
5. INSTALL CURB CUT PER DETAIL 6 ON SHEET C7.1
6. INSTALL SIDEWALK PER PAVING LEGEND ON THIS SHEET
7. INSTALL 4" WHITE STRIPING PER CITY OF STOCKTON STANDARDS
8. INSTALL BIORETENTION PER DETAIL 1 ON SHEET C5.0
9. INSTALL CONCRETE CHANNEL DRAIN PER DETAIL 12 ON SHEET C7.1
10. INSTALL BOLLARD PER DETAIL 7 ON SHEET C7.1
11. FENCE PER ARCHITECTURAL PLANS
12. RETAINING WALL PER STRUCTURAL PLANS
13. (A) EXISTING PG&E 8" HIGH PRESSURE GAS. EXACT LOCATIONS AND DEPTHS UNKNOWN, CONTRACTOR TO POTHOLE AND EXERCISE CAUTION
14. TRAILER INSPECTION PATH, 3/4" CLASS II AGGREGATE BASE AT 4" DEPTH MINIMUM, OVER SUBGRADE COMPACTED TO 95% R.C.
15. EXISTING ELECTRICAL TOWER

SCALE: 1"=30'

KEY MAP



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REGISTERED PROFESSIONAL ENGINEER · R. MICHAEL EBERLE · CIVIL · STATE OF CALIFORNIA

DATE SIGNED: 10/09/17

Title:

PAVING & DIMENSION PLAN II

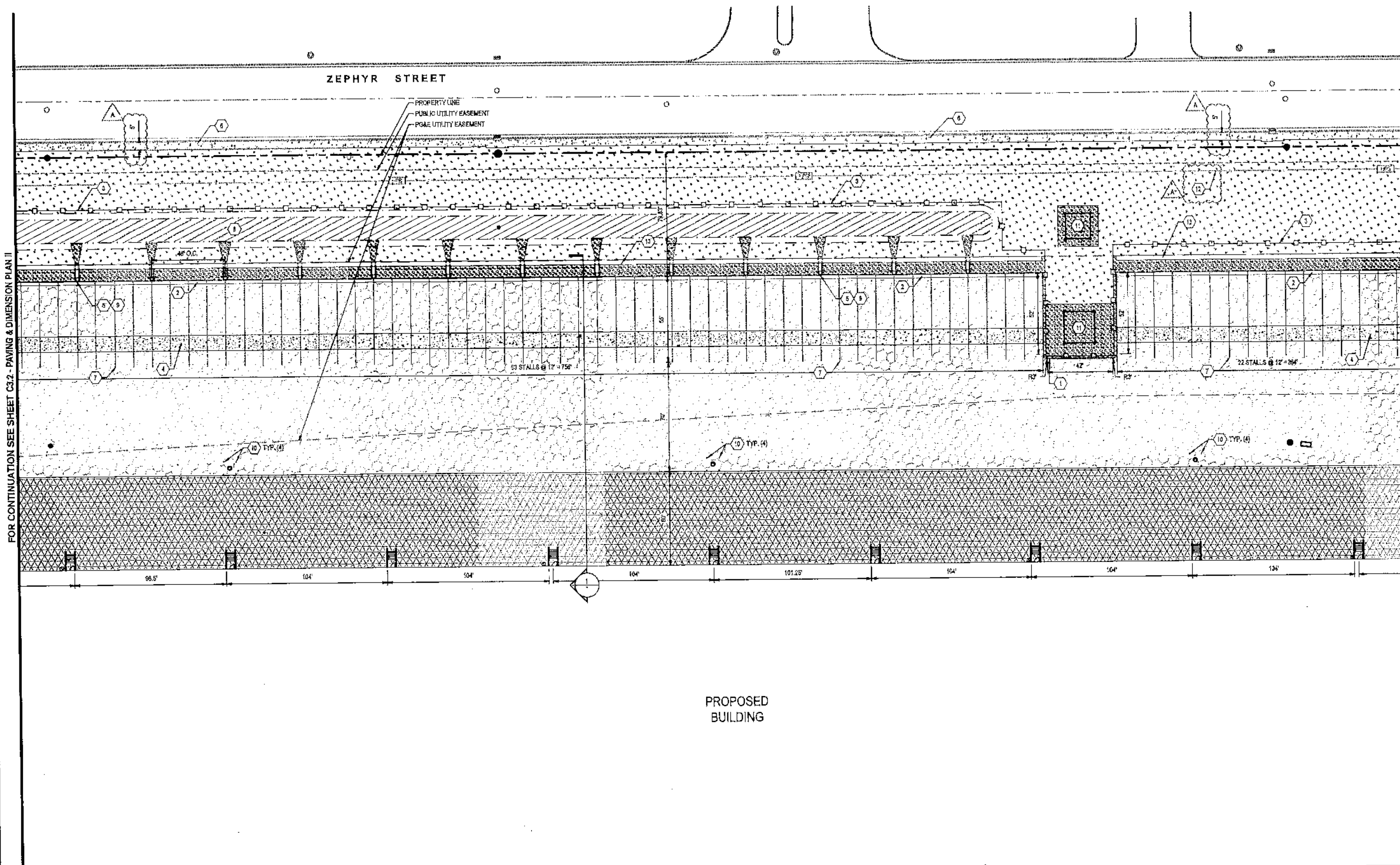
Project Number:	15170
Drawn by:	RME
Date:	10/09/17

Revision:
- A: ADDENDUM A - REVISION 2017-08-01 PER OWNER REQUEST/CITY CORRECTION
- B: ADDENDUM B - REVISION 2017-10-09 CITY CORRECTION

Sheet:

C3.2

FOR CONTINUATION SEE SHEET C3.2 - PAVING & DIMENSION PLAN II



FOR CONTINUATION SEE SHEET C3.4 - PAVING & DIMENSION PLAN IV

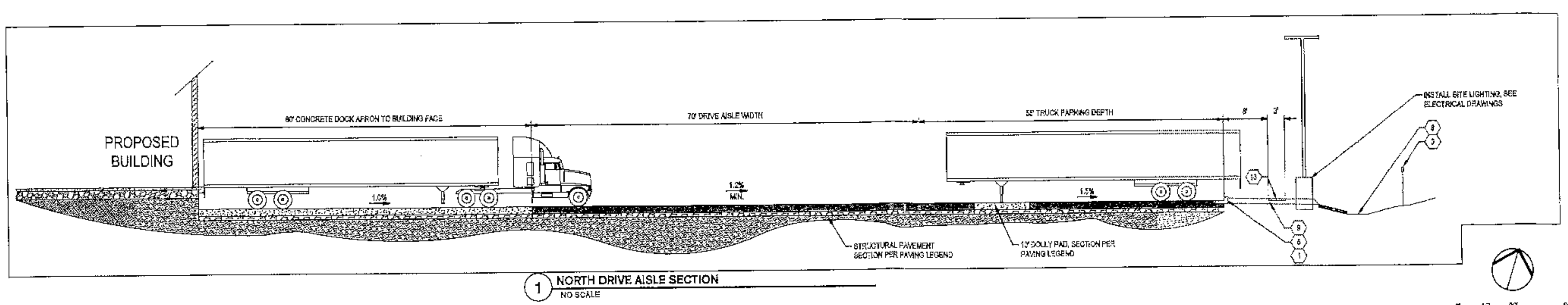
FOR CONTINUATION SEE SHEET C3.7 - PAVING & DIMENSION PLAN VII

LEGEND:

- ENTRY & EXIT HEAVY DUTY ASPHALT CONCRETE (T.I. = 10.0)
  6.0" ASPHALT CONCRETE OVER 6" CLASS II AGGREGATE BASE OVER 18" LIME TREATED SUBBASE OVER SUBGRADE COMPACTED TO 95% R.C.
- HEAVY DUTY ASPHALT CONCRETE (T.I. = 8.0)
  5.0" ASPHALT CONCRETE OVER 4" CLASS II AGGREGATE BASE OVER 15" LIME TREATED SUBBASE OVER SUBGRADE COMPACTED TO 95% R.C.
- LIGHT DUTY ASPHALT PAVEMENT (T.I. = 5.0)
  3.0" ASPHALT CONCRETE OVER 4" CLASS II AGGREGATE BASE OVER 12" LIME TREATED SUBBASE OVER SUBGRADE COMPACTED TO 95% R.C.
- PEDESTRIAN CONCRETE
  6.0" (3000 PSI) CONCRETE W / #3 @ 24" O.C. OVER 4" CLASS II AGGREGATE BASE OVER MOISTURE TREATED SUBGRADE COMPACTED TO 95% R.C.
- TRUCK DOCK CONCRETE (T.I. = 9.0)
  7.0" (3500 PSI) CONCRETE W / #4 @ 18" O.C. OVER 4" CLASS II AGGREGATE BASE OVER 12" LIME TREATED SUBBASE OVER SUBGRADE COMPACTED TO 95% R.C.
- TRUCK DOLLY PADS & MANEUVERING AREAS (T.I. = 11.0)
  8.0" (3500 PSI) CONCRETE W / #4 @ 18" O.C. OVER 4" CLASS II AGGREGATE BASE OVER 12" LIME TREATED SUBBASE OVER SUBGRADE COMPACTED TO 95% R.C.
- DRIVEWAY ENTRY CONCRETE (T.I. = 11.0)
  8.0" (4500 PSI) CONCRETE W / #4 @ 18" O.C. OVER 4" CLASS II AGGREGATE BASE OVER 12" LIME TREATED SUBBASE OVER SUBGRADE COMPACTED TO 95% R.C.
- LANDSCAPE AREA
  SEE LANDSCAPE PLANS FOR PLANTING AND IRRIGATION DETAILS.
- STORM WATER TREATMENT AREA
  AREA TO BE USED FOR BIORETENTION FOR STORMWATER TREATMENT, SEE DETAIL 1, SHEET C5.0. SEE LANDSCAPE PLANS FOR PLANTING AND IRRIGATION DETAILS.
- COBBLE
  SEE LANDSCAPE PLANS FOR PLANTING AND IRRIGATION DETAILS.

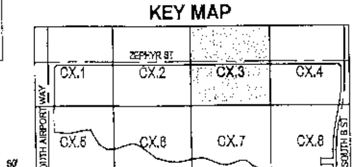
KEY NOTES:

1. INSTALL 6" VERTICAL CURB PER DETAIL 1 ON SHEET C7.1
2. INSTALL 6" VERTICAL CURB AND GUTTER PER DETAIL 2 ON SHEET C7.1
3. FENCE PER ARCHITECTURAL PLANS
4. INSTALL CONCRETE DOLLY PAD PER PAVING LEGEND ON THIS SHEET
5. INSTALL CURB CUT PER DETAIL 8 ON SHEET C7.1
6. INSTALL SIDEWALK PER PAVING LEGEND ON THIS SHEET
7. INSTALL 4" WHITE STRIPING PER CITY OF STOCKTON STANDARDS
8. INSTALL BIORETENTION PER DETAIL 1 ON SHEET C5.0
9. INSTALL CONCRETE CHANNEL DRAIN PER DETAIL 12 ON SHEET C7.1
10. INSTALL BOLLARD PER DETAIL 7 ON SHEET C7.1
11. EXISTING ELECTRICAL TOWER
12. (A) EXISTING PG&E 8" HIGH PRESSURE GAS. EXACT LOCATIONS AND DEPTHS UNKNOWN, CONTRACTOR TO POTHOLE AND EXERCISE CAUTION
13. TRAILER INSPECTION PATH, 3/4" CLASS II AGGREGATE BASE AT 4" DEPTH MINIMUM, OVER SUBGRADE COMPACTED TO 95% R.C.



(1) NORTH DRIVE AISLE SECTION
NO SCALE

KEY MAP



SCALE: 1"=30'

Know what's **below.** **Call** before you dig.

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REGISTERED PROFESSIONAL ENGINEER · MICHAEL EBERT · CIVIL · STATE OF CALIFORNIA

DATE SIGNED: 10/09/17

Title:

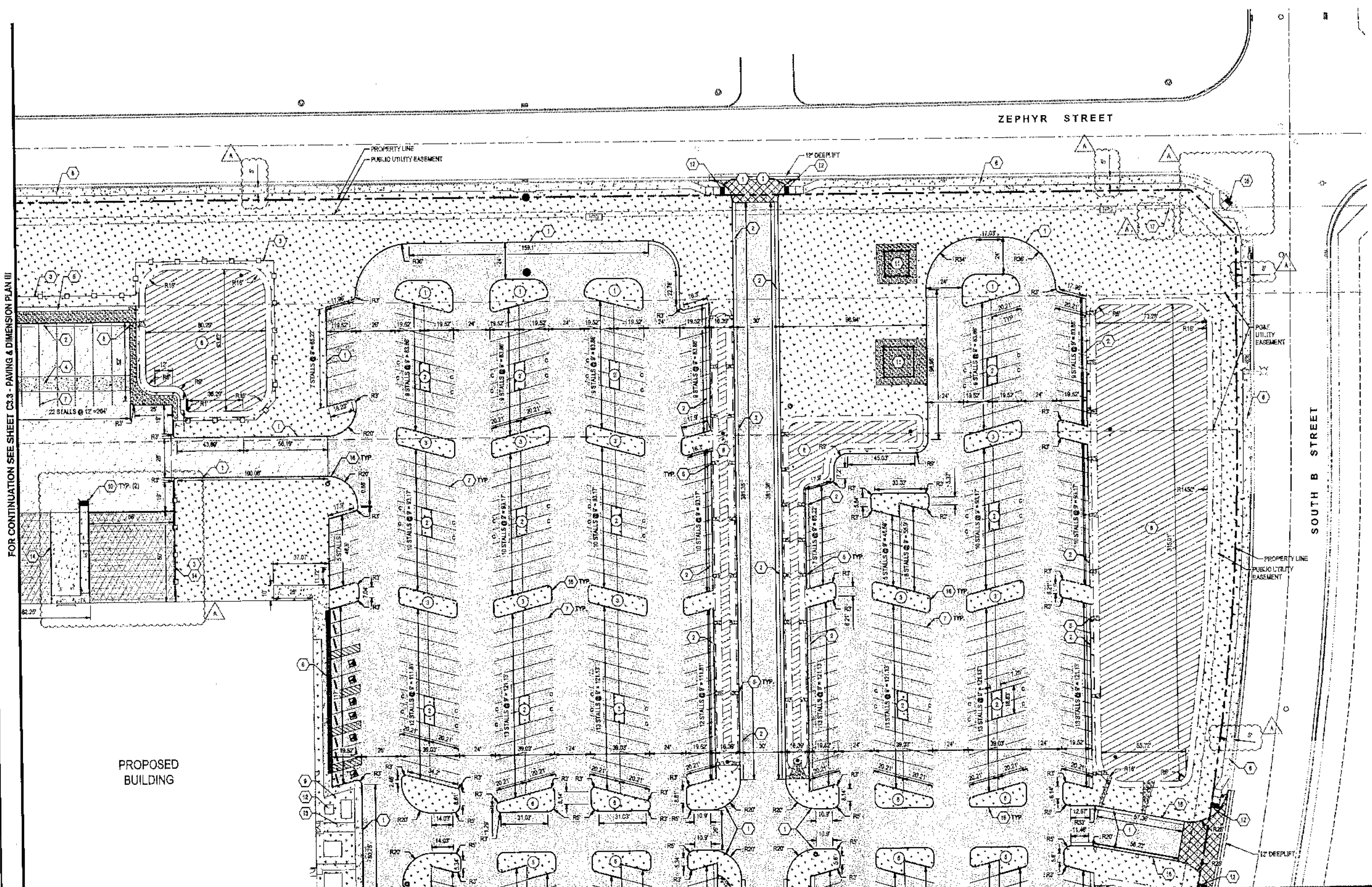
PAVING & DIMENSION PLAN III

Project Number:	15170
Drawn by:	RME
Date:	10/09/17

Revision:
- (A) ADDENDUM A - REVISION 2017-08-31 PER OWNER REQUEST/CITY CORRECTION
- (B) ADDENDUM B - REVISION 2017-10-09 CITY CORRECTION

Sheet:

C3.3



FOR CONTINUATION SEE SHEET C3.3 - PAVING & DIMENSION PLAN III

FOR CONTINUATION SEE SHEET C3.8 - PAVING & DIMENSION PLAN VIII

LEGEND:

ENTRY & EXIT HEAVY DUTY ASPHALT CONCRETE (T.I. = 10.0)
6.0" ASPHALT CONCRETE OVER 6" CLASS II AGGREGATE BASE OVER 18" LIME TREATED SUBBASE OVER SUBGRADE COMPACTED TO 95% R.C.

HEAVY DUTY ASPHALT CONCRETE (T.I. = 8.0)
6.0" ASPHALT CONCRETE OVER 4" CLASS II AGGREGATE BASE OVER 15" LIME TREATED SUBBASE OVER SUBGRADE COMPACTED TO 95% R.C.

LIGHT DUTY ASPHALT PAVEMENT (T.I. = 5.0)
3.0" ASPHALT CONCRETE OVER 4" CLASS II AGGREGATE BASE OVER 12" LIME TREATED SUBBASE OVER SUBGRADE COMPACTED TO 95% R.C.

PEDESTRIAN CONCRETE
6.0" (3000 PSI) CONCRETE W/ #3 @ 24" O.C. OVER 4" CLASS II AGGREGATE BASE OVER MOISTURE TREATED SUBGRADE COMPACTED TO 95% R.C.

TRUCK DOCK CONCRETE (T.I. = 9.0)
7.0" (3500 PSI) CONCRETE W/ #4 @ 18" O.C. OVER 4" CLASS II AGGREGATE BASE OVER 12" LIME TREATED SUBBASE OVER SUBGRADE COMPACTED TO 95% R.C.

TRUCK DOLLY PADS & MANEUVERING AREAS (T.I. = 11.0)
8.0" (3500 PSI) CONCRETE W/ #4 @ 16" O.C. OVER 4" CLASS II AGGREGATE BASE OVER 12" LIME TREATED SUBBASE OVER SUBGRADE COMPACTED TO 95% R.C.

DRIVEWAY ENTRY CONCRETE (T.I. = 11.0)
8.0" (4500 PSI) CONCRETE W/ #4 @ 18" O.C. OVER 4" CLASS II AGGREGATE BASE OVER 12" LIME TREATED SUBBASE OVER SUBGRADE COMPACTED TO 95% R.C.

LANDSCAPE AREA
SEE LANDSCAPE PLANS FOR PLANTING AND IRRIGATION DETAILS.

STORM WATER TREATMENT AREA
AREA TO BE USED FOR BIORETENTION FOR STORMWATER TREATMENT, SEE DETAIL 1, SHEET C5.0, SEE LANDSCAPE PLANS FOR PLANTING AND IRRIGATION DETAILS.

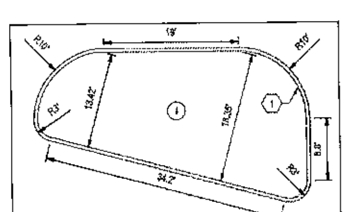
COBBLE
SEE LANDSCAPE PLANS FOR PLANTING AND IRRIGATION DETAILS.

KEY NOTES:

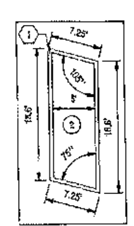
1. INSTALL 6" VERTICAL CURB PER DETAIL 1 ON SHEET C7.1
2. INSTALL 6" VERTICAL CURB AND GUTTER PER DETAIL 2 ON SHEET C7.1
3. FENCE PER ARCHITECTURAL PLANS
4. INSTALL CONCRETE DOLLY PAD PER PAVING LEGEND ON THIS SHEET
5. INSTALL CURB CUT PER DETAIL 6 ON SHEET C7.1
6. INSTALL SIDEWALK PER PAVING LEGEND ON THIS SHEET
7. INSTALL 4" WHITE STRIPING PER CITY OF STOCKTON STANDARDS
8. INSTALL BIORETENTION PER DETAIL 1 ON SHEET C5.0
9. INSTALL WHEEL STOP PER DETAIL 8 ON SHEET C7.1
10. INSTALL BOLLARD PER DETAIL 7 ON SHEET C7.1
11. EXISTING ELECTRICAL TOWER
12. INSTALL TRUNCATED DOMES PER DETAIL 9 ON SHEET C7.1
13. INSTALL ACCESSIBLE SIGNAGE & STRIPING PER DETAILS 10 AND 11 ON SHEET C7.1
14. RETAINING WALL PER STRUCTURAL PLANS
15. INSTALL ACCESSIBLE RAMP PER CITY OF STOCKTON STANDARD DETAIL R-64.
16. CURB TO BE PAINTED RED AND MARKED "NO PARKING FIRE LANE"
17. EXISTING PG&E 8" HIGH PRESSURE GAS. EXACT LOCATIONS AND DEPTHS UNKNOWN, CONTRACTOR TO POTHOLE AND EXERCISE CAUTION

CURB ISLAND TYPICALS:

1. CURB ISLAND TYPE 1, SEE DETAIL 1, THIS SHEET
2. CURB ISLAND TYPE 2, SEE DETAIL 2, THIS SHEET
3. CURB ISLAND TYPE 3, SEE DETAIL 3, THIS SHEET
4. CURB ISLAND TYPE 4, SEE DETAIL 4, THIS SHEET
5. CURB ISLAND TYPE 5, SEE DETAIL 5, THIS SHEET
6. CURB ISLAND TYPE 6, SEE DETAIL 6, SHEET C3.8
7. CURB ISLAND TYPE 7, SEE DETAIL 7, SHEET C3.8
8. CURB ISLAND TYPE 8, SEE DETAIL 8, SHEET C3.8
9. CURB ISLAND TYPE 9, SEE DETAIL 9, SHEET C3.8



1 CURB ISLAND TYPE 1
NO SCALE



2 CURB ISLAND TYPE 2
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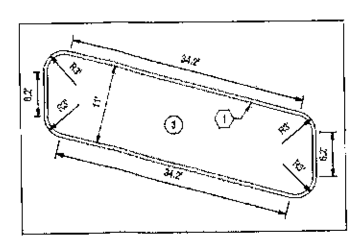
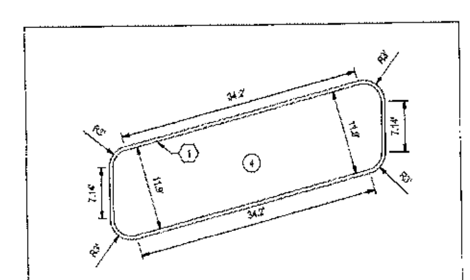
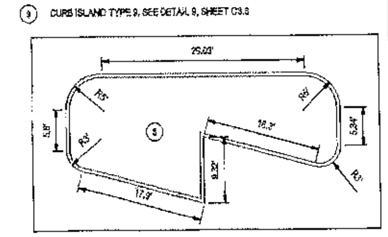


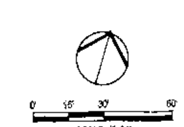
3 CURB ISLAND TYPE 3
NO SCALE



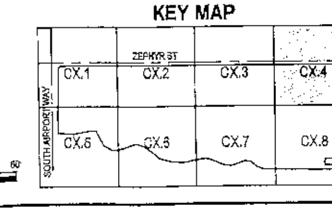
4 CURB ISLAND TYPE 4
NO SCALE



5 CURB ISLAND TYPE 5
NO SCALE



KEY MAP



Know what's below. Call before you dig.

NOTE:
FOR ACCESSIBLE PATH OF TRAVEL, SEE ARCHITECTURAL SITE PLAN, SHEET A1.0, A1.1, AND A1.2.

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DATE SIGNED: 10/09/17

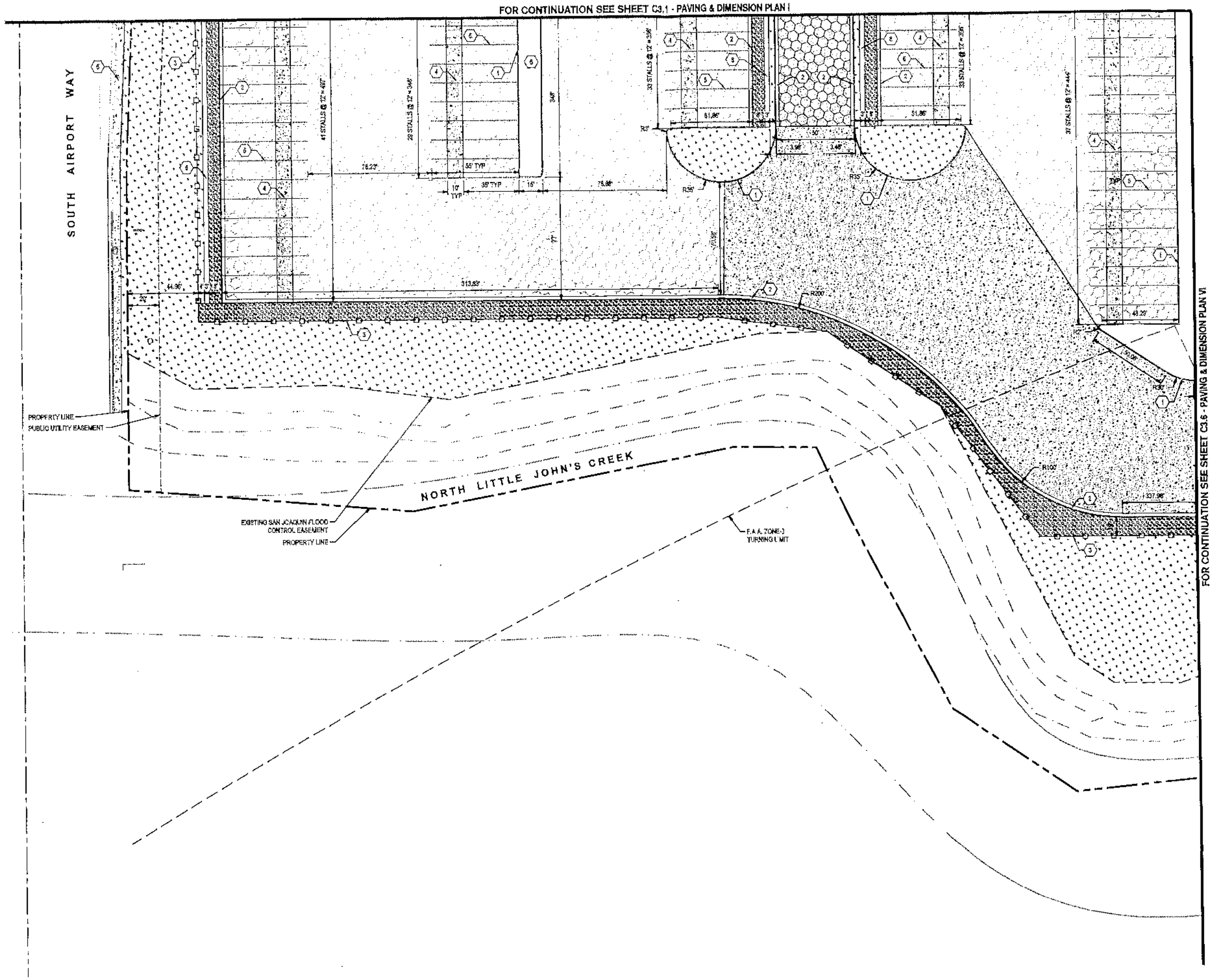
Title:
PAVING & DIMENSION PLAN IV

Project Number:	15170
Drawn by:	RME
Date:	10/09/17

Revision:
A ADDENDUM A - REVISION 2017-08-31 PER OWNER REQUEST/CITY CORRECTION
B ADDENDUM B - REVISION 2017-10-09 CITY CORRECTION

Sheet:
C3.4

FOR CONTINUATION SEE SHEET C3.1 - PAVING & DIMENSION PLAN I



FOR CONTINUATION SEE SHEET C3.6 - PAVING & DIMENSION PLAN VI

LEGEND:

ENTRY & EXIT HEAVY DUTY ASPHALT CONCRETE (T.I. = 10.0)
6.0" ASPHALT CONCRETE OVER 6" CLASS II AGGREGATE BASE OVER 18" LIME TREATED SUBBASE OVER SUBGRADE COMPACTED TO 95% R.C.

HEAVY DUTY ASPHALT CONCRETE (T.I. = 8.0)
5.0" ASPHALT CONCRETE OVER 4" CLASS II AGGREGATE BASE OVER 15" LIME TREATED SUBBASE OVER SUBGRADE COMPACTED TO 95% R.C.

LIGHT DUTY ASPHALT PAVEMENT (T.I. = 5.0)
3.0" ASPHALT CONCRETE OVER 4" CLASS II AGGREGATE BASE OVER 12" LIME TREATED SUBBASE OVER SUBGRADE COMPACTED TO 95% R.C.

PEDESTRIAN CONCRETE
6.0" (3000 PSI) CONCRETE W / #3 @ 24" O.C. OVER 4" CLASS II AGGREGATE BASE OVER MOISTURE TREATED SUBGRADE COMPACTED TO 95% R.C.

TRUCK DOCK CONCRETE (T.I. = 9.0)
7.0" (3500 PSI) CONCRETE W / #4 @ 18" O.C. OVER 4" CLASS II AGGREGATE BASE OVER 12" LIME TREATED SUBBASE OVER SUBGRADE COMPACTED TO 95% R.C.

TRUCK DOLLY PADS & MANEUVERING AREAS (T.I. = 11.0)
8.0" (3500 PSI) CONCRETE W / #4 @ 18" O.C. OVER 4" CLASS II AGGREGATE BASE OVER 12" LIME TREATED SUBBASE OVER SUBGRADE COMPACTED TO 95% R.C.

DRIVEWAY ENTRY CONCRETE (T.I. = 11.0)
8.0" (4500 PSI) CONCRETE W / #4 @ 18" O.C. OVER 4" CLASS II AGGREGATE BASE OVER 12" LIME TREATED SUBBASE OVER SUBGRADE COMPACTED TO 95% R.C.

LANDSCAPE AREA
SEE LANDSCAPE PLANS FOR PLANTING AND IRRIGATION DETAILS.

STORM WATER TREATMENT AREA
AREA TO BE USED FOR BIORETENTION FOR STORMWATER TREATMENT, SEE DETAIL 1, SHEET C5.0. SEE LANDSCAPE PLANS FOR PLANTING AND IRRIGATION DETAILS.

COBBLE
SEE LANDSCAPE PLANS FOR PLANTING AND IRRIGATION DETAILS.

KEY NOTES:

1. INSTALL 6" VERTICAL CURB PER DETAIL 1 ON SHEET C7.1
2. INSTALL 6" VERTICAL CURB AND GUTTER PER DETAIL 2 ON SHEET C7.1
3. FENCE PER ARCHITECTURAL PLANS
4. INSTALL CONCRETE DOLLY PAD PER PAVING LEGEND ON THIS SHEET
5. INSTALL 4" WHITE STRIPING PER CITY OF STOCKTON STANDARDS
6. (A) TRAILER INSPECTION PATH, 3/4" CLASS II AGGREGATE BASE AT 4" DEPTH MINIMUM, OVER SUBGRADE COMPACTED TO 95% R.C.

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Owner:

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DATE SIGNED: 10/09/17

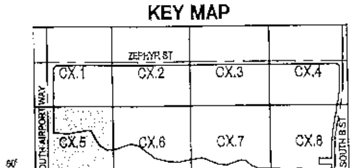
Title:

PAVING & DIMENSION PLAN V

Project Number: 15170
Drawn by: RME
Date: 10/09/17

Revision:
(A) ADDENDUM A - REVISION 2017-08-31 PER OWNER REQUEST/CITY CORRECTION
(B) ADDENDUM B - REVISION 2017-10-09 CITY CORRECTION

KEY MAP



SCALE: 1"=30'

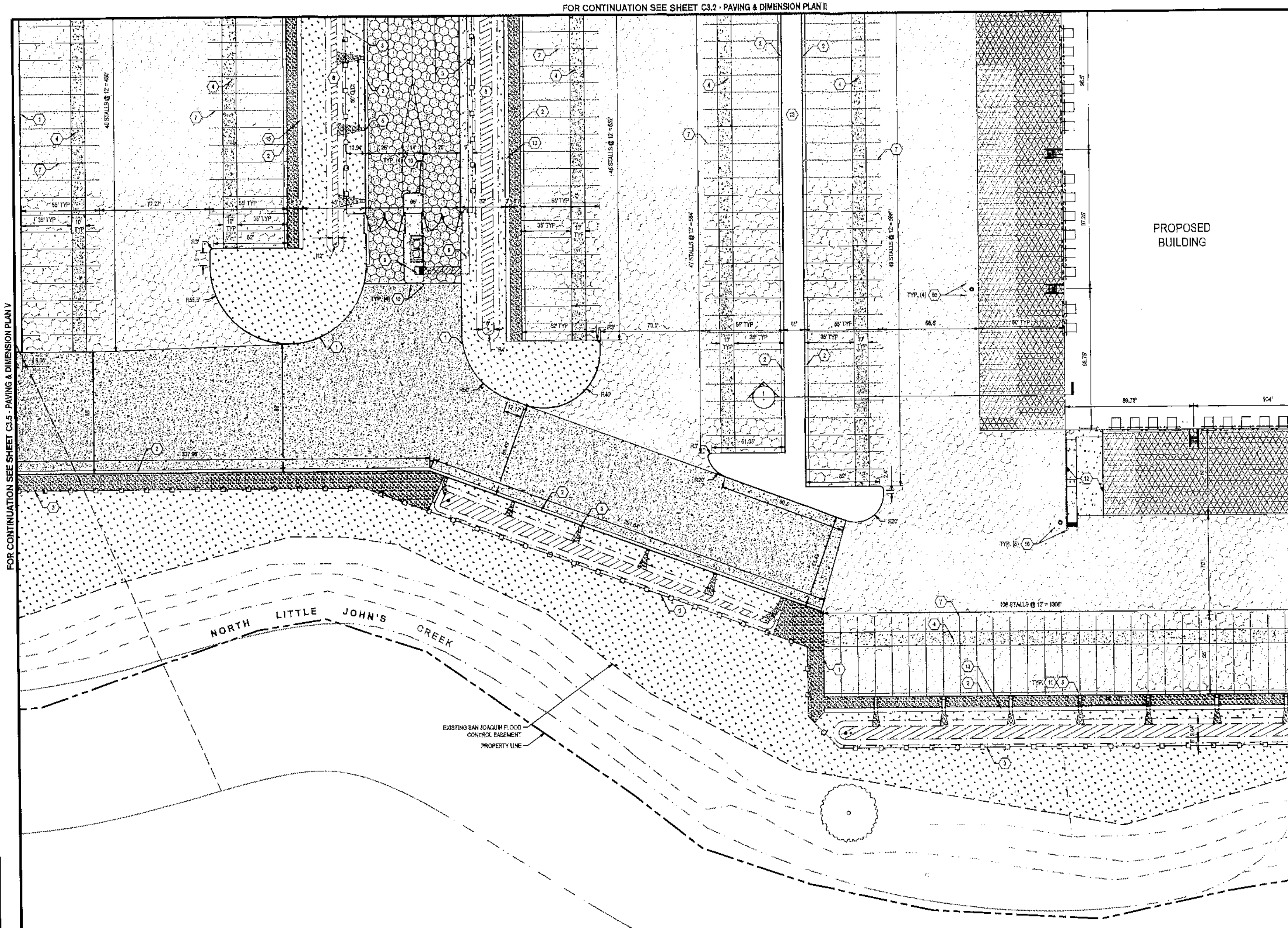
Sheet:

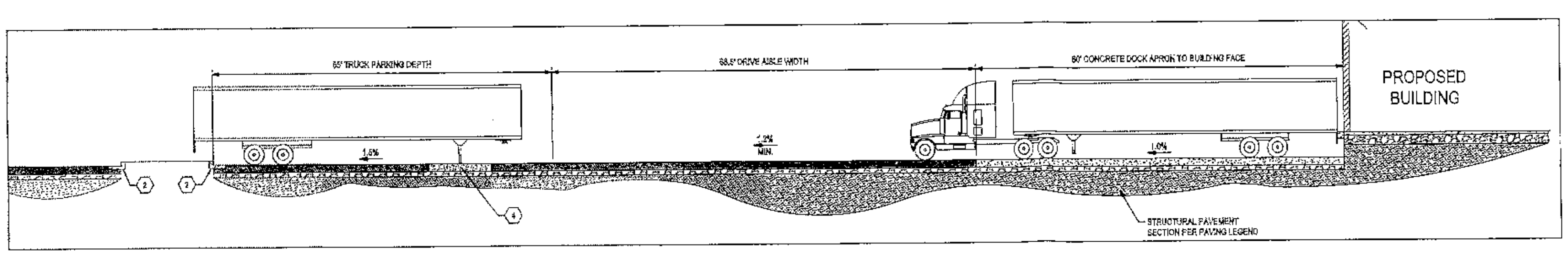
C3.5

FOR CONTINUATION SEE SHEET C3.2 - PAVING & DIMENSION PLAN II

FOR CONTINUATION SEE SHEET C3.5 - PAVING & DIMENSION PLAN V

FOR CONTINUATION SEE SHEET C3.7 - PAVING & DIMENSION PLAN VII





1 WEST DRIVE AISLE SECTION
NO SCALE

Know what's below.
Call before you dig.

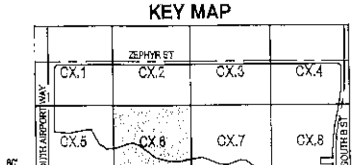
LEGEND:

- ENTRY & EXIT HEAVY DUTY ASPHALT CONCRETE (T.I. = 10.0): 6.0" ASPHALT CONCRETE OVER 6" CLASS II AGGREGATE BASE OVER 18" LIME TREATED SUBBASE OVER SUBGRADE COMPACTED TO 95% R.C.
- HEAVY DUTY ASPHALT CONCRETE (T.I. = 8.0): 5.0" ASPHALT CONCRETE OVER 4" CLASS II AGGREGATE BASE OVER 15" LIME TREATED SUBBASE OVER SUBGRADE COMPACTED TO 95% R.C.
- LIGHT DUTY ASPHALT PAVEMENT (T.I. = 5.0): 3.0" ASPHALT CONCRETE OVER 4" CLASS II AGGREGATE BASE OVER 12" LIME TREATED SUBBASE OVER SUBGRADE COMPACTED TO 95% R.C.
- PEDESTRIAN CONCRETE: 6.0" (3000 PSI) CONCRETE W/ #3 @ 24" O.C. OVER 4" CLASS II AGGREGATE BASE OVER MOISTURE TREATED SUBGRADE COMPACTED TO 95% R.C.
- TRUCK DOCK CONCRETE (T.I. = 9.0): 7.0" (3500 PSI) CONCRETE W/ #4 @ 18" O.C. OVER 4" CLASS II AGGREGATE BASE OVER 12" LIME TREATED SUBBASE OVER SUBGRADE COMPACTED TO 95% R.C.
- TRUCK DOLLY PADS & MANEUVERING AREAS (T.I. = 11.0): 8.0" (3500 PSI) CONCRETE W/ #4 @ 18" O.C. OVER 4" CLASS II AGGREGATE BASE OVER 12" LIME TREATED SUBBASE OVER SUBGRADE COMPACTED TO 95% R.C.
- DRIVEWAY ENTRY CONCRETE (T.I. = 11.0): 8.0" (4500 PSI) CONCRETE W/ #4 @ 18" O.C. OVER 4" CLASS II AGGREGATE BASE OVER 12" LIME TREATED SUBBASE OVER SUBGRADE COMPACTED TO 95% R.C.
- LANDSCAPE AREA: SEE LANDSCAPE PLANS FOR PLANTING AND IRRIGATION DETAILS.
- STORM WATER TREATMENT AREA: AREA TO BE USED FOR BIORETENTION FOR STORMWATER TREATMENT, SEE DETAIL 1, SHEET C5.0, SEE LANDSCAPE PLANS FOR PLANTING AND IRRIGATION DETAILS.
- COBBLE: SEE LANDSCAPE PLANS FOR PLANTING AND IRRIGATION DETAILS.

KEY NOTES:

1. INSTALL 6" VERTICAL CURB PER DETAIL 1 ON SHEET C7.1
2. INSTALL 6" VERTICAL CURB AND GUTTER PER DETAIL 2 ON SHEET C7.1
3. FENCE PER ARCHITECTURAL PLANS
4. INSTALL CONCRETE DOLLY PAD PER PAVING LEGEND ON THIS SHEET
5. INSTALL CURB CUT PER DETAIL 6 ON SHEET C7.1
6. INSTALL SIDEWALK PER PAVING LEGEND ON THIS SHEET
7. INSTALL 4" WHITE STRIPING PER CITY OF STOCKTON STANDARDS
8. INSTALL BIORETENTION PER DETAIL 1 ON SHEET C5.0
9. INSTALL TRUNCATED DOMES PER DETAIL 9 ON SHEET C7.1
10. INSTALL BOLLARD PER DETAIL 7 ON SHEET C7.1
11. INSTALL CONCRETE CHANNEL DRAIN PER DETAIL 12 ON SHEET C7.1
12. RETAINING WALL PER STRUCTURAL PLANS
13. (A) TRAILER INSPECTION PATH, 3/4" CLASS II AGGREGATE BASE AT 4" DEPTH MINIMUM, OVER SUBGRADE COMPACTED TO 95% R.C.

KEY MAP



0' 15' 30' 60'
SCALE: 1"=30'

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Owner:

IDI Gazeley

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REGISTERED PROFESSIONAL ENGINEER, R. MICHAEL EBERT, CIVIL, STATE OF CALIFORNIA

DATE SIGNED: 10/09/17

Title:

PAVING & DIMENSION PLAN VI

Project Number:	15170
Drawn by:	RME
Date:	10/09/17

Revision:

- A: ADDENDUM A - REVISION 2017-08-31 PER OWNER REQUEST/CITY CORRECTION
- B: ADDENDUM B - REVISION 2017-10-09 CITY CORRECTION

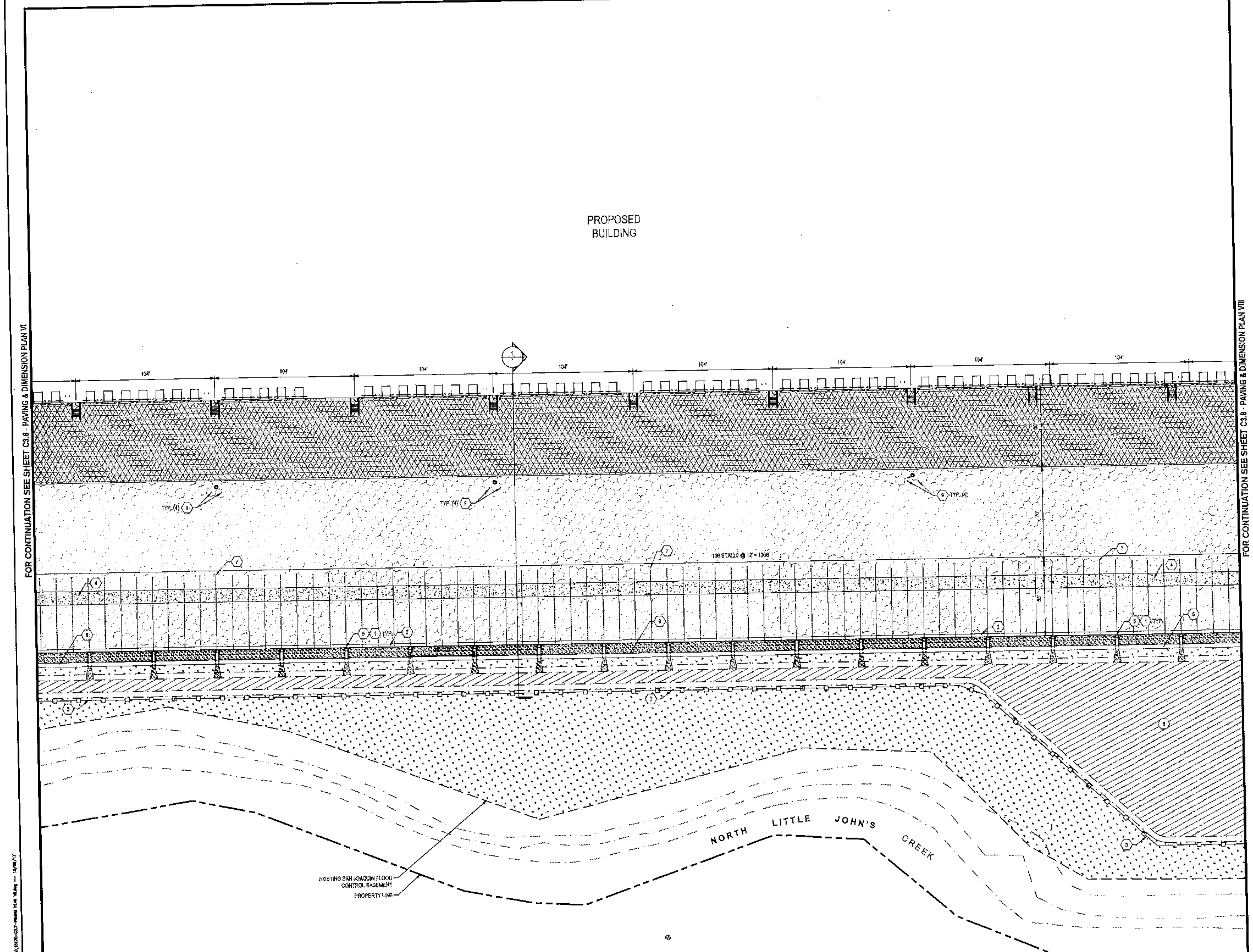
Sheet:

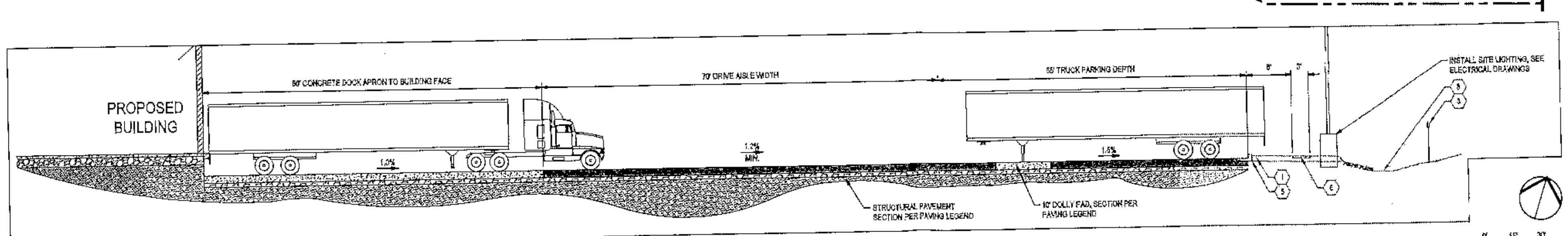
C3.6

FOR CONTINUATION SEE SHEET C3.3 - PAVING & DIMENSION PLAN III

FOR CONTINUATION SEE SHEET C3.6 - PAVING & DIMENSION PLAN VI

FOR CONTINUATION SEE SHEET C3.8 - PAVING & DIMENSION PLAN VIII

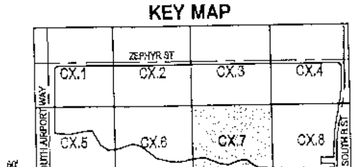




1 SOUTH DRIVE AISLE SECTION
NO SCALE

SCALE: 1"=30'

KEY MAP



811 Know what's below. Call before you dig.

LEGEND:

- ENTRY & EXIT HEAVY DUTY ASPHALT CONCRETE (T.I. = 10.0) 5.0" ASPHALT CONCRETE OVER 6" CLASS II AGGREGATE BASE OVER 15" LIME TREATED SUBBASE OVER SUBGRADE COMPACTED TO 95% R.C.
- HEAVY DUTY ASPHALT CONCRETE (T.I. = 8.0) 5.0" ASPHALT CONCRETE OVER 4" CLASS II AGGREGATE BASE OVER 15" LIME TREATED SUBBASE OVER SUBGRADE COMPACTED TO 95% R.C.
- LIGHT DUTY ASPHALT PAVEMENT (T.I. = 5.0) 3.0" ASPHALT CONCRETE OVER 4" CLASS II AGGREGATE BASE OVER 12" LIME TREATED SUBBASE OVER SUBGRADE COMPACTED TO 95% R.C.
- PEDESTRIAN CONCRETE 6.0" (3000 PSI) CONCRETE W/ #3 @ 24" O.C. OVER 4" CLASS II AGGREGATE BASE OVER MOISTURE TREATED SUBGRADE COMPACTED TO 95% R.C.
- TRUCK DOCK CONCRETE (T.I. = 9.0) 7.0" (3500 PSI) CONCRETE W/ #4 @ 18" O.C. OVER 4" CLASS II AGGREGATE BASE OVER 12" LIME TREATED SUBBASE OVER SUBGRADE COMPACTED TO 95% R.C.
- TRUCK DOLLY PADS & MANEUVERING AREAS (T.I. = 11.0) 8.0" (3500 PSI) CONCRETE W/ #4 @ 18" O.C. OVER 4" CLASS II AGGREGATE BASE OVER 12" LIME TREATED SUBBASE OVER SUBGRADE COMPACTED TO 95% R.C.
- DRIVEWAY ENTRY CONCRETE (T.I. = 11.0) 5.0" (4500 PSI) CONCRETE W/ #4 @ 18" O.C. OVER 4" CLASS II AGGREGATE BASE OVER 12" LIME TREATED SUBBASE OVER SUBGRADE COMPACTED TO 95% R.C.
- LANDSCAPE AREA SEE LANDSCAPE PLANS FOR PLANTING AND IRRIGATION DETAILS.
- STORM WATER TREATMENT AREA AREA TO BE USED FOR BIORETENTION FOR STORMWATER TREATMENT. SEE DETAIL 1, SHEET C5.0. SEE LANDSCAPE PLANS FOR PLANTING AND IRRIGATION DETAILS.
- COBBLE SEE LANDSCAPE PLANS FOR PLANTING AND IRRIGATION DETAILS.

KEY NOTES:

1. INSTALL CONCRETE CHANNEL DRAIN PER DETAIL 12 ON SHEET C7.1
2. INSTALL 6" VERTICAL CURB AND GUTTER PER DETAIL 2 ON SHEET C7.1
3. FENCE PER ARCHITECTURAL PLANS
4. INSTALL CONCRETE DOLLY PAD PER PAVING LEGEND ON THIS SHEET
5. INSTALL CURB CUT PER DETAIL 6 ON SHEET C7.1
6. (A) TRAILER INSPECTION PATH, 3/4" CLASS II AGGREGATE BASE AT 4" DEPTH MINIMUM, OVER SUBGRADE COMPACTED TO 95% R.C.
7. INSTALL 4" WHITE STRIPING PER CITY OF STOCKTON STANDARDS
8. INSTALL BIORETENTION PER DETAIL 1 ON SHEET C5.0
9. INSTALL BOLLARD PER DETAIL 7 ON SHEET C7.1

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Stockton, CA

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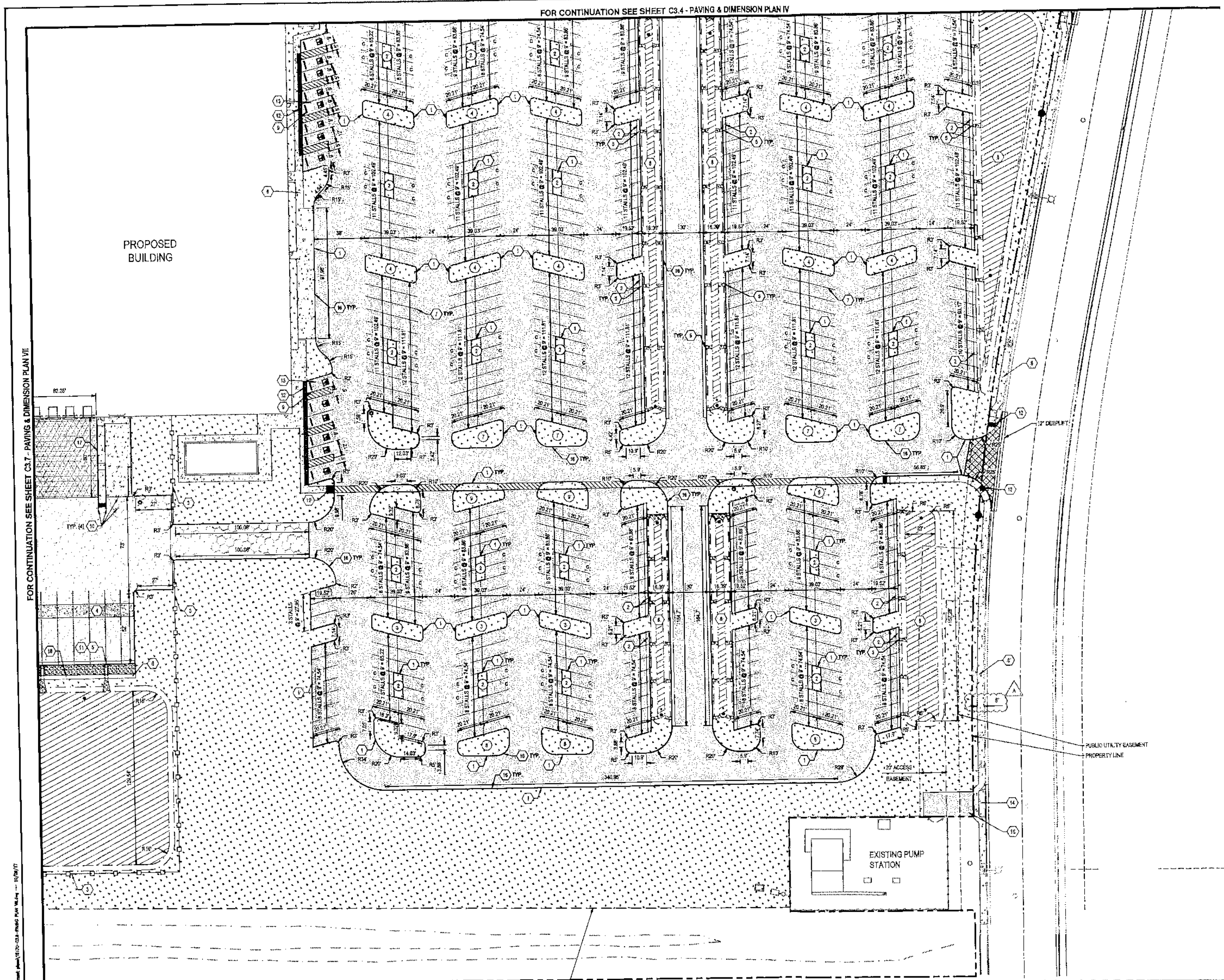
DATE SIGNED: 10/09/17

Title:
PAVING & DIMENSION PLAN VII

Project Number:	15170
Drawn by:	RME
Date:	10/09/17

Revision:
- A ADDENDUM A - REVISION 2017-08-31 PER OWNER REQUEST/CITY CORRECTION
- B ADDENDUM B - REVISION 2017-10-09 CITY CORRECTION

Sheet:
C3.7



NOTE:
FOR ACCESSIBLE PATH OF TRAVEL, SEE ARCHITECTURAL SITE PLAN, SHEET A1.0, A1.1, AND A1.2.

LEGEND:

ENTRY & EXIT HEAVY DUTY ASPHALT CONCRETE (T.I. = 10.0)
6.0" ASPHALT CONCRETE OVER 6" CLASS II AGGREGATE BASE OVER 12" LIME TREATED SUBBASE OVER SUBGRADE COMPACTED TO 95% R.C.

HEAVY DUTY ASPHALT CONCRETE (T.I. = 8.0)
5.0" ASPHALT CONCRETE OVER 4" CLASS II AGGREGATE BASE OVER 15" LIME TREATED SUBBASE OVER SUBGRADE COMPACTED TO 95% R.C.

LIGHT DUTY ASPHALT PAVEMENT (T.I. = 5.0)
3.0" ASPHALT CONCRETE OVER 4" CLASS II AGGREGATE BASE OVER 12" LIME TREATED SUBBASE OVER SUBGRADE COMPACTED TO 95% R.C.

PEDESTRIAN CONCRETE
5.0" (3000 PSI) CONCRETE W/ #3 @ 24" O.C. OVER 4" CLASS II AGGREGATE BASE OVER MOISTURE TREATED SUBGRADE COMPACTED TO 95% R.C.

TRUCK DOCK CONCRETE (T.I. = 9.0)
7.0" (3500 PSI) CONCRETE W/ #4 @ 18" O.C. OVER 4" CLASS II AGGREGATE BASE OVER 12" LIME TREATED SUBBASE OVER SUBGRADE COMPACTED TO 95% R.C.

TRUCK DOLLY PADS & MANEUVERING AREAS (T.I. = 11.0)
8.0" (3500 PSI) CONCRETE W/ #4 @ 18" O.C. OVER 4" CLASS II AGGREGATE BASE OVER 12" LIME TREATED SUBBASE OVER SUBGRADE COMPACTED TO 95% R.C.

DRIVEWAY ENTRY CONCRETE (T.I. = 11.0)
6.0" (4500 PSI) CONCRETE W/ #4 @ 18" O.C. OVER 4" CLASS II AGGREGATE BASE OVER 12" LIME TREATED SUBBASE OVER SUBGRADE COMPACTED TO 95% R.C.

LANDSCAPE AREA
SEE LANDSCAPE PLANS FOR PLANTING AND IRRIGATION DETAILS.

STORM WATER TREATMENT AREA
AREA TO BE USED FOR BIORETENTION FOR STORMWATER TREATMENT, SEE DETAIL 1, SHEET C6.0. SEE LANDSCAPE PLANS FOR PLANTING AND IRRIGATION DETAILS.

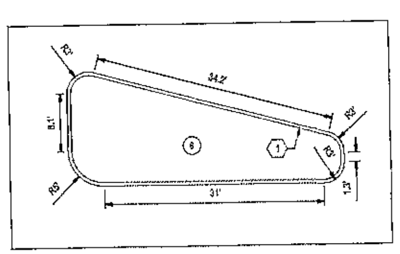
COBBLE
SEE LANDSCAPE PLANS FOR PLANTING AND IRRIGATION DETAILS.

KEY NOTES:

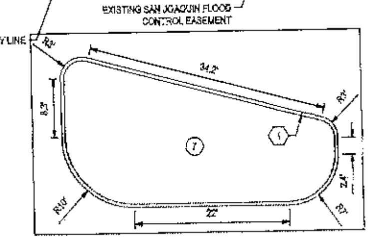
1. INSTALL 6" VERTICAL CURB PER DETAIL 1 ON SHEET C7.1
2. INSTALL 6" VERTICAL CURB AND GUTTER PER DETAIL 2 ON SHEET C7.1
3. FENCE PER ARCHITECTURAL PLANS
4. INSTALL CONCRETE DOLLY PAD PER PAVING LEGEND ON THIS SHEET
5. INSTALL CURB CUT PER DETAIL 6 ON SHEET C7.1
6. INSTALL SIDEWALK PER PAVING LEGEND ON THIS SHEET
7. INSTALL 4" WHITE STRIPING PER CITY OF STOCKTON STANDARDS
8. INSTALL BIORETENTION PER DETAIL 1 ON SHEET C6.0
9. INSTALL WHEEL STOP PER DETAIL 8 ON SHEET C7.1
10. INSTALL BOLLARD PER DETAIL 7 ON SHEET C7.1
11. INSTALL CONCRETE CHANNEL DRAIN PER DETAIL 12 ON SHEET C7.1
12. INSTALL TRUNCATED DOMES PER DETAIL 3 ON SHEET C7.1
13. INSTALL ACCESSIBLE SIGNAGE & STRIPING PER DETAILS 10 AND 11 ON SHEET C7.1
14. INSTALL CITY STANDARD DRIVEWAY PER CITY OF STOCKTON STANDARDS
15. INSTALL LIGHT DUTY ASPHALT ACCESS PAD PER PAVING LEGEND ON THIS SHEET
16. CURB TO BE PAINTED RED AND MARKED "NO PARKING FIRE LANE" (A)
17. RETAINING WALL PER STRUCTURAL PLANS
18. TRAILER INSPECTION PATH, 3/4" CLASS II AGGREGATE BASE AT 4" DEPTH MINIMUM, OVER SUBGRADE COMPACTED TO 95% R.C. (A)

CURB ISLAND TYPICALS:

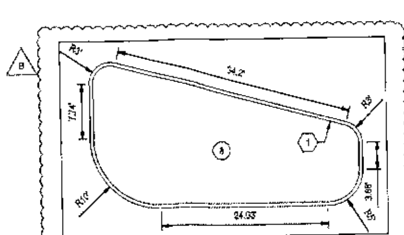
1. CURB ISLAND TYPE 1, SEE DETAIL 1, SHEET C3.4
2. CURB ISLAND TYPE 2, SEE DETAIL 2, SHEET C3.4
3. CURB ISLAND TYPE 3, SEE DETAIL 3, SHEET C3.4
4. CURB ISLAND TYPE 4, SEE DETAIL 4, SHEET C3.4
5. CURB ISLAND TYPE 5, SEE DETAIL 5, SHEET C3.4
6. CURB ISLAND TYPE 6, SEE DETAIL 6, THIS SHEET
7. CURB ISLAND TYPE 7, SEE DETAIL 7, THIS SHEET
8. CURB ISLAND TYPE 8, SEE DETAIL 8, THIS SHEET
9. CURB ISLAND TYPE 9, SEE DETAIL 9, THIS SHEET



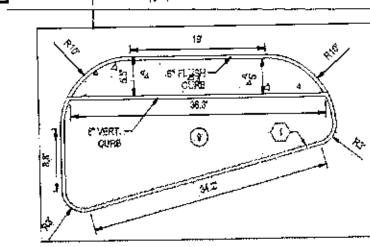
6 CURB ISLAND TYPE 6
NO SCALE



7 CURB ISLAND TYPE 7
NO SCALE



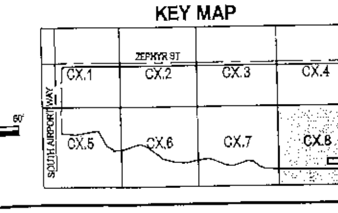
8 CURB ISLAND TYPE 8
NO SCALE



9 CURB ISLAND TYPE 9
NO SCALE

Know what's below. Call before you dig.

KEY MAP



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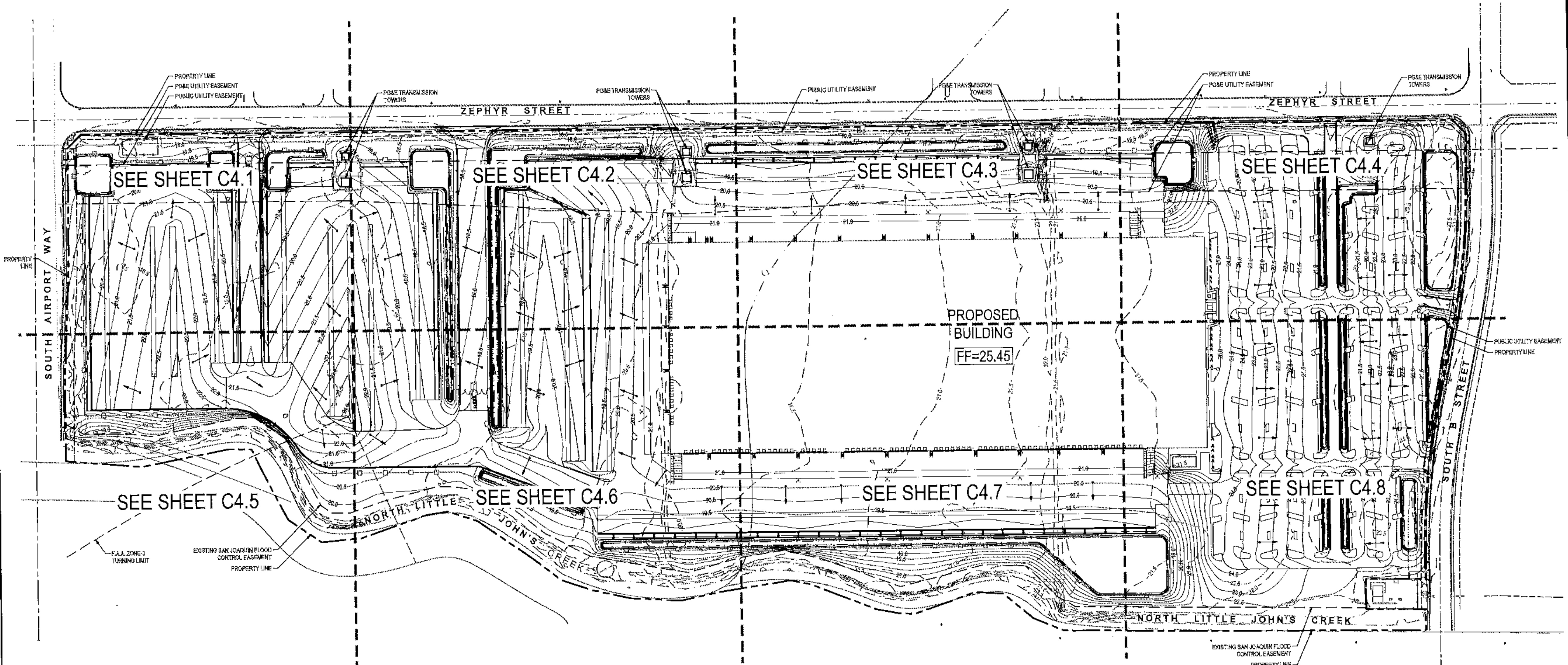
DATE SIGNED: 10/09/17

Title: PAVING & DIMENSION PLAN VIII
Project Number: 15170
Drawn by: RME
Date: 10/09/17
Revision:
A ADDENDUM A - REVISION 2017-08-31 PER OWNER REQUEST/CITY CORRECTION
B ADDENDUM B - REVISION 2017-10-09 CITY CORRECTION

Sheet: C3.8



LEGEND

●—●	GRADE SLOPE PERCENTAGE
- - 3.0 - -	EXISTING GROUND CONTOUR
—— 3.0 ——	PROPOSED GROUND CONTOUR

GRADING LEGEND

ABBREVIATION	DESCRIPTION
BW	BACK OF WALK
BOW	BOTTOM OF WALL
C	CONCRETE
DG	DECOMPOSED GRANITE
EC	EXISTING CONCRETE
EFL	EXISTING FLOWLINE
EG	EXISTING GROUND
EL	ELEVATION
EP	EXISTING PAVEMENT
EX.	EXISTING
FF	FINISHED FLOOR
FG	FINISH GROUND
FL	FLOWLINE
G	GROUND
GB	GRADE BREAK
MAX	MAXIMUM
MIN	MINIMUM
P	PAVEMENT
TC	TOP OF CURB
TW	TOP OF WALL
TYP	TYPICAL

0 50' 100' 200'
SCALE: 1"=100'

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REGISTERED PROFESSIONAL ENGINEER — MICHAEL EBERT — CIVIL — STATE OF CALIFORNIA

DATE SIGNED: 10/09/17

Title:

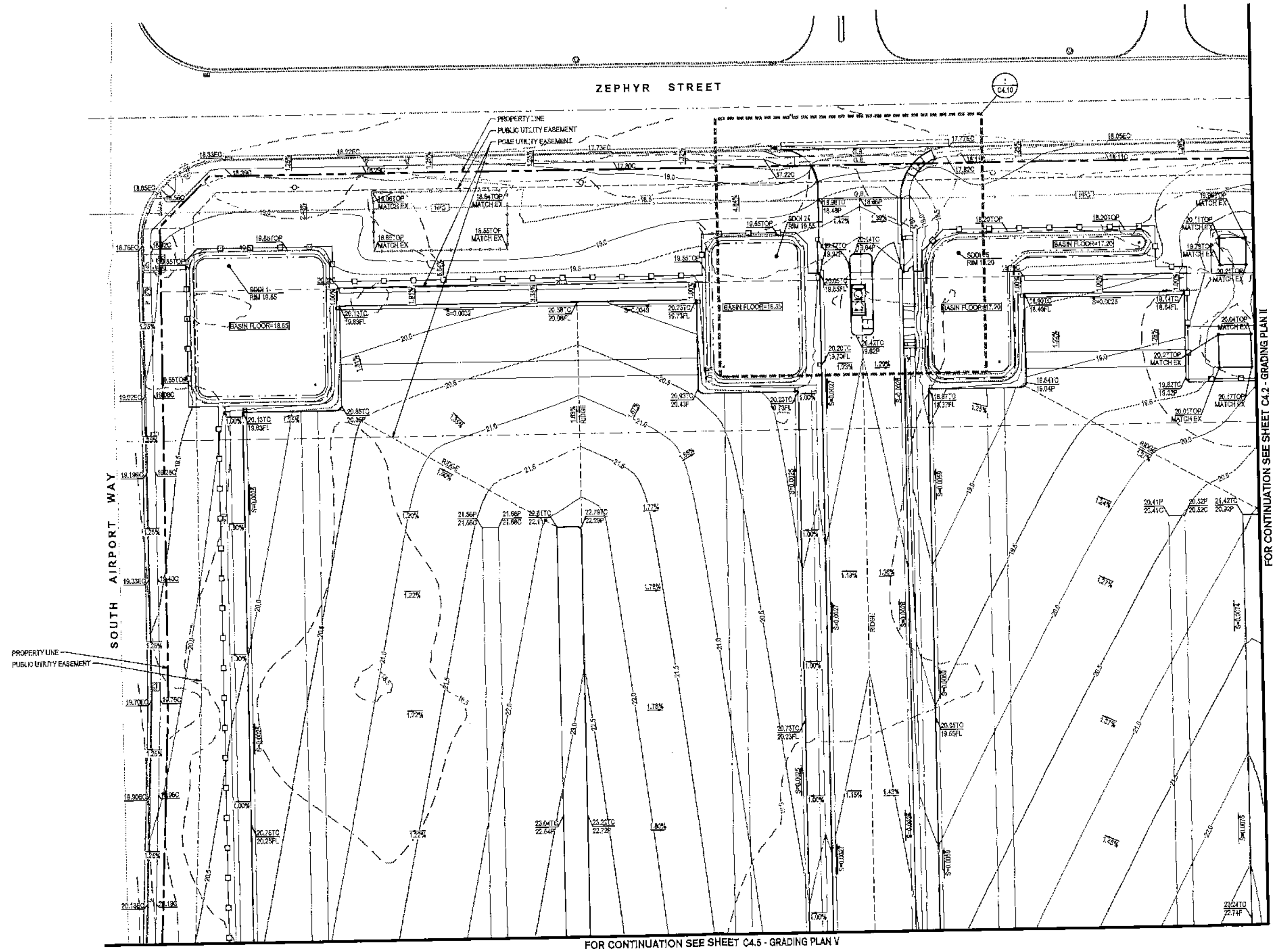
GRADING PLAN KEY MAP

Project Number: 15170
Drawn by: RME
Date: 10/09/17

Revision:
A — ADDENDUM A - REVISION 2017-08-31 PER OWNER REQUEST/CITY CORRECTION
B — ADDENDUM B - REVISION 2017-10-09 CITY CORRECTION

Sheet:

C4.0



LEGEND

%	GRADE SLOPE PERCENTAGE
3.0 (dashed)	EXISTING GROUND CONTOUR
3.0 (solid)	PROPOSED GROUND CONTOUR

GRADING LEGEND

ABBREVIATION	DESCRIPTION
BW	BACK OF WALK
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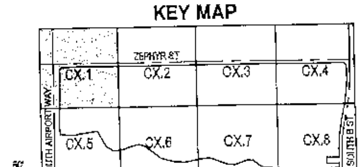
G	GROUND
GB	GRADE BREAK
MAX	MAXIMUM
MIN	MINIMUM
P	PAVEMENT
TC	TOP OF CURB
TW	TOP OF WALL
TYP	TYPICAL

KEY MAP



SCALE: 1"=30'

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REGISTERED PROFESSIONAL ENGINEER
MICHAEL EBERLE
CIVIL
STATE OF CALIFORNIA

DATE SIGNED: 10/09/17

Title:

GRADING PLAN I

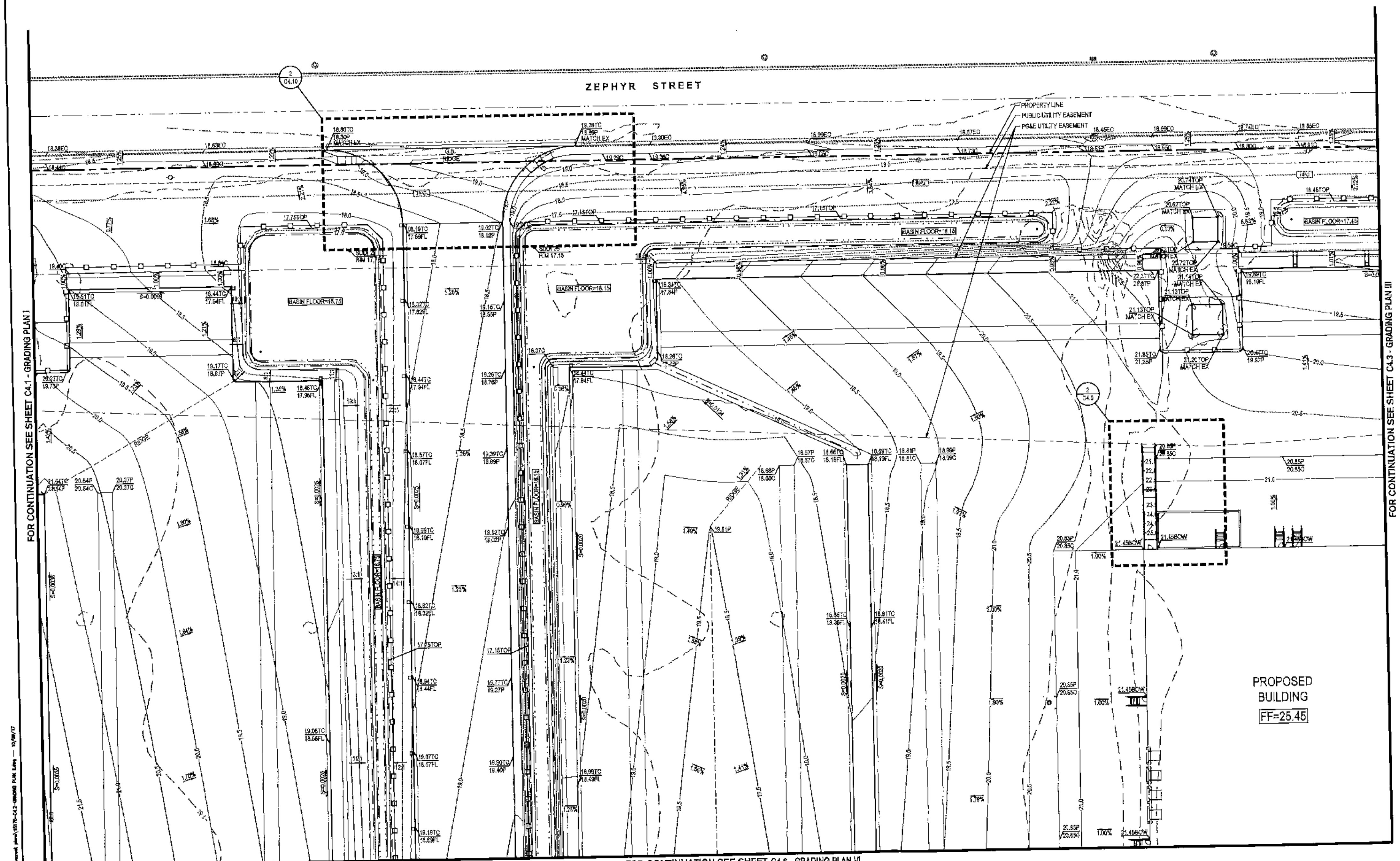
Project Number:	15170
Drawn by:	RME
Date:	10/09/17

Revision:

- A — ADDENDUM A - REVISION 2017-08-31 PER OWNER REQUEST/CITY CORRECTION
- B — ADDENDUM B - REVISION 2017-10-09 CITY CORRECTION

Sheet:

C4.1



LEGEND

%	GRADE SLOPE PERCENTAGE
- - - 3.0 - - -	EXISTING GROUND CONTOUR
—— 3.0 ——	PROPOSED GROUND CONTOUR

GRADING LEGEND

ABBREVIATION	DESCRIPTION
BW	BACK OF WALK
BOW	BOTTOM OF WALL
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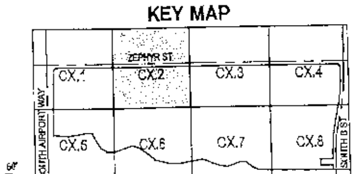
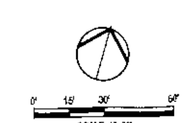
G	GROUND
GB	GRADE BREAK
MAX	MAXIMUM
MIN	MINIMUM
P	PAVEMENT
TC	TOP OF CURB
TW	TOP OF WALL
TYP	TYPICAL

KEY MAP





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REGISTERED PROFESSIONAL ENGINEER MICHAEL EBERHARDT CIVIL STATE OF CALIFORNIA

DATE SIGNED: 10/09/17

Title:

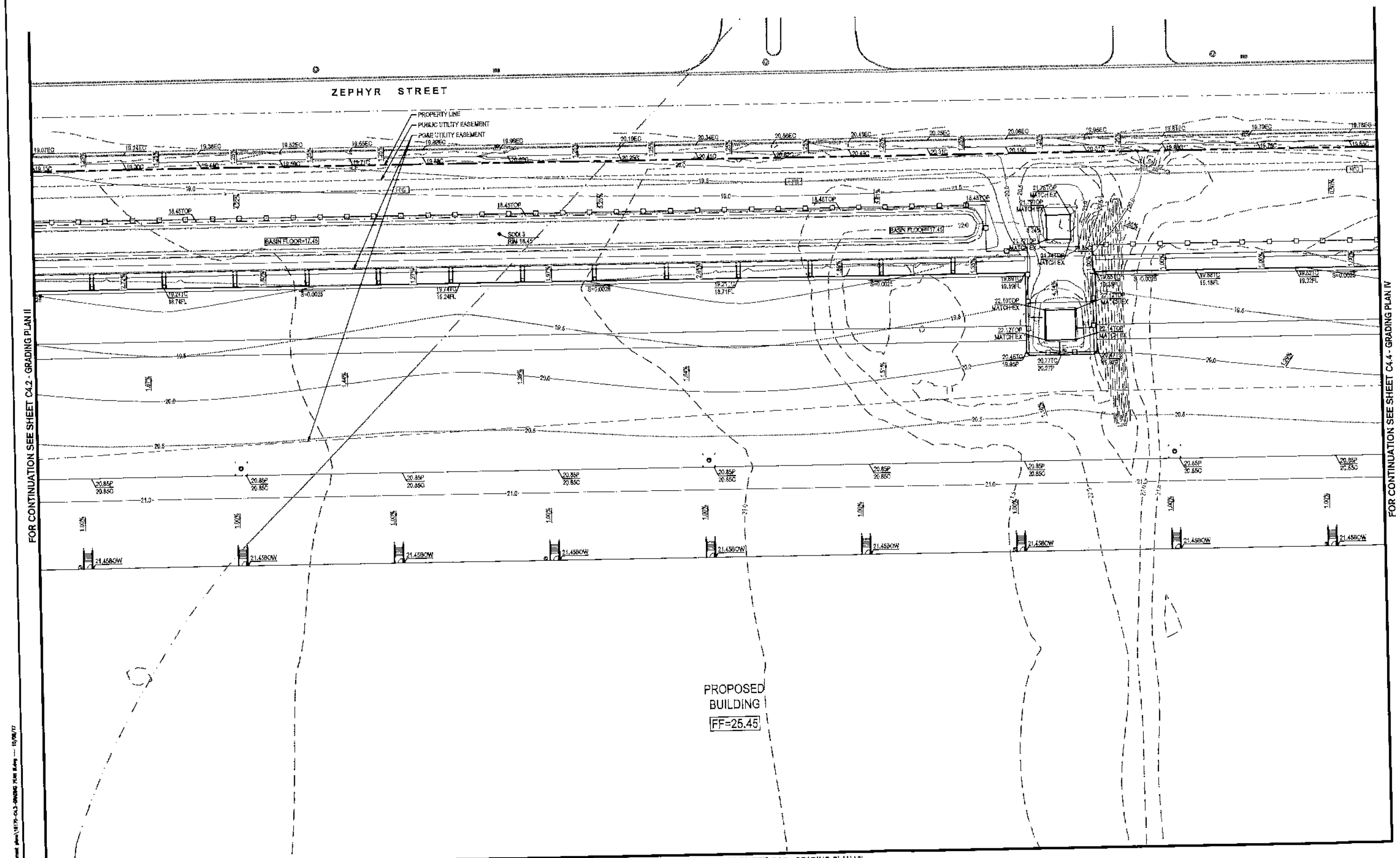
GRADING PLAN II

Project Number: 15170
Drawn by: RME
Date: 10/09/17

Revision:
A ADDENDUM A - REVISION 2017-08-31 PER OWNER REQUEST/CITY CORRECTION
B ADDENDUM B - REVISION 2017-10-09 CITY CORRECTION

Sheet:

C4.2



LEGEND

Symbol	Description
%	GRADE SLOPE PERCENTAGE
3.0 (dashed)	EXISTING GROUND CONTOUR
3.0 (solid)	PROPOSED GROUND CONTOUR

GRADING LEGEND

ABBREVIATION	DESCRIPTION
BW	BACK OF WALK
BOW	BOTTOM OF WALL
C	CONCRETE
DG	DECOMPOSED GRANITE
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EL	ELEVATION
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EX.	EXISTING
FF	FINISHED FLOOR
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GB	GRADE BREAK
MAX	MAXIMUM
MIN	MINIMUM
P	PAVEMENT
TC	TOP OF CURB
TW	TOP OF WALL
TYP	TYPICAL

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fax: 949-614-8230

Project:

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DATE SIGNED: 10/09/17

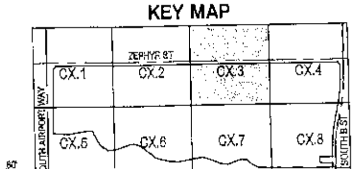
Title:

GRADING PLAN III

Project Number: 15170
Drawn by: RME
Date: 10/09/17

Revision:
A ADDENDUM A - REVISION 2017-08-31 PER OWNER REQUEST/CITY CORRECTION
B ADDENDUM B - REVISION 2017-10-09 CITY CORRECTION

KEY MAP



SCALE: 1"=30'

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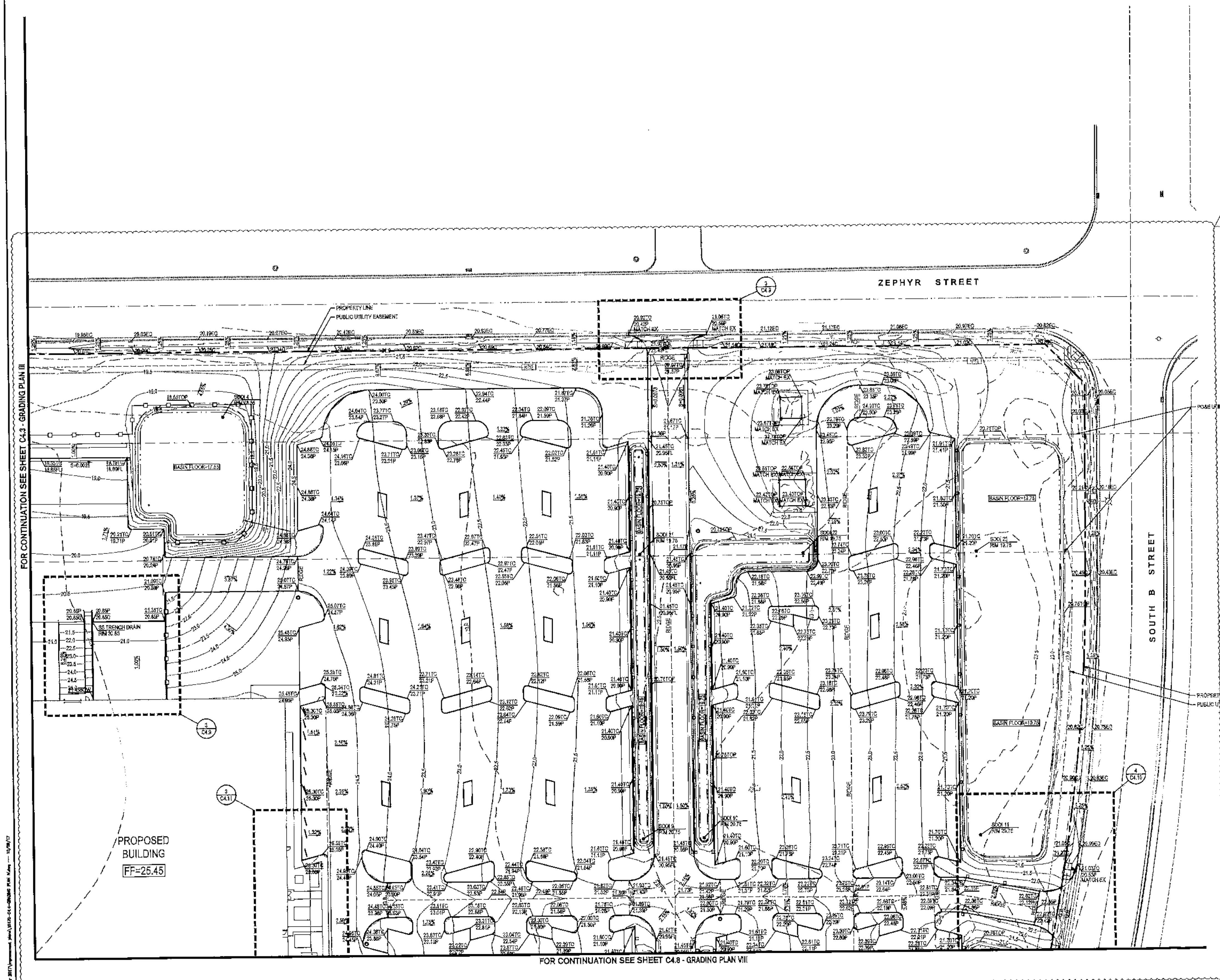
Sheet: C4.3



LEGEND

% (arrow)	GRADE SLOPE PERCENTAGE
--- 5.0 ---	EXISTING GROUND CONTOUR
—— 5.0 ——	PROPOSED GROUND CONTOUR

GRADING LEGEND

ABBREVIATION	DESCRIPTION
BW	BACK OF WALK
BOW	BOTTOM OF WALL
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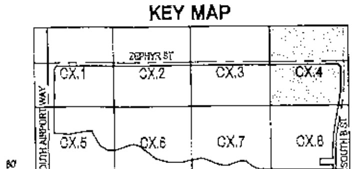
FG	FINISH GROUND
FL	FLOWLINE
G	GROUND
GB	GRADE BREAK
MAX	MAXIMUM
MIN	MINIMUM
P	PAVEMENT
TC	TOP OF CURB
TW	TOP OF WALL
TYP	TYPICAL

KEY MAP



SCALE: 1"=30'

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REGISTERED PROFESSIONAL ENGINEER MICHAEL EBERT No. 66511 Exp. 03/31/19 CIVIL STATE OF CALIFORNIA

DATE SIGNED: 10/09/17

Title:

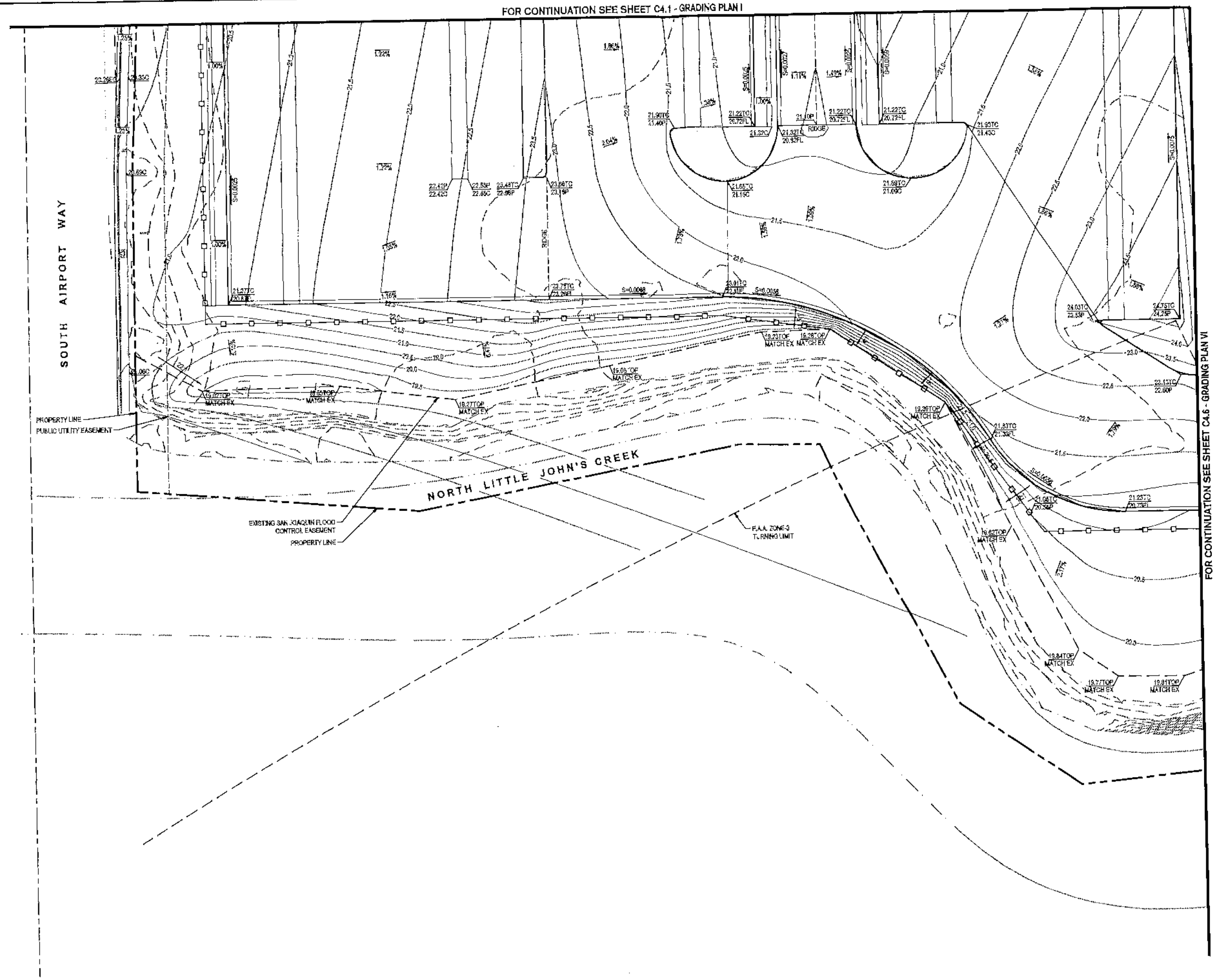
GRADING PLAN IV

Project Number:	15170
Drawn by:	RME
Date:	10/09/17

Revision:
A ADDENDUM A - REVISION 2017-08-31 PER OWNER REQUEST/CITY CORRECTION
B ADDENDUM B - REVISION 2017-10-09 CITY CORRECTION

Sheet:

C4.4



LEGEND

%	GRADE SLOPE PERCENTAGE
3.0 (dashed)	EXISTING GROUND CONTOUR
3.0 (solid)	PROPOSED GROUND CONTOUR

GRADING LEGEND

ABBREVIATION	DESCRIPTION
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BOW	BOTTOM OF WALL
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DG	DECOMPOSED GRANITE
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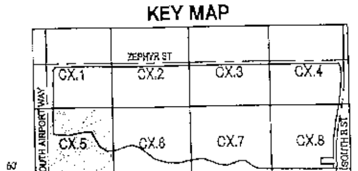
G	GROUND
GB	GRADE BREAK
MAX	MAXIMUM
MIN	MINIMUM
P	PAVEMENT
TC	TOP OF CURB
TW	TOP OF WALL
TYP	TYPICAL

KEY MAP



0' 15' 30' 60'
SCALE: 1"=30'

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REGISTERED PROFESSIONAL ENGINEER MICHAEL EBERLE STATE OF CALIFORNIA CIVIL

DATE SIGNED: 10/09/17

Title:

GRADING PLAN V

Project Number: 15170
Drawn by: RME
Date: 10/09/17

Revision:

A	ADDENDUM A - REVISION 2017-08-31 PER OWNER REQUEST/CITY CORRECTION
B	ADDENDUM B - REVISION 2017-10-09 CITY CORRECTION

Sheet:

C4.5

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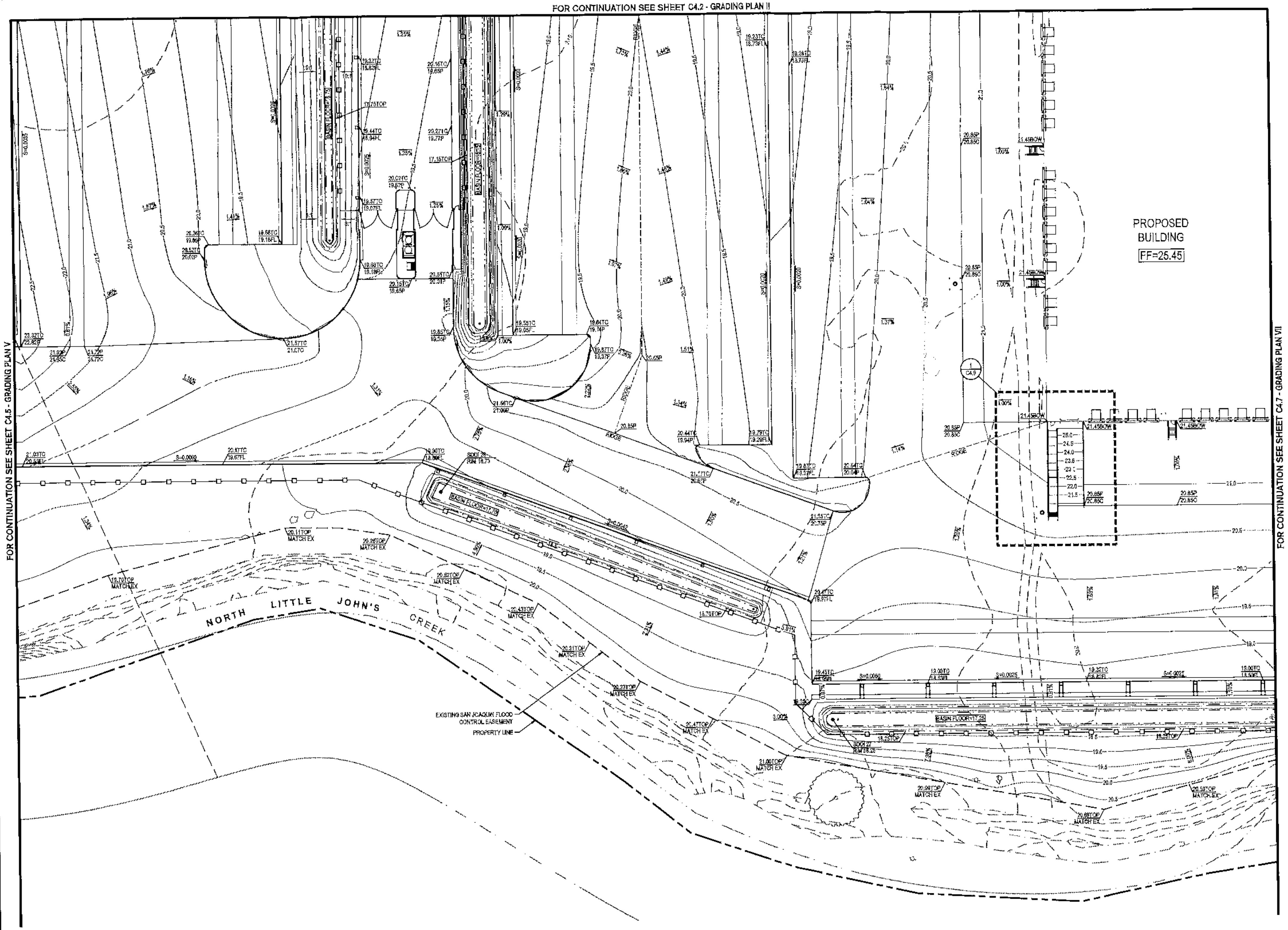
FOR CONTINUATION SEE SHEET C4.2 - GRADING PLAN II

FOR CONTINUATION SEE SHEET C4.5 - GRADING PLAN V

FOR CONTINUATION SEE SHEET C4.7 - GRADING PLAN VII



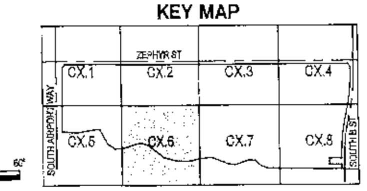
LEGEND

%	GRADE SLOPE PERCENTAGE
3.0 (dashed)	EXISTING GROUND CONTOUR
3.0 (solid)	PROPOSED GROUND CONTOUR

GRADING LEGEND

ABBREVIATION	DESCRIPTION
BW	BACK OF WALK
BOW	BOTTOM OF WALL
C	CONCRETE
DG	DECOMPOSED GRANITE
EC	EXISTING CONCRETE
EFL	EXISTING FLOWLINE
EG	EXISTING GROUND
EL	ELEVATION
EP	EXISTING PAVEMENT
EX.	EXISTING
FF	FINISHED FLOOR
FG	FINISH GROUND
FL	FLOWLINE
G	GROUND
GB	GRADE BREAK
MAX	MAXIMUM
MIN	MINIMUM
P	PAVEMENT
TC	TOP OF CURB
TW	TOP OF WALL
TYP	TYPICAL

KEY MAP



SCALE: 1"=30'

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architecture

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fax: 949-863-0851
email: hpa@hparchs.com

Owner:

IDI Gazeley

IDI GAZELEY

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fax: 949-614-8230

Project:

PROJECT 12
615K

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Fax: 209-942-0214
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REGISTERED PROFESSIONAL ENGINEER
MICHAEL EBERLE
CIVIL
STATE OF CALIFORNIA

DATE SIGNED: 10/09/17

Title:

GRADING PLAN VI

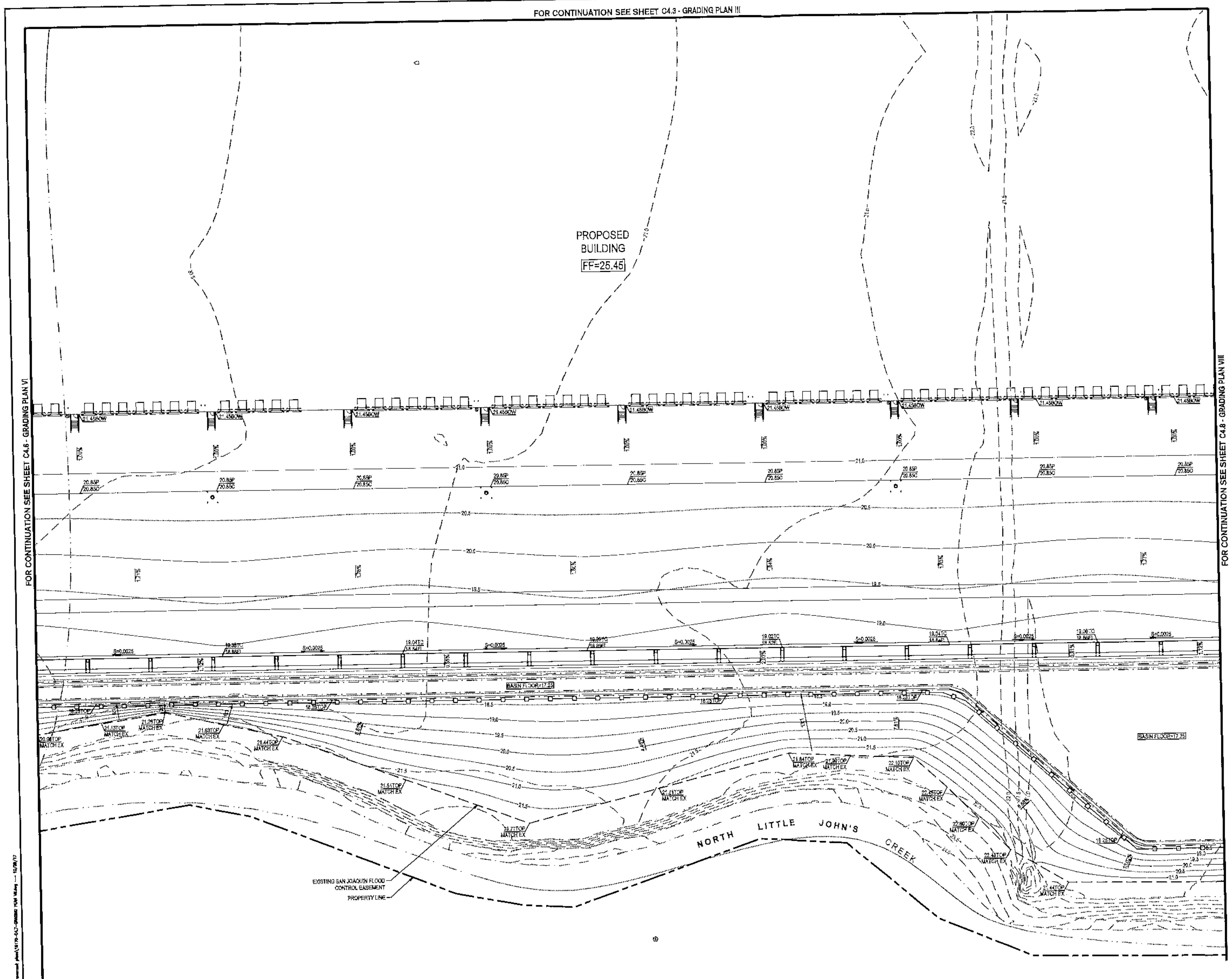
Project Number:	15170
Drawn by:	RME
Date:	10/09/17

Revision:

- A — ADDENDUM A - REVISION 2017-08-31 PER OWNER REQUEST/CITY CORRECTION
- B — ADDENDUM B - REVISION 2017-10-09 CITY CORRECTION

Sheet:

C4.6



LEGEND

Symbol	Description
%	GRADE SLOPE PERCENTAGE
3.0 (dashed)	EXISTING GROUND CONTOUR
3.0 (solid)	PROPOSED GROUND CONTOUR

GRADING LEGEND

ABBREVIATION	DESCRIPTION
BW	BACK OF WALK
BOW	BOTTOM OF WALL
C	CONCRETE
DG	DECOMPOSED GRANITE
EC	EXISTING CONCRETE
EFL	EXISTING FLOWLINE
EG	EXISTING GROUND
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EX	EXISTING
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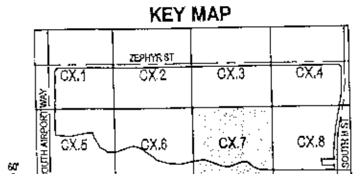
GB	GRADE BREAK
MAX	MAXIMUM
MIN	MINIMUM
P	PAVEMENT
TC	TOP OF CURB
TW	TOP OF WALL
TYP	TYPICAL

Know what's **below.** Call before you dig. (811)

SCALE: 1"=30'

KEY MAP



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92612
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fax: 949•863•0851
email: hpa@hparchs.com

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Foothill Ranch, CA 92610
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fax: 949-614-8230

Project:

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REGISTERED PROFESSIONAL ENGINEER · MICHAEL EBERT · CIVIL · STATE OF CALIFORNIA

DATE SIGNED: 10/09/17

Title:

GRADING PLAN VII

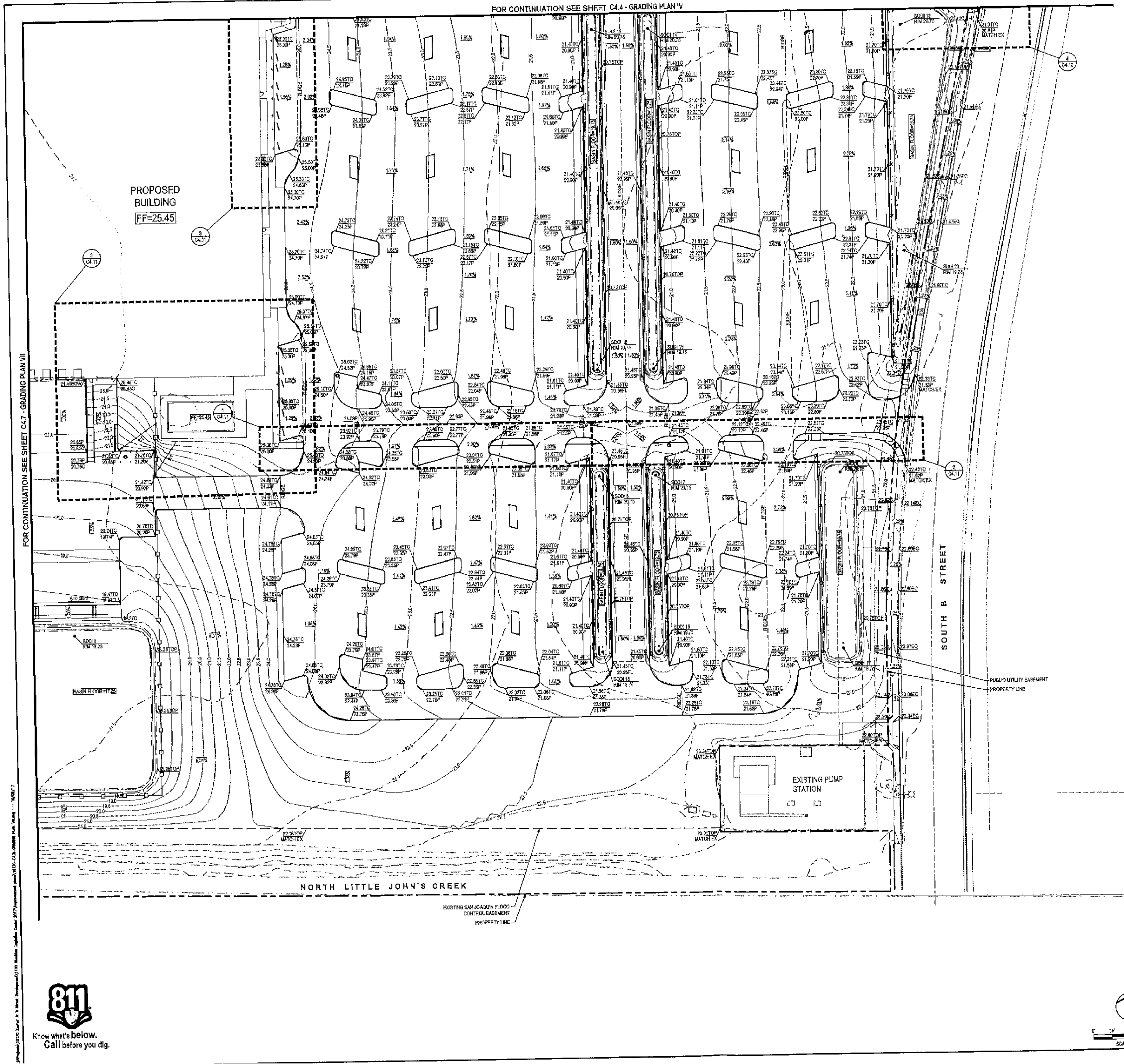
Project Number:	15170
Drawn by:	RME
Date:	10/09/17

Revision:

A	ADDENDUM A - REVISION 2017-06-31 PER OWNER REQUEST/CITY CORRECTION
B	ADDENDUM B - REVISION 2017-10-09 CITY CORRECTION

Sheet:

C4.7



LEGEND

% (arrow)	GRADE SLOPE PERCENTAGE
3.0 (dashed line)	EXISTING GROUND CONTOUR
3.0 (solid line)	PROPOSED GROUND CONTOUR

GRADING LEGEND

ABBREVIATION	DESCRIPTION
BW	BACK OF WALK
BOW	BOTTOM OF WALL
C	CONCRETE
DG	DECOMPOSED GRANITE
EC	EXISTING CONCRETE
EFL	EXISTING FLOWLINE
EG	EXISTING GROUND
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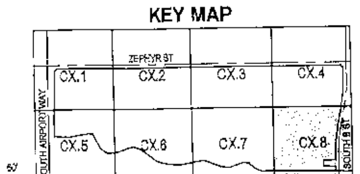
G	GROUND
GB	GRADE BREAK
MAX	MAXIMUM
MIN	MINIMUM
P	PAVEMENT
TC	TOP OF CURB
TW	TOP OF WALL
TYP	TYPICAL

KEY MAP



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- SURVEYING
- PLANNING

REGISTERED PROFESSIONAL ENGINEER — STATE OF CALIFORNIA — CIVIL

DATE SIGNED: 10/09/17

Title:

GRADING PLAN VIII

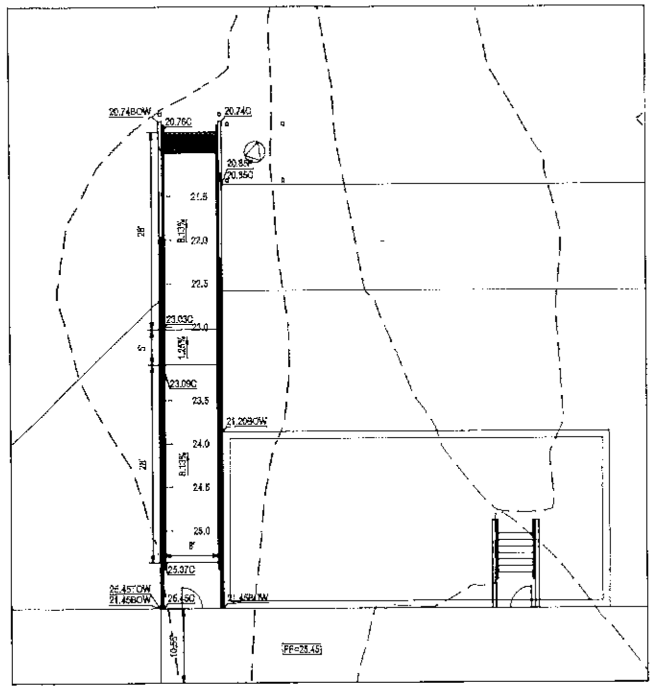
Project Number:	15170
Drawn by:	RME
Date:	10/09/17

Revision:

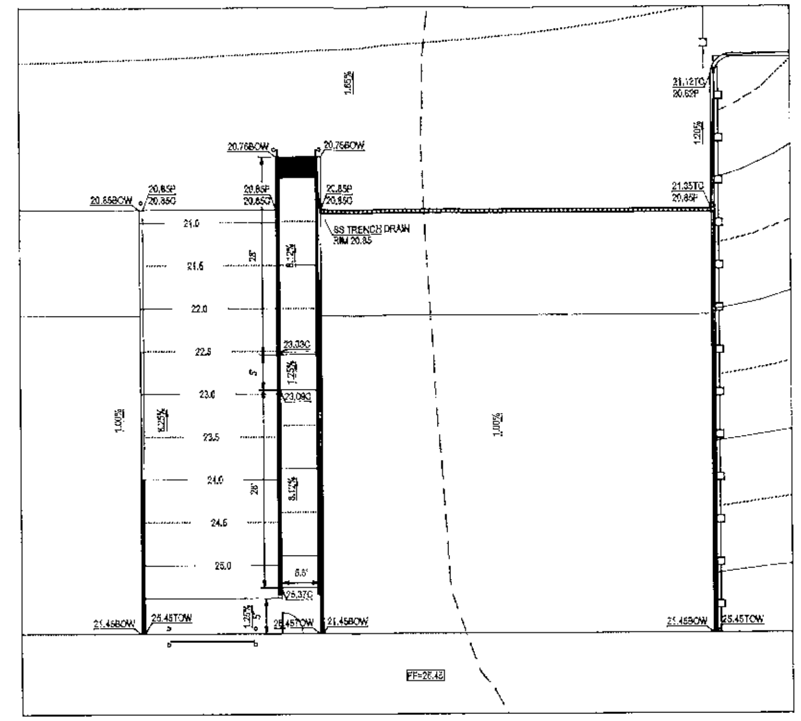
- A — ADDENDUM A - REVISION 2017-08-31 PER OWNER REQUEST/CITY CORRECTION
- B — ADDENDUM B - REVISION 2017-10-09 CITY CORRECTION

Sheet:

C4.8



2 GRADING DETAIL 2
1" = 10'



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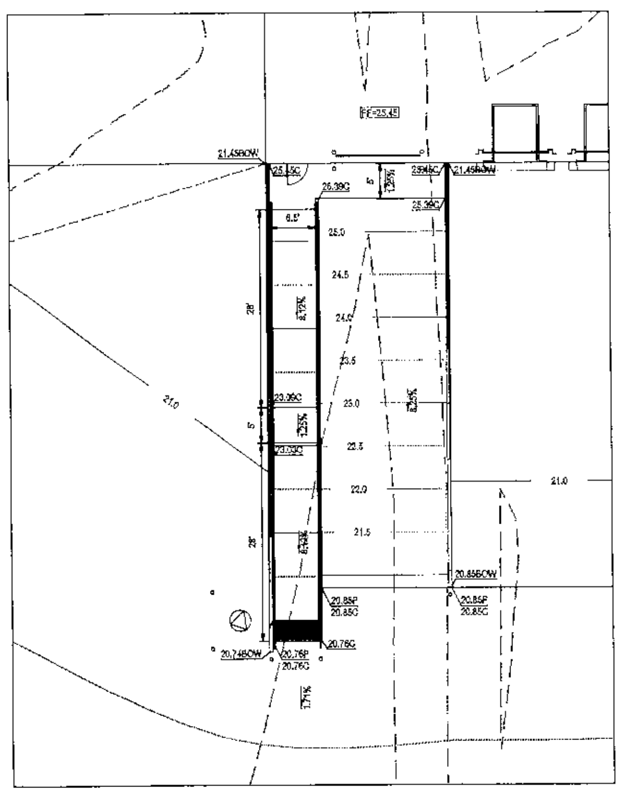

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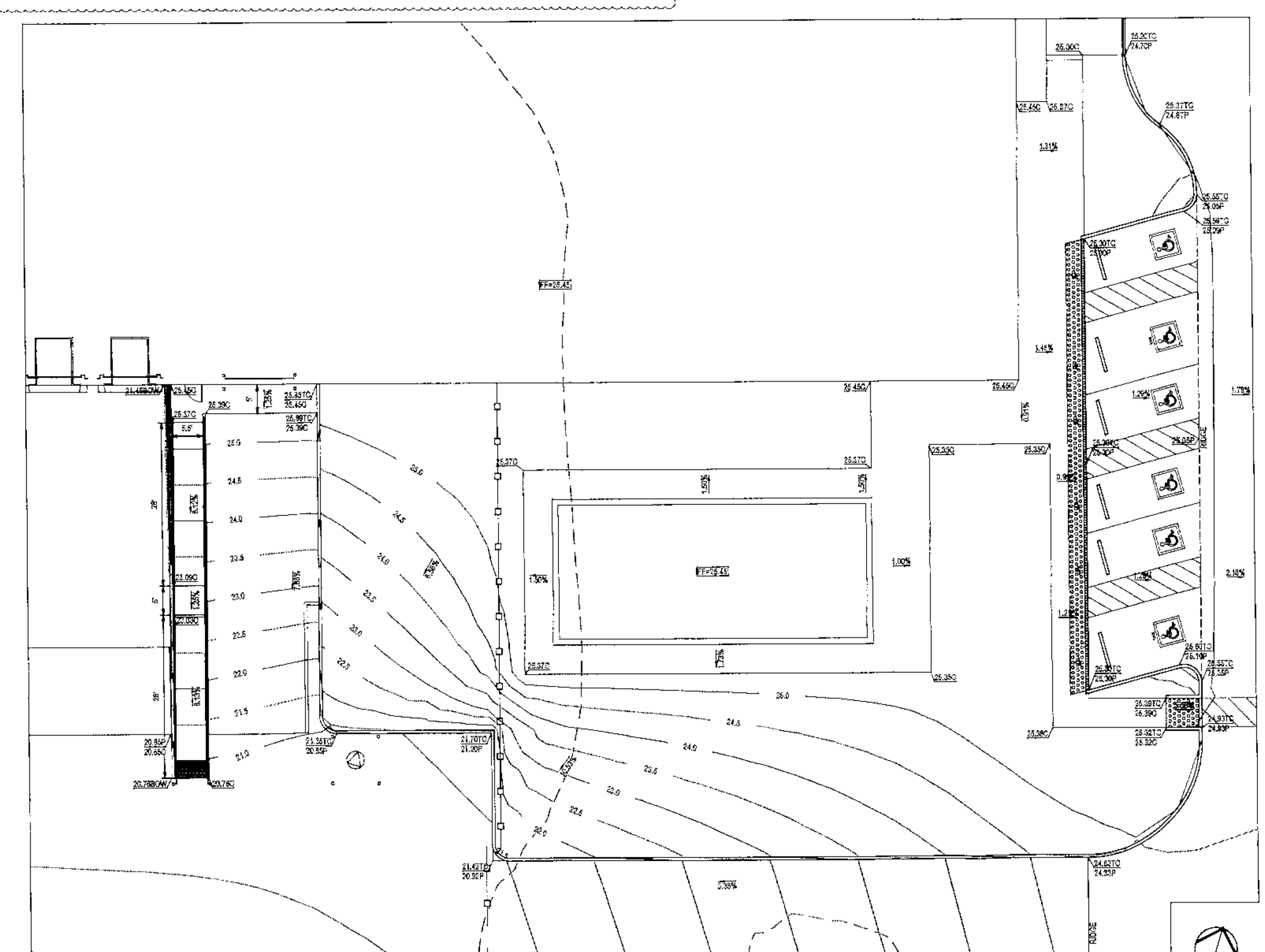

4 GRADING DETAIL 4
1" = 10'

SCALE: 1"=10'

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DATE SIGNED: 10/09/17

Title:

GRADING DETAILS I

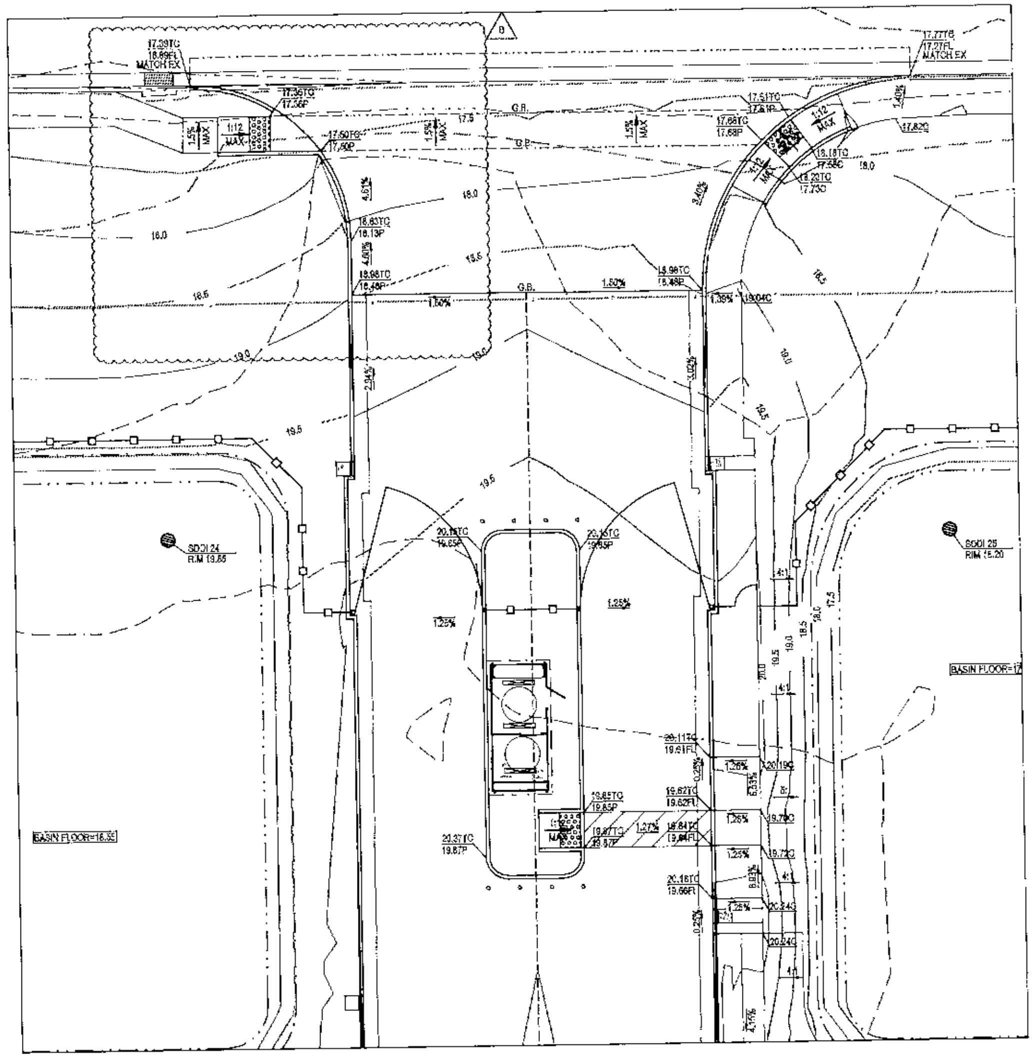
Project Number:	15170
Drawn by:	RME
Date:	10/09/17

Revision:

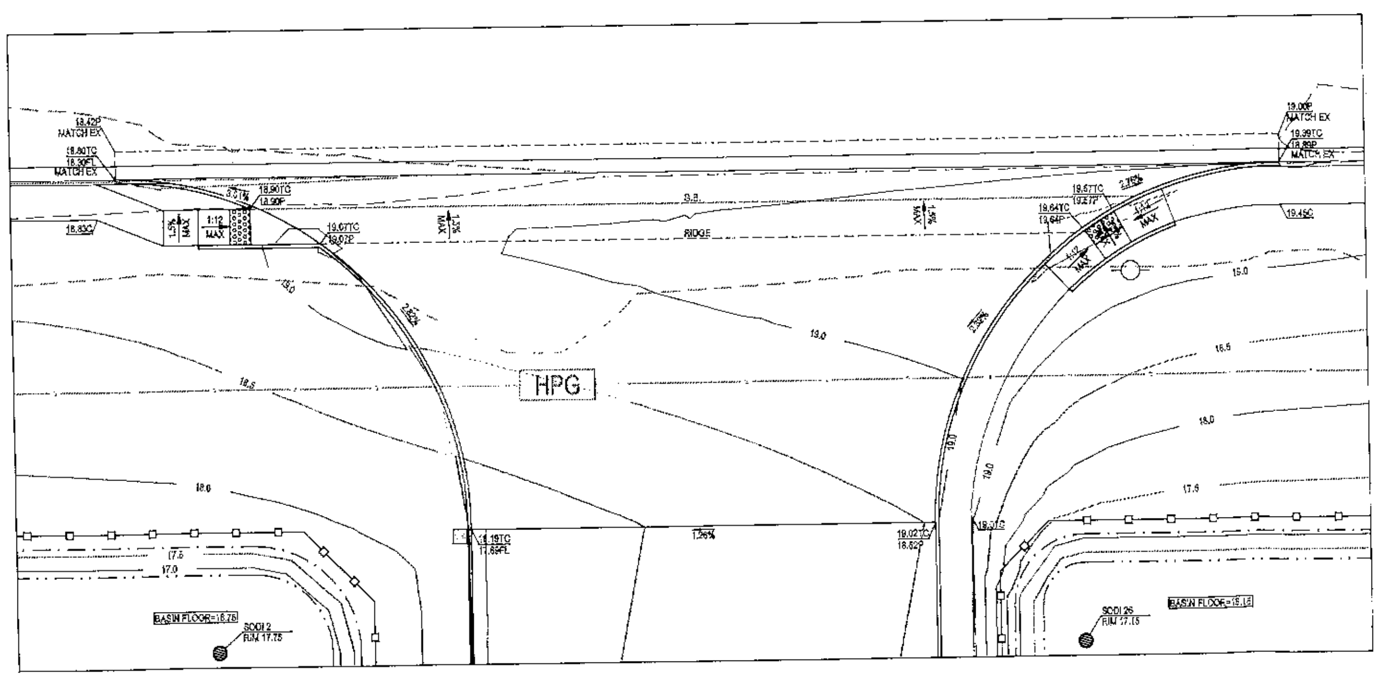
- A: ADDENDUM A - REVISION 2017-08-31 PER OWNER REQUEST/CITY CORRECTION
- B: ADDENDUM B - REVISION 2017-10-09 CITY CORRECTION

Sheet:

C4.9



1 GRADING DETAIL 1
1" = 10'



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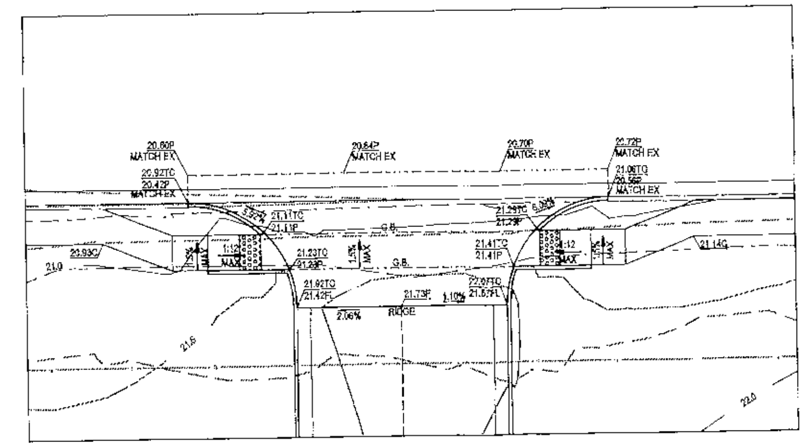
1" = 10'



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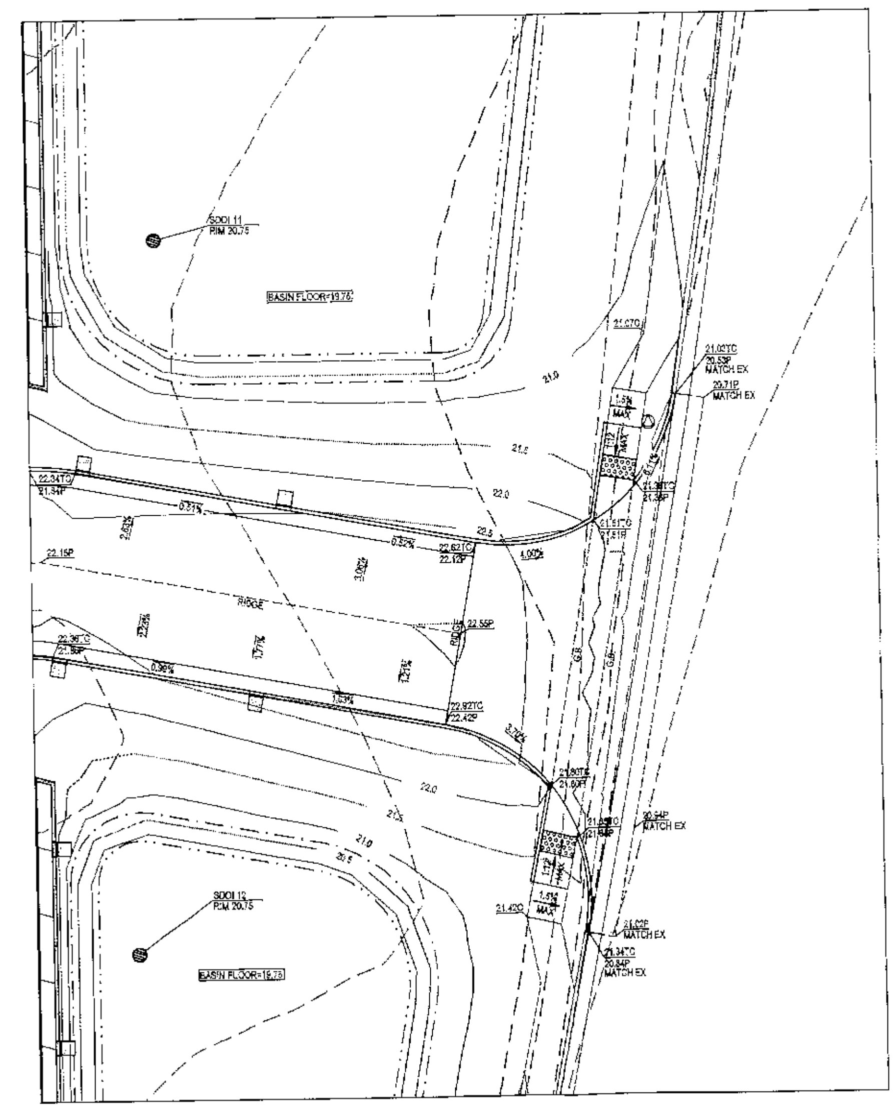

4 GRADING DETAIL 4
1" = 10'

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SCALE: 1"=10'

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fax: 949-863-0851
email: hpa@hparchs.com

Owner:

IDI Gazeley

IDI GAZELEY
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DATE SIGNED: 10/09/17

Title:

GRADING DETAILS II

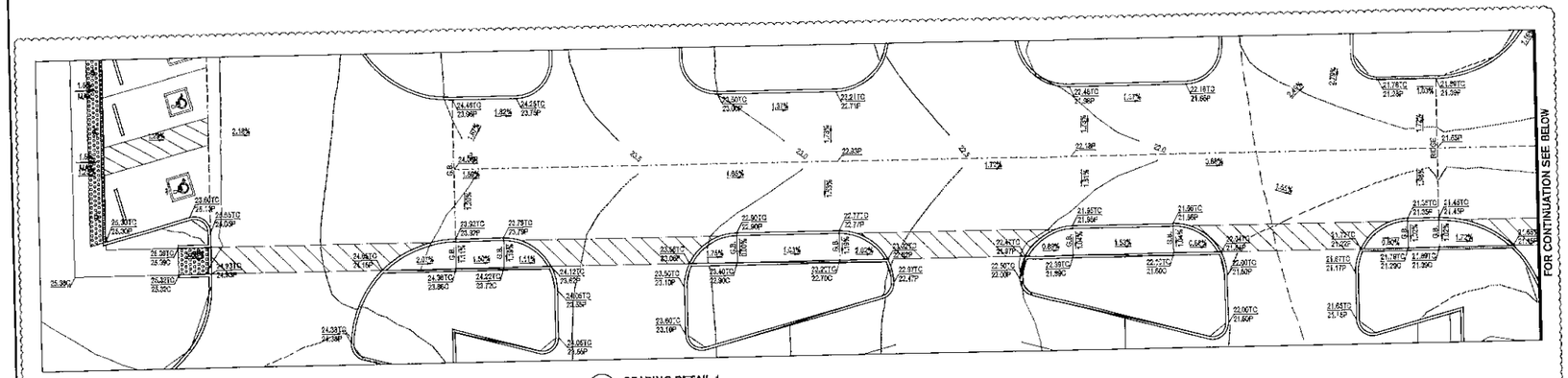
Project Number:	15170
Drawn by:	RME
Date:	10/09/17

Revision:

ADDENDUM - REVISION 2017-08-21 PER OWNER REQUEST/CITY CORRECTION
ADDENDUM - REVISION 2017-10-09 CITY CORRECTION

Sheet:

C4.10



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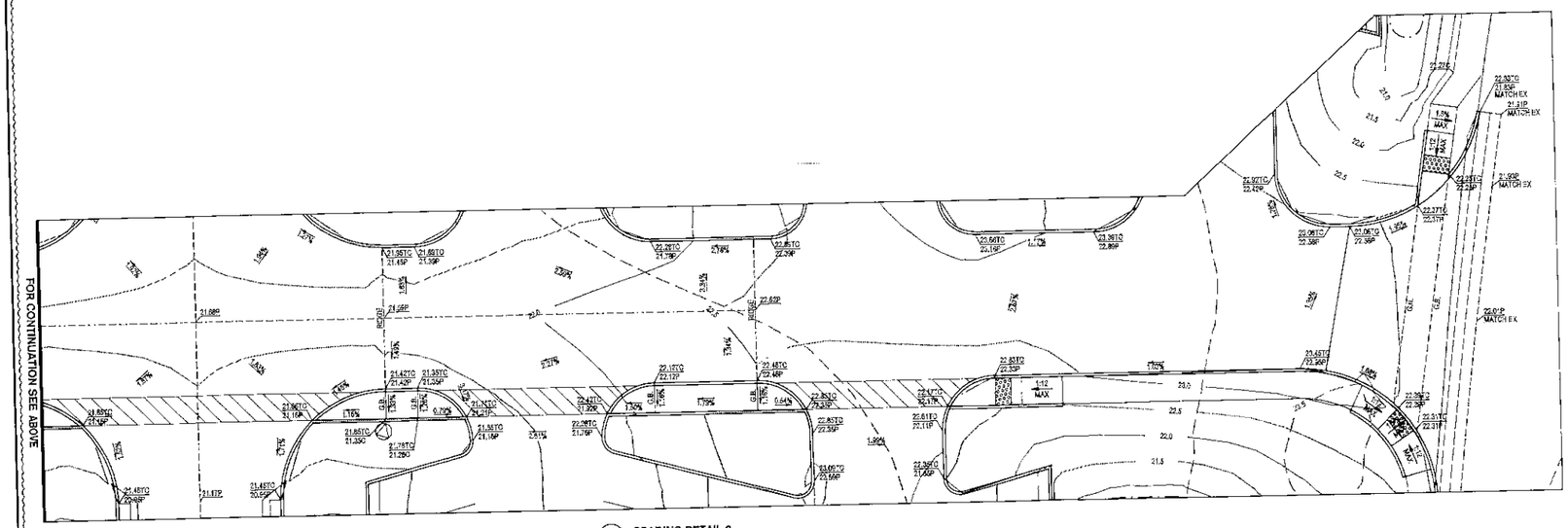

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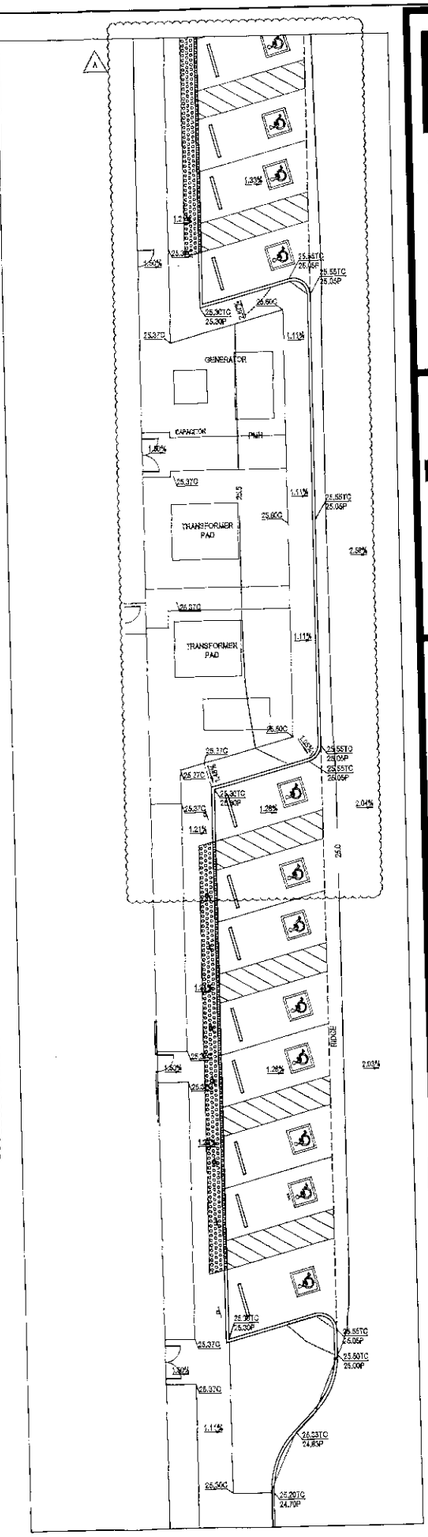

3 GRADING DETAIL 3
1" = 10'

SCALE 1"=10'

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Owner:

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DATE SIGNED: 10/09/17

Title:

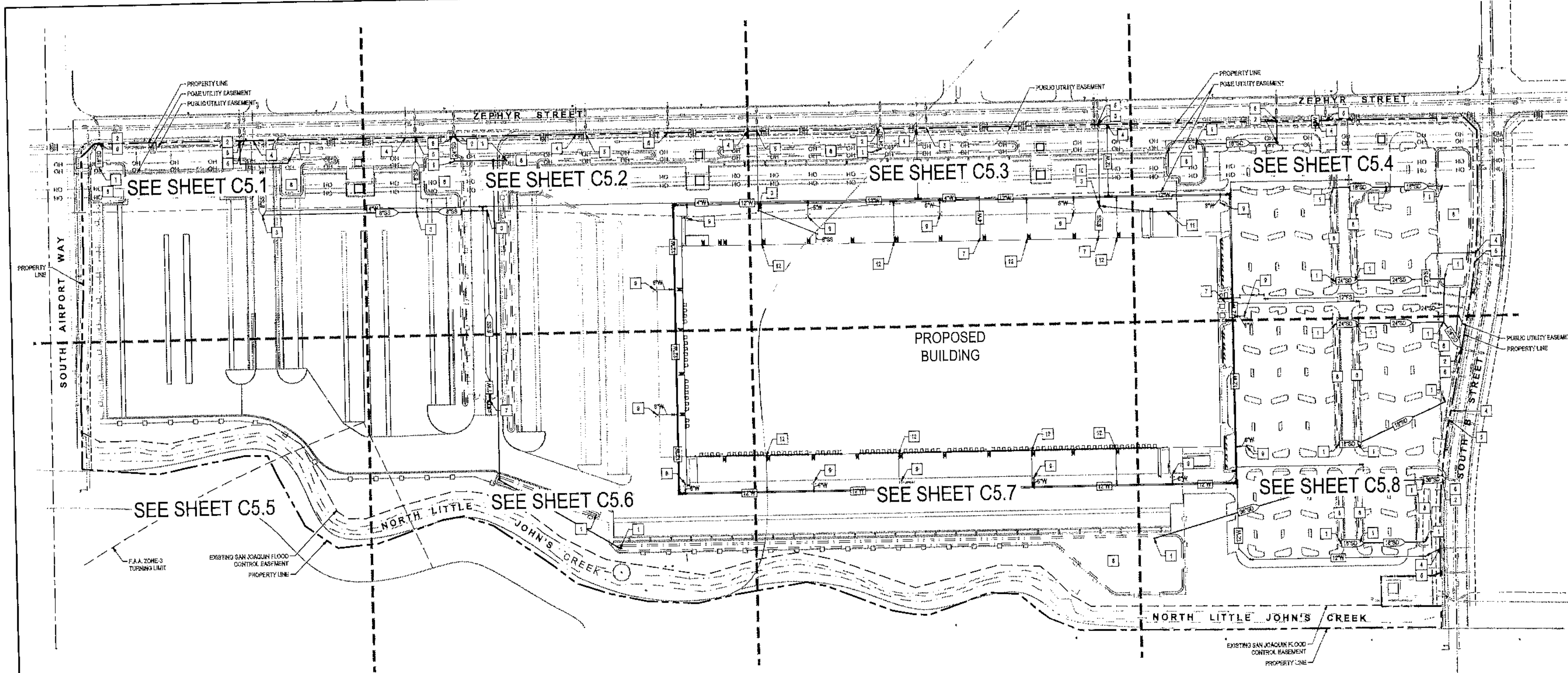
GRADING DETAILS III

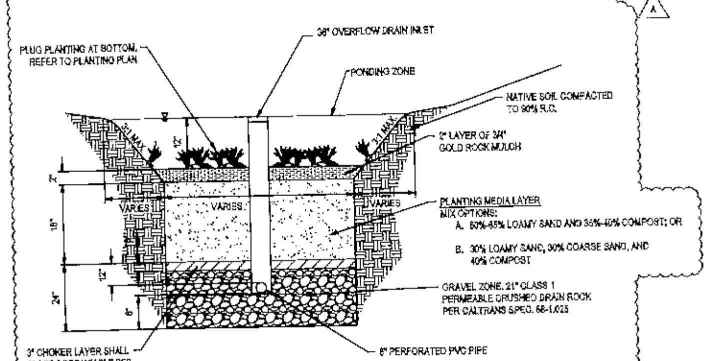
Project Number: 15170
Drawn by: RME
Date: 10/09/17

Revision:
- A ADDENDUM A - REVISION 2017-08-04 PER OWNER/ENGINEER/CITY COMMENTS
- A ADDENDUM B - REVISION 2017-10-09 CITY COMMENTS

Sheet:

C4.11





1 BIORETENTION SECTION
NO SCALE

KEY NOTES:

1. INSTALL STORM DRAIN INLET
2. INSTALL STORM DRAIN MANHOLE
3. INSTALL SANITARY SEWER MANHOLE
4. EXISTING WATER LATERAL STUB TO SITE, WATER STUBS NOT USED TO BE REMOVED AT MAIN.
5. EXISTING SANITARY SEWER STUB TO SITE
6. EXISTING STORM DRAIN STUB TO SITE
7. STUB SERVICES TO BUILDING
8. PROPOSED BIORETENTION AREA, SEE DETAIL 1, THIS SHEET
9. PROPOSED FIRE HYDRANT
10. INSTALL SAND-OIL SEPARATOR
11. INSTALL TRENCH DRAIN (DRAINS TO SANITARY SEWER)
12. FIRE SPRINKLER RISER/LATERAL, SEE PLANS BY OTHERS

LEGEND:

- EXISTING SANITARY SEWER TO BE PROTECTED
- EXISTING SANITARY SEWER TO BE PROTECTED
- EXISTING POTABLE WATER TO BE PROTECTED
- EXISTING HIGH PRESSURE GAS TO BE PROTECTED
- PROPOSED SANITARY SEWER TO BE INSTALLED
- PROPOSED STORM DRAIN TO BE INSTALLED
- PROPOSED POTABLE WATER TO BE INSTALLED
- PROPOSED FIRE SPRINKLER LINE TO BE INSTALLED

UTILITY CONSTRUCTION NOTES:

1. ALL MATERIALS AND CONSTRUCTION PROCEDURES WITHIN THE SCOPE OF THIS CONTRACT SHALL CONFORM TO ALL APPLICABLE CITY OF STOCKTON STANDARD SPECIFICATIONS (LATEST EDITION) AND THE CALIFORNIA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS (LATEST EDITION).
2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ACQUIRING ALL PERMITS, TESTS, APPROVALS AND ACCEPTANCES REQUIRED TO COMPLETE CONSTRUCTION OF THIS PROJECT.
3. CONTRACTOR SHALL VERIFY THE EXACT LOCATION OF UNDERGROUND UTILITIES AND DRAINAGE SYSTEMS WHETHER SHOWN ON PLANS OR NOT.
4. ALL UTILITIES SHALL BE INSTALLED PRIOR TO PAVEMENT CONSTRUCTION.
5. DUE TO FEDERAL REGULATIONS TITLE 49, PART 192.181, CITY PUBLIC SERVICE MUST MAINTAIN ACCESS TO GAS VALVES AT ALL TIMES. THE CONTRACTOR MUST PROTECT AND WORK AROUND ANY GAS VALVES THAT ARE IN THE PROJECT AREA.
6. ALL SPOIL AND OTHER UNSUITABLE MATERIAL FROM THIS WORK SHALL BE REMOVED FROM THE SITE BY THE CONTRACTOR, AT HIS EXPENSE.
7. EXTREME CAUTION SHALL BE USED WHEN NEAR PG&E FACILITIES. EXACT DEPTH AND LOCATION OF PG&E GAS MAIN UNKNOWN
8. WATER SERVICES NOT USED SHALL BE REMOVED AT THE MAIN. CONTRACTOR SHALL OBTAIN ENCROACHMENT PERMIT FROM CITY OF STOCKTON FOR THIS WORK.

TRENCH EXCAVATION SAFETY PROTECTION:

CONTRACTOR AND / OR CONTRACTOR'S INDEPENDENTLY RETAINED EMPLOYEE OR STRUCTURAL DESIGN / GEOTECHNICAL / SAFETY / EQUIPMENT CONSULTANT, IF ANY, SHALL REVIEW THESE PLANS AND ANY AVAILABLE GEOTECHNICAL INFORMATION AND THE ANTICIPATED INSTALLATION SITES WITHIN THE PROJECT WORK AREA IN ORDER TO IMPLEMENT CONTRACTOR'S TRENCH EXCAVATION SAFETY PROTECTION SYSTEMS, PROGRAMS, AND / OR PROCEDURES FOR THE PROJECT DESCRIBED IN THE CONTRACT DOCUMENTS. THE CONTRACTOR'S IMPLEMENTATION OF THESE SYSTEMS, PROGRAMS AND / OR PROCEDURES SHALL PROVIDE FOR ADEQUATE TRENCH EXCAVATION SAFETY PROTECTION THAT COMPLY WITH AS A MINIMUM, OSHA STANDARDS FOR TRENCH EXCAVATIONS. SPECIFICALLY, CONTRACTOR AND / OR CONTRACTOR'S INDEPENDENTLY RETAINED EMPLOYEE OR SAFETY CONSULTANT SHALL IMPLEMENT A TRENCH SAFETY PROGRAM IN ACCORDANCE WITH OSHA STANDARDS GOVERNING THE PRESENCE AND ACTIVITIES OF INDIVIDUALS WORKING IN AND AROUND TRENCH EXCAVATION.

EXISTING UTILITIES:

1. EXISTING UTILITY DATA SHOWN ON THIS LAYOUT WAS OBTAINED FROM A SURVEY OF THE VISIBLE FEATURES AT THE SITE AND PUBLIC RECORD MAPS OBTAINED FORM UTILITY COMPANIES.
2. THE CONTRACTOR SHALL NOTIFY ALL UTILITY COMPANIES WITHIN 48 HOURS PRIOR OF CONSTRUCTION TO LOCATE AND TAG THEIR UNDERGROUND FACILITIES PRIOR TO EXCAVATION.
3. THE CONTRACTOR NEEDS TO ALLOW FOR THE POSSIBILITY OF UNDETECTED UNDERGROUND UTILITIES. ALSO, THE CONTRACTOR MUST ALLOW FOR CHANGES DUE TO UTILITIES BEING IN LOCATIONS DIFFERENT FROM THOSE SHOWN ON THE UTILITY RECORD DRAWINGS. THE CONTRACTOR IS RESPONSIBLE FOR LOCATING AND EXPOSING CONFLICTS PRIOR TO CONSTRUCTION.
4. THE LOCATIONS AND DEPTHS OF EXISTING UTILITIES SHOWN ON THESE PLANS ARE APPROXIMATE ONLY. ACTUAL LOCATIONS AND DEPTHS OF UTILITIES MUST BE VERIFIED BY THE CONTRACTOR PRIOR TO CONSTRUCTION. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO LOCATE UTILITY SERVICE LINES AS REQUIRED FOR CONSTRUCTION AND NOTIFY THE ENGINEER OF ANY CONFLICTS IMMEDIATELY. ANY DAMAGE BY THE CONTRACTOR TO EXISTING UTILITIES, WHETHER SHOWN ON THE PLANS OR NOT, SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO REPAIR, AT HIS EXPENSE.

811 Know what's below. Call before you dig.

0 50' 100' 200'
SCALE: 1"=100'

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hpa, Inc.
18831 bardeen avenue - ste. #100
irvine, ca
92612
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Owner:
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Project:
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615K
3923 B Street
Stockton, CA

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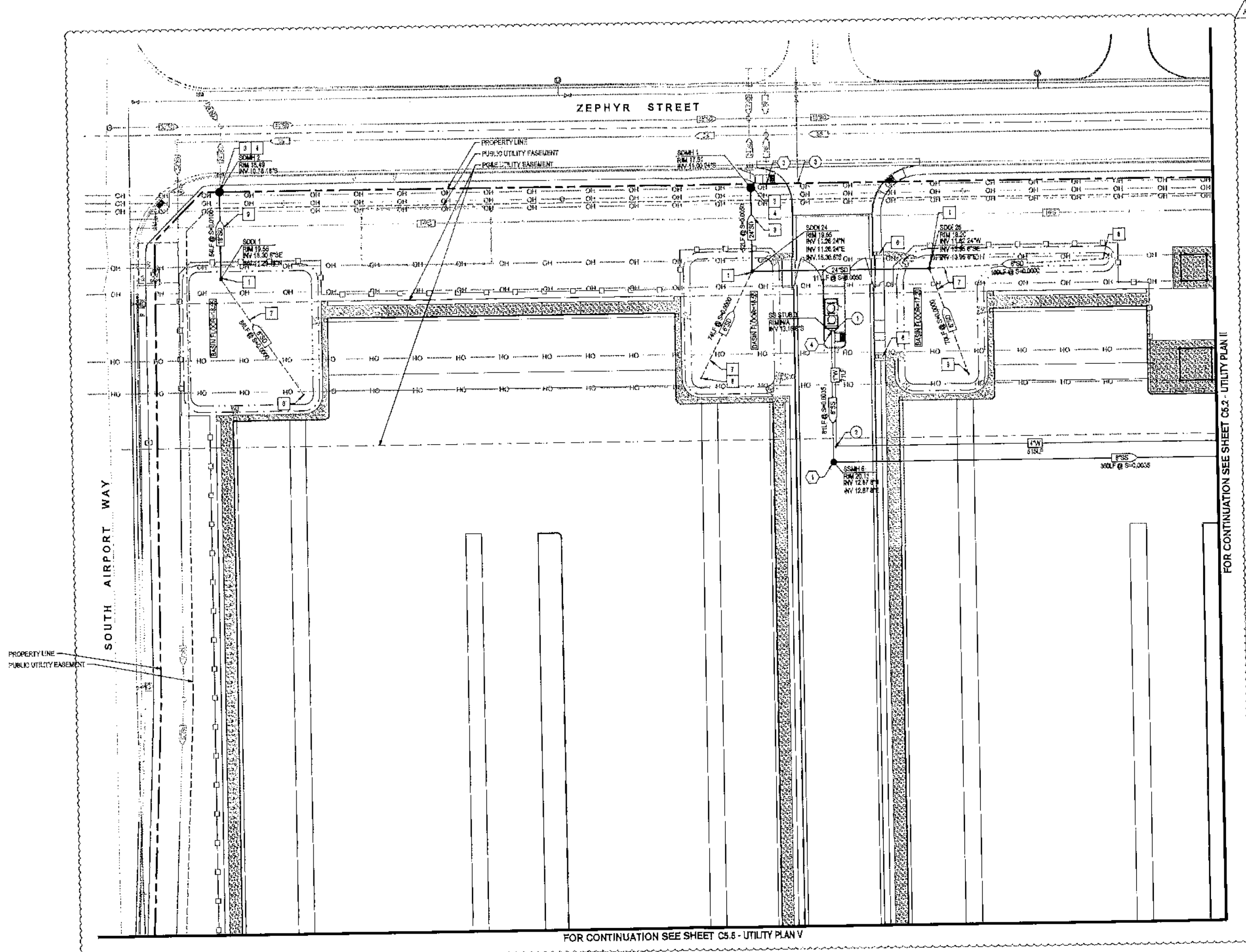
REGISTERED PROFESSIONAL ENGINEER MICHAEL [illegible] No. [illegible] Exp. 03/31/19 CIVIL STATE OF CALIFORNIA
DATE SIGNED: 10/09/17

Title:
UTILITY PLAN KEY MAP

Project Number:	15170
Drawn by:	RME
Date:	10/09/17

Revision:
A ADDENDUM A - REVISION 2017-08-31 PER OWNER REQUEST/CITY CORRECTION
B ADDENDUM B - REVISION 2017-10-09 CITY CORRECTION

Sheet:
C5.0



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UTILITY CONSTRUCTION NOTES:

1. ALL MATERIALS AND CONSTRUCTION PROCEDURES WITHIN THE SCOPE OF THIS CONTRACT SHALL CONFORM TO ALL APPLICABLE CITY OF STOCKTON STANDARD SPECIFICATIONS (LATEST EDITION) AND THE CALIFORNIA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS (LATEST EDITION).
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2. THE CONTRACTOR SHALL NOTIFY ALL UTILITY COMPANIES WITHIN 48 HOURS PRIOR OF CONSTRUCTION TO LOCATE AND TAG THEIR UNDERGROUND FACILITIES PRIOR TO EXCAVATION.
3. THE CONTRACTOR NEEDS TO ALLOW FOR THE POSSIBILITY OF UNDETECTED UNDERGROUND UTILITIES. ALSO, THE CONTRACTOR MUST ALLOW FOR CHANGES DUE TO UTILITIES BEING IN LOCATIONS DIFFERENT FROM THOSE SHOWN ON THE UTILITY RECORD DRAWINGS. THE CONTRACTOR IS RESPONSIBLE FOR LOCATING AND EXPOSING CONFLICTS PRIOR TO CONSTRUCTION.
4. THE LOCATIONS AND DEPTHS OF EXISTING UTILITIES SHOWN ON THESE PLANS ARE APPROXIMATE ONLY. ACTUAL LOCATIONS AND DEPTHS OF UTILITIES MUST BE VERIFIED BY THE CONTRACTOR PRIOR TO CONSTRUCTION. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO LOCATE UTILITY SERVICE LINES AS REQUIRED FOR CONSTRUCTION AND NOTIFY THE ENGINEER OF ANY CONFLICTS IMMEDIATELY. ANY DAMAGE BY THE CONTRACTOR TO EXISTING UTILITIES, WHETHER SHOWN ON THE PLANS OR NOT, SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO REPAIR, AT HIS EXPENSE.

WATER KEY NOTES

1. STUB DOMESTIC WATER FOR CONNECTION TO BUILDING. FOR CONTINUATION SEE DRAWINGS BY OTHERS.
2. INSTALL THRUST BLOCK OR ELBOW PER DETAIL 1, SHEET C7.2
3. EXISTING WATER LATERAL (NOT USED, REMOVE AT MAIN)

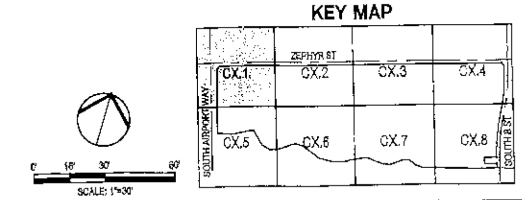
STORM DRAIN KEY NOTES

1. INSTALL 36" OVERFLOW STORM DRAIN INLET PER DETAIL 5, SHEET C7.1
2. INSTALL 36" STORM DRAIN INLET PER DETAIL 13, SHEET C7.1
3. INSTALL STORM DRAIN MANHOLE PER DETAIL 4, SHEET C7.2
4. CONNECT TO EXISTING STORM DRAIN STUB, VERIFY INLET ELEVATION AND SIZE AND NOTIFY ENGINEER IF ELEVATION OR SIZE DIFFERS FROM PLANS.
5. EXISTING STORM DRAIN STUB (NOT USED, SHOWN FOR REFERENCE ONLY)
6. INSTALL CURB-O-LET TCD-327 OR EQUIVALENT THROUGH CURB DRAIN, DAYLIGHT TO COBBLE AT BIORETENTION
7. INSTALL 6" PERFORATED STORM DRAIN PIPE
8. INSTALL STORM DRAIN CLEANOUT PER DETAIL 3, SHEET C7.2
9. POTHOLE EXISTING GAS LINE LOCATION AT NEW UTILITY CROSSING. NOTIFY ENGINEER OF ANY DISCREPANCIES.

SANITARY SEWER KEY NOTES

1. INSTALL SANITARY SEWER MANHOLE PER DETAIL 4, SHEET C7.2
2. CONNECT TO EXISTING SANITARY SEWER STUB. VERIFY INLET ELEVATION AND SIZE AND NOTIFY ENGINEER IF ELEVATION OR SIZE DIFFERS FROM PLANS.
3. EXISTING SANITARY SEWER STUB (NOT USED, SHOWN FOR REFERENCE ONLY)
4. INSTALL CLEANOUT PER DETAIL 5, SHEET C7.2
5. STUB SANITARY SEWER FOR CONNECTION TO BUILDING. FOR CONTINUATION SEE DRAWINGS BY OTHERS.

KEY MAP



811 Know what's below. Call before you dig.

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Owner:

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Project:

PROJECT 12
615K

3923 B Street
Stockton, CA

SIEGFRIED
CIVIL · STRUCTURAL · LANDSCAPE ARCHITECTURE · SURVEYING · PLANNING

REGISTERED PROFESSIONAL ENGINEER · MICHAEL EBERT · No. 66517 · CIVIL · STATE OF CALIFORNIA

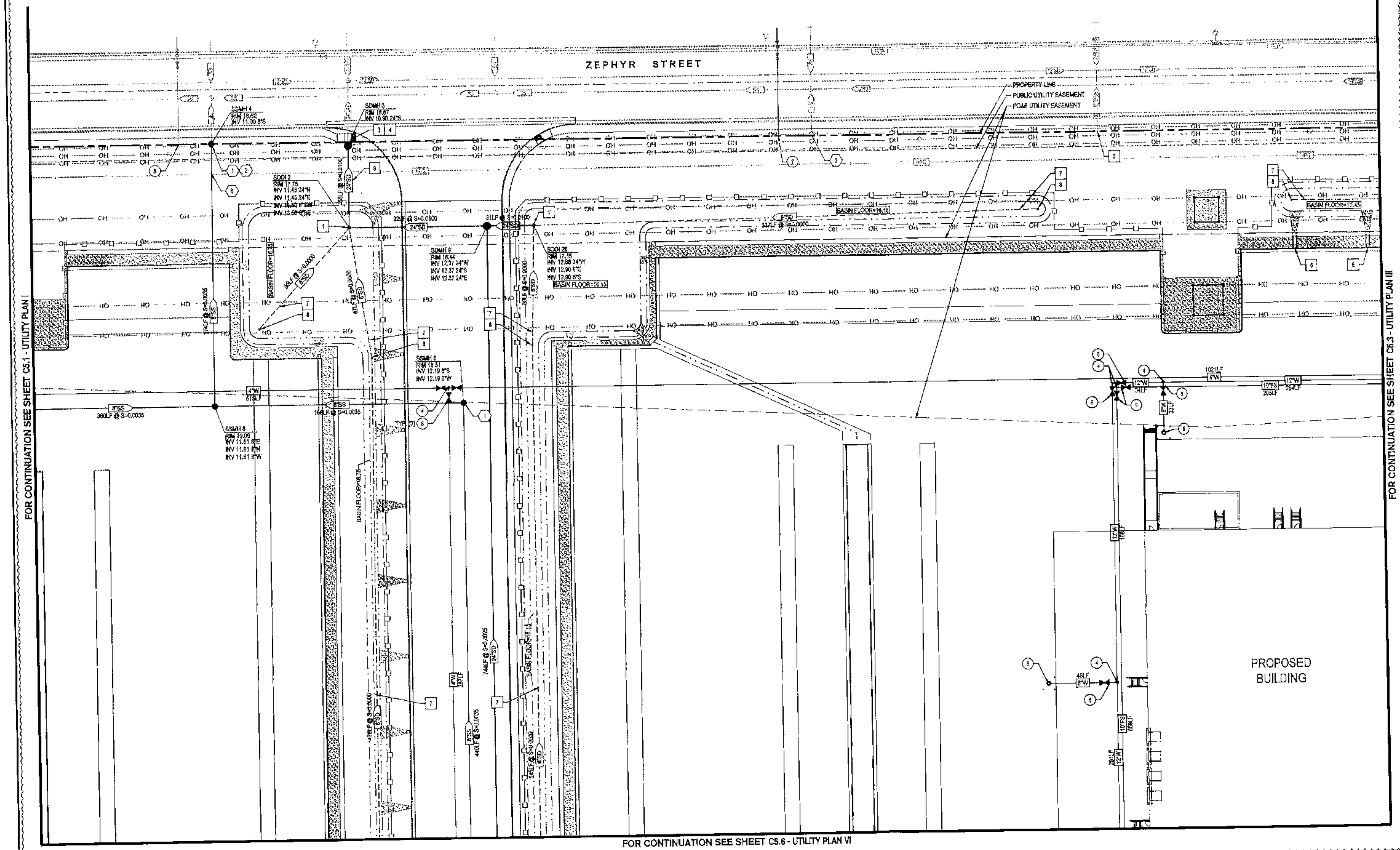
DATE SIGNED: 10/09/17

Title: UTILITY PLAN I

Project Number: 15170
Drawn by: RME
Date: 10/09/17

Revision:
A — ADDENDUM A - REVISION 2017-08-31 PER OWNER REQUEST/CITY CORRECTION
B — ADDENDUM B - REVISION 2017-10-09 CITY CORRECTION

Sheet: C5.1



FOR CONTINUATION SEE SHEET C5.1 - UTILITY PLAN I
FOR CONTINUATION SEE SHEET C5.3 - UTILITY PLAN III
FOR CONTINUATION SEE SHEET C5.6 - UTILITY PLAN VI

TRENCH EXCAVATION SAFETY PROTECTION:

CONTRACTOR AND / OR CONTRACTOR'S INDEPENDENTLY RETAINED EMPLOYEE OR STRUCTURAL DESIGN / GEOTECHNICAL / SAFETY / EQUIPMENT CONSULTANT, IF ANY, SHALL REVIEW THESE PLANS AND ANY AVAILABLE GEOTECHNICAL INFORMATION AND THE ANTICIPATED INSTALLATION SITES WITHIN THE PROJECT WORK AREA IN ORDER TO IMPLEMENT CONTRACTOR'S TRENCH EXCAVATION SAFETY PROTECTION SYSTEMS, PROGRAMS, AND / OR PROCEDURES FOR THE PROJECT DESCRIBED IN THE CONTRACT DOCUMENTS. THE CONTRACTOR'S IMPLEMENTATION OF THESE SYSTEMS, PROGRAMS AND / OR PROCEDURES SHALL PROVIDE FOR ADEQUATE TRENCH EXCAVATION SAFETY PROTECTION THAT COMPLY WITH AS A MINIMUM, OSHA STANDARDS FOR TRENCH EXCAVATIONS, SPECIFICALLY, CONTRACTOR AND / OR CONTRACTOR'S INDEPENDENTLY RETAINED EMPLOYEE OR SAFETY CONSULTANT SHALL IMPLEMENT A TRENCH SAFETY PROGRAM IN ACCORDANCE WITH OSHA STANDARDS GOVERNING THE PRESENCE AND ACTIVITIES OF INDIVIDUALS WORKING IN AND AROUND TRENCH EXCAVATION.

UTILITY CONSTRUCTION NOTES:

1. ALL MATERIALS AND CONSTRUCTION PROCEDURES WITHIN THE SCOPE OF THIS CONTRACT SHALL CONFORM TO ALL APPLICABLE CITY OF STOCKTON STANDARD SPECIFICATIONS (LATEST EDITION) AND THE CALIFORNIA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS (LATEST EDITION).
2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ACQUIRING ALL PERMITS, TESTS, APPROVALS AND ACCEPTANCES REQUIRED TO COMPLETE CONSTRUCTION OF THIS PROJECT.
3. CONTRACTOR SHALL VERIFY THE EXACT LOCATION OF UNDERGROUND UTILITIES AND DRAINAGE SYSTEMS WHETHER SHOWN ON PLANS OR NOT.
4. ALL UTILITIES SHALL BE INSTALLED PRIOR TO PAVEMENT CONSTRUCTION.
5. DUE TO FEDERAL REGULATIONS TITLE 49, PART 192.181, CITY PUBLIC SERVICE MUST MAINTAIN ACCESS TO GAS VALVES AT ALL TIMES. THE CONTRACTOR MUST PROTECT AND WORK AROUND ANY GAS VALVES THAT ARE IN THE PROJECT AREA.
6. ALL SPOIL AND OTHER UNSUITABLE MATERIAL FROM THIS WORK SHALL BE REMOVED FROM THE SITE BY THE CONTRACTOR, AT HIS EXPENSE.
7. EXTREME CAUTION SHALL BE USED WHEN NEAR PG&E FACILITIES. EXACT DEPTH AND LOCATION OF PG&E GAS MAIN UNKNOWN
8. WATER SERVICES NOT USED SHALL BE REMOVED AT THE MAIN. CONTRACTOR SHALL OBTAIN ENCROACHMENT PERMIT FROM CITY OF STOCKTON FOR THIS WORK.

EXISTING UTILITIES:

1. EXISTING UTILITY DATA SHOWN ON THIS LAYOUT WAS OBTAINED FROM A SURVEY OF THE VISIBLE FEATURES AT THE SITE AND PUBLIC RECORD MAPS OBTAINED FORM UTILITY COMPANIES.
2. THE CONTRACTOR SHALL NOTIFY ALL UTILITY COMPANIES WITHIN 48 HOURS PRIOR OF CONSTRUCTION TO LOCATE AND TAG THEIR UNDERGROUND FACILITIES PRIOR TO EXCAVATION.
3. THE CONTRACTOR NEEDS TO ALLOW FOR THE POSSIBILITY OF UNDETECTED UNDERGROUND UTILITIES. ALSO, THE CONTRACTOR MUST ALLOW FOR CHANGES DUE TO UTILITIES BEING IN LOCATIONS DIFFERENT FROM THOSE SHOWN ON THE UTILITY RECORD DRAWINGS. THE CONTRACTOR IS RESPONSIBLE FOR LOCATING AND EXPOSING CONFLICTS PRIOR TO CONSTRUCTION.
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WATER KEY NOTES

1. 3" DOMESTIC WATER METER PER CITY STANDARDS
2. 3" REDUCED PRESSURE BACKFLOW PREVENTER PER CITY STANDARD DRAWING W-9
3. STUB DOMESTIC WATER FOR CONNECTION TO BUILDING. FOR CONTINUATION SEE DRAWINGS BY OTHERS.
4. INSTALL THRUST BLOCK OR ELBOW PER DETAIL 1 SHEET C7.2
5. INSTALL FIRE HYDRANT PER CITY STANDARD DRAWING W-13
6. INSTALL WATER VALVE PER DETAIL 2, SHEET C7.2
7. CONNECT TO EXISTING WATER LATERAL, VERIFY ELEVATION AND SIZE AND NOTIFY ENGINEER IF ELEVATION OR SIZE DIFFERS FROM PLANS.
8. EXISTING WATER LATERAL (NOT USED, REMOVE AT MAIN)
9. POTHOLE EXISTING GAS LINE LOCATION AT NEW UTILITY CROSSING. NOTIFY ENGINEER OF ANY DISCREPANCIES.

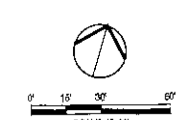
STORM DRAIN KEY NOTES

1. INSTALL 36" OVERFLOW STORM DRAIN INLET PER DETAIL 5, SHEET C7.1
2. INSTALL 36" STORM DRAIN INLET PER DETAIL 13, SHEET C7.1
3. INSTALL STORM DRAIN MANHOLE PER DETAIL 4, SHEET C7.2
4. CONNECT TO EXISTING STORM DRAIN STUB. VERIFY INLET ELEVATION AND SIZE AND NOTIFY ENGINEER IF ELEVATION OR SIZE DIFFERS FROM PLANS.
5. EXISTING STORM DRAIN STUB (NOT USED, SHOWN FOR REFERENCE ONLY)
6. INSTALL CONCRETE U-CHANNEL FOR STORM DRAIN RUNOFF PER DETAIL 12, SHEET C7.1
7. INSTALL 6" PERFORATED STORM DRAIN PIPE
8. INSTALL STORM DRAIN CLEANOUT PER DETAIL 3, SHEET C7.2
9. POTHOLE EXISTING GAS LINE LOCATION AT NEW UTILITY CROSSING. NOTIFY ENGINEER OF ANY DISCREPANCIES.

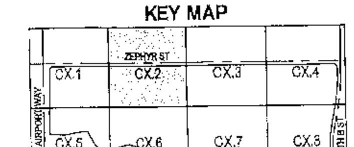
SANITARY SEWER KEY NOTES

1. INSTALL SANITARY SEWER MANHOLE PER DETAIL 4, SHEET C7.2
2. CONNECT TO EXISTING SANITARY SEWER STUB, VERIFY INLET ELEVATION AND SIZE AND NOTIFY ENGINEER IF ELEVATION OR SIZE DIFFERS FROM PLANS.
3. EXISTING SANITARY SEWER STUB (NOT USED, SHOWN FOR REFERENCE ONLY)
4. INSTALL CLEANOUT PER DETAIL 5, SHEET C7.2
5. STUB SANITARY SEWER FOR CONNECTION TO BUILDING. FOR CONTINUATION SEE DRAWINGS BY OTHERS.
6. POTHOLE EXISTING GAS LINE LOCATION AT NEW UTILITY CROSSING. NOTIFY ENGINEER OF ANY DISCREPANCIES.

811 Know what's below. Call before you dig.



KEY MAP



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SURVEYING
PLANNING

REGISTERED PROFESSIONAL ENGINEER MICHAEL E. ... CIVIL STATE OF CALIFORNIA

DATE SIGNED: 10/06/17

Title:

UTILITY PLAN II

Project Number:	15170
Drawn by:	RME
Date:	10/09/17

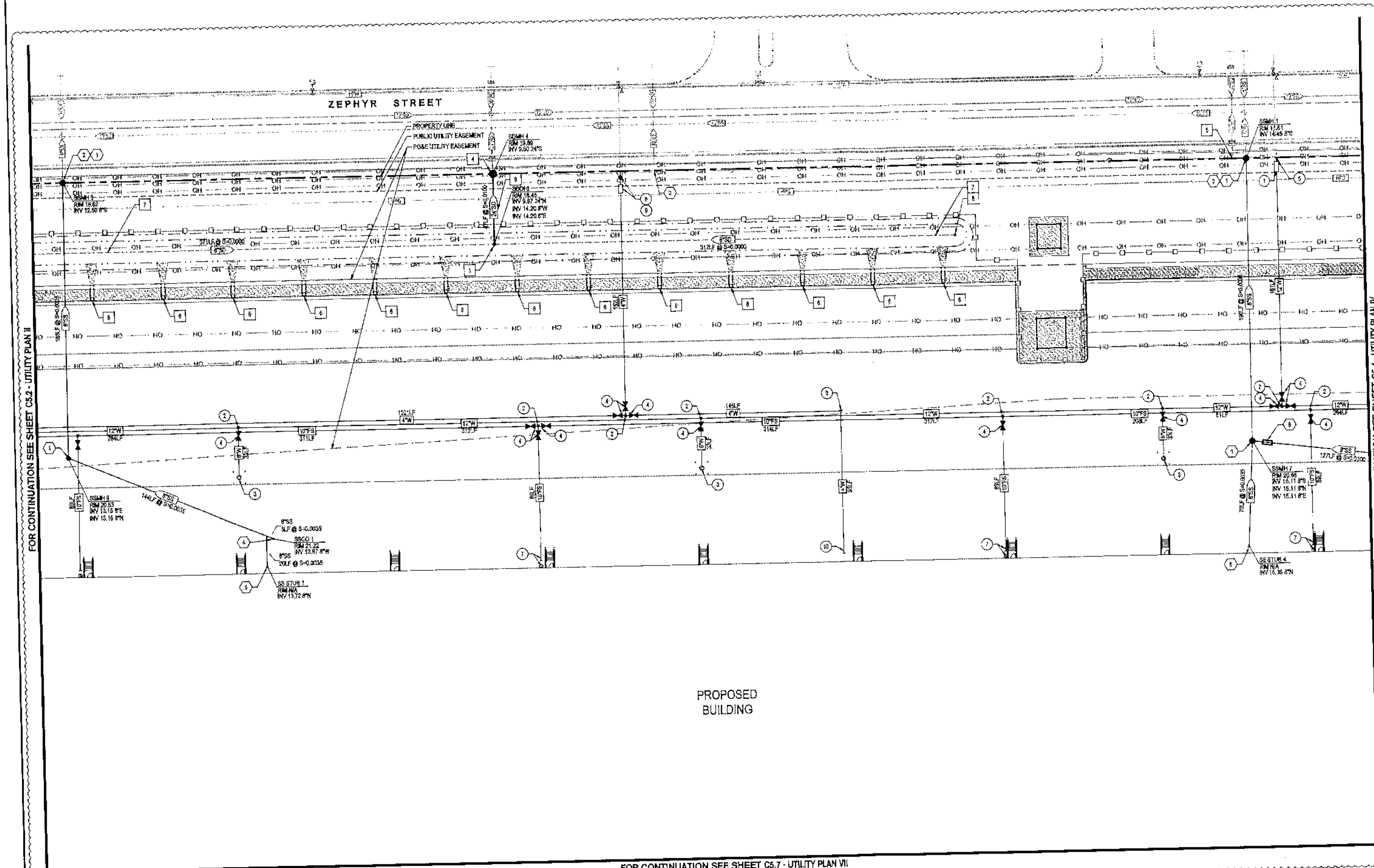
Revision:

A ADDENDUM A - REVISION 2017-06-31 PER OWNER REQUEST/CITY CORRECTION

B ADDENDUM B - REVISION 2017-10-09 CITY CORRECTION

Sheet:

C5.2



FOR CONTINUATION SEE SHEET C5.7 - UTILITY PLAN VII

TRENCH EXCAVATION SAFETY PROTECTION:

CONTRACTOR AND / OR CONTRACTOR'S INDEPENDENTLY RETAINED EMPLOYEE OR STRUCTURAL DESIGN / GEOTECHNICAL / SAFETY / EQUIPMENT CONSULTANT, IF ANY, SHALL REVIEW THESE PLANS AND ANY AVAILABLE GEOTECHNICAL INFORMATION AND THE ANTICIPATED INSTALLATION SITES WITHIN THE PROJECT WORK AREA IN ORDER TO IMPLEMENT CONTRACTOR'S TRENCH EXCAVATION SAFETY PROTECTION SYSTEMS, PROGRAMS, AND / OR PROCEDURES FOR THE PROJECT DESCRIBED IN THE CONTRACT DOCUMENTS, THE CONTRACTOR'S IMPLEMENTATION OF THESE SYSTEMS, PROGRAMS AND / OR PROCEDURES SHALL PROVIDE FOR ADEQUATE TRENCH EXCAVATION SAFETY PROTECTION THAT COMPLY WITH AS A MINIMUM, OSHA STANDARDS FOR TRENCH EXCAVATIONS, SPECIFICALLY, CONTRACTOR AND / OR CONTRACTOR'S INDEPENDENTLY RETAINED EMPLOYEE OR SAFETY CONSULTANT SHALL IMPLEMENT A TRENCH SAFETY PROGRAM IN ACCORDANCE WITH OSHA STANDARDS GOVERNING THE PRESENCE AND ACTIVITIES OF INDIVIDUALS WORKING IN AND AROUND TRENCH EXCAVATION.

UTILITY CONSTRUCTION NOTES:

1. ALL MATERIALS AND CONSTRUCTION PROCEDURES WITHIN THE SCOPE OF THIS CONTRACT SHALL CONFORM TO ALL APPLICABLE CITY OF STOCKTON STANDARD SPECIFICATIONS (LATEST EDITION) AND THE CALIFORNIA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS (LATEST EDITION).
2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ACQUIRING ALL PERMITS, TESTS, APPROVALS AND ACCEPTANCES REQUIRED TO COMPLETE CONSTRUCTION OF THIS PROJECT.
3. CONTRACTOR SHALL VERIFY THE EXACT LOCATION OF UNDERGROUND UTILITIES AND DRAINAGE SYSTEMS WHETHER SHOWN ON PLANS OR NOT.
4. ALL UTILITIES SHALL BE INSTALLED PRIOR TO PAVEMENT CONSTRUCTION.
5. DUE TO FEDERAL REGULATIONS TITLE 49, PART 192.181, CITY PUBLIC SERVICE MUST MAINTAIN ACCESS TO GAS VALVES AT ALL TIMES. THE CONTRACTOR MUST PROTECT AND WORK AROUND ANY GAS VALVES THAT ARE IN THE PROJECT AREA.
6. ALL SPOIL AND OTHER UNSUITABLE MATERIAL FROM THIS WORK SHALL BE REMOVED FROM THE SITE BY THE CONTRACTOR, AT HIS EXPENSE.
7. EXTREME CAUTION SHALL BE USED WHEN NEAR PG&E FACILITIES. EXACT DEPTH AND LOCATION OF PG&E GAS MAIN UNKNOWN
8. WATER SERVICES NOT USED SHALL BE REMOVED AT THE MAIN. CONTRACTOR SHALL OBTAIN ENCROACHMENT PERMIT FROM CITY OF STOCKTON FOR THIS WORK.

EXISTING UTILITIES:

1. EXISTING UTILITY DATA SHOWN ON THIS LAYOUT WAS OBTAINED FROM A SURVEY OF THE VISIBLE FEATURES AT THE SITE AND PUBLIC RECORD MAPS OBTAINED FORM UTILITY COMPANIES.
2. THE CONTRACTOR SHALL NOTIFY ALL UTILITY COMPANIES WITHIN 48 HOURS PRIOR OF CONSTRUCTION TO LOCATE AND TAG THEIR UNDERGROUND FACILITIES PRIOR TO EXCAVATION.
3. THE CONTRACTOR NEEDS TO ALLOW FOR THE POSSIBILITY OF UNDETECTED UNDERGROUND UTILITIES. ALSO, THE CONTRACTOR MUST ALLOW FOR CHANGES DUE TO UTILITIES BEING IN LOCATIONS DIFFERENT FROM THOSE SHOWN ON THE UTILITY RECORD DRAWINGS. THE CONTRACTOR IS RESPONSIBLE FOR LOCATING AND EXPOSING CONFLICTS PRIOR TO CONSTRUCTION.
4. THE LOCATIONS AND DEPTHS OF EXISTING UTILITIES SHOWN ON THESE PLANS ARE APPROXIMATE ONLY. ACTUAL LOCATIONS AND DEPTHS OF UTILITIES MUST BE VERIFIED BY THE CONTRACTOR PRIOR TO CONSTRUCTION. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO LOCATE UTILITY SERVICE LINES AS REQUIRED FOR CONSTRUCTION AND NOTIFY THE ENGINEER OF ANY CONFLICTS IMMEDIATELY. ANY DAMAGE BY THE CONTRACTOR TO EXISTING UTILITIES, WHETHER SHOWN ON THE PLANS OR NOT, SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO REPAIR, AT HIS EXPENSE.

WATER KEY NOTES

1. INSTALL AMES 3000SS OR APPROVED EQUAL 10" DOUBLE CHECK DETECTOR ASSEMBLY BACKFLOW PREVENTER WITH INTEGRAL FDC PER CITY STANDARDS
2. INSTALL THRUST BLOCK OR ELBOW PER DETAIL 1, SHEET C7.2
3. INSTALL FIRE HYDRANT PER CITY STANDARD DRAWING W-13
4. INSTALL WATER VALVE PER DETAIL 2, SHEET C7.2
5. CONNECT TO EXISTING WATER LATERAL, VERIFY ELEVATION AND SIZE AND NOTIFY ENGINEER IF ELEVATION OR SIZE DIFFERS FROM PLANS.
6. EXISTING WATER LATERAL (NOT USED, REMOVE AT MAIN)
7. FIRE SPRINKLER LATERAL & RISER, FOR CONTINUATION SEE FIRE PROTECTION DRAWINGS
8. 3" DOMESTIC WATER METER PER CITY STANDARDS
9. 3" REDUCED PRESSURE BACKFLOW PREVENTER PER CITY STANDARD DRAWING W-3
10. STUB DOMESTIC WATER FOR CONNECTION TO BUILDING. FOR CONTINUATION SEE DRAWINGS BY OTHERS.

STORM DRAIN KEY NOTES

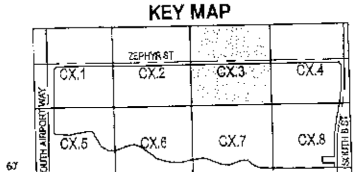
1. INSTALL 36" OVERFLOW STORM DRAIN INLET PER DETAIL 8, SHEET C7.1
2. INSTALL 36" STORM DRAIN INLET PER DETAIL 13, SHEET C7.1
3. INSTALL STORM DRAIN MANHOLE PER DETAIL 4, SHEET C7.2
4. CONNECT TO EXISTING STORM DRAIN STUB, VERIFY INLET ELEVATION AND SIZE AND NOTIFY ENGINEER IF ELEVATION OR SIZE DIFFERS FROM PLANS.
5. EXISTING STORM DRAIN STUB (NOT USED, SHOWN FOR REFERENCE ONLY)
6. INSTALL CONCRETE U-CHANNEL FOR STORM DRAIN RUNOFF PER DETAIL 12, SHEET C7.1
7. INSTALL 6" PERFORATED STORM DRAIN PIPE
8. INSTALL STORM DRAIN CLEANOUT PER DETAIL 3, SHEET C7.2
9. POTHOLE EXISTING GAS LINE LOCATION AT NEW UTILITY CROSSING. NOTIFY ENGINEER OF ANY DISCREPANCIES.

SANITARY SEWER KEY NOTES

1. INSTALL SANITARY SEWER MANHOLE PER DETAIL 4, SHEET C7.2
2. CONNECT TO EXISTING SANITARY SEWER STUB, VERIFY INLET ELEVATION AND SIZE AND NOTIFY ENGINEER IF ELEVATION OR SIZE DIFFERS FROM PLANS.
3. EXISTING SANITARY SEWER STUB (NOT USED, SHOWN FOR REFERENCE ONLY)
4. INSTALL CLEANOUT PER DETAIL 5, SHEET C7.2
5. STUB SANITARY SEWER FOR CONNECTION TO BUILDING. FOR CONTINUATION SEE DRAWINGS BY OTHERS.
6. INSTALL JENSEN PRECAST JP320EE-O SAND-OIL SEPARATOR OR APPROVED EQUAL

811 Know what's below. Call before you dig.

KEY MAP



SCALE: 1"=30'

HPA architecture

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fax: 949-863-0851
email: hpa@hparchs.com

Owner:

IDI Gazeley

IDI GAZELEY
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Project:

PROJECT 12
615K

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SURVEYING
PLANNING

DATE SIGNED: 10/09/17

Title:

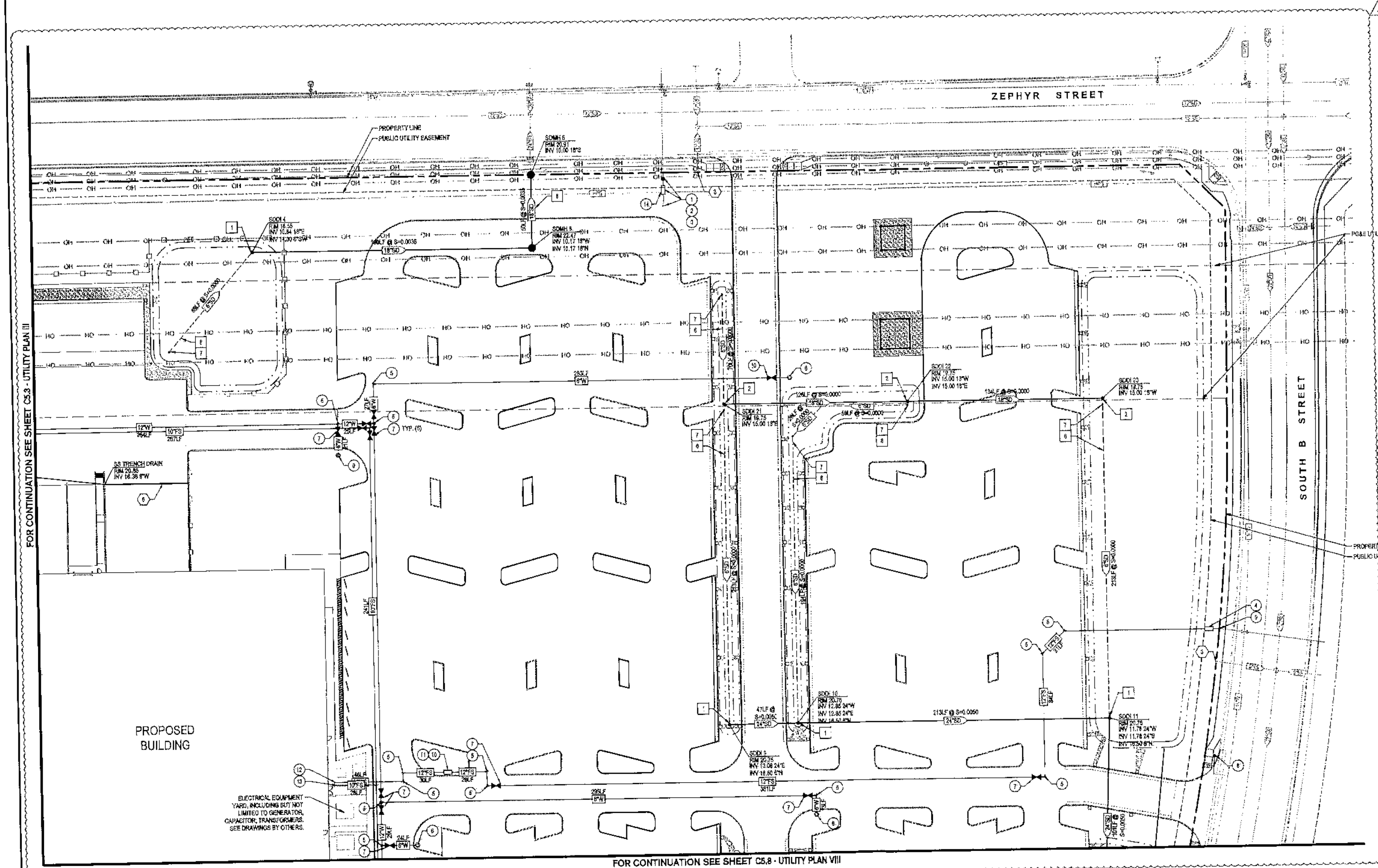
UTILITY PLAN III

Project Number:	15170
Drawn by:	RME
Date:	10/09/17

Revision:
- A: ADDENDUM A - REVISION 2017-08-31 PER OWNER REQUEST/CITY CORRECTION
- B: ADDENDUM B - REVISION 2017-10-09 CITY CORRECTION

Sheet:

C5.3



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UTILITY CONSTRUCTION NOTES:

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WATER KEY NOTES

1. 3" IRRIGATION WATER METER PER CITY STANDARDS
2. 3" IRRIGATION BACKFLOW PREVENTER, SEE LANDSCAPE PLANS FOR FURTHER DETAILS.
3. FOR CONTINUATION SEE LANDSCAPE PLANS
4. INSTALL AMES 3000SS OR APPROVED EQUAL 10" DOUBLE CHECK DETECTOR ASSEMBLY BACKFLOW PREVENTER PER CITY STANDARDS
5. INSTALL THRUST BLOCK OR ELBOW PER DETAIL 1, SHEET C7.2
6. INSTALL FIRE HYDRANT PER CITY STANDARD DRAWING W-13
7. INSTALL WATER VALVE PER DETAIL 2, SHEET C7.2
8. RELOCATED FIRE HYDRANT PER CITY STANDARD DRAWING W-13
9. CONNECT TO EXISTING WATER LATERAL, VERIFY ELEVATION AND SIZE AND NOTIFY ENGINEER IF ELEVATION OR SIZE DIFFERS FROM PLANS.
10. INSTALL AMES 1000SS OR APPROVED EQUAL 10" SINGLE CHECK VALVE PER CITY STANDARDS
11. INSTALL FIRE DEPARTMENT CONNECTION WITH (4) INPUT HEADS PER CITY STANDARDS
12. FIRE SPRINKLER SUPPLY LINE CONTINUATION TO FIRE PUMP ROOM. SEE DRAWINGS BY OTHERS FOR CONTINUATION
13. FIRE SPRINKLER DISCHARGE LINE
14. POTHOLE EXISTING GAS LINE LOCATION AT NEW UTILITY CROSSING. NOTIFY ENGINEER OF ANY DISCREPANCIES.

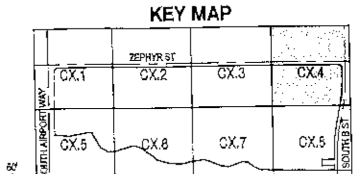
STORM DRAIN KEY NOTES

1. INSTALL 36" OVERFLOW STORM DRAIN INLET PER DETAIL 5, SHEET C7.1
2. INSTALL 36" STORM DRAIN INLET PER DETAIL 13, SHEET C7.1
3. INSTALL STORM DRAIN MANHOLE PER DETAIL 4, SHEET C7.2
4. CONNECT TO EXISTING STORM DRAIN STUB, VERIFY INLET ELEVATION AND SIZE AND NOTIFY ENGINEER IF ELEVATION OR SIZE DIFFERS FROM PLANS.
5. EXISTING STORM DRAIN STUB (NOT USED, SHOWN FOR REFERENCE ONLY)
6. INSTALL 8" PERFORATED STORM DRAIN PIPE
7. INSTALL STORM DRAIN CLEANOUT PER DETAIL 3, SHEET C7.2
8. POTHOLE EXISTING GAS LINE LOCATION AT NEW UTILITY CROSSING. NOTIFY ENGINEER OF ANY DISCREPANCIES.

SANITARY SEWER KEY NOTES

1. INSTALL SANITARY SEWER MANHOLE PER DETAIL 4, SHEET C7.2
2. CONNECT TO EXISTING SANITARY SEWER STUB, VERIFY INLET ELEVATION AND SIZE AND NOTIFY ENGINEER IF ELEVATION OR SIZE DIFFERS FROM PLANS.
3. EXISTING SANITARY SEWER STUB (NOT USED, SHOWN FOR REFERENCE ONLY)
4. INSTALL CLEANOUT PER DETAIL 5, SHEET C7.2
5. STUB SANITARY SEWER FOR CONNECTION TO BUILDING. FOR CONTINUATION SEE DRAWINGS BY OTHERS.
6. INSTALL SANITARY SEWER TRENCH DRAIN, ACO S200K 8" OR APPROVED EQUAL. SEE DETAIL 14, SHEET C7.1 FOR FURTHER DETAILS

KEY MAP



SCALE: 1"=30'

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Owner:

IDI Gazeley

IDI GAZELEY
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Project:

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615K

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PLANNING

DATE SIGNED: 10/09/17

Title:

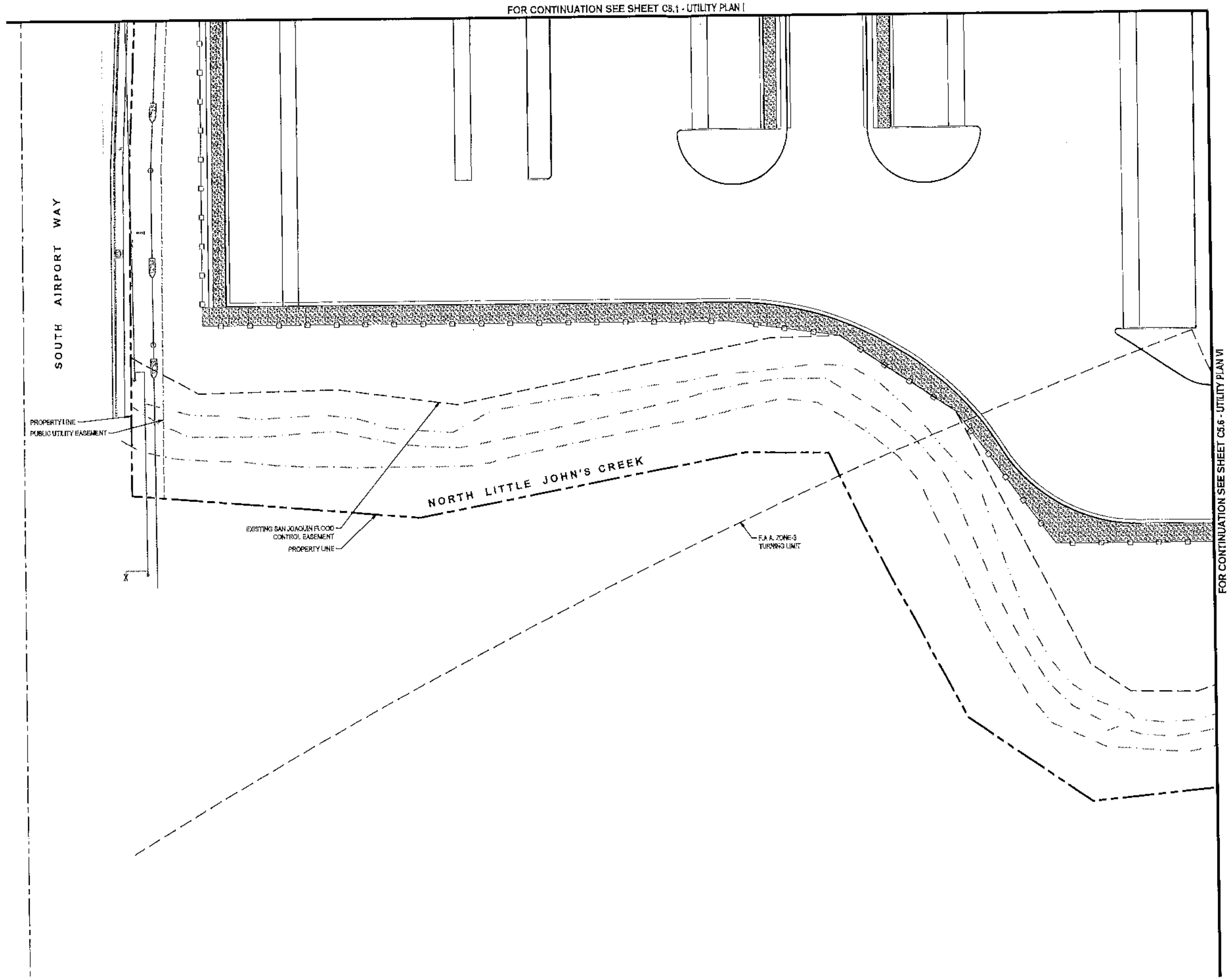
UTILITY PLAN IV

Project Number: 15170
Drawn by: RME
Date: 10/09/17

Revision:
A ADDENDUM A - REVISION 2017-08-31 PER OWNER REQUEST/CITY CORRECTION
B ADDENDUM B - REVISION 2017-10-09 CITY CORRECTION

Sheet:

C5.4



TRENCH EXCAVATION SAFETY PROTECTION:

CONTRACTOR AND / OR CONTRACTOR'S INDEPENDENTLY RETAINED EMPLOYEE OR STRUCTURAL DESIGN / GEOTECHNICAL / SAFETY / EQUIPMENT CONSULTANT, IF ANY, SHALL REVIEW THESE PLANS AND ANY AVAILABLE GEOTECHNICAL INFORMATION AND THE ANTICIPATED INSTALLATION SITES WITHIN THE PROJECT WORK AREA IN ORDER TO IMPLEMENT CONTRACTOR'S TRENCH EXCAVATION SAFETY PROTECTION SYSTEMS, PROGRAMS, AND / OR PROCEDURES FOR THE PROJECT DESCRIBED IN THE CONTRACT DOCUMENTS. THE CONTRACTOR'S IMPLEMENTATION OF THESE SYSTEMS, PROGRAMS AND / OR PROCEDURES SHALL PROVIDE FOR ADEQUATE TRENCH EXCAVATION SAFETY PROTECTION THAT COMPLY WITH AS A MINIMUM, OSHA STANDARDS FOR TRENCH EXCAVATIONS. SPECIFICALLY, CONTRACTOR AND / OR CONTRACTOR'S INDEPENDENTLY RETAINED EMPLOYEE OR SAFETY CONSULTANT SHALL IMPLEMENT A TRENCH SAFETY PROGRAM IN ACCORDANCE WITH OSHA STANDARDS GOVERNING THE PRESENCE AND ACTIVITIES OF INDIVIDUALS WORKING IN AND AROUND TRENCH EXCAVATION.

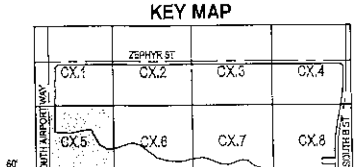
UTILITY CONSTRUCTION NOTES:

1. ALL MATERIALS AND CONSTRUCTION PROCEDURES WITHIN THE SCOPE OF THIS CONTRACT SHALL CONFORM TO ALL APPLICABLE CITY OF STOCKTON STANDARD SPECIFICATIONS (LATEST EDITION) AND THE CALIFORNIA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS (LATEST EDITION).
2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ACQUIRING ALL PERMITS, TESTS, APPROVALS AND ACCEPTANCES REQUIRED TO COMPLETE CONSTRUCTION OF THIS PROJECT.
3. CONTRACTOR SHALL VERIFY THE EXACT LOCATION OF UNDERGROUND UTILITIES AND DRAINAGE SYSTEMS WHETHER SHOWN ON PLANS OR NOT.
4. ALL UTILITIES SHALL BE INSTALLED PRIOR TO PAVEMENT CONSTRUCTION.
5. DUE TO FEDERAL REGULATIONS TITLE 49, PART 192.181, CITY PUBLIC SERVICE MUST MAINTAIN ACCESS TO GAS VALVES AT ALL TIMES. THE CONTRACTOR MUST PROTECT AND WORK AROUND ANY GAS VALVES THAT ARE IN THE PROJECT AREA.
6. ALL SPOIL AND OTHER UNSUITABLE MATERIAL FROM THIS WORK SHALL BE REMOVED FROM THE SITE BY THE CONTRACTOR, AT HIS EXPENSE.
7. EXTREME CAUTION SHALL BE USED WHEN NEAR PG&E FACILITIES. EXACT DEPTH AND LOCATION OF PG&E GAS MAIN UNKNOWN
8. WATER SERVICES NOT USED SHALL BE REMOVED AT THE MAIN. CONTRACTOR SHALL OBTAIN ENCROACHMENT PERMIT FROM CITY OF STOCKTON FOR THIS WORK.

EXISTING UTILITIES:

1. EXISTING UTILITY DATA SHOWN ON THIS LAYOUT WAS OBTAINED FROM A SURVEY OF THE VISIBLE FEATURES AT THE SITE AND PUBLIC RECORD MAPS OBTAINED FORM UTILITY COMPANIES.
2. THE CONTRACTOR SHALL NOTIFY ALL UTILITY COMPANIES WITHIN 48 HOURS PRIOR OF CONSTRUCTION TO LOCATE AND TAG THEIR UNDERGROUND FACILITIES PRIOR TO EXCAVATION.
3. THE CONTRACTOR NEEDS TO ALLOW FOR THE POSSIBILITY OF UNDETECTED UNDERGROUND UTILITIES. ALSO, THE CONTRACTOR MUST ALLOW FOR CHANGES DUE TO UTILITIES BEING IN LOCATIONS DIFFERENT FROM THOSE SHOWN ON THE UTILITY RECORD DRAWINGS. THE CONTRACTOR IS RESPONSIBLE FOR LOCATING AND EXPOSING CONFLICTS PRIOR TO CONSTRUCTION.
4. THE LOCATIONS AND DEPTHS OF EXISTING UTILITIES SHOWN ON THESE PLANS ARE APPROXIMATE ONLY. ACTUAL LOCATIONS AND DEPTHS OF UTILITIES MUST BE VERIFIED BY THE CONTRACTOR PRIOR TO CONSTRUCTION. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO LOCATE UTILITY SERVICE LINES AS REQUIRED FOR CONSTRUCTION AND NOTIFY THE ENGINEER OF ANY CONFLICTS IMMEDIATELY. ANY DAMAGE BY THE CONTRACTOR TO EXISTING UTILITIES, WHETHER SHOWN ON THE PLANS OR NOT, SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO REPAIR, AT HIS EXPENSE.

KEY MAP



SCALE: 1"=30'

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DATE SIGNED: 10/09/17

Title:

UTILITY PLAN V

Project Number:	15170
Drawn by:	RME
Date:	10/09/17

Revision:

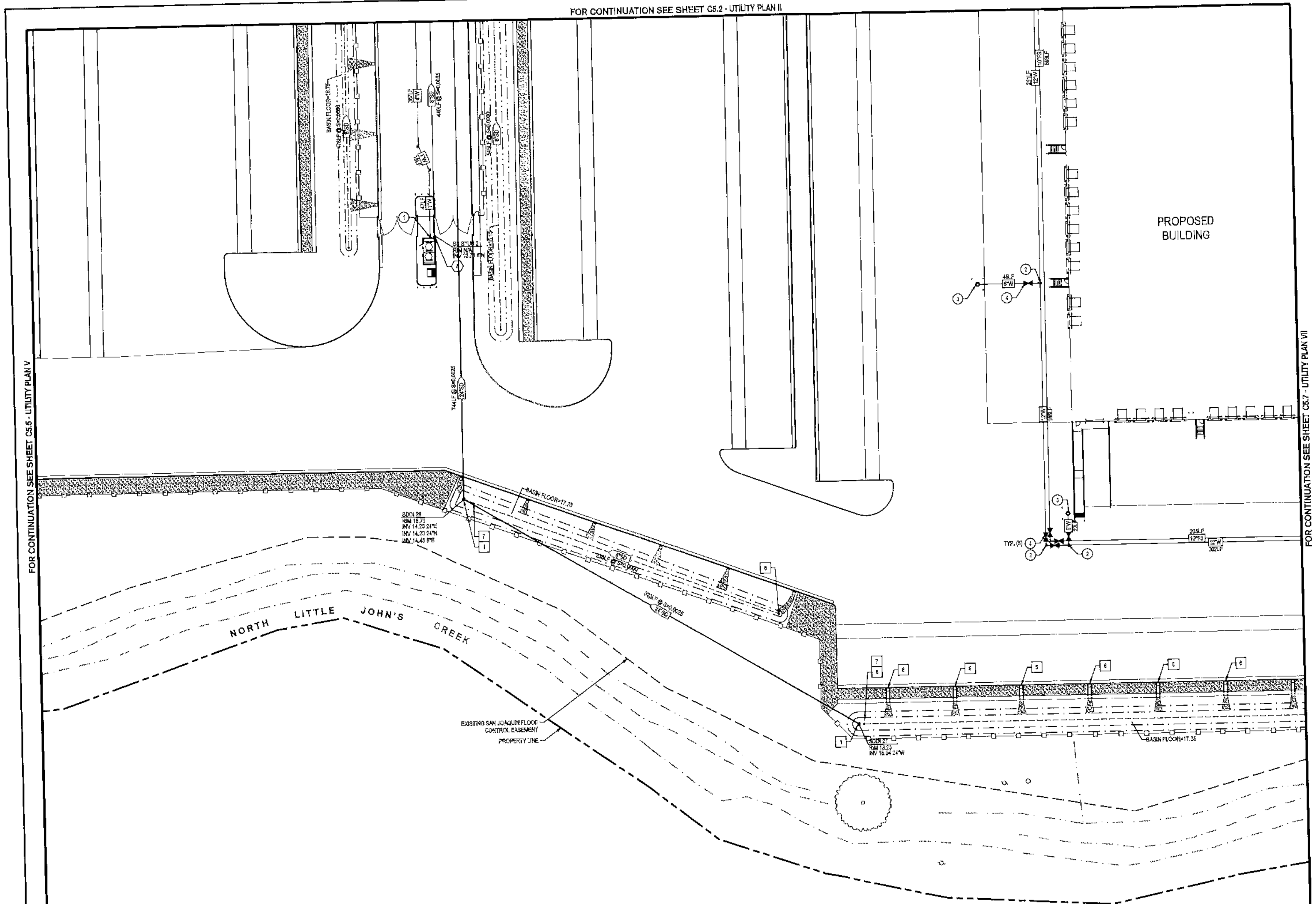
A ADDENDUM A - REVISION 2017-08-31 PER OWNER REQUEST/CITY CORRECTION
B ADDENDUM B - REVISION 2017-10-09 CITY CORRECTION

Sheet:

C5.5

FOR CONTINUATION SEE SHEET C5.2 - UTILITY PLAN II

FOR CONTINUATION SEE SHEET C5.5 - UTILITY PLAN V



FOR CONTINUATION SEE SHEET C5.7 - UTILITY PLAN VII

TRENCH EXCAVATION SAFETY PROTECTION:

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3. CONTRACTOR SHALL VERIFY THE EXACT LOCATION OF UNDERGROUND UTILITIES AND DRAINAGE SYSTEMS WHETHER SHOWN ON PLANS OR NOT.
4. ALL UTILITIES SHALL BE INSTALLED PRIOR TO PAVEMENT CONSTRUCTION.
5. DUE TO FEDERAL REGULATIONS TITLE 49, PART 192.181, CITY PUBLIC SERVICE MUST MAINTAIN ACCESS TO GAS VALVES AT ALL TIMES. THE CONTRACTOR MUST PROTECT AND WORK AROUND ANY GAS VALVES THAT ARE IN THE PROJECT AREA.
6. ALL SPOIL AND OTHER UNSUITABLE MATERIAL FROM THIS WORK SHALL BE REMOVED FROM THE SITE BY THE CONTRACTOR, AT HIS EXPENSE.
7. EXTREME CAUTION SHALL BE USED WHEN NEAR PG&E FACILITIES. EXACT DEPTH AND LOCATION OF PG&E GAS MAIN UNKNOWN
8. (A) WATER SERVICES NOT USED SHALL BE REMOVED AT THE MAIN. CONTRACTOR SHALL OBTAIN ENCROACHMENT PERMIT FROM CITY OF STOCKTON FOR THIS WORK.

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WATER KEY NOTES

1. STUB DOMESTIC WATER FOR CONNECTION TO BUILDING. FOR CONTINUATION SEE DRAWINGS BY OTHERS.
2. INSTALL THRUST BLOCK OR ELBOW PER DETAIL 1, SHEET C7.2
3. INSTALL FIRE HYDRANT PER CITY STANDARD DRAWING W-13
4. INSTALL WATER VALVE PER DETAIL 2, SHEET C7.2

STORM DRAIN KEY NOTES

1. INSTALL 36" OVERFLOW STORM DRAIN INLET PER DETAIL 5, SHEET C7.1
2. INSTALL 36" STORM DRAIN INLET PER DETAIL 13, SHEET C7.1
3. INSTALL STORM DRAIN MANHOLE PER DETAIL 4, SHEET C7.2
4. CONNECT TO EXISTING STORM DRAIN STUB, VERIFY INLET ELEVATION AND SIZE AND NOTIFY ENGINEER IF ELEVATION OR SIZE DIFFERS FROM PLANS.
5. EXISTING STORM DRAIN STUB (NOT USED, SHOWN FOR REFERENCE ONLY)
6. INSTALL CONCRETE U-CHANNEL FOR STORM DRAIN RUNOFF PER DETAIL 12, SHEET C7.1
7. INSTALL 6" PERFORATED STORM DRAIN PIPE
8. INSTALL STORM DRAIN CLEANOUT PER DETAIL 3, SHEET C7.2

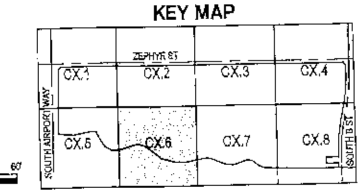
SANITARY SEWER KEY NOTES

1. INSTALL SANITARY SEWER MANHOLE PER DETAIL 4, SHEET C7.2
2. CONNECT TO EXISTING SANITARY SEWER STUB, VERIFY INLET ELEVATION AND SIZE AND NOTIFY ENGINEER IF ELEVATION OR SIZE DIFFERS FROM PLANS.
3. EXISTING SANITARY SEWER STUB (NOT USED, SHOWN FOR REFERENCE ONLY)
4. INSTALL CLEANOUT PER DETAIL 5, SHEET C7.2
5. STUB SANITARY SEWER FOR CONNECTION TO BUILDING. FOR CONTINUATION SEE DRAWINGS BY OTHERS.

811 Know what's below. Call before you dig.

0' 15' 30' 60'
SCALE: 1"=30'

KEY MAP



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REGISTERED PROFESSIONAL ENGINEER MICHAEL EBERT No. [illegible] CIVIL STATE OF CALIFORNIA

DATE SIGNED: 10/09/17

Title:

UTILITY PLAN VI

Project Number: 15170
Drawn by: RME
Date: 10/09/17

Revision:
A ADDENDUM A - REVISION 2017-08-31 PER OWNER REQUEST/CITY CORRECTION
B ADDENDUM B - REVISION 2017-10-09 CITY CORRECTION

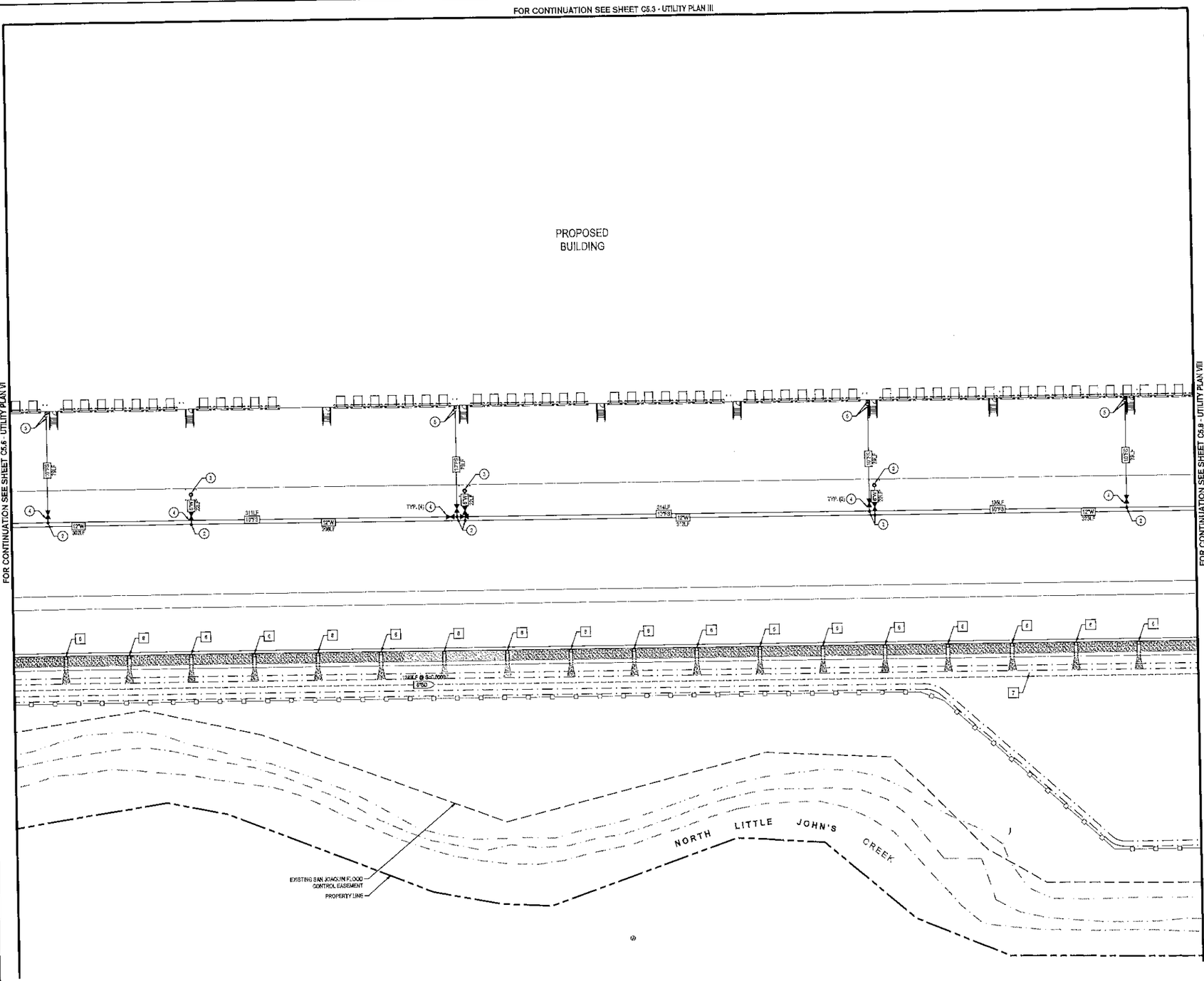
Sheet:

C5.6

FOR CONTINUATION SEE SHEET C5.3 - UTILITY PLAN III

FOR CONTINUATION SEE SHEET C5.6 - UTILITY PLAN VI

FOR CONTINUATION SEE SHEET C5.8 - UTILITY PLAN VIII



WATER KEY NOTES

1. STUB DOMESTIC WATER FOR CONNECTION TO BUILDING. (FOR CONTINUATION SEE DRAWINGS BY OTHERS.
2. INSTALL THRUST BLOCK OR ELBOW PER DETAIL 1, SHEET C7.2
3. INSTALL FIRE HYDRANT PER CITY STANDARD DRAWING W-10
4. INSTALL WATER VALVE PER DETAIL 2, SHEET C7.2
5. FIRE SPRINKLER LATERAL & RISER. (FOR CONTINUATION SEE FIRE PROTECTION DRAWINGS

STORM DRAIN KEY NOTES

1. INSTALL 36" OVERFLOW STORM DRAIN INLET PER DETAIL 8, SHEET C7.1
2. INSTALL 36" STORM DRAIN INLET PER DETAIL 10, SHEET C7.1
3. INSTALL STORM DRAIN MANHOLE PER DETAIL 4, SHEET C7.2
4. CONNECT TO EXISTING STORM DRAIN STUB. VERIFY INLET ELEVATION AND SIZE AND NOTIFY ENGINEER IF ELEVATION OR SIZE DIFFERS FROM PLANS.
5. EXISTING STORM DRAIN STUB (NOT USED, SHOWN FOR REFERENCE ONLY)
6. INSTALL CONCRETE U-CHANNEL FOR STORM DRAIN RUNOFF PER DETAIL 12, SHEET C7.1
7. INSTALL 6" PERFORATED STORM DRAIN PIPE

TRENCH EXCAVATION SAFETY PROTECTION:

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UTILITY CONSTRUCTION NOTES:

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6. ALL SPOIL AND OTHER UNSUITABLE MATERIAL FROM THIS WORK SHALL BE REMOVED FROM THE SITE BY THE CONTRACTOR, AT HIS EXPENSE.
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1. EXISTING UTILITY DATA SHOWN ON THIS LAYOUT WAS OBTAINED FROM A SURVEY OF THE VISIBLE FEATURES AT THE SITE AND PUBLIC RECORD MAPS OBTAINED FORM UTILITY COMPANIES.
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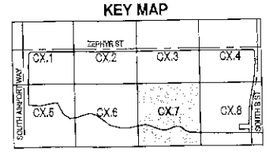
KEY MAP



0 16 32 64
SCALE: 1"=32'

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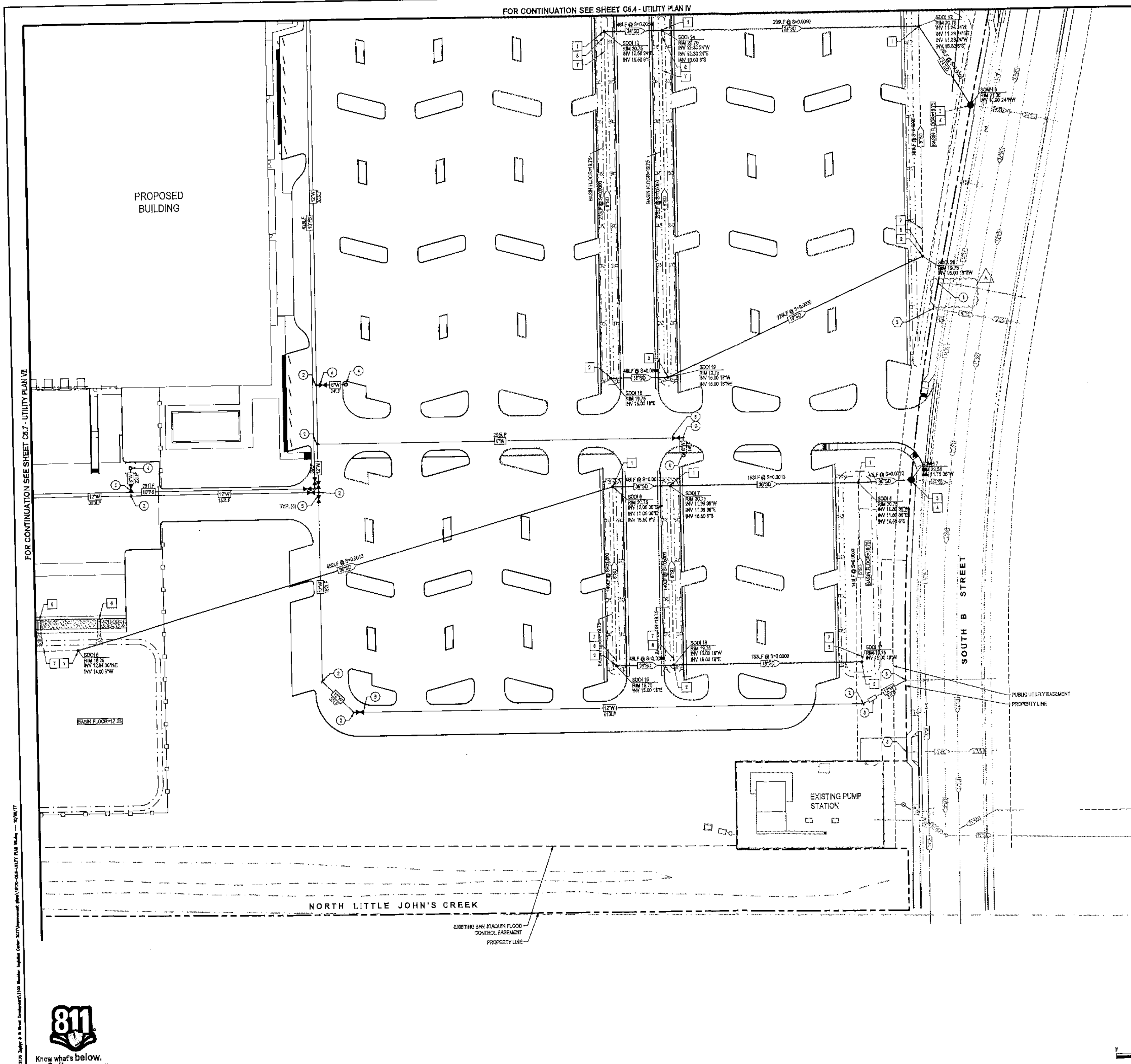
DATE SIGNED: 10/09/17

Title:
UTILITY PLAN VII

Project Number: 15170
Drawn by: RME
Date: 10/09/17

Revision:
1 ADDENDUM 3 - REVISION 2017-0907 PER OWNER REQUEST/CITY CORRECTION
1 ADDENDUM 2 - REVISION 2017-0809 CITY CORRECTION

Sheet:
C5.7



WATER KEY NOTES

1. EXISTING WATER LATERAL (NOT USED, REMOVE AT MAIN)
2. INSTALL THRUST BLOCK OR ELBOW PER DETAIL 1, SHEET C7.2
3. INSTALL AMES 3000SS OR APPROVED EQUAL 10" DOUBLE CHECK DETECTOR ASSEMBLY BACKFLOW PREVENTER WITH INTEGRAL FDC PER CITY STANDARDS
4. INSTALL FIRE HYDRANT PER CITY STANDARD DRAWING W-13
5. INSTALL WATER VALVE PER DETAIL 2, SHEET C7.2
6. CONNECT TO EXISTING WATER LATERAL. VERIFY ELEVATION AND SIZE AND NOTIFY ENGINEER IF ELEVATION OR SIZE DIFFERS FROM PLANS.

STORM DRAIN KEY NOTES

1. INSTALL 36" OVERFLOW STORM DRAIN INLET PER DETAIL 5, SHEET C7.1
2. INSTALL 36" STORM DRAIN INLET PER DETAIL 13, SHEET C7.1
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6. INSTALL CONCRETE U-CHANNEL FOR STORM DRAIN RUNOFF PER DETAIL 12, SHEET C7.1
7. INSTALL 6" PERFORATED STORM DRAIN PIPE
8. INSTALL STORM DRAIN CLEANOUT PER DETAIL 3, SHEET C7.2

SANITARY SEWER KEY NOTES

1. INSTALL SANITARY SEWER MANHOLE PER DETAIL 4, SHEET C7.2
2. CONNECT TO EXISTING SANITARY SEWER STUB, VERIFY INLET ELEVATION AND SIZE AND NOTIFY ENGINEER IF ELEVATION OR SIZE DIFFERS FROM PLANS.
3. EXISTING SANITARY SEWER STUB (NOT USED, SHOWN FOR REFERENCE ONLY)
4. INSTALL CLEANOUT PER DETAIL 5, SHEET C7.2
5. STUB SANITARY SEWER FOR CONNECTION TO BUILDING. FOR CONTINUATION SEE DRAWINGS BY OTHERS.

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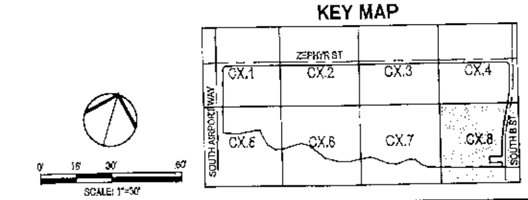
UTILITY CONSTRUCTION NOTES:

1. ALL MATERIALS AND CONSTRUCTION PROCEDURES WITHIN THE SCOPE OF THIS CONTRACT SHALL CONFORM TO ALL APPLICABLE CITY OF STOCKTON STANDARD SPECIFICATIONS (LATEST EDITION) AND THE CALIFORNIA DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS (LATEST EDITION).
2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ACQUIRING ALL PERMITS, TESTS, APPROVALS AND ACCEPTANCES REQUIRED TO COMPLETE CONSTRUCTION OF THIS PROJECT.
3. CONTRACTOR SHALL VERIFY THE EXACT LOCATION OF UNDERGROUND UTILITIES AND DRAINAGE SYSTEMS WHETHER SHOWN ON PLANS OR NOT.
4. ALL UTILITIES SHALL BE INSTALLED PRIOR TO PAVEMENT CONSTRUCTION.
5. DUE TO FEDERAL REGULATIONS TITLE 49, PART 192.181, CITY PUBLIC SERVICE MUST MAINTAIN ACCESS TO GAS VALVES AT ALL TIMES. THE CONTRACTOR MUST PROTECT AND WORK AROUND ANY GAS VALVES THAT ARE IN THE PROJECT AREA.
6. ALL SPOIL AND OTHER UNSUITABLE MATERIAL FROM THIS WORK SHALL BE REMOVED FROM THE SITE BY THE CONTRACTOR, AT HIS EXPENSE.

EXISTING UTILITIES:

1. EXISTING UTILITY DATA SHOWN ON THIS LAYOUT WAS OBTAINED FROM A SURVEY OF THE VISIBLE FEATURES AT THE SITE AND PUBLIC RECORD MAPS OBTAINED FORM UTILITY COMPANIES.
2. THE CONTRACTOR SHALL NOTIFY ALL UTILITY COMPANIES WITHIN 48 HOURS PRIOR OF CONSTRUCTION TO LOCATE AND TAG THEIR UNDERGROUND FACILITIES PRIOR TO EXCAVATION.
3. THE CONTRACTOR NEEDS TO ALLOW FOR THE POSSIBILITY OF UNDETECTED UNDERGROUND UTILITIES. ALSO, THE CONTRACTOR MUST ALLOW FOR CHANGES DUE TO UTILITIES BEING IN LOCATIONS DIFFERENT FROM THOSE SHOWN ON THE UTILITY RECORD DRAWINGS. THE CONTRACTOR IS RESPONSIBLE FOR LOCATING AND EXPOSING CONFLICTS PRIOR TO CONSTRUCTION.
4. THE LOCATIONS AND DEPTHS OF EXISTING UTILITIES SHOWN ON THESE PLANS ARE APPROXIMATE ONLY. ACTUAL LOCATIONS AND DEPTHS OF UTILITIES MUST BE VERIFIED BY THE CONTRACTOR PRIOR TO CONSTRUCTION. IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO LOCATE UTILITY SERVICE LINES AS REQUIRED FOR CONSTRUCTION AND NOTIFY THE ENGINEER OF ANY CONFLICTS IMMEDIATELY. ANY DAMAGE BY THE CONTRACTOR TO EXISTING UTILITIES, WHETHER SHOWN ON THE PLANS OR NOT, SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO REPAIR, AT HIS EXPENSE.

KEY MAP



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CIVIL
STRUCTURAL
LANDSCAPE ARCHITECTURE
SURVEYING
PLANNING

DATE SIGNED: 10/09/17

Title:

UTILITY PLAN VIII

Project Number: 15170
Drawn by: RME
Date: 10/09/17

Revision:
A ADDENDUM A - REVISION 2017-08-31 PER OWNER REQUEST/CITY CORRECTION
B ADDENDUM B - REVISION 2017-10-09 CITY CORRECTION

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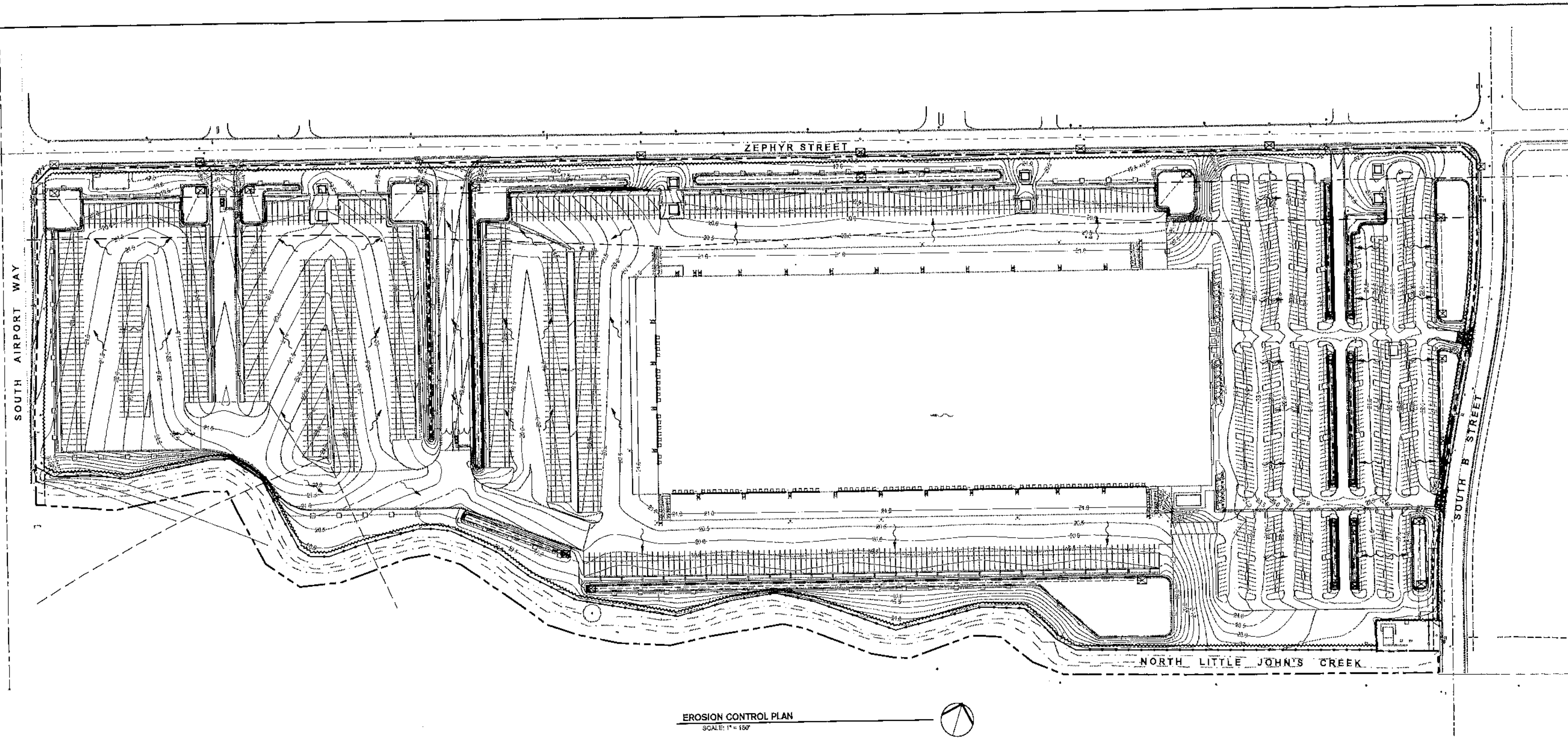


EROSION CONTROL PLAN
SCALE: 1" = 100'

EROSION CONTROL LEGEND

SYMBOL	DESCRIPTION
(wavy line)	FIBER ROLLED WATTLE, SEE DETAIL THIS SHEET
(line with dots)	SILT FENCE, SEE DETAIL THIS SHEET
⊠	DRAIN INLET PROTECTION, SEE DETAIL THIS SHEET
(hatched box)	STABILIZED CONSTRUCTION ENTRANCE/EXIT, SEE DETAIL THIS SHEET
(double square)	CONCRETE WASHOUT, CONTRACTOR TO DETERMINE LOCATION, SEE DETAIL THIS SHEET
(dashed arrow)	FLOW DIRECTION (EXISTING)
(wavy arrow)	FLOW DIRECTION (PROPOSED)

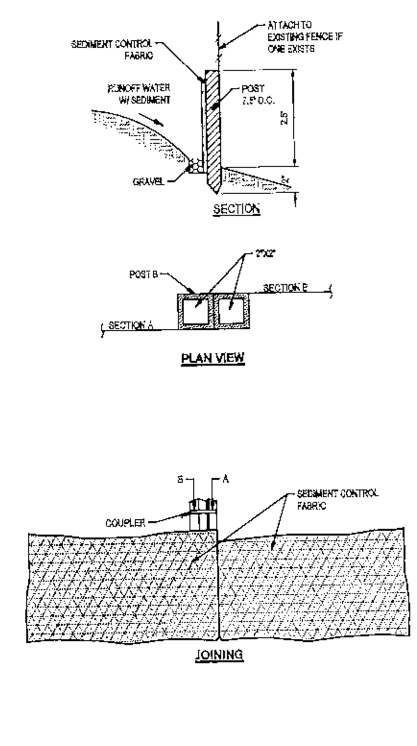
EROSION CONTROL GENERAL NOTES

1. PLANS ARE DIAGRAMMATIC AND ARE NOT INTENDED TO SHOW ALL OFFSETS. THE SITE IS DYNAMIC AND CHANGES ON A DAILY BASIS, CHANGES SHOULD BE MADE ACCORDING TO EXISTING CONDITIONS. BECAUSE IT IS IMPOSSIBLE TO PREDICT ALL POSSIBLE SITUATIONS, CONTRACTOR SHALL USE BEST MANAGEMENT PRACTICES TO ENSURE QUALITY CONTROL.
2. THE CONTRACTOR SHALL REVIEW THE CURRENT STORM WATER POLLUTION PREVENTION PLAN (SWPPP). IT IS THE CONTRACTORS SOLE RESPONSIBILITY FOR CONDUCTING HIS/HER OPERTATIONS IN ADHERANCE TO THE SWPPP. THE CONTRACTOR IS RESPONSIBLE FOR ANY FINES, DELAYS, AND/OR DAMAGES RESULTING FROM ANY STATE WATER QUALITY CONTROL BOARD SANCTIONS CAUSED BY THE OPERATION OF THE CONTRACTOR OF HIS/HER SUBCONTRACTORS.
3. THE FOLLOWING PLANS ARE ACCURATE FOR EROSION CONTROL PURPOSES ONLY. THE CONTRACTOR SHALL FOLLOW THESE PLANS UNLESS FIELD CONDITIONS DICTATE MODIFICATION. IF MODIFICATION IS NECESSARY, A SWPPP AMENDMENT MUST BE DONE. THIS MAY REQUIRE MODIFICATION TO THESE DRAWINGS AND ENGINEER CONCURRENCE.
4. INSPECT AND REPAIR FILTERS AFTER EACH STORM EVENT. REMOVE SEDIMENT WHEN 1/2 OF THE FILTER DEPTH HAS BEEN FILLED. REMOVED SEDIMENT SHALL BE DEPOSITED IN AN AREA TRIBUTARY TO A SEDIMENT BASIN OR OTHER FILTERING MEASURE. SEDIMENT AND GRAVEL SHALL BE IMMEDIATELY REMOVED FROM PAVEMENT OF ROAD.
5. UNFINISHED AND DISTURBED AREAS ARE TO BE PROTECTED WITH AN APPLICATION OF BLOWN STRAW AND ORGANIC BINDER.

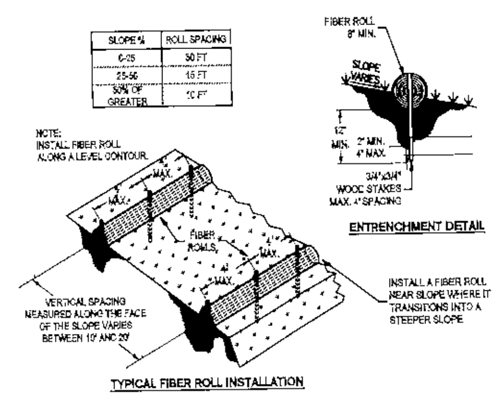
ITEM	LB/ACRE
STRAW	4,000
ORGANIC BINDER	200

6. ALTERNATE INLET PROTECTION SHALL BE USED ON ROADS OPEN TO THE PUBLIC IF ANY HAZARDOUS MATERIALS OR WASTES WHICH HAVE BEEN TREATED, STORED, DISPOSED, SPILLED, OR LEAKED IN SIGNIFICANT QUANTITIES ONTO THE CONSTRUCTION SITE, THE CONTRACTOR SHALL BE RESPONSIBLE TO REMOVE THEM FROM THE SITE AND DISPOSE OF PROPERLY.
7. CHLORINATED OR DECHLORINATED WATER SHALL NOT BE DISCHARGED INTO THE STORM DRAIN SYSTEM. THE CONTRACTOR MAY DISPOSE THIS WATER INTO THE SANITARY SEWER SYSTEM UPON APPROVAL BY THE GOVERNING AGENCY.
8. THE CONTRACTOR SHALL KEEP MAINTENANCE, INSPECTION, AND REPAIR PROCEDURES TO ENSURE THAT ALL GRADED SURFACES, WALLS, BERMS, DRAINAGE STRUCTURES, VEGETATION, EROSION AND SEDIMENT CONTROL MEASURES, AND OTHER CONTROLS ARE MAINTAINED IN GOOD AND EFFECTIVE CONDITION AND ARE PROMPTLY REPAIRED OR RESTORED WHEN NECESSARY. ANY DEWATERING WATER SHALL NOT BE DISCHARGED DIRECTLY INTO THE STORM WATER SYSTEM, AND SHALL NOT BE DISCHARGED INTO THE SEWER SYSTEM.
9. ALL DEWATERING WATER MUST BE CHANNELED THROUGH AN APPROVED SEDIMENT BARRIER PRIOR TO THE WATER ENTERING THE STORM SYSTEM.
10. PAVEMENT CLEANING- FLUSHING OF STREETS/ PARKING LOTS TO REMOVE DIRT AND CONSTRUCTION DEBRIS IS PROHIBITED UNLESS PROPER SEDIMENT CONTROLS ARE USED. PREFERABLY, AREAS REQUIRING CLEANING SHOULD BE SWEPT.
11. ALL STOCKPILES OF MATERIALS THAT ARE NOT GOING TO BE USED FOR 14 DAYS SHALL BE COVERED.
12. CONTRACTOR TO USE BEST MANAGEMENT PRACTICES (BMPs) THROUGHOUT CONSTRUCTION. USE ALL BMPs THAT APPLY TO THE PROJECT, INCLUDING BUT NOT LIMITED TO THE FOLLOWING BMPs:
    - A. DRAIN INLET PROTECTION - CALIFORNIA STORMWATER BMP HANDBOOK SECTION SE-10
    - B. SOLID WASTE MANAGEMENT - CALIFORNIA STORMWATER BMP HANDBOOK SECTION WM-5
    - C. MATERIAL STORAGE - CALIFORNIA STORMWATER BMP HANDBOOK SECTION WM-1
    - D. PAVING - CALIFORNIA STORMWATER BMP HANDBOOK SECTION NS-3
    - E. DUST CONTROL, SEDIMENT CONTROL, EROSION CONTROL AND CONCRETE WASHOUT AREAS - SHOWN ON THIS SHEET WITH DETAILS

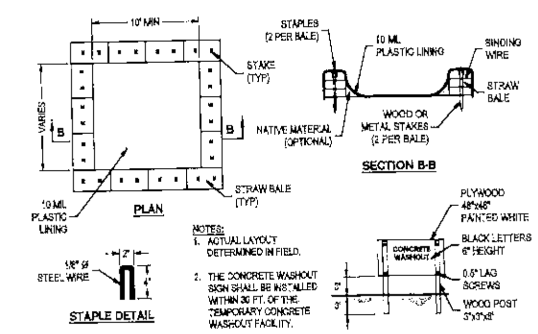
Know what's below. Call before you dig.



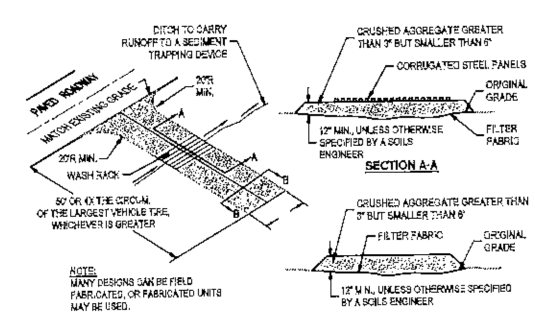
SILT FENCE SEDIMENT BARRIER



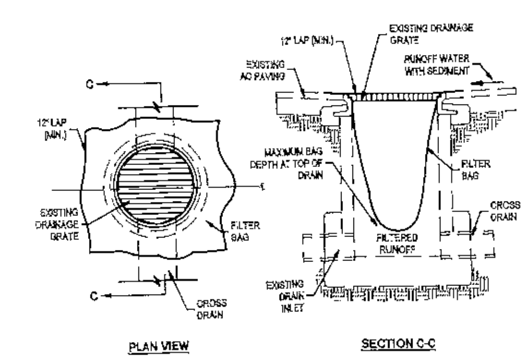
FIBER ROLLS



CONCRETE WASHOUT



STABILIZED CONSTRUCTION ENTRANCE/EXIT TIRE WASH



TEMPORARY GRAVEL BAG FILTER AT DROP INLET DETAIL

SCALE: 1"=100'

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SIEGFRIED

DATE SIGNED: 10/09/17

Title:

EROSION CONTROL PLAN

Project Number: 15170
Drawn by: RME
Date: 10/09/17

Revision:

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B	ADDENDUM B - REVISION 2017-10-09 CITY CORRECTION

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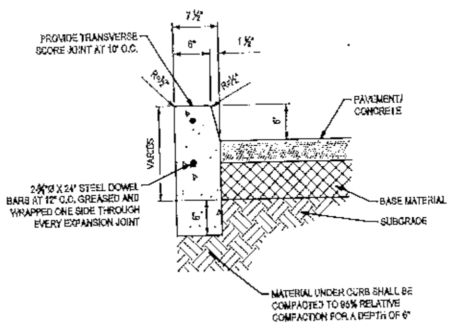
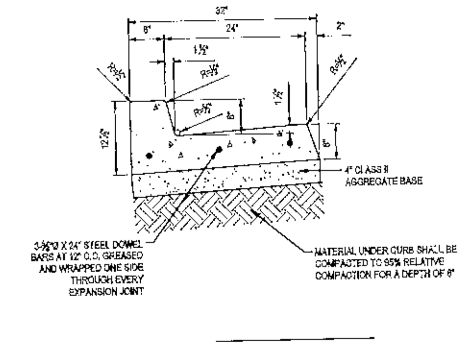
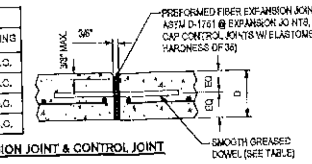


1 6" VERTICAL CONCRETE CURB
NO SCALE



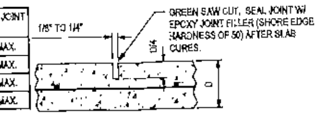
2 6" VERTICAL CURB AND GUTTER
NO SCALE

DOWEL SIZE & SPACING			
SLAB DEPTH	DIAMETER	LENGTH	SPACING
4"	5/8"	12"	24" O.C.
6"	3/4"	18"	18" O.C.
8"	1"	24"	18" O.C.
10"	1"	24"	12" O.C.



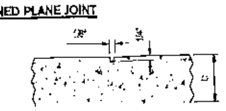
EXPANSION JOINT & CONTROL JOINT

SLAB THICKNESS	WPJ SPACING (EACH WAY)	CONTROL JOINT SPACING
4"	8' O.C. MAX.	32' O.C. MAX.
6"	12' O.C. MAX.	36' O.C. MAX.
8"	15' O.C. MAX.	42' O.C. MAX.
10"	N/A	40' O.C. MAX.



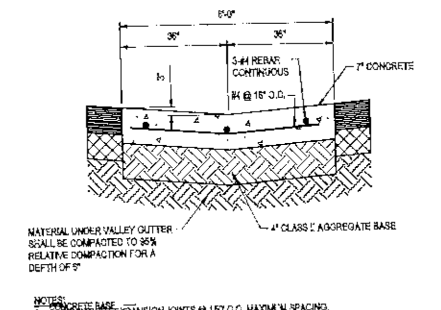
WEAKENED PLANE JOINT

NOTE:
SCORE JOINT SPACING SHALL BE PLACED 5'-0" O.C.; EXPANSION JOINTS SHALL BE 100' O.C. MAX. UNLESS OTHERWISE NOTED ON PLANS.



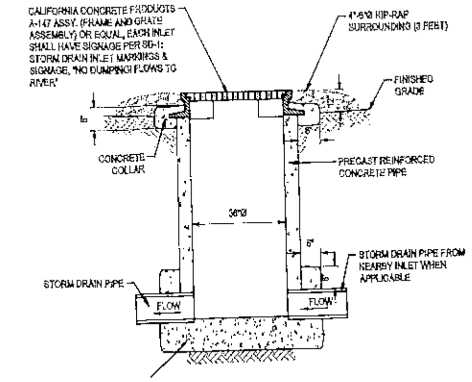
SCORE LINE

3 TYPICAL CONCRETE JOINT DETAILS
NO SCALE

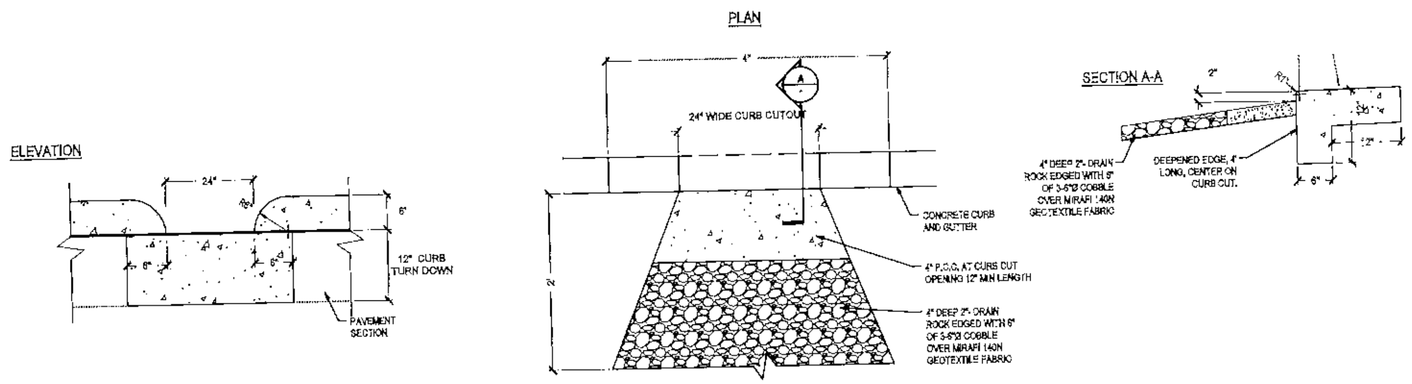


NOTES:
1. CONSTRUCT EXPANSION JOINTS @ 150' O.C. MAXIMUM SPACING.
2. PROVIDE CONTROL JOINTS @ 40' O.C. MAXIMUM SPACING.

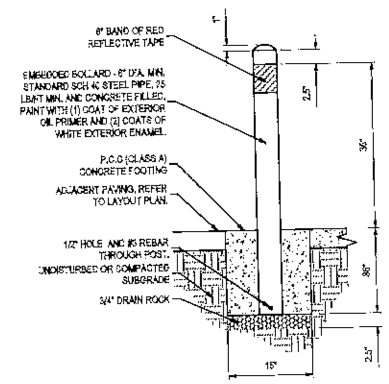
4 6' CONCRETE VALLEY GUTTER
NO SCALE



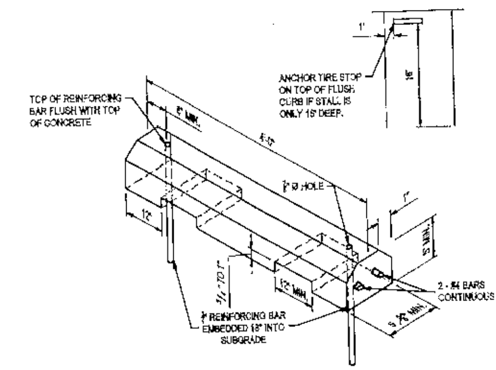
5 36" OVERFLOW DRAIN INLET
NO SCALE



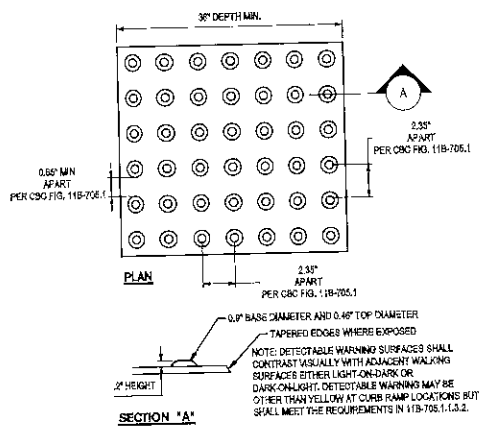
6 CONCRETE CURB CUT
NO SCALE



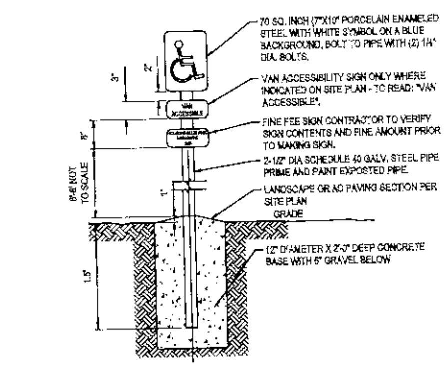
7 STEEL BOLLARD
NO SCALE



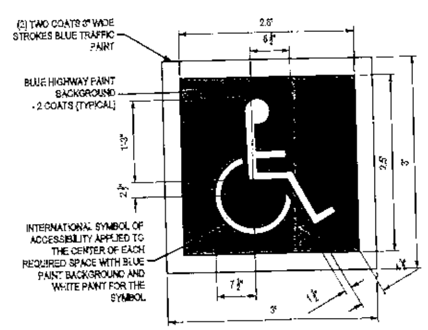
8 4' WHEEL STOP
NO SCALE



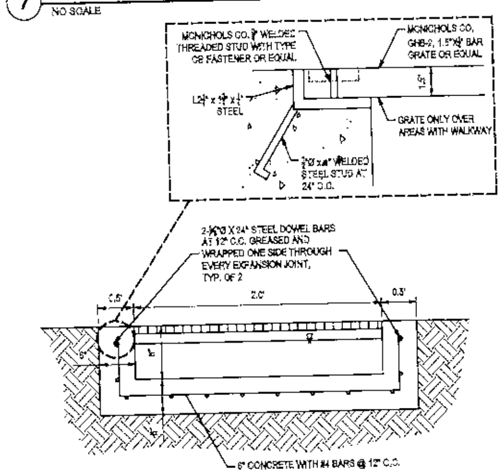
9 TRUNCATED DOMES
NO SCALE



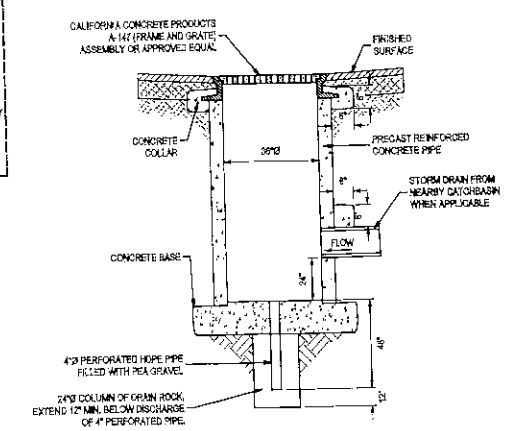
10 ACCESSIBLE PARKING SIGNAGE
NO SCALE



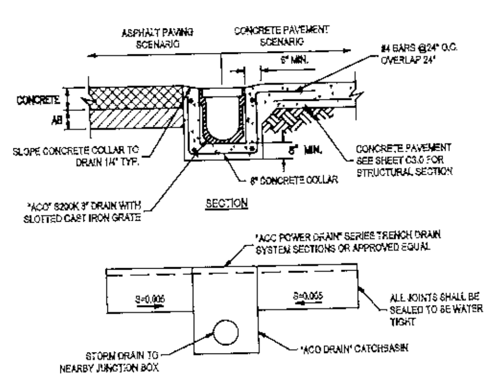
11 ACCESSIBLE PARKING SYMBOL
NOT TO SCALE



12 CONCRETE U-CHANNEL
NO SCALE



13 36" DIAMETER CATCHBASIN WITH SUMP
NO SCALE



14 TRENCH DRAIN
NO SCALE

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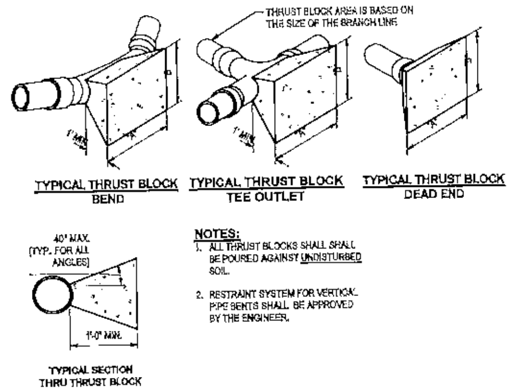
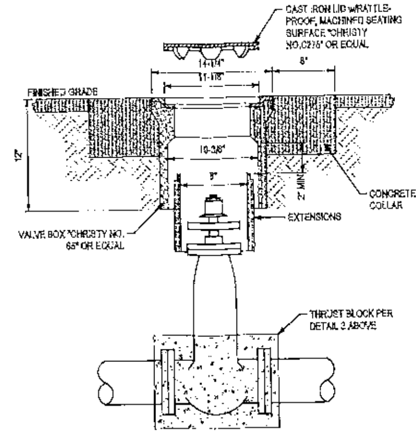


NOTES:
1. ALL THRUST BLOCKS SHALL SHALL BE POURED AGAINST UNDISTURBED SOIL.
2. RESTRAINT SYSTEM FOR VERTICAL PIPE BENTS SHALL BE APPROVED BY THE ENGINEER.

THRUST BLOCK AREA REQUIRED

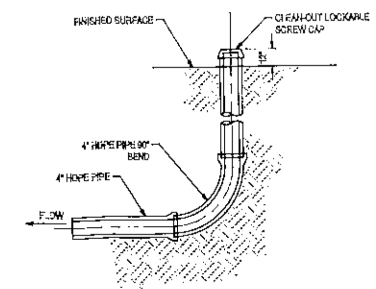
FITTINGS	ALLOWABLE SOIL BEARING VALUE 1000 LBS. PER SQ. FT.	
	"A"	"B"
5" LINE OR SMALLER		
11-10 1/2"	1'-6"	1'-6"
45°	2'-0"	2'-0"
90°	3'-0"	2'-6"
TEE OUTLET	2'-6"	2'-0"
DEAD END	2'-6"	2'-0"
8" LINE		
11-10 1/2"	2'-0"	2'-0"
45°	3'-3"	2'-6"
90°	4'-9"	3'-9"
TEE OUTLER	3'-0"	3'-0"
DEAD END	3'-0"	3'-0"
10" LINE		
11-10 1/2"	3'-0"	2'-0"
45°	3'-6"	3'-0"
90°	5'-0"	4'-0"
TEE OUTLER	4'-0"	3'-6"
DEAD END	4'-0"	3'-6"
12" LINE		
11-10 1/2"	3'-0"	3'-0"
45°	5'-0"	4'-0"
90°	7'-0"	4'-0"
TEE OUTLER	5'-0"	4'-0"
DEAD END	5'-0"	4'-0"

1 THRUST BLOCK CHART
NO SCALE

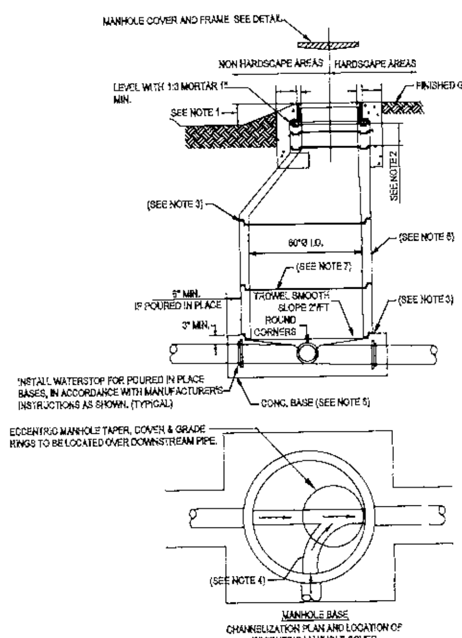


NOTES:
1. VALVE BOX AND LID SHALL BE "CHRISTY NO.G5" AND "CHRISTY NO.G272" OR EQUALS.
2. ALL LIDS SHALL HAVE MACHINE SEATING SURFACES.
3. EXTENSIONS SHALL BE AS MANUFACTURED FOR THE VALVE BOX SUPPLIED OR A.C. PIPE OF CORRECT SIZE MAY BE USED.
4. CONCRETE COLLAR SHALL BE CLASS "B" CONCRETE AND SHALL BE CONSTRUCTED TO FINISHED GRADE AFTER STREEYS ARE PAVED.
5. GATE VALVE SHALL BE "KENNEDY HUB x HUB 570X, HUB x FLANGE 579X, OR FLANGE x FLANGE 56 1X" OR "MUELLER HUB x HUB A-2380-24, HUB x FLANGE A-2380-26, FLANGE x FLANGE A-2380-6," OR EQUAL.
6. GATE VALVE SHALL BE A.W.W.A. STANDARD IRON BODY, DOUBLE DISC, WITH NON-RISING STEM.

2 WATER VALVE
NO SCALE



3 STORM DRAIN CLEAN-OUT
NO SCALE



NOTES:

1. WHEN MANHOLES ARE INSTALLED IN UNIMPROVED AREAS, THE TOP OF THE COVER SHALL BE A MIN. OF 6" ABOVE GRADE (1.5" IN DG AREAS). SLOPE @1:2 TO MATCH FINISH GRADE.

2. MIN. OF ONE 3" GRADE ADJUSTMENT MAX. HEIGHT OF GRADE ADJUSTMENT RINGS = 20". ALTERNATELY, CONTRACTOR MAY CAST GRADE ADJUSTMENT RINGS IN PLACE.

3. SET ALL BARREL SECTIONS & TAPER SECTIONS IN PLASTIC GASKET, RAM-NEK OR EQUAL TYPICAL JOINT USE (1)¾"x2-1/2" RAM-NEK SEAL, OR EQUAL 6" WIDE GROUT BAND ON INSIDE & OUTSIDE.

4. AFTER LOWER RING SECTION IS SET, CUT OUT TOP HALF OF PIPE FLUSH WITH INSIDE FACE OF M.H. WALL AND CONSTRUCT SHELF & U-SHAPED CHANNEL. MAKE ELEVATION CHANGES GRADUALLY AND DIRECTIONAL CHANGES WITH SMOOTH CURVES. SLOPE AND SIZE OF CHANNELS SHALL MATCH UPSTREAM AND DOWNSTREAM PIPES. MANHOLE CHANNELS WITH A HORIZONTAL CHANGE IN DIRECTION OF 30° OR MORE SHALL HAVE A MIN. DROP OF 0.1' ACROSS THE MANHOLE OR SHALL MATCH THE SLOPE OF THE WHICHEVER IS GREATER.

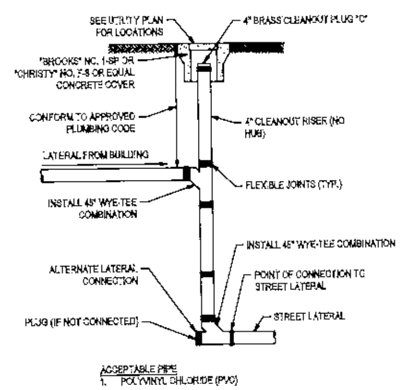
5. POURED-IN-PLACE BASE SHALL BE POURED FULL THICKNESS ON UNDISTURBED SOIL. PRECAST BASE SHALL BE PLACED ON 6" MIN. OF ¾" DRAIN ROCK INSTALLED AGAINST UNDISTURBED EARTH.

6. STANDARD MANHOLE BARREL SECTION PER ASTM C478.

7. 48"Ø I.D. M.H. TO BE USED FOR ALL MAINS LESS THAN 18"Ø. 60"Ø I.D. TO BE USED FOR ALL MAINS 18"Ø TO 48"Ø OR WHERE INSIDE DROP FITTINGS ARE USED.

NOTE: MANHOLE COVERS TO BE TRAFFIC RATED, MEETING AASHTO HS20-44

4 MANHOLE
NO SCALE



ACCEPTABLE PIPE
1. POLYVINYL CHLORIDE (PVC)

5 CLEANOUT
NO SCALE

811
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3929 B Street
Stockton, CA

SIEGFRIED
CIVIL · STRUCTURAL · LANDSCAPE ARCHITECTURE · SURVEYING · PLANNING

DATE SIGNED: 10/09/17

Title:

CIVIL DETAILS II

Project Number: 15170
Drawn by: RME
Date: 10/09/17

Revision:
A ADDENDUM A - REVISION 2017-08-31 PER OWNER REQUEST/CITY CORRECTION
B ADDENDUM B - REVISION 2017-10-09 CITY CORRECTION

Sheet:

C7.2

EXHIBIT C

Table 2-2 from SWQCC Plan

Table 2-2. Control Measure Selection Matrix for New Development and Significant Redevelopment Project Categories

Project Category	Site Design Controls				Source Controls							Volume Reduction Measures	Treatment Controls
	Conserve Natural Areas (G-1)	Protect Slopes and Channels (G-2)	Minimize Soil Compaction (G-3)	Minimize Impervious Area (G-4)	Storm Drain Message and Signage (S-1)	Outdoor Storage Area Design (S-2)	Trash Storage Area Design (S-3)	Loading/ Unloading Dock Area Design (S-4)	Repair/ Maintenance Bay Design (S-5)	Vehicle/ Equipment/ Accessory Washing Area Design (S-6)	Fueling Area Design (S-7)	Rain Garden (V-1) Rain Barrel/Cistern (V-2) Vegetated Roof (V-3) Interception Trees (V-4) Grassy Channel (V-5) Vegetated Buffer Strip (V-6)	LID Treatment Controls Bioretention (L-1) Stormwater Planter (L-2) Tree-well Filter (L-3) Infiltration Basin (L-4) Infiltration Trench/Dry Well (L-5) Porous Pavement Filter (L-6) Vegetated (Dry) Swale (L-7) Grassy Swale (L-8) Grassy Filter Strip (L-9) Conventional Treatment Controls Constructed Wetland (C-1) Extended Detention Basin (C-2) Wet Pond (C-3) Proprietary Control Device (C-4)
Significant Redevelopment	R	R	R	R	R	R[1]	R[1]	R[1]	R[1]	R[1]	R[1]	S	S
Home Subdivisions (≥ 10 units)	R	R	R	R	R	R[1]	-	-	-	-	-	S	S
Commercial Developments (≥ 5,000 SF)	R	R	R	R	R	R[1]	R[1]	R[1]	R[1]	R[1]	R[1]	S	S
Automotive Repair Shops	R	R	R	R	R	R[1]	R[1]	-	R[1]	R[1]	R[1]	S	S
Restaurants	R	R	R	R	R	R[1]	R[1]	R[1]	-	R[1]	-	S	S
Parking Lots (≥ 5,000 SF or 25 spaces)	R	R	R	R	R	R[1]	R[1]	-	-	-	-	S	S
Streets and Roads (≥ 1 ac. paved surface)	R	R	R	R	R	-	-	-	-	-	-	S	S
Retail Gasoline Outlets	R	R	R	R	R	R[1]	-	-	-	-	-	S	S

R: required
R[1]: required if outdoor activity is included in the project
S: select one or more applicable controls

City of Stockton/ County of San Joaquin
2009 Stormwater Quality Control Criteria Plan
Volume Reduction Calculator (Updated July 16, 2010)

▶Make sure that Macros are enabled while using the Calculator

▶This calculator is solely for the purposes of determining compliance with the Volume Reduction Requirement. This is not a substitute and should not be used to determine compliance with SQDV/SQDF or any other new development/redevelopment requirements.

▶Volume Reduction is only given to Volume Reduction Measures and LID Treatment Controls. Volume Reduction is not given to Conventional Treatment Controls including wet ponds and proprietary controls.

▶The Calculator is intended as a companion to the SWQCCP and not to replace or be independant of it. Therefore all of the details contained within the SWQCCP are not contained within the calculator.

▶Instructions: Fill in the yellow boxes with the requested information. Numbers in the remainder of the boxes will be automatically filled out for you.

wEach of the following worksheets will assist you in calculating the volume reduction achieved for Volume Reduction Measures and LID Treatment Controls. A worksheet must be filled out for each Volume Reduction Measure and LID Treatment Control (e.g., if there are 3 Rain Gardens proposed on the site, 3 Rain Garden worksheets must be filled out).

wOnce the information is filled out for the proposed Volume Reduction Measures and LID Treatment Controls, click in the red box below. This will run a macro that will sum up the volume reduction achieved by Volume Reduction Measures and LID Treatment Controls. NOTE to Mac Users: The Mac version of Excel may not be capable of running macros so you may have to manually sum up the volume reduction gained from Volume Reduction Measures and LID Treatment Controls.

Project:	Amazon 615K
Detail:	
Design by:	Robert M. Ebenal
Date:	27-Jul-17

1. PRE-PROJECT CHARACTERISTICS		**Notes**
a. Total Project Area, ft^2 (A_{PRE})	3102145.0	Total Project Area must be entered first before any other calculations can be made
b. Weighted Runoff Coefficient (C_{rPRE})	0.25	Go to "Cr Calcs" to calculate (orange tab)
c. Volume Reduction Requirement storm depth, inches (d)	0.51	Avg. 85th percentile, 24-hour storm depth for Stockton area
d. Significant Redevelopment Volume Reduction Credit, inches (Redevcredit) An additive credit of 0.05 inches is available for five types of redevelopment projects: - Siginificant Redevelopment (as defined in Section 2.1 of 2009 SWQCCP) - Brownfield redevelopment - High density (>7 units/acre) - Vertical Density (FAR of 2 or >18 units/acre) - Mixed use and Transit Oriented Development (within 1/2 mile of public transit)	0.00	- Credits are additive such that a maximum credit of 0.25 inches is possible for a project that meets all five criteria. - New development projects are not eligible for the criteria.
e. Revised Volume Reduction Requirement storm depth, inches ($d_{revised}$)	0.51	
f. Pre-project Runoff Volume, ft^3 (Vol_{PRE}) $Vol_{PRE} = (d_{revised}/12) \times A_{PRE} \times C_{rPRE}$	33131.6	

2. POST-PROJECT CHARACTERISTICS		**Notes**
a. Total Project Area, ft^2 (A_{POST})	3102145.0	
b. Weighted Runoff Coefficient (C_{rPOST})	0.80	Go to "Cr Calcs" to calculate (orange tab)
c. Volume Reduction Requirement storm depth, inches (d)	0.51	

d. Significant Redevelopment Volume Reduction Credit, inches (Redevcredit) An additive credit of 0.05 inches is available for five types of redevelopment: - Siginificant Redevelopment (as defined in Section 2.1 of 2009 SWQCCP) - Brownfield redevelopment - High density (>7 units/acre) - Vertical Density (FAR of 2 or >18 units/acre) - Mixed use and Transit Oriented Development (within 1/2 mile of public transit)	0.00	- Credits are additive such that a maximum credit of 0.25 inches is possible for a project that meets all five criteria. - New development projects are not eligible for the criteria.
e. Revised Volume Reduction Requirement storm depth, inches ($d_{revised}$)	0.51	
f. Post-project Runoff Volume, ft^3 (Vol_{POST}) $Vol_{POST} = (0.51/12) \times A_{POST} \times C_{rPOST}$	105806.5	

VOLUME RUNOFF REDUCTION REQUIREMENT, ft^3 (VRR) $VRR = Vol_{POST} - Vol_{PRE}$	72674.9

3. VOLUME REDUCTION MEASURES		Notes
a. Total Volume Reduction from Volume Reduction Measures, ft^3 ($\sum Vol_{VRM}$)	0.0	Click in red box below to tally the volume reduction achieved by Volume Reduction Measurs and LID Treatment Controls.
b. Remaining Volume Reduction required from LID Treatment Controls, ft^3 (VRR_{TREAT}) $VRR_{TREAT} = VRR - \sum Vol_{VRM}$	72674.9	

4. LID TREATMENT CONTROLS		Notes
a. Total Volume Reduction from LID Treatment Controls, ft^3 ($\sum Vol_{TREAT}$)	74779.1	CLICK IN BOX TO LEFT to tally the volume reduction achived by Volume Reduction Measures and LID Treatment Controls.
b. Total Volume Reduction Provided, ft^3 ($VRR_{PROVIDED}$) $VRR_{PROVIDED} = \sum Vol_{VRM} + \sum Vol_{TREAT}$	74779.1	

VOLUME REDUCTION REMAINING, ft^3 (VRR_{REMAIN}) $VRR_{REMAIN} = VRR - VRR_{PROVIDED}$	-2104.2

RUNOFF COEFFICIENT CALCULATIONS

▸ Total Site Area must be entered in "Summary Sheet" before you can proceed

PRE-PROJECT WEIGHTED RUNOFF COEFFICIENT

Site Element	Element Runoff Coefficient* (C_r)	Element Area, ft^2 ($A_{element}$)	Fraction of Total Area ($A_{element}/A_{PRE}$)	Weighted Runoff Coefficient (C_{rPRE})	Notes
Managed Turf: Type C/D Soil	0.25	3096387.0	1.00	0.25	Select a site element from the drop down list; a corresponding runoff coefficient will appear; if you wish to enter your own, please use Other 1 though 3 below
Asphalt/concrete pavement	0.95	5758.0	0.00	0.00	
			0.00	0.00	
			0.00	0.00	
			0.00	0.00	
			0.00	0.00	
			0.00	0.00	
			0.00	0.00	
			0.00	0.00	
			0.00	0.00	
Permeable Pavement			0.00	0.00	Runoff coefficient for permeable pavers will vary. Please consult the manufacturer for appropriate design values.
Other1:			0.00	0.00	Use Other 1, Other 2, and Other 3 if a particular site element is not included in the drop down list. To do so manually enter the name of the new site element into the row and corresponding runoff coefficient.
Other2:			0.00	0.00	
Other 3:			0.00	0.00	
TOTAL SITE		**3102145.0**		**0.25**	Make sure the Total for the Element Area column adds up to the Total Area of the Site (A_{PRE})

*Adapted from the Center for Watershed Protection, Ellicott City, MD

POST-PROJECT WEIGHTED RUNOFF COEFFICIENT

Site Element	Element Runoff Coefficient* (C_r)	Element Area, ft^2 ($A_{element}$)	Fraction of Total Area ($A_{element}/A_{PRE}$)	Weighted Runoff Coefficient (C_{rPOST})	Notes
			0.00	0.00	Select a site element from the drop down list; a corresponding runoff coefficient will appear
Managed Turf: Type C/D Soil	0.25	663246.0	0.21	0.05	
Asphalt/concrete pavement	0.95	1687497.0	0.54	0.52	
Roofs	0.95	615440.0	0.20	0.19	
			0.00	0.00	
			0.00	0.00	
			0.00	0.00	
			0.00	0.00	
			0.00	0.00	
			0.00	0.00	
Bioretention Areas	1.00	135962.0	0.04	0.04	Runoff coefficient for permeable pavers will vary. Please consult the manufacturer for appropriate design values.
Other1:			0.00	0.00	Use Other 1, Other 2, and Other 3 if a particular site element is not included in the drop down list. To do so manually enter the name of the new site element into the row and corresponding runoff coefficient.
Other2:			0.00	0.00	
Other 3:			0.00	0.00	
TOTAL SITE		**3102145.0**		**0.80**	Make sure the Total for the Element Area column adds up to the Total Area of the Site (A_{PRE})

*Adapted from the Center for Watershed Protection, Ellicott City, MD

LID TREATMENT CONTROL:
BIORETENTION (L-1)
UNIQUE ID: DMA 1

▸ A separate worksheet must be completed for each bioretention within the proposed development project (e.g., 3 bioretention areas proposed = 3 separate bioretention worksheets; one for each bioretention). Copy this spreadsheet as many times as necessary to accommodate all the bioretention areas in the project. To copy this spreadsheet, simply right click on the tab, select "Move or Copy", then Select "Bioretention (L-1)", check the "Create a Copy" box, and hit OK.

BIORETENTION WITH SUBSURFACE DRAIN PIPE (Required for C and D soils)

Design Parameter	Criteria	Notes
1. Ponding Zone		
a. Depth of ponding zone, ft (D_{PZ})	1.0	
b. Area of ponding zone, ft^2 (A_{PZ})	6375.0	
2. Planting Media Layer		
a. Depth of planting media layer, ft (D_{PM})	1.5	
b. Area of planting media layer, ft^2 (A_{PM})	6375.0	
3. Gravel Zone		
a. Depth of gravel below pipe, ft (D_{GZ})	0.50	Minimum depth below pipe = 6 in
b. Area of gravel below pipe, ft^2 (A_{GZ})	6375.0	Minimum width of gravel = 3 ft
4. Volume Reduction, ft^3 ($Vol_{reduction}$) = (D_{PZ} x A_{PZ} x 0.25) + (D_{PM} x A_{PM} x 0.1) + (D_{GZ} x A_{GZ} x 0.3)	3506.3	- Volume reduction achieved by Bioretention with subsurface drain pipe - Infiltration allowance for water in ponding zone water = 0.25 - Available Water Holding Capacity of planting media layer = 0.1 x volume - Porosity of gravel zone = 0.30

BIORETENTION WITHOUT SUBSURFACE DRAIN PIPE (Recommended for A and B soils)

Design Parameter	Criteria	Notes
1. Ponding Zone		
a. Depth of ponding zone, ft (D_{PZ})		
b. Area of ponding zone, ft^2 (A_{PZ})		
2. Planting Media Layer		Available Water Holding Capacity of planting media layer = 0.1 x volume
a. Depth of planting media layer, ft (D_{PM})		Minimum depth = 18 inches
b. Area of planting media layer, ft^2 (A_{PM})		
3. Volume Reduction, ft^3 ($Vol_{reduction}$) = (D_{PZ} x A_{PZ} x 1) + (D_{PM} x A_{PM} x 0.10)	0.0	-Volume reduction achieved by Bioretention with subsurface drain pipe - Infiltration allowance for water in ponding zone water = 1.0 - Available Water Holding Capacity of planting media layer = 0.1 x volume

LID TREATMENT CONTROL:
BIORETENTION (L-1)
UNIQUE ID: DMA 2

▸ A separate worksheet must be completed for each bioretention within the proposed development project (e.g., 3 bioretention areas proposed = 3 separate bioretention worksheets; one for each bioretention). Copy this spreadsheet as many times as necessary to accommodate all the bioretention areas in the project. To copy this spreadsheet, simply right click on the tab, select "Move or Copy", then Select "Bioretention (L-1)", check the "Create a Copy" box, and hit OK.

BIORETENTION WITH SUBSURFACE DRAIN PIPE (Required for C and D soils)

Design Parameter	Criteria	Notes
1. Ponding Zone		
a. Depth of ponding zone, ft (D_{PZ})	1.0	
b. Area of ponding zone, ft^2 (A_{PZ})	4179.0	
2. Planting Media Layer		
a. Depth of planting media layer, ft (D_{PM})	1.5	
b. Area of planting media layer, ft^2 (A_{PM})	4179.0	
3. Gravel Zone		
a. Depth of gravel below pipe, ft (D_{GZ})	0.50	Minimum depth below pipe = 6 in
b. Area of gravel below pipe, ft^2 (A_{GZ})	4179.0	Minimum width of gravel = 3 ft
4. Volume Reduction, ft^3 ($Vol_{reduction}$) = (D_{PZ} x A_{PZ} x 0.25) + (D_{PM} x A_{PM} x 0.1) + (D_{GZ} x A_{GZ} x 0.3)	2298.5	- Volume reduction achieved by Bioretention with subsurface drain pipe - Infiltration allowance for water in ponding zone water = 0.25 - Available Water Holding Capacity of planting media layer = 0.1 x volume - Porosity of gravel zone = 0.30

BIORETENTION WITHOUT SUBSURFACE DRAIN PIPE (Recommended for A and B soils)

Design Parameter	Criteria	Notes
1. Ponding Zone		
a. Depth of ponding zone, ft (D_{PZ})		
b. Area of ponding zone, ft^2 (A_{PZ})		
2. Planting Media Layer		Available Water Holding Capacity of planting media layer = 0.1 x volume
a. Depth of planting media layer, ft (D_{PM})		Minimum depth = 18 inches
b. Area of planting media layer, ft^2 (A_{PM})		
3. Volume Reduction, ft^3 ($Vol_{reduction}$) = (D_{PZ} x A_{PZ} x 1) + (D_{PM} x A_{PM} x 0.10)	0.0	-Volume reduction achieved by Bioretention with subsurface drain pipe - Infiltration allowance for water in ponding zone water = 1.0 - Available Water Holding Capacity of planting media layer = 0.1 x volume

LID TREATMENT CONTROL:
BIORETENTION (L-1)
UNIQUE ID: DMA 3

▸ A separate worksheet must be completed for each bioretention within the proposed development project (e.g., 3 bioretention areas proposed = 3 separate bioretention worksheets; one for each bioretention). Copy this spreadsheet as many times as necessary to accommodate all the bioretention areas in the project. To copy this spreadsheet, simply right click on the tab, select "Move or Copy", then Select "Bioretention (L-1)", check the "Create a Copy" box, and hit OK.

BIORETENTION WITH SUBSURFACE DRAIN PIPE (Required for C and D soils)

Design Parameter	Criteria	Notes
1. Ponding Zone		
a. Depth of ponding zone, ft (D_{PZ})	1.0	
b. Area of ponding zone, ft^2 (A_{PZ})	4225.0	
2. Planting Media Layer		
a. Depth of planting media layer, ft (D_{PM})	1.5	
b. Area of planting media layer, ft^2 (A_{PM})	4225.0	
3. Gravel Zone		
a. Depth of gravel below pipe, ft (D_{GZ})	0.50	Minimum depth below pipe = 6 in
b. Area of gravel below pipe, ft^2 (A_{GZ})	4225.0	Minimum width of gravel = 3 ft
4. Volume Reduction, ft^3 ($Vol_{reduction}$) = (D_{PZ} x A_{PZ} x 0.25) + (D_{PM} x A_{PM} x 0.1) + (D_{GZ} x A_{GZ} x 0.3)	2323.8	- Volume reduction achieved by Bioretention with subsurface drain pipe - Infiltration allowance for water in ponding zone water = 0.25 - Available Water Holding Capacity of planting media layer = 0.1 x volume - Porosity of gravel zone = 0.30

BIORETENTION WITHOUT SUBSURFACE DRAIN PIPE (Recommended for A and B soils)

Design Parameter	Criteria	Notes
1. Ponding Zone		
a. Depth of ponding zone, ft (D_{PZ})		
b. Area of ponding zone, ft^2 (A_{PZ})		
2. Planting Media Layer		Available Water Holding Capacity of planting media layer = 0.1 x volume
a. Depth of planting media layer, ft (D_{PM})		Minimum depth = 18 inches
b. Area of planting media layer, ft^2 (A_{PM})		
3. Volume Reduction, ft^3 ($Vol_{reduction}$) = (D_{PZ} x A_{PZ} x 1) + (D_{PM} x A_{PM} x 0.10)	0.0	-Volume reduction achieved by Bioretention with subsurface drain pipe - Infiltration allowance for water in ponding zone water = 1.0 - Available Water Holding Capacity of planting media layer = 0.1 x volume

LID TREATMENT CONTROL:
BIORETENTION (L-1)
UNIQUE ID: DMA 4

▸ A separate worksheet must be completed for each bioretention within the proposed development project (e.g., 3 bioretention areas proposed = 3 separate bioretention worksheets; one for each bioretention). Copy this spreadsheet as many times as necessary to accommodate all the bioretention areas in the project. To copy this spreadsheet, simply right click on the tab, select "Move or Copy", then Select "Bioretention (L-1)", check the "Create a Copy" box, and hit OK.

BIORETENTION WITH SUBSURFACE DRAIN PIPE (Required for C and D soils)

Design Parameter	Criteria	Notes
1. Ponding Zone		
a. Depth of ponding zone, ft (D_{PZ})	1.0	
b. Area of ponding zone, ft^2 (A_{PZ})	8875.0	
2. Planting Media Layer		
a. Depth of planting media layer, ft (D_{PM})	1.5	
b. Area of planting media layer, ft^2 (A_{PM})	8875.0	
3. Gravel Zone		
a. Depth of gravel below pipe, ft (D_{GZ})	0.50	Minimum depth below pipe = 6 in
b. Area of gravel below pipe, ft^2 (A_{GZ})	8875.0	Minimum width of gravel = 3 ft
4. Volume Reduction, ft^3 ($Vol_{reduction}$) = (D_{PZ} x A_{PZ} x 0.25) + (D_{PM} x A_{PM} x 0.1) + (D_{GZ} x A_{GZ} x 0.3)	4881.3	- Volume reduction achieved by Bioretention with subsurface drain pipe - Infiltration allowance for water in ponding zone water = 0.25 - Available Water Holding Capacity of planting media layer = 0.1 x volume - Porosity of gravel zone = 0.30

BIORETENTION WITHOUT SUBSURFACE DRAIN PIPE (Recommended for A and B soils)

Design Parameter	Criteria	Notes
1. Ponding Zone		
a. Depth of ponding zone, ft (D_{PZ})		
b. Area of ponding zone, ft^2 (A_{PZ})		
2. Planting Media Layer		Available Water Holding Capacity of planting media layer = 0.1 x volume
a. Depth of planting media layer, ft (D_{PM})		Minimum depth = 18 inches
b. Area of planting media layer, ft^2 (A_{PM})		
3. Volume Reduction, ft^3 ($Vol_{reduction}$) = (D_{PZ} x A_{PZ} x 1) + (D_{PM} x A_{PM} x 0.10)	0.0	-Volume reduction achieved by Bioretention with subsurface drain pipe - Infiltration allowance for water in ponding zone water = 1.0 - Available Water Holding Capacity of planting media layer = 0.1 x volume

LID TREATMENT CONTROL:
BIORETENTION (L-1)
UNIQUE ID: DMA 5

▸ A separate worksheet must be completed for each bioretention within the proposed development project (e.g., 3 bioretention areas proposed = 3 separate bioretention worksheets; one for each bioretention). Copy this spreadsheet as many times as necessary to accommodate all the bioretention areas in the project. To copy this spreadsheet, simply right click on the tab, select "Move or Copy", then Select "Bioretention (L-1)", check the "Create a Copy" box, and hit OK.

BIORETENTION WITH SUBSURFACE DRAIN PIPE (Required for C and D soils)

Design Parameter	Criteria	Notes
1. Ponding Zone		
a. Depth of ponding zone, ft (D_{PZ})	1.0	
b. Area of ponding zone, ft^2 (A_{PZ})	13377.0	
2. Planting Media Layer		
a. Depth of planting media layer, ft (D_{PM})	1.5	
b. Area of planting media layer, ft^2 (A_{PM})	13377.0	
3. Gravel Zone		
a. Depth of gravel below pipe, ft (D_{GZ})	0.50	Minimum depth below pipe = 6 in
b. Area of gravel below pipe, ft^2 (A_{GZ})	13377.0	Minimum width of gravel = 3 ft
4. Volume Reduction, ft^3 ($Vol_{reduction}$) = (D_{PZ} x A_{PZ} x 0.25) + (D_{PM} x A_{PM} x 0.1) + (D_{GZ} x A_{GZ} x 0.3)	7357.4	- Volume reduction achieved by Bioretention with subsurface drain pipe - Infiltration allowance for water in ponding zone water = 0.25 - Available Water Holding Capacity of planting media layer = 0.1 x volume - Porosity of gravel zone = 0.30

BIORETENTION WITHOUT SUBSURFACE DRAIN PIPE (Recommended for A and B soils)

Design Parameter	Criteria	Notes
1. Ponding Zone		
a. Depth of ponding zone, ft (D_{PZ})		
b. Area of ponding zone, ft^2 (A_{PZ})		
2. Planting Media Layer		Available Water Holding Capacity of planting media layer = 0.1 x volume
a. Depth of planting media layer, ft (D_{PM})		Minimum depth = 18 inches
b. Area of planting media layer, ft^2 (A_{PM})		
3. Volume Reduction, ft^3 ($Vol_{reduction}$) = (D_{PZ} x A_{PZ} x 1) + (D_{PM} x A_{PM} x 0.10)	0.0	-Volume reduction achieved by Bioretention with subsurface drain pipe - Infiltration allowance for water in ponding zone water = 1.0 - Available Water Holding Capacity of planting media layer = 0.1 x volume

LID TREATMENT CONTROL:
BIORETENTION (L-1)
UNIQUE ID: DMA 6

▸ A separate worksheet must be completed for each bioretention within the proposed development project (e.g., 3 bioretention areas proposed = 3 separate bioretention worksheets; one for each bioretention). Copy this spreadsheet as many times as necessary to accommodate all the bioretention areas in the project. To copy this spreadsheet, simply right click on the tab, select "Move or Copy", then Select "Bioretention (L-1)", check the "Create a Copy" box, and hit OK.

BIORETENTION WITH SUBSURFACE DRAIN PIPE (Required for C and D soils)

Design Parameter	Criteria	Notes
1. Ponding Zone		
a. Depth of ponding zone, ft (D_{PZ})	1.0	
b. Area of ponding zone, ft^2 (A_{PZ})	1830.0	
2. Planting Media Layer		
a. Depth of planting media layer, ft (D_{PM})	1.5	
b. Area of planting media layer, ft^2 (A_{PM})	1830.0	
3. Gravel Zone		
a. Depth of gravel below pipe, ft (D_{GZ})	0.50	Minimum depth below pipe = 6 in
b. Area of gravel below pipe, ft^2 (A_{GZ})	1830.0	Minimum width of gravel = 3 ft
4. Volume Reduction, ft^3 ($Vol_{reduction}$) = (D_{PZ} x A_{PZ} x 0.25) + (D_{PM} x A_{PM} x 0.1) + (D_{GZ} x A_{GZ} x 0.3)	1006.5	- Volume reduction achieved by Bioretention with subsurface drain pipe - Infiltration allowance for water in ponding zone water = 0.25 - Available Water Holding Capacity of planting media layer = 0.1 x volume - Porosity of gravel zone = 0.30

BIORETENTION WITHOUT SUBSURFACE DRAIN PIPE (Recommended for A and B soils)

Design Parameter	Criteria	Notes
1. Ponding Zone		
a. Depth of ponding zone, ft (D_{PZ})		
b. Area of ponding zone, ft^2 (A_{PZ})		
2. Planting Media Layer		Available Water Holding Capacity of planting media layer = 0.1 x volume
a. Depth of planting media layer, ft (D_{PM})		Minimum depth = 18 inches
b. Area of planting media layer, ft^2 (A_{PM})		
3. Volume Reduction, ft^3 ($Vol_{reduction}$) = (D_{PZ} x A_{PZ} x 1) + (D_{PM} x A_{PM} x 0.10)	0.0	-Volume reduction achieved by Bioretention with subsurface drain pipe - Infiltration allowance for water in ponding zone water = 1.0 - Available Water Holding Capacity of planting media layer = 0.1 x volume

LID TREATMENT CONTROL:
BIORETENTION (L-1)
UNIQUE ID: DMA 7

▸ A separate worksheet must be completed for each bioretention within the proposed development project (e.g., 3 bioretention areas proposed = 3 separate bioretention worksheets; one for each bioretention). Copy this spreadsheet as many times as necessary to accommodate all the bioretention areas in the project. To copy this spreadsheet, simply right click on the tab, select "Move or Copy", then Select "Bioretention (L-1)", check the "Create a Copy" box, and hit OK.

BIORETENTION WITH SUBSURFACE DRAIN PIPE (Required for C and D soils)

Design Parameter	Criteria	Notes
1. Ponding Zone		
a. Depth of ponding zone, ft (D_{PZ})	1.0	
b. Area of ponding zone, ft^2 (A_{PZ})	10449.0	
2. Planting Media Layer		
a. Depth of planting media layer, ft (D_{PM})	1.5	
b. Area of planting media layer, ft^2 (A_{PM})	10449.0	
3. Gravel Zone		
a. Depth of gravel below pipe, ft (D_{GZ})	0.50	Minimum depth below pipe = 6 in
b. Area of gravel below pipe, ft^2 (A_{GZ})	10449.0	Minimum width of gravel = 3 ft
4. Volume Reduction, ft^3 ($Vol_{reduction}$) = (D_{PZ} x A_{PZ} x 0.25) + (D_{PM} x A_{PM} x 0.1) + (D_{GZ} x A_{GZ} x 0.3)	5747.0	- Volume reduction achieved by Bioretention with subsurface drain pipe - Infiltration allowance for water in ponding zone water = 0.25 - Available Water Holding Capacity of planting media layer = 0.1 x volume - Porosity of gravel zone = 0.30

BIORETENTION WITHOUT SUBSURFACE DRAIN PIPE (Recommended for A and B soils)

Design Parameter	Criteria	Notes
1. Ponding Zone		
a. Depth of ponding zone, ft (D_{PZ})		
b. Area of ponding zone, ft^2 (A_{PZ})		
2. Planting Media Layer		Available Water Holding Capacity of planting media layer = 0.1 x volume
a. Depth of planting media layer, ft (D_{PM})		Minimum depth = 18 inches
b. Area of planting media layer, ft^2 (A_{PM})		
3. Volume Reduction, ft^3 ($Vol_{reduction}$) = (D_{PZ} x A_{PZ} x 1) + (D_{PM} x A_{PM} x 0.10)	0.0	-Volume reduction achieved by Bioretention with subsurface drain pipe - Infiltration allowance for water in ponding zone water = 1.0 - Available Water Holding Capacity of planting media layer = 0.1 x volume

LID TREATMENT CONTROL:
BIORETENTION (L-1)
UNIQUE ID: DMA 8

▸ A separate worksheet must be completed for each bioretention within the proposed development project (e.g., 3 bioretention areas proposed = 3 separate bioretention worksheets; one for each bioretention). Copy this spreadsheet as many times as necessary to accommodate all the bioretention areas in the project. To copy this spreadsheet, simply right click on the tab, select "Move or Copy", then Select "Bioretention (L-1)", check the "Create a Copy" box, and hit OK.

BIORETENTION WITH SUBSURFACE DRAIN PIPE (Required for C and D soils)

Design Parameter	Criteria	Notes
1. Ponding Zone		
a. Depth of ponding zone, ft (D_{PZ})	1.0	
b. Area of ponding zone, ft^2 (A_{PZ})	39282.0	
2. Planting Media Layer		
a. Depth of planting media layer, ft (D_{PM})	1.5	
b. Area of planting media layer, ft^2 (A_{PM})	39282.0	
3. Gravel Zone		
a. Depth of gravel below pipe, ft (D_{GZ})	0.50	Minimum depth below pipe = 6 in
b. Area of gravel below pipe, ft^2 (A_{GZ})	39282.0	Minimum width of gravel = 3 ft
4. Volume Reduction, ft^3 ($Vol_{reduction}$) = (D_{PZ} x A_{PZ} x 0.25) + (D_{PM} x A_{PM} x 0.1) + (D_{GZ} x A_{GZ} x 0.3)	21605.1	- Volume reduction achieved by Bioretention with subsurface drain pipe - Infiltration allowance for water in ponding zone water = 0.25 - Available Water Holding Capacity of planting media layer = 0.1 x volume - Porosity of gravel zone = 0.30

BIORETENTION WITHOUT SUBSURFACE DRAIN PIPE (Recommended for A and B soils)

Design Parameter	Criteria	Notes
1. Ponding Zone		
a. Depth of ponding zone, ft (D_{PZ})		
b. Area of ponding zone, ft^2 (A_{PZ})		
2. Planting Media Layer		Available Water Holding Capacity of planting media layer = 0.1 x volume
a. Depth of planting media layer, ft (D_{PM})		Minimum depth = 18 inches
b. Area of planting media layer, ft^2 (A_{PM})		
3. Volume Reduction, ft^3 ($Vol_{reduction}$) = (D_{PZ} x A_{PZ} x 1) + (D_{PM} x A_{PM} x 0.10)	0.0	-Volume reduction achieved by Bioretention with subsurface drain pipe - Infiltration allowance for water in ponding zone water = 1.0 - Available Water Holding Capacity of planting media layer = 0.1 x volume

LID TREATMENT CONTROL:
BIORETENTION (L-1)
UNIQUE ID: DMA 9

▸ A separate worksheet must be completed for each bioretention within the proposed development project (e.g., 3 bioretention areas proposed = 3 separate bioretention worksheets; one for each bioretention). Copy this spreadsheet as many times as necessary to accommodate all the bioretention areas in the project. To copy this spreadsheet, simply right click on the tab, select "Move or Copy", then Select "Bioretention (L-1)", check the "Create a Copy" box, and hit OK.

BIORETENTION WITH SUBSURFACE DRAIN PIPE (Required for C and D soils)

Design Parameter	Criteria	Notes
1. Ponding Zone		
a. Depth of ponding zone, ft (D_{PZ})	1.0	
b. Area of ponding zone, ft^2 (A_{PZ})	6902.0	
2. Planting Media Layer		
a. Depth of planting media layer, ft (D_{PM})	1.5	
b. Area of planting media layer, ft^2 (A_{PM})	6902.0	
3. Gravel Zone		
a. Depth of gravel below pipe, ft (D_{GZ})	0.50	Minimum depth below pipe = 6 in
b. Area of gravel below pipe, ft^2 (A_{GZ})	6902.0	Minimum width of gravel = 3 ft
4. Volume Reduction, ft^3 ($Vol_{reduction}$) = (D_{PZ} x A_{PZ} x 0.25) + (D_{PM} x A_{PM} x 0.1) + (D_{GZ} x A_{GZ} x 0.3)	3796.1	- Volume reduction achieved by Bioretention with subsurface drain pipe - Infiltration allowance for water in ponding zone water = 0.25 - Available Water Holding Capacity of planting media layer = 0.1 x volume - Porosity of gravel zone = 0.30

BIORETENTION WITHOUT SUBSURFACE DRAIN PIPE (Recommended for A and B soils)

Design Parameter	Criteria	Notes
1. Ponding Zone		
a. Depth of ponding zone, ft (D_{PZ})		
b. Area of ponding zone, ft^2 (A_{PZ})		
2. Planting Media Layer		Available Water Holding Capacity of planting media layer = 0.1 x volume
a. Depth of planting media layer, ft (D_{PM})		Minimum depth = 18 inches
b. Area of planting media layer, ft^2 (A_{PM})		
3. Volume Reduction, ft^3 ($Vol_{reduction}$) = (D_{PZ} x A_{PZ} x 1) + (D_{PM} x A_{PM} x 0.10)	0.0	-Volume reduction achieved by Bioretention with subsurface drain pipe - Infiltration allowance for water in ponding zone water = 1.0 - Available Water Holding Capacity of planting media layer = 0.1 x volume

LID TREATMENT CONTROL:
BIORETENTION (L-1)
UNIQUE ID: DMA 10

▸ A separate worksheet must be completed for each bioretention within the proposed development project (e.g., 3 bioretention areas proposed = 3 separate bioretention worksheets; one for each bioretention). Copy this spreadsheet as many times as necessary to accommodate all the bioretention areas in the project. To copy this spreadsheet, simply right click on the tab, select "Move or Copy", then Select "Bioretention (L-1)", check the "Create a Copy" box, and hit OK.

BIORETENTION WITH SUBSURFACE DRAIN PIPE (Required for C and D soils)

Design Parameter	Criteria	Notes
1. Ponding Zone		
a. Depth of ponding zone, ft (D_{PZ})	1.0	
b. Area of ponding zone, ft^2 (A_{PZ})	25832.0	
2. Planting Media Layer		
a. Depth of planting media layer, ft (D_{PM})	1.5	
b. Area of planting media layer, ft^2 (A_{PM})	25832.0	
3. Gravel Zone		
a. Depth of gravel below pipe, ft (D_{GZ})	0.50	Minimum depth below pipe = 6 in
b. Area of gravel below pipe, ft^2 (A_{GZ})	25832.0	Minimum width of gravel = 3 ft
4. Volume Reduction, ft^3 ($Vol_{reduction}$) = (D_{PZ} x A_{PZ} x 0.25) + (D_{PM} x A_{PM} x 0.1) + (D_{GZ} x A_{GZ} x 0.3)	14207.6	- Volume reduction achieved by Bioretention with subsurface drain pipe - Infiltration allowance for water in ponding zone water = 0.25 - Available Water Holding Capacity of planting media layer = 0.1 x volume - Porosity of gravel zone = 0.30

BIORETENTION WITHOUT SUBSURFACE DRAIN PIPE (Recommended for A and B soils)

Design Parameter	Criteria	Notes
1. Ponding Zone		
a. Depth of ponding zone, ft (D_{PZ})		
b. Area of ponding zone, ft^2 (A_{PZ})		
2. Planting Media Layer		Available Water Holding Capacity of planting media layer = 0.1 x volume
a. Depth of planting media layer, ft (D_{PM})		Minimum depth = 18 inches
b. Area of planting media layer, ft^2 (A_{PM})		
3. Volume Reduction, ft^3 ($Vol_{reduction}$) = (D_{PZ} x A_{PZ} x 1) + (D_{PM} x A_{PM} x 0.10)	0.0	-Volume reduction achieved by Bioretention with subsurface drain pipe - Infiltration allowance for water in ponding zone water = 1.0 - Available Water Holding Capacity of planting media layer = 0.1 x volume

LID TREATMENT CONTROL:
BIORETENTION (L-1)
UNIQUE ID: DMA 11

▸ A separate worksheet must be completed for each bioretention within the proposed development project (e.g., 3 bioretention areas proposed = 3 separate bioretention worksheets; one for each bioretention). Copy this spreadsheet as many times as necessary to accommodate all the bioretention areas in the project. To copy this spreadsheet, simply right click on the tab, select "Move or Copy", then Select "Bioretention (L-1)", check the "Create a Copy" box, and hit OK.

BIORETENTION WITH SUBSURFACE DRAIN PIPE (Required for C and D soils)

Design Parameter	Criteria	Notes
1. Ponding Zone		
a. Depth of ponding zone, ft (D_{PZ})	1.0	
b. Area of ponding zone, ft^2 (A_{PZ})	9449.0	
2. Planting Media Layer		
a. Depth of planting media layer, ft (D_{PM})	1.5	
b. Area of planting media layer, ft^2 (A_{PM})	9449.0	
3. Gravel Zone		
a. Depth of gravel below pipe, ft (D_{GZ})	0.50	Minimum depth below pipe = 6 in
b. Area of gravel below pipe, ft^2 (A_{GZ})	9449.0	Minimum width of gravel = 3 ft
4. Volume Reduction, ft^3 ($Vol_{reduction}$) = (D_{PZ} x A_{PZ} x 0.25) + (D_{PM} x A_{PM} x 0.1) + (D_{GZ} x A_{GZ} x 0.3)	5197.0	- Volume reduction achieved by Bioretention with subsurface drain pipe - Infiltration allowance for water in ponding zone water = 0.25 - Available Water Holding Capacity of planting media layer = 0.1 x volume - Porosity of gravel zone = 0.30

BIORETENTION WITHOUT SUBSURFACE DRAIN PIPE (Recommended for A and B soils)

Design Parameter	Criteria	Notes
1. Ponding Zone		
a. Depth of ponding zone, ft (D_{PZ})		
b. Area of ponding zone, ft^2 (A_{PZ})		
2. Planting Media Layer		Available Water Holding Capacity of planting media layer = 0.1 x volume
a. Depth of planting media layer, ft (D_{PM})		Minimum depth = 18 inches
b. Area of planting media layer, ft^2 (A_{PM})		
3. Volume Reduction, ft^3 ($Vol_{reduction}$) = (D_{PZ} x A_{PZ} x 1) + (D_{PM} x A_{PM} x 0.10)	0.0	-Volume reduction achieved by Bioretention with subsurface drain pipe - Infiltration allowance for water in ponding zone water = 1.0 - Available Water Holding Capacity of planting media layer = 0.1 x volume

LID TREATMENT CONTROL:
BIORETENTION (L-1)
UNIQUE ID: DMA 12

▸ A separate worksheet must be completed for each bioretention within the proposed development project (e.g., 3 bioretention areas proposed = 3 separate bioretention worksheets; one for each bioretention). Copy this spreadsheet as many times as necessary to accommodate all the bioretention areas in the project. To copy this spreadsheet, simply right click on the tab, select "Move or Copy", then Select "Bioretention (L-1)", check the "Create a Copy" box, and hit OK.

BIORETENTION WITH SUBSURFACE DRAIN PIPE (Required for C and D soils)

Design Parameter	Criteria	Notes
1. Ponding Zone		
a. Depth of ponding zone, ft (D_{PZ})	1.0	
b. Area of ponding zone, ft^2 (A_{PZ})	5187.0	
2. Planting Media Layer		
a. Depth of planting media layer, ft (D_{PM})	1.5	
b. Area of planting media layer, ft^2 (A_{PM})	5187.0	
3. Gravel Zone		
a. Depth of gravel below pipe, ft (D_{GZ})	0.50	Minimum depth below pipe = 6 in
b. Area of gravel below pipe, ft^2 (A_{GZ})	5187.0	Minimum width of gravel = 3 ft
4. Volume Reduction, ft^3 ($Vol_{reduction}$) = (D_{PZ} x A_{PZ} x 0.25) + (D_{PM} x A_{PM} x 0.1) + (D_{GZ} x A_{GZ} x 0.3)	2852.9	- Volume reduction achieved by Bioretention with subsurface drain pipe - Infiltration allowance for water in ponding zone water = 0.25 - Available Water Holding Capacity of planting media layer = 0.1 x volume - Porosity of gravel zone = 0.30

BIORETENTION WITHOUT SUBSURFACE DRAIN PIPE (Recommended for A and B soils)

Design Parameter	Criteria	Notes
1. Ponding Zone		
a. Depth of ponding zone, ft (D_{PZ})		
b. Area of ponding zone, ft^2 (A_{PZ})		
2. Planting Media Layer		Available Water Holding Capacity of planting media layer = 0.1 x volume
a. Depth of planting media layer, ft (D_{PM})		Minimum depth = 18 inches
b. Area of planting media layer, ft^2 (A_{PM})		
3. Volume Reduction, ft^3 ($Vol_{reduction}$) = (D_{PZ} x A_{PZ} x 1) + (D_{PM} x A_{PM} x 0.10)	0.0	-Volume reduction achieved by Bioretention with subsurface drain pipe - Infiltration allowance for water in ponding zone water = 1.0 - Available Water Holding Capacity of planting media layer = 0.1 x volume

EXHIBIT E

BIORETENTION AREA SQDV CALCULATION PRINTOUTS

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3244 Brookside Road, Suite 100
Stockton, CA 95219
209.943.2021 Fax: 209.942.0214

Job Number: 15170
Project Name: Amazon 615K
Workbook Name: Bioretention Area SQDV Calculations
Sheet Name: SQDV Calcs

Bioretention Area SQDV Calculations

$$SQDV = V_u \times C_r$$

$$A_{\text{Plant, req'd}} = \frac{SQDV}{D_{\text{Pond}}} \times \left(\frac{1\text{ in}}{12\text{ ft}}\right)$$

	OVERALL SITE			DMA 1			DMA 2			DMA 3			DMA 4		
Bioretention Planting Media Area:	135,962.0 ft^2			6,375.0 ft^2			4,179.0 ft^2			4,225.0 ft^2			8,875.0 ft^2		
Starting Landscaped Area:	799,208.0 ft^2			67,100.0 ft^2			27,435.0 ft^2			48,552.0 ft^2			72,034.0 ft^2		
Ponding Depth:	12.0 in			12.0 in			12.0 in			12.0 in			12.0 in		
Pre-Project Runoff Coeff:	0.25														
Site Element / Runoff Coeff.	Element Area (ft^2)	Area Fraction (ft^2)	Weighted Runoff Coeff.	Element Area (ft^2)	Area Fraction (ft^2)	Weighted Runoff Coeff.	Element Area (ft^2)	Area Fraction (ft^2)	Weighted Runoff Coeff.	Element Area (ft^2)	Area Fraction (ft^2)	Weighted Runoff Coeff.	Element Area (ft^2)	Area Fraction (ft^2)	Weighted Runoff Coeff.
Landscaped 0.25	663,246.0	0.2138	0.0535	60,725.0	0.3431	0.0858	23,256.0	0.1982	0.0496	44,327.0	0.2341	0.0585	63,159.0	0.2549	0.0637
Concrete 0.95	297,830.0	0.0960	0.0912	14,768.0	0.0834	0.0793	7,139.0	0.0609	0.0578	13,029.0	0.0688	0.0654	17,609.0	0.0711	0.0675
Asphalt 0.95	1,389,667.0	0.4480	0.4256	95,116.0	0.5374	0.5106	82,743.0	0.7053	0.6700	127,772.0	0.6748	0.6410	158,118.0	0.6382	0.6063
Roof 0.95	615,440.0	0.1984	0.1885	0.0	0.0000	0.0000	0.0	0.0000	0.0000	0.0	0.0000	0.0000	0.0	0.0000	0.0000
Basin 1.00	135,962.0	0.0438	0.0438	6,375.0	0.0360	0.0360	4,179.0	0.0356	0.0356	4,225.0	0.0223	0.0223	8,875.0	0.0358	0.0358
TOTAL	**3,102,145.0**		**0.8025**	**176,984.0**		**0.7116**	**117,317.0**		**0.8130**	**189,353.0**		**0.7872**	**247,761.0**		**0.7733**
Unit Basin Storage Volume (Fig. 6-1, 2009 COS SWQCCP):	0.2723			0.2411 in			0.2759 in			0.2671 in			0.2623 in		
12-hr SQDV:	70,391.0			3,556.3 ft^3			2,697.2 ft^3			4,213.9 ft^3			5,415.4 ft^3		
Required Planting Zone Area:	**70,391.0**			**3,556.3** ft^2			**2,697.2** ft^2			**4,213.9** ft^2			**5,415.4** ft^2		
Area Required -Area Proposed:	-65,571.0			-2,818.7 ft^2			-1,481.8 ft^2			-11.1 ft^2			-3,459.6 ft^2		
Volume Reduction Provided:	74779.1														
Volume Reduction Required:	72674.864														

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Job Number: 15170
Project Name: Amazon 615K
Workbook Name: Bioretention Area SQDV Calculations
Sheet Name: SQDV Calcs

Bioretention Area SQDV Calculations

$$SQDV = V_u \times C_r$$

$$A_{\text{Plant, req'd}} = \frac{SQDV}{D_{\text{Pond}}} \times \left(\frac{1\text{ in}}{12\text{ ft}}\right)$$

	DMA 5			DMA 6			DMA 7			DMA 8			DMA 9		
Bioretention Planting Media Area:	13,377.0	ft^2		1,830.0	ft^2		10,449.0	ft^2		39,282.0	ft^2		6,902.0	ft^2	
Starting Landscaped Area:	72,094.0	ft^2		28,602.0	ft^2		66,840.0	ft^2		168,215.0	ft^2		52,663.0	ft^2	
Ponding Depth:	12.0	in		12.0	in		12.0	in		12.0	in		12.0	in	
Pre-Project Runoff Coeff:															
Site Element / Runoff Coeff.	Element Area (ft^2)	Area Fraction (ft^2)	Weighted Runoff Coeff.	Element Area (ft^2)	Area Fraction (ft^2)	Weighted Runoff Coeff.	Element Area (ft^2)	Area Fraction (ft^2)	Weighted Runoff Coeff.	Element Area (ft^2)	Area Fraction (ft^2)	Weighted Runoff Coeff.	Element Area (ft^2)	Area Fraction (ft^2)	Weighted Runoff Coeff.
Landscaped 0.25	58,717.0	0.1796	0.0449	26,772.0	0.4574	0.1144	56,391.0	0.1312	0.0328	128,933.0	0.1780	0.0445	45,761.0	0.2169	0.0542
Concrete 0.95	52,554.0	0.1607	0.1527	196.0	0.0033	0.0032	63,147.0	0.1470	0.1396	88,072.0	0.1216	0.1155	20,608.0	0.0977	0.0928
Asphalt 0.95	202,362.0	0.6188	0.5879	29,730.0	0.5080	0.4826	91,919.0	0.2139	0.2032	160,252.0	0.2213	0.2102	37,718.0	0.1788	0.1699
Roof 0.95	0.0	0.0000	0.0000	0.0	0.0000	0.0000	207,760.0	0.4835	0.4594	307,720.0	0.4249	0.4036	99,960.0	0.4739	0.4502
Basin 1.00	13,377.0	0.0409	0.0409	1,830.0	0.0313	0.0313	10,449.0	0.0243	0.0243	39,282.0	0.0542	0.0542	6,902.0	0.0327	0.0327
TOTAL	327,010.0		0.8264	58,528.0		0.6314	429,666.0		0.8593	724,259.0		0.8281	210,949.0		0.7998
Unit Basin Storage Volume (Fig. 6-1, 2009 COS SWQCCP):	0.2805	in		0.2136	in		0.2918	in		0.2811	in		0.2714	in	
12-hr SQDV:	7,642.8	ft^3		1,041.8	ft^3		10,447.1	ft^3		16,963.3	ft^3		4,770.1	ft^3	
Required Planting Zone Area:	7,642.8	ft^2		1,041.8	ft^2		10,447.1	ft^2		16,963.3	ft^2		4,770.1	ft^2	
Area Required -Area Proposed:	-5,734.2	ft^2		-788.2	ft^2		-1.9	ft^2		-22,318.7	ft^2		-2,131.9	ft^2	
Volume Reduction Provided:															
Volume Reduction Required:															

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Sheet Name: SQDV Calcs

Bioretention Area SQDV Calculations

$$SQDV = V_u \times C_r$$

$$A_{\text{Plant, req'd}} = \frac{SQDV}{D_{\text{Pond}}} \times \left(\frac{1\text{ in}}{12\text{ ft}}\right)$$

		DMA 10											
		OVERALL			DMA 10.1			DMA 10.2			DMA 10.3		
Bioretention Planting Media Area:		25,832.0 ft^2			1,608.0 ft^2			2,786.0 ft^2			21,438.0 ft^2		
Starting Landscaped Area:		91,298.0 ft^2			24,133.0 ft^2			23,041.0 ft^2			44,124.0 ft^2		
Ponding Depth:		12.0 in			12.0 in			12.0 in			12.0 in		
Pre-Project Runoff Coeff:													
Site Element	Runoff Coeff.	Element Area (ft^2)	Area Fraction (ft^2)	Weighted Runoff Coeff.	Element Area (ft^2)	Area Fraction (ft^2)	Weighted Runoff Coeff.	Element Area (ft^2)	Area Fraction (ft^2)	Weighted Runoff Coeff.	Element Area (ft^2)	Area Fraction (ft^2)	Weighted Runoff Coeff.
Landscaped	0.25	65,466.0	0.2579	0.0645	22,525.0	0.1852	0.0463	20,255.0	0.3464	0.0866	22,686.0	0.3076	0.0769
Concrete	0.95	7,353.0	0.0290	0.0275	3,822.0	0.0314	0.0299	2,425.0	0.0415	0.0394	1,106.0	0.0150	0.0142
Asphalt	0.95	155,185.0	0.6114	0.5808	93,673.0	0.7702	0.7317	33,000.0	0.5644	0.5362	28,512.0	0.3866	0.3673
Roof	0.95	0.0	0.0000	0.0000	0.0	0.0000	0.0000	0.0	0.0000	0.0000	0.0	0.0000	0.0000
Basin	1.00	25,832.0	0.1018	0.1018	1,608.0	0.0132	0.0132	2,786.0	0.0477	0.0477	21,438.0	0.2907	0.2907
TOTAL		**253,836.0**		**0.7746**	**121,628.0**		**0.8210**	**58,466.0**		**0.7099**	**73,742.0**		**0.7492**
Unit Basin Storage Volume (Fig. 6-1, 2009 COS SWQCCP):		0.2627 in			0.2786 in			0.2405 in			0.2540 in		
12-hr SQDV:		5,556.9 ft^3			2,824.1 ft^3			1,171.9 ft^3			1,560.9 ft^3		
Required Planting Zone Area:		**5,556.9** ft^2			**2,824.1** ft^2			**1,171.9** ft^2			**1,560.9** ft^2		
Area Required -Area Proposed:		-20,275.1 ft^2			1,216.1 ft^2			-1,614.1 ft^2			-19,877.1 ft^2		
Volume Reduction Provided:													
Volume Reduction Required:													

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Job Number: 15170
Project Name: Amazon 615K
Workbook Name: Bioretention Area SQDV Calculations
Sheet Name: SQDV Calcs

Bioretention Area SQDV Calculations

$$SQDV = V_u \times C_r$$

$$A_{\text{Plant, req'd}} = \frac{SQDV}{D_{\text{Pond}}} \times \left(\frac{1\text{ in}}{12\text{ ft}}\right)$$

		DMA 11											
		OVERALL			DMA 11.1			DMA 11.2			DMA 11.3		
Bioretention Planting Media Area:		9,449.0	ft^2		1,571.0	ft^2		1,574.0	ft^2		6,304.0	ft^2	
Starting Landscaped Area:		39,067.0	ft^2		14,538.0	ft^2		8,280.0	ft^2		16,249.0	ft^2	
Ponding Depth:		12.0	in		12.0	in		12.0	in		12.0	in	
Pre-Project Runoff Coeff:													
Site Element	Runoff Coeff.	Element Area (ft^2)	Area Fraction (ft^2)	Weighted Runoff Coeff.	Element Area (ft^2)	Area Fraction (ft^2)	Weighted Runoff Coeff.	Element Area (ft^2)	Area Fraction (ft^2)	Weighted Runoff Coeff.	Element Area (ft^2)	Area Fraction (ft^2)	Weighted Runoff Coeff.
Landscaped	0.25	29,618.0	0.1437	0.0359	12,967.0	0.1175	0.0294	6,706.0	0.1296	0.0324	9,945.0	0.2259	0.0565
Concrete	0.95	8,377.0	0.0406	0.0386	5,498.0	0.0498	0.0473	1,834.0	0.0354	0.0337	1,045.0	0.0237	0.0225
Asphalt	0.95	158,699.0	0.7698	0.7314	90,327.0	0.8185	0.7775	41,641.0	0.8046	0.7644	26,731.0	0.6072	0.5768
Roof	0.95	0.0	0.0000	0.0000	0.0	0.0000	0.0000	0.0	0.0000	0.0000	0.0	0.0000	0.0000
Basin	1.00	9,449.0	0.0458	0.0458	1,571.0	0.0142	0.0142	1,574.0	0.0304	0.0304	6,304.0	0.1432	0.1432
TOTAL		206,143.0		0.8517	110,363.0		0.8685	51,755.0		0.8608	44,025.0		0.7990
Unit Basin Storage Volume (Fig. 6-1, 2009 COS SWQCCP):		0.2892	in		0.2949	in		0.2923	in		0.2711	in	
12-hr SQDV:		4,967.3	ft^3		2,712.2	ft^3		1,260.6	ft^3		994.6	ft^3	
Required Planting Zone Area:		**4,967.3**	ft^2		**2,712.2**	ft^2		**1,260.6**	ft^2		**994.6**	ft^2	
Area Required -Area Proposed:		-4,481.7	ft^2		1,141.2	ft^2		-313.4	ft^2		-5,309.4	ft^2	
Volume Reduction Provided:													
Volume Reduction Required:													

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Job Number: 15170
Project Name: Amazon 615K
Workbook Name: Bioretention Area SQDV Calculations
Sheet Name: SQDV Calcs

Bioretention Area SQDV Calculations

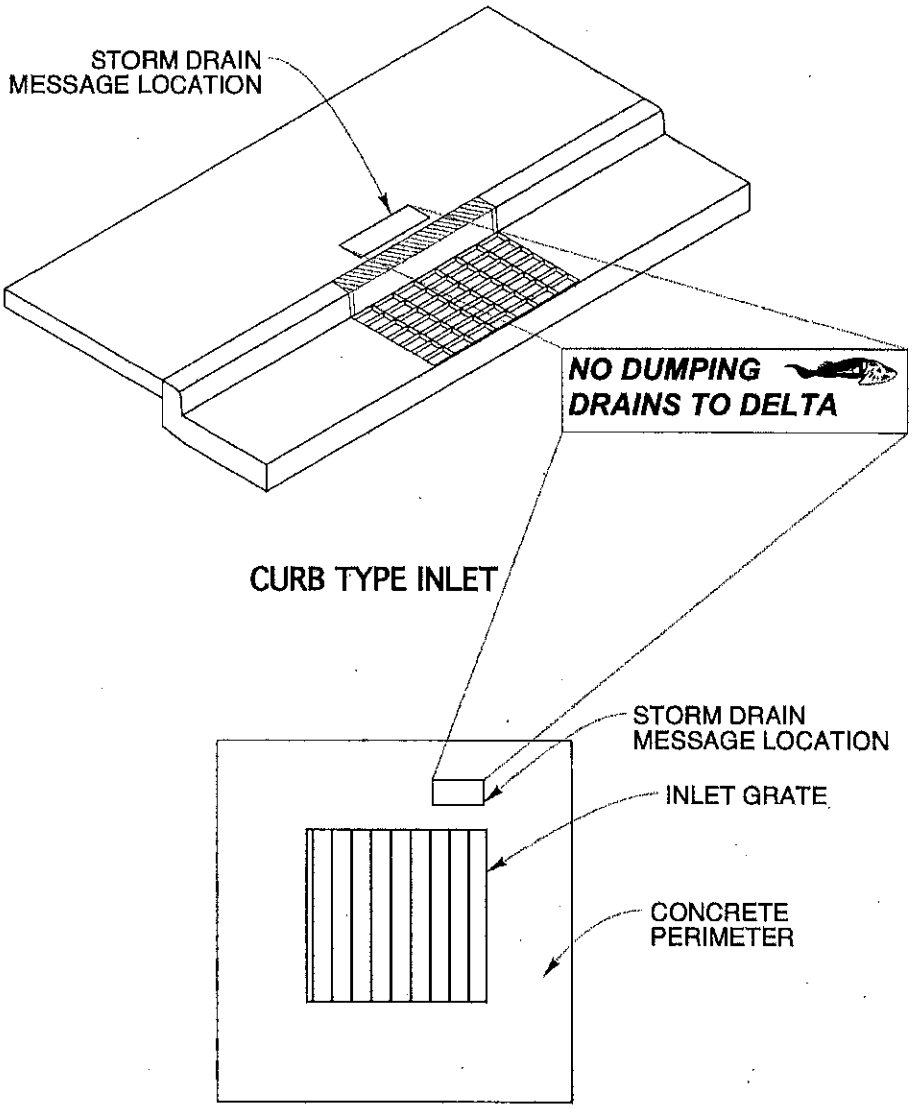
$$SQDV = V_u \times C_r$$

$$A_{\text{Plant, req'd}} = \frac{SQDV}{D_{\text{Pond}}} \times \left(\frac{1\text{ in}}{12\text{ ft}}\right)$$

		DMA 12											
		OVERALL			DMA 12.1			DMA 12.2			DMA 12.3		
Bioretention Planting Media Area:		5,187.0 ft^2			803.0 ft^2			798.0 ft^2			3,586.0 ft^2		
Starting Landscaped Area:		65,308.0 ft^2			35,923.0 ft^2			13,534.0 ft^2			15,851.0 ft^2		
Ponding Depth:		12.0 in			12.0 in			12.0 in			12.0 in		
Pre-Project Runoff Coeff:													
Site Element	Runoff Coeff.	Element Area (ft^2)	Area Fraction (ft^2)	Weighted Runoff Coeff.	Element Area (ft^2)	Area Fraction (ft^2)	Weighted Runoff Coeff.	Element Area (ft^2)	Area Fraction (ft^2)	Weighted Runoff Coeff.	Element Area (ft^2)	Area Fraction (ft^2)	Weighted Runoff Coeff.
Landscaped	0.25	60,121.0	0.3750	0.0937	35,120.0	0.3635	0.0909	12,736.0	0.3472	0.0868	12,265.0	0.4536	0.1134
Concrete	0.95	4,978.0	0.0310	0.0295	2,675.0	0.0277	0.0263	1,396.0	0.0381	0.0362	907.0	0.0335	0.0319
Asphalt	0.95	90,053.0	0.5616	0.5336	58,025.0	0.6005	0.5705	21,747.0	0.5929	0.5633	10,281.0	0.3802	0.3612
Roof	0.95	0.0	0.0000	0.0000	0.0	0.0000	0.0000	0.0	0.0000	0.0000	0.0	0.0000	0.0000
Basin	1.00	5,187.0	0.0324	0.0324	803.0	0.0083	0.0083	798.0	0.0218	0.0218	3,586.0	0.1326	0.1326
TOTAL		**160,339.0**		**0.6891**	**96,623.0**		**0.6960**	**36,677.0**		**0.7080**	**27,039.0**		**0.6391**
Unit Basin Storage Volume (Fig. 6-1, 2009 COS SWQCCP):		0.2334 in			0.2358 in			0.2399 in			0.2163 in		
12-hr SQDV:		3,118.8 ft^3			1,898.3 ft^3			733.2 ft^3			487.3 ft^3		
Required Planting Zone Area:		**3,118.8** ft^2			**1,898.3** ft^2			**733.2** ft^2			**487.3** ft^2		
Area Required -Area Proposed:		-2,068.2 ft^2			1,095.3 ft^2			-64.8 ft^2			-3,098.7 ft^2		
Volume Reduction Provided:													
Volume Reduction Required:													

EXHIBIT F

S-1 STORM DRAIN MESSAGE AND SIGNAGE



NOTES:

1. DESIGN OF STORM DRAIN MESSAGE SHALL BE IN ACCORDANCE WITH DETAILS SHOWN ABOVE.
2. FOR NEW DEVELOPMENT, MESSAGE AND SYMBOL SHALL BE PERMANENTLY PLACED WITH THE USE OF BOMANITE, STAMPED INTO THE CONCRETE, OR OTHER METHODS APPROVED BY THE CITY ENGINEER.
3. FOR REDEVELOPMENT, MESSAGE AND SYMBOL SHALL BE PLACED WITH THE USE OF THERMOPLASTIC PAVEMENT MARKINGS.
4. PAINTING SHALL NOT BE ALLOWED FOR NEW DEVELOPMENT OR REDEVELOPMENT. PAINTING SHALL ONLY BE ALLOWED IN EXISTING AREAS FOR COMMUNITY AWARENESS ACTIVITIES. LETTERS SHALL BE 1-1/2 INCHES IN HIEGHT. OUTSIDE DIMENSION OF PUBLIC NOTICE BACKGROUND SHALL FIT BACK OF INLET OR BE PLACED IN SIDEWALK IMMEDIATELY BEHIND INLET AND SHALL BE 8 INCHES X 24 INCHES MINIMUM. LETTERING AND GRAPHIC SHALL BE BLACK WITH GRAY BACKGROUND UNLESS OTHERWISE APPROVED BY CITY ENGINEER.
5. DRIVEWAY INLETS SHALL HAVE NOTICE IN DRIVEWAY ADJACENT TO INLET.

Figure 4-1. Storm Drain Message Location

EXHIBIT D

VOLUME REDUCTION CALCULATOR PRINTOUTS