City of Beaumont

550 E. 6th Street
Beaumont, CA 92223
(951) 769-8520
www.ci.beaumont.ca.us

Case No. PW2022-0940
Receipt No. Acct Transfer
Fee $ 3,484.43
Date Paid 10/18/2022

BOND EXONERATION APPLICATION

Bond Type: ☐Performance ☐Maintenance ☐Final Monument Inspection ☐Other:_____

1. Contact's Name _____Phone_____

2. Contact's Address _____
City/State/Zip

5. Contact's E-mail_____

3. Developer Name _____Phone_____
(If corporation or partnership application must include names of principal officers or partners)

4. Developer Address _____
City/St/Zip

5. Description of Bonds (including Bond Number, Tract Map/Application number, Lot number, and description of improvements covered):
_____
_____
_____
_____

6. **CERTIFICATION OF ACCURACY AND COMPLETENESS:** I hereby certify that to the best of my knowledge the information in this application and all attached answers and exhibits are true, complete, and correct.

Michael Heishman
_____
Print Name and Sign – Contact/Applicant Date

7. Contractor shall indemnify, defend, and hold harmless the City and its officers, officials, employees and volunteers from and against any and all liability, loss, damage, expense, costs (including without limitation costs and fees of litigation) of every nature arising out of or in connection with contractor's performance of work hereunder or its failure to comply with any of its obligations for which this Bond exoneration is requested, except for such loss or damage which was caused by the active negligence of the City.

Michael Heishman
_____
Print Name and Sign – Contact/Applicant Date

8. Developer/Contractor has completed all the following items prior to requesting release or has included them in the application.
   - Remove and replace concrete and AC as needed where lifting.
   - Provide AC crack fill as needed. Crack fill/seal shall be hot asphaltic emulsion.
   - Provide Type II slurry coat for all road surfaces.
   - Restore/Verify pavement striping/markings.
   - Restore/Verify blue dots and signage as needed.
   - Clean and camera sewer. Provide report and video copy of camera survey.
   - Provide all final geotechnical reports.
   - Provide Engineers' certification for line and grade within Right-of-Way.
   - Provide Landscape Architects Certification as required.

Michael Heishman

Print Name and Sign – Contact/Applicant Date

Punch List

Project Name: Atwell Traffic Signal: Highland Springs & Sundance **Tract No. 37298-1**

	PW2022-0940	Bond No. CMS331855-M	
Inspected By: Jason Craghead		Page: 1 of 1	Date: 11/2/2022

Item No.	Description	Completed by Construction (Sign/Date)	Accepted by (Sign/Date)
1	Monitor for video detection not working, please make necessary repairs.	Jason Craghead 5/15/23	Jason Craghead 5/15/23

[COMPANY NAME]

BOND NO.: CMS331855-M
PREMIUM: INCLUDED IN PERFORMANCE BOND

MAINTENANCE BOND

WHEREAS, the City of Beaumont ("City"), a municipal corporation, and TRI POINTE HOMES IE-SD, INC. FORMERLY KNOWN AS PARDEE HOMES (hereinafter "Principal"), have entered into an agreement by which Principal agrees to install and complete certain designated public improvements and to guarantee and warrant the work for the period of one year following its completion and acceptance, which said agreement, dated _____, and identified as ATWELL TRAFFIC SIGNAL–HIGHLAND SPRINGS AVE AND STARLIGHT AVE is hereby referred to and made a part hereof; and:

WHEREAS, Principal is required under the terms of the agreement to furnish a bond to guarantee and warrant the work for a period of one year following its completion and acceptance against any defective work or labor done, or defective materials furnished, to comply with the terms of the agreement.

NOW, THEREFORE, we, the Principal and RLI INSURANCE COMPANY ("Surety") admitted and duly authorized to transact business under the laws of the State of California as surety, are held and firmly bound unto the City of Beaumont as obligee, in the penal sum of THIRTY THOUSAND ONE HUNDRED FORTY NINE AND 78/100 dollars ($30,149.78 —) lawful money of the United States, for the payment of which sum well and truly to be made, we bind ourselves, our heirs, successors, executors, and administrators, jointly and severally, firmly by these presents.

The condition of this obligation is such that if the above bounded Principal, his or its heirs, executors, administrators, successors or assigns, shall in all things stand to and abide by, provisions in the agreement and any alteration thereof made as therein provided, on his or its part to be kept and performed at the time and in the manner therein specified, and in all respects according to their true intent and meaning, and shall indemnify and save harmless the City of Beaumont, its officers, agents and employees, as therein stipulated, then this obligation shall become null and void; otherwise it shall be and remain in full force and effect.

As a condition precedent to the satisfactory completion of the agreement, the obligation of the Principal and surety under this bond shall remain in effect for a period of one (1) year after the completion and acceptance of the work. During that time, if the Principal or his or its heirs, executors, administrators, successors or assigns, fails to make full, complete and satisfactory repair and replacement or totally protect the City from any loss or damage made evident during that year which results from or is caused by either defective materials or faulty workmanship in the prosecution of the work, then the obligation shall remain in full force and effect. However, anything in this paragraph to the contrary notwithstanding, the obligation of the Surety shall continue so long as any obligation of the Principal remains.

As a part of the obligation secured hereby and in addition to the face amount specified therefor, there shall be included costs and reasonable expenses and fees, including reasonable attorney's fees, incurred by the City of Beaumont in successfully enforcing such obligation, all to be taxed as costs and included in any judgment rendered.

The Surety hereby stipulates and agrees that no change, extension of time, alteration or addition to the terms of the agreement or to the work to be performed thereunder or the specifications accompanying the same shall in anywise affect its obligations under this bond, and it does hereby waive notice of any such change, extension of time, alteration or addition to the terms of the agreement or to the work or to the specifications. The Surety waives all rights of subrogation against the City or any person employed by the City.

[signatures on following page]

SIGNED AND SEALED THIS 10TH DAY OF MAY 2021 ~~2020~~.

RLI INSURANCE COMPANY
CORPORATE SEAL
ILLINOIS

(Seal)

RLI INSURANCE COMPANY
SURETY

By: Michelle Haase

MICHELLE HAASE, ATTORNEY-IN-FACT

(Name)

(Address)

19800 MACARTHUR BLVD., SUITE 1250

IRVINE, CA 92612

By: _____

(Name) _____

(Title) _____

(Address) _____

TRI POINTE HOMES IE-SD, INC.
FORMERLY KNOWN AS PARDEE HOMES
PRINCIPAL

By: _____

Michael C. Taylor, Division President

(Name)

(Address)

1250 CORONA POINTE COURT, SUITE 600

CORONA, CA 92879

By: _____

(Name) _____

(Title) _____

(Address) _____

ALL SIGNATURES MUST BE ACKNOWLEDGED BY A NOTARY PUBLIC

California All-Purpose Certificate of 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 Riverside } s.s.

On May 11, 2021 before me, Ana E. Chavez Perez, Notary Public,
Name of Notary Public, Title

personally appeared Michael C. Taylor
Name of Signer (1)

Name of Signer (2)

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 Public

ANA E. CHAVEZ PEREZ
NOTARY PUBLIC - CALIFORNIA
COMMISSION # 2286015
RIVERSIDE COUNTY
My Comm. Exp. April 22, 2023

OPTIONAL INFORMATION

Although the information in this section is not required by law, it could prevent fraudulent removal and reattachment of this acknowledgment to an unauthorized document and may prove useful to persons relying on the attached document.

Description of Attached Document

The preceding Certificate of Acknowledgment is attached to a document titled/for the purpose of _____,

containing _____ pages, and dated _____.

The signer(s) capacity or authority is/are as:

- ☐ Individual(s)
- ☐ Attorney-in-fact
- ☐ Corporate Officer(s) _____
  Title(s)
- ☐ Guardian/Conservator
- ☐ Partner - Limited/General
- ☐ Trustee(s)
- ☐ Other: _____

representing: _____
Name(s) of Person(s) Entity(ies) Signer is Representing

Additional Information

Method of Signer Identification

Proved to me on the basis of satisfactory evidence:

☐ form(s) of identification ☐ credible witness(es)

Notarial event is detailed in notary journal on:

Page # _____ Entry # _____

Notary contact: _____

Other

☐ Additional Signer ☐ Signer(s) Thumbprints(s)

☐ _____

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WARRANTY / MAINTENANCE BOND

BOND NO. CMS331855-M
PREMIUM is included in Performance Bond.

KNOW ALL MEN BY THESE PRESENTS:

That, Tri Pointe Homes IE-SD, Inc. formerly known as Pardee Homes, as Principal and RLI Insurance Company, a corporation organized and existing under the laws of the State of Illinois and authorized to transact business in the State of California (hereinafter called "Surety"), as Surety, are held and firmly bound unto City of Beaumont,

as Obligee, hereinafter called Obligee, in the amount of Thirty Thousand One Hundred Forty-Nine and 78/100 Dollars ($30,149.78), for the payment of which, well and truly to be made, we bind ourselves, our heirs, administrators, executors, successors and assigns, jointly and severally, firmly by these presents.

Whereas, the above bounden Principal has entered into a certain written contract with the above named Obligee, providing for construction of certain subdivision improvements for Atwell Traffic Signal - Highland Springs Ave and Starlight Ave in the City of Beaumont, State of California; and

WHEREAS, said work has been or will be completed by Principal.

NOW, THEREFORE, if said Principal shall promptly replace and repair any work proven to be defective because of faulty workmanship and/or material within a period of one (1) year from date of acceptance of the work by the Obligee, then this obligation to be void; Otherwise to remain in full force and effect.

Signed, Sealed and Dated this 10th day of May 2021.

Tri Pointe Homes IE-SD, Inc. formerly known as Pardee Homes
(Principal) (Seal)

By: _____

RLI Insurance Company
(Surety) (Seal)

By: _____
Michelle Haase, Attorney-in-Fact

RLI INSURANCE COMPANY CORPORATE SEAL ILLINOIS

ALL- PURPOSE
CERTIFICATE OF 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 Orange }

On MAY 10 2021 before me, Janina Monroe, Notary Public
(Here insert name and title of the officer),

personally appeared Michelle Haase,
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.

JANINA MONROE
Notary Public - California
Orange County
Commission # 2244611
My Comm. Expires Jun 25, 2022

WITNESS my hand and official seal.

Notary Public Signature (Notary Public Seal)

ADDITIONAL OPTIONAL INFORMATION

DESCRIPTION OF THE ATTACHED DOCUMENT

(Title or description of attached document)

(Title or description of attached document continued)

Number of Pages _____ Document Date _____

CAPACITY CLAIMED BY THE SIGNER

- ☐ Individual (s)
- ☐ Corporate Officer
  (Title)
- ☐ Partner(s)
- ☒ Attorney-in-Fact
- ☐ Trustee(s)
- ☐ Other _____

2015 Version www.NotaryClasses.com 800-873-9865

INSTRUCTIONS FOR COMPLETING THIS FORM

This form complies with current California statutes regarding notary wording and, if needed, should be completed and attached to the document. Acknowledgments from other states may be completed for documents being sent to that state so long as the wording does not require the California notary to violate California notary law.

- State and County information must be the State and County where the document signer(s) personally appeared before the notary public for acknowledgment.
- Date of notarization must be the date that the signer(s) personally appeared which must also be the same date the acknowledgment is completed.
- The notary public must print his or her name as it appears within his or her commission followed by a comma and then your title (notary public).
- Print the name(s) of document signer(s) who personally appear at the time of notarization.
- Indicate the correct singular or plural forms by crossing off incorrect forms (i.e. ~~he~~/she/~~they,~~ is /~~are~~) or circling the correct forms. Failure to correctly indicate this information may lead to rejection of document recording.
- The notary seal impression must be clear and photographically reproducible. Impression must not cover text or lines. If seal impression smudges, re-seal if a sufficient area permits, otherwise complete a different acknowledgment form.
- Signature of the notary public must match the signature on file with the office of the county clerk.
  - Additional information is not required but could help to ensure this acknowledgment is not misused or attached to a different document.
  - Indicate title or type of attached document, number of pages and date.
  - Indicate the capacity claimed by the signer. If the claimed capacity is a corporate officer, indicate the title (i.e. CEO, CFO, Secretary).
- Securely attach this document to the signed document with a staple.

POWER OF ATTORNEY

RLI Insurance Company
Contractors Bonding and Insurance Company

9025 N. Lindbergh Dr. Peoria, IL 61615
Phone: 800-645-2402

Know All Men by These Presents:

That this Power of Attorney is not valid or in effect unless attached to the bond which it authorizes executed, but may be detached by the approving officer if desired.

That **RLI Insurance Company** and/or **Contractors Bonding and Insurance Company**, each an Illinois corporation, (separately and together, the "Company") do hereby make, constitute and appoint:

Paul Boucher, Janina Monroe, Dennis Langer, Michelle Haase, Timothy Noonan, Adriana Valenzuela, Jennifer Ochs, Martha Barreras, Sarah Campbell, jointly or severally

in the City of Los Angeles, State of California its true and lawful Agent(s) and Attorney(s) in Fact, with full power and authority hereby conferred, to sign, execute, acknowledge and deliver for and on its behalf as Surety, in general, any and all bonds and undertakings in an amount not to exceed **Twenty Five Million** Dollars (**$25,000,000.00**) for any single obligation.

The acknowledgment and execution of such bond by the said Attorney in Fact shall be as binding upon the Company as if such bond had been executed and acknowledged by the regularly elected officers of the Company.

RLI Insurance Company and/or **Contractors Bonding and Insurance Company**, as applicable, have each further certified that the following is a true and exact copy of a Resolution adopted by the Board of Directors of each such corporation, and is now in force, to-wit:

> "All bonds, policies, undertakings, Powers of Attorney or other obligations of the corporation shall be executed in the corporate name of the Company by the President, Secretary, any Assistant Secretary, Treasurer, or any Vice President, or by such other officers as the Board of Directors may authorize. The President, any Vice President, Secretary, any Assistant Secretary, or the Treasurer may appoint Attorneys in Fact or Agents who shall have authority to issue bonds, policies or undertakings in the name of the Company. The corporate seal is not necessary for the validity of any bonds, policies, undertakings, Powers of Attorney or other obligations of the corporation. The signature of any such officer and the corporate seal may be printed by facsimile."

IN WITNESS WHEREOF, the **RLI Insurance Company** and/or **Contractors Bonding and Insurance Company**, as applicable, have caused these presents to be executed by its respective Vice President with its corporate seal affixed this 26th day of April, 2021.

CONTRACTORS BONDING AND INSURANCE COMPANY CORPORATE SEAL ILLINOIS

RLI INSURANCE COMPANY CORPORATE SEAL ILLINOIS

RLI Insurance Company
Contractors Bonding and Insurance Company

By: _____
Barton W. Davis — Vice President

State of Illinois }
County of Peoria } SS

On this 26th day of April, 2021, before me, a Notary Public, personally appeared Barton W. Davis, who being by me duly sworn, acknowledged that he signed the above Power of Attorney as the aforesaid officer of the **RLI Insurance Company** and/or **Contractors Bonding and Insurance Company** and acknowledged said instrument to be the voluntary act and deed of said corporation.

By: _____
Catherine D. Glover — Notary Public

CATHERINE D. GLOVER
OFFICIAL SEAL
Notary Public - State of Illinois
My Commission Expires
March 24, 2024

CERTIFICATE

I, the undersigned officer of **RLI Insurance Company** and/or **Contractors Bonding and Insurance Company**, do hereby certify that the attached Power of Attorney is in full force and effect and is irrevocable; and furthermore, that the Resolution of the Company as set forth in the Power of Attorney, is now in force. In testimony whereof, I have hereunto set my hand and the seal of the **RLI Insurance Company** and/or **Contractors Bonding and Insurance Company** this 10th day of May, 2021.

RLI Insurance Company
Contractors Bonding and Insurance Company

By: _____
Jeffrey D Fick — Corporate Secretary

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 Riverside)

On May 11, 2021 before me, Loretta Saginario-Ballou, Notary Public
(insert name and title of the officer)

personally appeared Jeff Chambers,
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.

LORETTA SAGINARIO-BALLOU
NOTARY PUBLIC - CALIFORNIA
COMMISSION # 2345890
RIVERSIDE COUNTY
My Comm. Exp. February 9, 2025

Signature Loretta Saginario Ballou (Seal)

PW2021-0650

BEAUMONT
CALIFORNIA

April 22, 2021

TriPoint Homes
1250 Corona Pointe Court, Suite 600
Corona, CA 92879
Attn: Rick Rush

RE: Bond No. CMS331855 / Tr. 37298-1 / Atwell Traffic Signal: Highland Springs & Starlight Ave

Dear Rick,

The City of Beaumont has received your request in regards to a reduction of bonds in the above referenced tract. Upon receipt of a maintenance bond in the amount listed below, the city will return the original Performance bond 45 days after recordation and replace it with the maintenance bond to be in place for no less than one year. The amount is as follows:

Project Name	Maintenance Amount
Atwell Traffic Signal: Highland Springs & Starlight Ave.	$30,149.78

If you wish to discuss this matter further please do not hesitate to contact me at (951) 769-8520 ext. 329

Thank you,

Suzanne Foxworth
Public Works Technician

Cost Estimate Review- 2/11/2020
Padma Asam/ NV5
Approved for bonding. No further comments.

Traffic Signal Cost Estimate

Date: January 31, 2020
Job Number: 2467-18-01
By: RK Engineering Group, Inc.
Location: Highland Springs Ave. & Oak Valley Pkwy./ Meadowline Way, City of Beaumont
Prepared for:

Item No.	Description	Qty.	Unit	Unit Cost	Item Cost
2	Controller w/Cabinet (Type 2070E)	1	Ea.	$22,800.00	$22,800
7	Install Controller/Cabinet	1	Ea.	$2,520.00	$2,520
10	2-Channel Detector w/Rack	1	Ea.	$900.00	$900
11	Detector Rack And Power	1	Ea.	$3,000.00	$3,000
14	P.P.B. Pole (4'h), incl. Foundation	1	Ea.	$960.00	$960
16	Type 15 Pole (30'h)	1	Ea.	$4,080.00	$4,080
40	Foundation, 30" x 5'd (Re-bar) <Type 15>	1	Ea.	$864.00	$864
46	Signal Head,12"Ø 3-section LED	5	Ea.	$1,200.00	$6,000
48	Signal Head,12"Ø 5-section LED	3	Ea.	$1,800.00	$5,400
50	LED Module, Signal (Arrow: R,Y or G)	12	Ea.	$300.00	$3,600
51	LED Module, Signal (Ball: R,Y or G)	18	Ea.	$384.00	$6,912
52	Ped Signal Head, LED	3	Ea.	$1,440.00	$4,320
54	Ped Push Button (P.P.B.), ADA Compliant	1	Ea.	$240.00	$240
55	Illuminated Street Name Sign (I.I.S.N.S.)	1	Ea.	$1,560.00	$1,560
69	3" Conduit (Trenched)	62	LF	$28.20	$1,748
73	4" Conduit (Trenched)	37	LF	$36.00	$1,332
83	Video Detection System (Iteris)	0.5	LS	$35,000.00	$17,500
84	Opticom Discriminator	1	Ea.	$2,538.00	$2,538
86	Opticom Detector	2	Ea.	$792.00	$1,584
88	Wiring, Signal (TS Mod.)	1	LS	$8,400.00	$8,400
96	Remove Exist. Signal Pole/Equipment	1	Ea.	$792.00	$792
129	Remove and Salvage Existing Controller and Cabinet	1	Ea.	$396.00	$396
136	Remove & Salvage Mast Arm Mounted Sign	1	Ea.	$126.00	$126
137	Furnish & Install Mast Arm Mounted Sign	1	Ea.	$288.00	$288
138	Remove & Salvage Mast Arm	1	Ea.	$636.00	$636
140	Furnish & Install 45' Mast Arm	2	Ea.	$1,440.00	$2,880
161	SIC 12-pair #19 Cable	156	LF	$4.34	$678

Traffic Signal Cost Estimate

Date:	January 31, 2020	**Location:**	Highland Springs Ave. & Oak Valley Pkwy./ Meadowline Way, City of Beaumont
Job Number:	2467-18-01		
By:	RK Engineering Group, Inc.	**Prepared for:**	

Item No.	Description	Qty.	Unit	Unit Cost	Item Cost
				SUBTOTAL	$102,054
				Engineering/Mobilization	0.00% $0
				Fees, Permits, Supervision	0.00% $0
				Contingencies	15.00% $15,308
				TOTAL	$117,362

SEAL

RK engineering group, inc.
4000 Westerly Place, Suite 280 · Newport Beach, CA 92660
Phone: (949) 474-0809 · Fax (949) 474-0902

Reviewed By: Date: 01/31/20

Robert Kahn R.C.E. No. 20285 Exp. 09/30/21

Traffic Signal Cost Estimate

Date:	January 31, 2020	**Location:**	Highland Springs Ave.& Starlight/Atwell Dr. City of Beaumont
Job Number:	2467-18-01		
By:	RK Engineering Group, Inc.	**Prepared for:**	

Item No.	Description	Qty.	Unit	Unit Cost	Item Cost
14	P.P.B. Pole (4'h), incl. Foundation	2	Ea.	$960.00	$1,920
15	Type 1A Pole (10'h)	1	Ea.	$960.00	$960
16	Type 15 Pole (30'h)	1	Ea.	$4,080.00	$4,080
26	Type 26 Pole (30'h) - 45' Mast Arm	1	Ea.	$9,120.00	$9,120
31	Type 29 Pole (30'h) - 50' Mast Arm	1	Ea.	$9,504.00	$9,504
39	Foundation, 24" x 3'd (No Re-bar) <Type 1A>	1	Ea.	$720.00	$720
40	Foundation, 30" x 5'd (Re-bar) <Type 15>	1	Ea.	$864.00	$864
43	Foundation, 36" x 9'd (Re-bar) <Type 18-27(c4),28,29>	2	Ea.	$2,640.00	$5,280
46	Signal Head,12"Ø 3-section LED	6	Ea.	$1,200.00	$7,200
47	Signal Head,12"Ø 4-section LED	2	Ea.	$1,560.00	$3,120
48	Signal Head,12"Ø 5-section LED	2	Ea.	$1,800.00	$3,600
50	LED Module, Signal (Arrow: R,Y or G)	6	Ea.	$300.00	$1,800
51	LED Module, Signal (Ball: R,Y or G)	30	Ea.	$384.00	$11,520
52	Ped Signal Head, LED	4	Ea.	$1,440.00	$5,760
54	Ped Push Button (P.P.B.), ADA Compliant	2	Ea.	$240.00	$480
55	Illuminated Street Name Sign (I.I.S.N.S.)	2	Ea.	$1,560.00	$3,120
56	Luminaires	2	Ea.	$1,440.00	$2,880
59	Pull Box #6	7	Ea.	$900.00	$6,300
65	2" Conduit (Trenched)	244	LF	$28.20	$6,881
69	3" Conduit (Trenched)	203	LF	$28.20	$5,725
86	Opticom Detector	2	Ea.	$792.00	$1,584
73	4" Conduit (Trenched)	30	LF	$36.00	$1,080
83	Video Detection System (Iteris)	0.5	LS	$35,000.00	$17,500
137	Furnish & Install Mast Arm Mounted Sign	2	Ea.	$288.00	$576
161	SIC 12-pair #19 Cable	1139	LF	$4.34	$4,948

Traffic Signal Cost Estimate

Date:	January 31, 2020	**Location:**	Highland Springs Ave.& Starlight/Atwell Dr. City of Beaumont
Job Number:	2467-18-01		
By:	RK Engineering Group, Inc.	**Prepared for:**	

Item No.	Description	Qty.	Unit	Unit Cost	Item Cost
				SUBTOTAL	$116,521
				Engineering/Mobilization	0.00% $0
				Fees, Permits, Supervision	0.00% $0
				Contingencies	15.00% $17,478
				TOTAL	$133,999

SEAL

RK engineering group, inc.
4000 Westerly Place, Suite 280 · Newport Beach, CA 92660
Phone: (949) 474-0809 · Fax (949) 474-0902

Reviewed By: Date: 01/31/20

Robert Kahn R.C.E. No. 20285 Exp. 09/30/21

Traffic Signal Cost Estimate

Date:	January 31, 2020	**Location:**	Highland Springs Ave./Sundance Dr. City of Beaumont
Job Number:	2467-18-01		
By:	RK Engineering Group, Inc.	**Prepared for:**	

Item No.	Description	Qty.	Unit	Unit Cost	Item Cost
2	Controller w/Cabinet (Type 2070E)	1	Ea.	$22,800.00	$22,800
7	Install Controller/Cabinet	1	Ea.	$2,520.00	$2,520
10	2-Channel Detector w/Rack	1	Ea.	$900.00	$900
11	Detector Rack And Power	1	Ea.	$3,000.00	$3,000
14	P.P.B. Pole (4'h), incl. Foundation	2	Ea.	$960.00	$1,920
16	Type 15 Pole (30'h)	1	Ea.	$4,080.00	$4,080
22	Type 19 Pole (30'h) - 30' Mast Arm	1	Ea.	$7,800.00	$7,800
40	Foundation, 30" x 5'd (Re-bar) <Type 15>	1	Ea.	$864.00	$864
43	Foundation, 36" x 9'd (Re-bar) <Type 18-27(c4),28,29>	1	Ea.	$2,640.00	$2,640
46	Signal Head,12"Ø 3-section LED	3	Ea.	$1,200.00	$3,600
48	Signal Head,12"Ø 5-section LED	1	Ea.	$1,800.00	$1,800
50	LED Module, Signal (Arrow: R,Y or G)	2	Ea.	$300.00	$600
51	LED Module, Signal (Ball: R,Y or G)	12	Ea.	$384.00	$4,608
52	Ped Signal Head, LED	3	Ea.	$1,440.00	$4,320
54	Ped Push Button (P.P.B.), ADA Compliant	1	Ea.	$240.00	$240
55	Illuminated Street Name Sign (I.I.S.N.S.)	1	Ea.	$1,560.00	$1,560
56	Luminaires	1	Ea.	$1,440.00	$1,440
73	4" Conduit (Trenched)	38	LF	$36.00	$1,368
83	Video Detection System (Iteris)	0.5	LS	$35,000.00	$17,500
84	Opticom Discriminator	1	Ea.	$2,538.00	$2,538
86	Opticom Detector	1	Ea.	$792.00	$792
88	Wiring, Signal (TS Mod.)	1	LS	$8,400.00	$8,400
96	Remove Exist. Signal Pole/Equipment	2	Ea.	$792.00	$1,584
128	Furnish & Install Caltrans Approved Battery Backup System	1	LS	$7,920.00	$7,920
129	Remove and Salvage Existing Controller and Cabinet	1	Ea.	$396.00	$396
137	Furnish & Install Mast Arm Mounted Sign	1	Ea.	$288.00	$288
161	SIC 12-pair #19 Cable	1111	LF	$4.34	$4,826

Traffic Signal Cost Estimate

Date:	January 31, 2020	**Location:**	Highland Springs Ave./Sundance Dr. City of Beaumont
Job Number:	2467-18-01		
By:	RK Engineering Group, Inc.	**Prepared for:**	

Item No.	Description	Qty.	Unit	Unit Cost	Item Cost
				SUBTOTAL	$110,304
				Engineering/Mobilization	0.00% $0
				Fees, Permits, Supervision	0.00% $0
				Contingencies	15.00% $16,546
				TOTAL	$126,850

SEAL

RK engineering group, inc.
4000 Westerly Place, Suite 280 · Newport Beach, CA 92660
Phone: (949) 474-0809 · Fax (949) 474-0902

Reviewed By: Date: 01/31/20

Robert Kahn R.C.E. No. 20285 Exp. 09/30/21

Traffic Signal Cost Estimate

Date:	January 31, 2020	**Location:**	Highland Springs Ave. & Wilson/8th St. City of Beaumont
Job Number:	2467-18-01		
By:	RK Engineering Group, Inc.	**Prepared for:**	

Item No.	Description	Qty.	Unit	Unit Cost	Item Cost
15	Type 1A Pole (10'h)	1	Ea.	$960.00	$960
39	Foundation, 24" x 3'd (No Re-bar) <Type 1A>	1	Ea.	$720.00	$720
46	Signal Head,12"Ø 3-section LED	1	Ea.	$1,200.00	$1,200
50	LED Module, Signal (Arrow: R,Y or G)	3	Ea.	$300.00	$900
52	Ped Signal Head, LED	1	Ea.	$1,440.00	$1,440
54	Ped Push Button (P.P.B.), ADA Compliant	2	Ea.	$240.00	$480
59	Pull Box #6	3	Ea.	$900.00	$2,700
65	2" Conduit (Trenched)	439	LF	$28.20	$12,380
83	Video Detection System (Iteris)	0.5	LS	$35,000.00	$17,500
86	Opticom Detector	2	Ea.	$792.00	$1,584
96	Remove Exist. Signal Pole/Equipment	2	Ea.	$792.00	$1,584
135	Remove & Salvage Existing Signal Head	2	Ea.	$162.00	$324
140	Furnish & Install 45' Mast Arm	1	Ea.	$1,440.00	$1,440
157	Furnish & Install 55' Mast Arm	1	Ea.	$1,600.00	$1,600
161	SIC 12-pair #19 Cable	553	LF	$4.34	$2,402

Traffic Signal Cost Estimate

Date:	January 31, 2020	**Location:**	Highland Springs Ave. & Wilson/8th St. City of Beaumont
Job Number:	2467-18-01		
By:	RK Engineering Group, Inc.	**Prepared for:**	

Item No.	Description	Qty.	Unit	Unit Cost	Item Cost
				SUBTOTAL	$47,214
				Engineering/Mobilization	0.00% $0
				Fees, Permits, Supervision	0.00% $0
				Contingencies	15.00% $7,082
				TOTAL	$54,296

SEAL

RK engineering group, inc.
4000 Westerly Place, Suite 280 · Newport Beach, CA 92660
Phone: (949) 474-0809 · Fax (949) 474-0902

Reviewed By: Date: 01/31/20

Robert Kahn R.C.E. No. 20285 Exp. 09/30/21

IN THE CITY OF BANNING, STATE OF CALIFORNIA

TRACT NO. 37298-1, ATWELL
TRAFFIC SIGNAL INSTALLATION AND MODIFICATION PLANS

CITY OF BANNING GENERAL NOTES:

1. ALL WORK SHALL BE IN ACCORDANCE WITH THESE PLANS, THE CITY OF BANNING STANDARD PLANS, THE CONTRACT PROVISIONS AND THE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION ("GREENBOOK"). ALL REFERENCE SPECIFICATIONS AND STANDARDS SHALL BE THE LATEST EDITION UNLESS OTHERWISE NOTED.
2. WHEN A TECHNICAL CONFLICT IS FOUND TO EXIST IN THE CONTRACT DOCUMENTS THAT CANNOT BE RESOLVED BY REFERENCE TO PRECEDENCE PROVISIONS IN THE "GREENBOOK," THE CONTRACTORS SHALL IMMEDIATELY REPORT SAID CONFLICT TO THE CITY ENGINEERS FOR RESOLUTION.
3. ALL MATERIALS AND METHODS ARE SUBJECT TO THE APPROVAL OF THE CITY ENGINEER.
4. CONSTRUCTION PERMITS SHALL BE OBTAINED FROM THE CITY OF BANNING, ENGINEERING DEPARTMENT, PRIOR TO THE START OF ANY WORK. INSPECTION COORDINATION SHALL BE REQUESTED AT LEAST TWO WORKING DAYS PRIOR TO THE START OF ANY WORK IN PUBLIC RIGHT-OF-WAY WITHIN THE CITY LIMITS. CALL (951) 922-3130 FOR AN INSPECTION REQUEST.
5. THE CONTRACTOR SHALL CONFORM TO ALL CURRENT EDITION OF CA MUTCD TRAFFIC CONTROL POLICIES, METHODS AND PROCEDURES DESCRIBED IN STATE OF CALIFORNIA MANUAL OF TRAFFIC CONTROLS, LATEST NON-METRIC EDITION UNLESS OTHERWISE DIRECTED BY THE CITY ENGINEER.
6. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO MAINTAIN BARRICADES, DELINEATORS OR OTHER TRAFFIC CONTROL DEVICES AT ALL TIMES.
7. THE CONTRACTORS SHALL OBTAIN A PERMIT TO PERFORM EXCAVATION OR TRENCH WORK FOR TRENCHES FIVE (5) FEET OR GREATER IN DEPTH FROM THE CALIFORNIA STATE DIVISION OF INDUSTRIAL SAFETY.
8. THE WALLS AND FACES OF ALL EXCAVATIONS GREATER THAN FIVE (5) FEET IN DEPTH SHALL BE GUARDED BY SHORING, SLOPING OF THE GROUND OR OTHER APPROVED MEANS PURSUANT TO THE REQUIREMENTS OF THE DIVISION OF INDUSTRIAL SAFETY OF THE STATE OF CALIFORNIA. TRENCHES LESS THAN FIVE (5) FEET SHALL ALSO BE GUARDED WHEN THE POTENTIAL EXISTS FOR GROUND MOVEMENT.
9. NO MATERIAL OR EQUIPMENT SHALL BE STORED IN THE PUBLIC RIGHT-OF-WAY WITHOUT OBTAINING A SEPARATE PERMIT FOR THAT PURPOSE.
10. THE LOCATIONS OF UTILITIES SHOWN HAVE BEEN DETERMINED FROM AVAILABLE INFORMATION; HOWEVER, IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO DETERMINE, IN THE FIELD, THE TRUE LOCATION AND ELEVATION OF ANY EXISTING UTILITIES, AND TO EXERCISE PROPER PRECAUTION TO AVOID DAMAGE THERETO. THE CONTRACTOR SHALL CONTACT UNDERGROUND SERVICE ALERT AT 1-800-277-2600 TWO WORKING DAYS BEFORE EXCAVATION.
11. THE CONTRACTOR SHALL COORDINATE CONSTRUCTION WITH ALL UTILITY COMPANIES INCLUDING, BUT NOT LIMITED TO, GAS, TELEPHONE, ELECTRIC, CABLE TELEVISION, LANDSCAPING, LANDSCAPE IRRIGATION, DOMESTIC WATER, RECLAIMED WATER, SEWER, STORM DRAIN, FLOOD CONTROL AND CALTRANS. ALL UTILITY COMPANIES SHALL BE GIVEN TWO WORKING DAYS' NOTICE PRIOR TO WORK AROUND THEIR FACILITIES.
12. THE CONTRACTOR SHALL NOT OPERATE ANY FIRE HYDRANT OR WATER MAIN VALVES WITHOUT APPROPRIATE AGENCY AUTHORIZATION. CONTRACTOR SHALL COORDINATE WITH THE WATER DEPARTMENT, CITY OF BANNING, FOR VALVE OPERATION AND WATER REQUIREMENTS.
13. CURVE DATA REFERS TO THE FACE OF CURB, UNLESS OTHERWISE NOTED.
14. STATIONING REFERS TO THE CENTERLINE OF STREETS EXCEPT WHERE OTHERWISE NOTED.
15. ADEQUATE CONSTRUCTION CONTROL STAKES SHALL BE SET BY THE ENGINEER TO ENABLE THE CONTRACTOR TO CONSTRUCT THE WORK TO THE PLAN GRADE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PRESERVATION OF BENCHMARKS AND CONSTRUCTION CONTROL STAKING DURING CONSTRUCTION.
16. THE CONTRACTOR SHALL NOT DISTURB EXISTING SURVEY MONUMENTS, MONUMENT TIES OR BENCHMARKS WITHOUT PRIOR NOTIFICATION TO THE CITY ENGINEER.
17. REMOVAL AND REPLACEMENT OF EXISTING SURVEY CONTROL, INCLUDING SURVEY MONUMENTS, MONUMENT TIES AND BENCHMARKS, SHALL BE DONE BY A REGISTERED CIVIL ENGINEER OR LICENSED LAND SURVEYOR. SURVEY MONUMENTS THAT WILL BE DESTROYED AS A RESULT OF THIS CONSTRUCTION SHALL BE REPLACED. THE CONTRACTOR SHALL NOTIFY THE ENGINEER ONE WEEK PRIOR TO CONSTRUCTION SO THAT TIES TO MONUMENTS CAN BE ESTABLISHED FOR LATER REPLACEMENT OF THE MONUMENT.
18. THE CONTRACTOR SHALL MAINTAIN ACCESS FOR LOCAL RESIDENTS AND BUSINESSES AT ALL TIMES. A MINIMUM TWELVE (12) FOOT LANE SHALL BE MAINTAINED AT ALL TIMES IN THE CONSTRUCTION AREA FOR RESIDENTS AND EMERGENCY VEHICLES.
19. THE CONTRACTOR SHALL PROVIDE AND MAINTAIN AN EFFECTIVE MEANS OF DUST CONTROL, INCLUDING ADEQUATE WATERING, AT ALL TIMES.
20. ALL GRADING OPERATIONS SHALL BE DISCONTINUED WHEN SUSTAINED WIND VELOCITIES EXCEED 25 MILES PER HOUR.
21. THE CONTRACTOR SHALL NOT CAUSE ANY EXCAVATED MATERIAL, MUD, SILT, OR DEBRIS TO BE DEPOSITED ONTO PUBLIC OR PRIVATE PROPERTY ADJACENT TO THE RIGHT-OF-WAY DURING CONSTRUCTION WITHOUT PRIOR WRITTEN APPROVAL.
22. NO TRENCH BACKFILL SHALL TAKE PLACE WITHOUT PRIOR APPROVAL OF THE CITY INSPECTOR.
23. A GEOTECHNICAL ENGINEER SHALL CERTIFY ALL BACKFILL COMPACTION; FAILURE TO OBTAIN THE REQUIRED DENSITY SHALL REQUIRE REWORKING OF THAT PORTION OF THE WORK UNTIL THE SPECIFIED DENSITY IS OBTAINED.
24. CARE SHOULD BE TAKEN TO PREVENT GRADES, DITCHES, AND SWALES FROM UNDERMINING STREET IMPROVEMENTS. UPON INSPECTION OF THE SITE, THE CITY ENGINEER MAY REQUIRE TEMPORARY NON-ERODIBLE SWALES ENTERING OR LEAVING IMPROVEMENTS.
25. THE FINAL LOCATION AND WIDTH OF DRIVEWAY APPROACH APRONS SHALL BE APPROVED AT THE TIME OF CONSTRUCTION AND SHALL CONFORM TO THE CITY OF BANNING STANDARD DETAILS.
26. ALL EXPOSED CONCRETE SURFACES SHALL CONFORM IN GRADE, COLOR AND FINISH TO MATCH EXISTING CONCRETE.
27. THE CONTRACTOR SHALL STAMP AN "S" IN THE FACE OF THE CURB AT THE LOCATION OF THE SEWER LATERAL.
28. NO CONCRETE SHALL BE PLACED UNTIL THE FORMS AND REINFORCING STEEL HAVE BEEN PLACED, INSPECTED AND APPROVED.
29. ALL UNDERGROUND UTILITIES SHALL BE INSTALLED, TESTED AND APPROVED PRIOR TO PAVING OF STREETS.
30. PAVEMENT STRUCTURAL SECTIONS SHOWN ARE MINIMUM AND SUBJECT TO REVISION AND APPROVAL OF THE CITY ENGINEER AS DETERMINED BY SOILS TESTS TAKEN AFTER COMPLETION OF ROUGH GRADING AND IN CONSIDERATION OF THE APPROPRIATE R-VALUE.
31. ACTUAL THICKNESS OF A.C. PAVEMENT AND/OR BASE COURSE MATERIAL FOR STRUCTURAL STREET SECTIONS SHALL BE RECOMMENDED BY A GEOTECHNICAL REPORT AND SUBMITTED TO THE CITY OF BANNING FOR APPROVAL UPON COMPLETION OF ROUGH GRADING.
32. ALL MANHOLES, CLEANOUT FRAMES, COVERS AND VALVE BOXES SHALL BE RAISED TO FINISHED GRADE BY THE PAVING CONTRACTOR UPON COMPLETION OF PAVING AND PER THE CITY OF BANNING'S REQUIREMENTS.
33. UPON COMPLETION OF CONSTRUCTION, CONTRACTOR SHALL RESTORE ALL SIGNING, STRIPING, BARRICADES, AND OTHER TRAFFIC CONTROL DEVICES TO THE SATISFACTION OF THE CITY ENGINEER.
34. CONTRACTOR SHALL RELOCATE AND/OR REPLACE LANDSCAPING, SPRINKLERS AND SIDEWALKS AFFECTED BY THE CONSTRUCTION TO THE SATISFACTION OF THE CITY ENGINEER.
35. AS-BUILT DRAWINGS SHALL BE PROVIDED BY THE CONTRACTOR TO THE ENGINEER OF RECORD, WHO SHALL PROVIDE RECORD DRAWINGS TO THE CITY ENGINEER.
36. IF AND WHEN TRAFFIC LOOP DETECTORS ARE DISTURBED, THEY SHALL BE REPLACED AS SOON AS POSSIBLE, PER THE CITY ENGINEER'S DIRECTION.
37. STREET NAME AND DIRECTIONAL SIGNS SHALL MEET ALL CA MUTCD AND CITY REQUIREMENTS.

CITY OF BEAUMONT GENERAL NOTES:

1. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE CLEARING OF THE PROPOSED WORK AREA AND RELOCATION COSTS OF ALL EXISTING UTILITIES. THIS INCLUDES UNDERGROUNDING OF EXISTING OVERHEAD LINES ALONG THE PROJECT FRONTAGE AS REQUIRED BY THE CONDITIONS OF APPROVAL. PERMITTEE MUST INFORM CITY OF CONSTRUCTION SCHEDULE AT LEAST 48 HOURS PRIOR TO BEGINNING OF CONSTRUCTION AT (951) 769-8520.
2. ALL WORK SHALL CONFORM TO THE REQUIREMENTS OF THE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION, GREENBOOK, LATEST EDITION AND THE RIVERSIDE COUNTY TRANSPORTATION DEPARTMENT IMPROVEMENT STANDARDS AND SPECIFICATIONS, "LATEST EDITION," COUNTY ORDINANCE NO. 461 AND SUBSEQUENT AMENDMENTS.
3. ALL UNDERGROUND FACILITIES, WITH LATERALS, SHALL BE IN PLACE PRIOR TO PAVING THE STREET SECTION INCLUDING, BUT NOT LIMITED TO, THE FOLLOWING: SEWER, WATER, ELECTRIC, GAS AND STORM DRAIN.
4. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR OR DEVELOPER TO INSTALL AND MAINTAIN ALL CONSTRUCTION, REGULATORY, GUIDE AND WARNING SIGNS WITHIN THE PROJECT LIMITS AND ITS SURROUNDINGS TO PROVIDE SAFE PASSAGE FOR THE TRAVELING PUBLIC AND WORKERS UNTIL THE FINAL COMPLETION AND ACCEPTANCE OF THE PROJECT BY THE CITY. A TRAFFIC CONTROL PLAN MUST BE SUBMITTED WITH APPROVED STREET PLAN FOR REVIEW TO THE PERMITS SECTION OR INSPECTION SECTION (FOR MAP CASES) PRIOR TO OBTAINING AN ENCROACHMENT PERMIT.
5. ANY PRIVATE DRAINAGE FACILITIES SHOWN ON THESE PLANS ARE FOR INFORMATION ONLY. BY SIGNING THESE IMPROVEMENT PLANS, NO REVIEW OR APPROVAL OF THESE PRIVATE FACILITIES ARE IMPLIED OR INTENDED BY CITY OF BEAUMONT PUBLIC WORKS DEPT.
6. THE DEVELOPER WILL INSTALL STREET NAME SIGNS CONFORMING TO R.C.T.D. STANDARD NO. 816.
7. ALL STREET SECTIONS ARE TENTATIVE. ADDITIONAL SOIL TESTS SHALL BE TAKEN AFTER ROUGH GRADING TO DETERMINE THE EXACT STREET SECTION REQUIREMENTS. USE R.C.T.D. STANDARD NO. 401 IF EXPANSIVE SOILS ARE ENCOUNTERED.
8. IT SHALL BE THE RESPONSIBILITY OF THE DEVELOPER TO NOTIFY THE ENGINEER TO INSTALL STREET CENTERLINE MONUMENTS AS REQUIRED BY RIVERSIDE COUNTY ORDINANCE NO. 461. IF CONSTRUCTION CENTERLINE DIFFERS, PROVIDE A TIE TO EXISTING CENTERLINE OF RIGHT-OF-WAY. PRIOR TO ROAD CONSTRUCTION, SURVEY MONUMENTS INCLUDING CENTERLINE MONUMENTS, TIE POINTS, PROPERTY CORNERS AND BENCH MARKS SHALL BE REFERENCED OUT AND CORNER RECORDS FILED WITH THE COUNTY SURVEYOR PURSUANT TO SECTION 8771 OF THE BUSINESS & PROFESSIONAL CODE. SURVEY POINTS DESTROYED DURING CONSTRUCTION SHALL BE RESET, AND A SECOND CORNER RECORD FILED FOR THOSE POINTS PRIOR TO COMPLETION AND ACCEPTANCE OF THE IMPROVEMENTS.
9. ASPHALTIC EMULSION (FOG SEAL) SHALL BE APPLIED NOT LESS THAN FOURTEEN DAYS FOLLOWING PLACEMENT OF THE ASPHALT SURFACING. FOG SEAL AND PAINT BINDER SHALL BE APPLIED AT A RATE OF 0.05 AND 0.03 GALLON PER SQUARE YARD RESPECTIVELY. ASPHALTIC EMULSION SHALL CONFORM TO SECTIONS 37, 39 AND 94 OF THE STATE STANDARD SPECIFICATIONS.
10. PRIME COAT IS REQUIRED PRIOR TO PAVING ALL GRADES IN EXCESS OF TEN PERCENT.
11. CONSTRUCTION PROJECTS DISTURBING MORE THAN ONE ACRE MUST OBTAIN A NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES PERMIT) OWNERS/DEVELOPERS ARE REQUIRED TO FILE A NOTICE OF INTENT (N0I) WITH THE STATE WATER RESOURCES CONTROL BOARD (SWRCB), PREPARE A STORM WATER POLLUTION PREVENTION PLAN (SWPPP) AND MONITORING PLAN FOR THE SITE.
12. THE DEVELOPER SHALL BE RESPONSIBLE FOR THE INSTALLATION OF ADDITIONAL SIGNS AND MARKINGS NOT INCLUDED IN THE SIGNING AND STRIPING PLAN WITHIN THE PROJECT AREAS, OR ON ROADWAYS ADJACENT TO THE PROJECT BOUNDARIES, UPON THE REQUEST OF THE DIRECTOR OF PUBLIC WORKS OR HIS DESIGNEE TO IMPROVE TRAFFIC SAFETY ON THE ROADS UNDER THE JURISDICTION OF THE DEVELOPER.
13. IT SHALL BE THE RESPONSIBILITY OF THE DEVELOPER/CONTRACTOR TO APPLY TO THE RIVERSIDE COUNTY FLOOD CONTROL (RCFC) FOR PERMITS WHEN ANY STORM DRAIN PIPE NEEDS TO BE CONNECTED WITH A RCFC FACILITY AND ADD PERMITEE #____ ON THE PLAN.
14. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR OR DEVELOPER TO APPLY TO THE CALIFORNIA DEPARTMENT OF TRANSPORTATION (CALTRANS) FOR AN ENCROACHMENT PERMIT FOR ALL WORK PERFORMED WITHIN STATE RIGHT-OF-WAY.
15. CURB DEPRESSIONS AND DRIVEWAY APPROACHES WILL BE INSTALLED AND CONSTRUCTED ACCORDING TO COUNTY STANDARDS NO. 206 AND/OR 207, AS DIRECTED IN THE FIELD.
16. STREET LIGHTS SHALL BE INSTALLED IN ACCORDANCE WITH THE APPROVED STREET LIGHTING PLAN PER CITY OF BEAUMONT'S APPROVED STREET LIGHTING SPECIFICATIONS.
17. FOR ALL DRIVEWAY RECONSTRUCTION BEYOND RIGHT-OF-WAY, PROOF OF DRIVEWAY OWNER NOTIFICATION IS REQUIRED PRIOR TO CONSTRUCTION.
18. INSTALL STREET TREES IN ACCORDANCE WITH ORDINANCE 461 AND THE COMPREHENSIVE LANDSCAPING GUIDELINES (CHOOSE THREE SPECIES AND NAME THEM HERE).
19. THE DEVELOPER SHALL HAVE GEOTECHNICAL/SOILS ENGINEERING FIRM OBSERVE TRENCHING, BACKFILLING, & SOIL COMPACTION OF ALL UTILITY TRENCHES WITHIN ALL EASEMENTS & ROAD RIGHTS OF WAY. TWO SETS OF COMPACTION REPORTS CERTIFYING THAT WORKS WERE DONE IN CONFORMANCE TO STANDARDS & GEOTECHNICAL REPORT SHALL BE SUBMITTED AFTER EACH UTILITY TRENCH IS COMPLETED & CERTIFIED. COMPACTION REPORT MUST BE SUBMITTED TO THE DEPT. OF PUBLIC WORKS AT LEAST TWO WORKING DAYS BEFORE AGGREGATE BASE MATERIALS ARE PLACED ONSITE.
20. WDID NO.7 33C383910

DECLARATION OF ENGINEER OF RECORD:

I HEREBY DECLARE THAT THE DESIGN OF THE IMPROVEMENTS AS SHOWN ON THESE PLANS COMPLIES WITH PROFESSIONAL ENGINEERING STANDARDS AND PRACTICES. AS THE ENGINEER IN RESPONSIBLE CHARGE OF DESIGN OF THESE IMPROVEMENTS, I ASSUME FULL RESPONSIBLE CHARGE FOR SUCH DESIGN. I UNDERSTAND AND AKNOWLEDGE THAT THE PLAN CHECK OF THESE PLANS BY THE CITY OF BEAUMONT AND BANNING IS A REVIEW FOR THE LIMITED PURPOSE OF ENSURING THAT THE PLANS COMPLY WITH CITY PROCEDURES, AND OTHER APPLICABLE CODES AND ORDINANCES. THE PLAN CHECK IS NOT A DETERMINATION OF THE TECHNICAL ADEQUACY OF THE DESIGN OF THE IMPROVEMENTS. SUCH PLAN CHECK DOES NOT, THEREFORE, RELIEVE ME OF MY RESPONSIBILITY.

AS THE ENGINEER OF RECORD, I AGREE TO DEFEND AND INDEMNIFY THE CITY OF BEAUMONT AND BANNING. ITS OFFICERS, ITS AGENTS, AND ITS EMPLOYEES FROM ANY AND ALL LIABILTY, CLAIMS, DAMAGES, OR INJURIES TO ANY PERSON OR PROPERTY ARISING FROM NEGLIGENT ACTS, ERRORS OR OMMISSIONS OF THE ENGINEER OF RECORD, HIS EMPLOYEES, HIS AGENTS OR HIS CONSULTANTS.

SIGNATURE: Robert Kahn DATE: 11-26-19 LICENSE NO: 20285 EXP: 09-30-21
ROBERT KAHN, PE

CITY OF BEAUMONT

REVIEWD BY: 1.C.G. NV5 1.17.20

CITY ENGINEER (signature) DATE 1/22/20

LEGAL DESCRIPTION

LOTS 1-7, 10; AND PORTIONS OF LOTS 8, 9, 10, 18, & 19; OF TRACT MAP NO. 34330, FILED IN BOOK 429 OF MAPS, PAGES 84 THROUGH 103, INCLUSIVE, IN THE OFFICE OF THE COUNTY RECORDER OF RIVERSIDE COUNTY, CALIFORNIA.

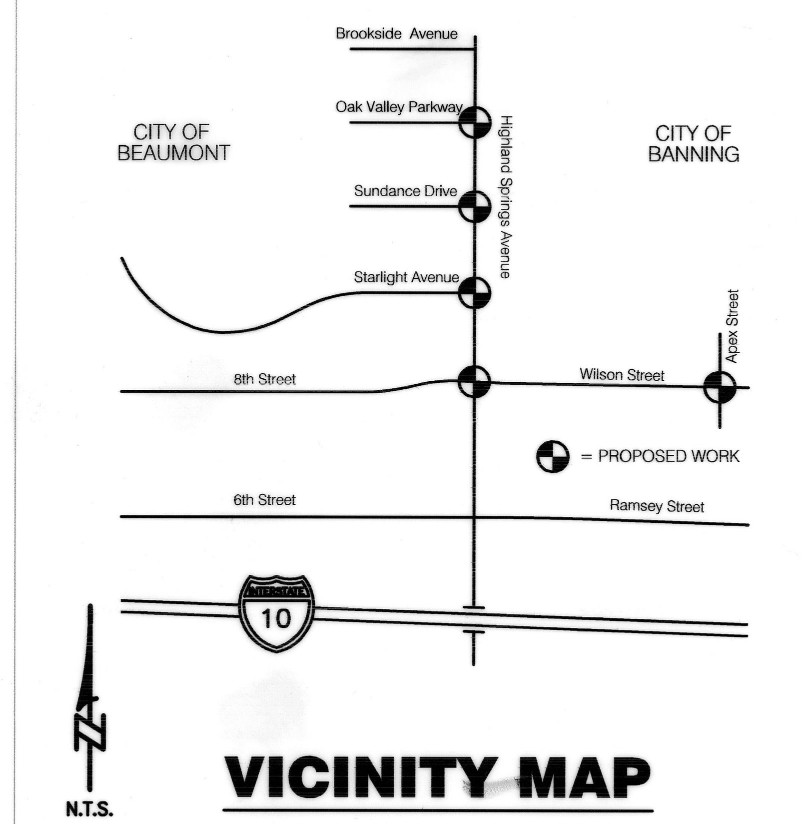
400 0 200 400 800 1600
(1"=400')

ABBREVIATIONS

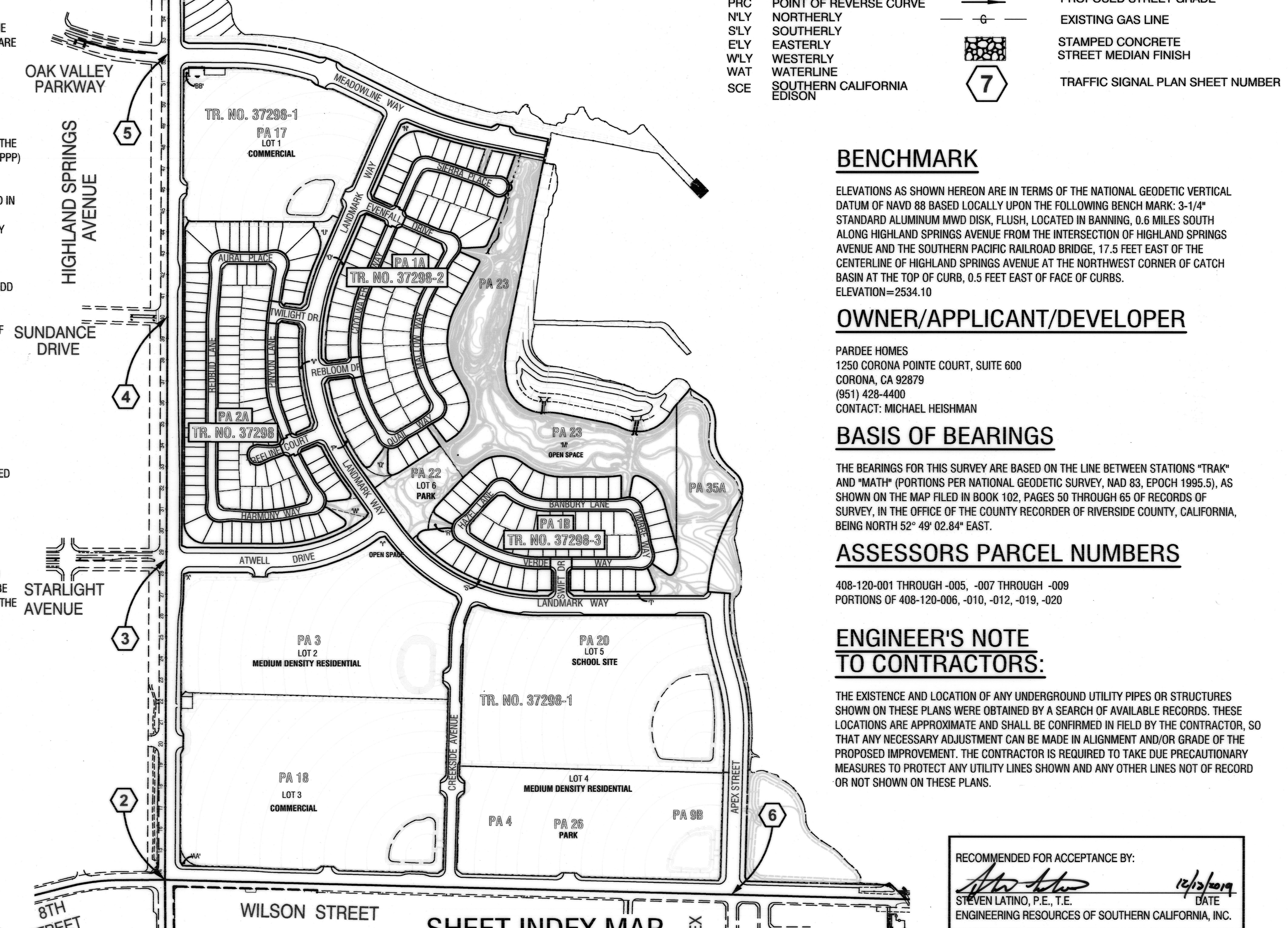
HP	HIGH POINT	PA	PLANNING AREA
LP	LOW POINT	AVG.	AVERAGE
PI	POINT OF INTERSECTION	R/W	RIGHT OF WAY
SD	STORM DRAIN	RW	RETAINING WALL
SS	SANITARY SEWER	TC	TOP OF CURB
DW	POTABLE WATER	GB	GRADE BREAK
RCW	NON-POTABLE WATER	FL	FLOWLINE
G	GAS	BVC	BEGIN VERTICAL CURVE
NO.	NUMBER	MVC	MIDDLE VERTICAL CURVE
▯	DELTA	EVC	END VERTICAL CURVE
R	RADIUS	VC	VERTICAL CURVE
L	LENGTH	TR	TANGENT RATE
MIN	MINIMUM	CB	CATCH BASIN
MAX	MAXIMUM	LT.	LEFT
STA	STATION	RT.	RIGHT
TRAF	TRAFFIC	EX.	EXISTING
VAR	VARIES	TB	TOP OF BERM
A.C.	ASPHALT CEMENT	FS	FINISH SURFACE
CATV	CABLE TELEVISION	FG	FINISH GRADE
ELEC	ELECTRIC	CL	CENTERLINE
ELEV	ELEVATION	ST	STREET
SIG	SIGNAL	BCR	BEGIN CURB RETURN
O.C.	ON CURVE	ECR	END CURB RETURN
<PT	ANGLE POINT	ST.LT.	STREET LIGHT
UDG	UNDERGROUND	BC	BEGINING OF CURVE
		EC	END OF CURVE
		PRC	POINT OF REVERSE CURVE
		N'LY	NORTHERLY
		S'LY	SOUTHERLY
		E'LY	EASTERLY
		W'LY	WESTERLY
		WAT	WATERLINE
		SCE	SOUTHERN CALIFORNIA EDISON

LEGEND

Symbol	Description
	TRACT BOUNDARY
	STREET CENTERLINE
	SIDEWALK
	DAYLIGHT LINE
	PROPOSED CURB & GUTTER
	EXISTING CURB & GUTTER
100	LOT NUMBER
360	HIGHEST SINGLE-FAMILY RESIDENTAIL LOT NUMBER
SD	PROPOSED STORM DRAIN
SS	PROPOSED SANITARY SEWER
DW	PROPOSED POTABLE WATER
RCW	PROPOSED NON-POTABLE WATER
EX.SD	EXISTING STORM DRAIN
EX.SS	EXISTING SANITARY SEWER
EX.DW	EXISTING POTABLE WATER
1.00%	PROPOSED STREET GRADE
G	EXISTING GAS LINE
	STAMPED CONCRETE STREET MEDIAN FINISH
7	TRAFFIC SIGNAL PLAN SHEET NUMBER



VICINITY MAP



SHEET INDEX MAP

SCALE: 1"=400'

BENCHMARK

ELEVATIONS AS SHOWN HEREON ARE IN TERMS OF THE NATIONAL GEODETIC VERTICAL DATUM OF NAVD 88 BASED LOCALLY UPON THE FOLLOWING BENCH MARK: 3-1/4" STANDARD ALUMINUM MWD DISK, FLUSH, LOCATED IN BANNING, 0.6 MILES SOUTH ALONG HIGHLAND SPRINGS AVENUE FROM THE INTERSECTION OF HIGHLAND SPRINGS AVENUE AND THE SOUTHERN PACIFIC RAILROAD BRIDGE, 17.5 FEET EAST OF THE CENTERLINE OF HIGHLAND SPRINGS AVENUE AT THE NORTHWEST CORNER OF CATCH BASIN AT THE TOP OF CURB, 0.5 FEET EAST OF FACE OF CURBS. ELEVATION=2534.10

OWNER/APPLICANT/DEVELOPER

PARDEE HOMES
1250 CORONA POINTE COURT, SUITE 600
CORONA, CA 92879
(951) 428-4400
CONTACT: MICHAEL HEISHMAN

BASIS OF BEARINGS

THE BEARINGS FOR THIS SURVEY ARE BASED ON THE LINE BETWEEN STATIONS "TRAK" AND "MATH" (PORTIONS PER NATIONAL GEODETIC SURVEY, NAD 83, EPOCH 1995.5), AS SHOWN ON THE MAP FILED IN BOOK 102, PAGES 50 THROUGH 65 OF RECORDS OF SURVEY, IN THE OFFICE OF THE COUNTY RECORDER OF RIVERSIDE COUNTY, CALIFORNIA, BEING NORTH 52° 49' 02.84" EAST.

ASSESSORS PARCEL NUMBERS

408-120-001 THROUGH -005, -007 THROUGH -009
PORTIONS OF 408-120-006, -010, -012, -019, -020

ENGINEER'S NOTE TO CONTRACTORS:

THE EXISTENCE AND LOCATION OF ANY UNDERGROUND UTILITY PIPES OR STRUCTURES SHOWN ON THESE PLANS WERE OBTAINED BY A SEARCH OF AVAILABLE RECORDS. THESE LOCATIONS ARE APPROXIMATE AND SHALL BE CONFIRMED IN FIELD BY THE CONTRACTOR, SO THAT ANY NECESSARY ADJUSTMENT CAN BE MADE IN ALIGNMENT AND/OR GRADE OF THE PROPOSED IMPROVEMENT. THE CONTRACTOR IS REQUIRED TO TAKE DUE PRECAUTIONARY MEASURES TO PROTECT ANY UTILITY LINES SHOWN AND ANY OTHER LINES NOT OF RECORD OR NOT SHOWN ON THESE PLANS.

RECOMMENDED FOR ACCEPTANCE BY:
(signature) 12/13/2019
STEVEN LATINO, P.E., T.E. DATE
ENGINEERING RESOURCES OF SOUTHERN CALIFORNIA, INC.

SHEET INDEX

SHEET 1	TITLE SHEET AND SHEET INDEX MAP
SHEET 2	TRAFFIC SIGNAL MODIFICATION PLAN HIGHLAND SPRINGS AVENUE AND 8TH STREET / WILSON STREET
SHEET 3	TRAFFIC SIGNAL PLAN HIGHLAND SPRINGS AVENUE AND STARLIGHT AVENUE
SHEET 4	TRAFFIC SIGNAL MODIFICATION PLAN HIGHLAND SPRINGS AVENUE AND SUNDANCE DRIVE
SHEET 5	TRAFFIC SIGNAL MODIFICATION PLAN HIGHLAND SPRINGS AVENUE AND OAK VALLEY PARKWAY
SHEET 6	TRAFFIC SIGNAL PLAN APEX STREET AT WILSON STREET
SHEET 7	SPECIAL PROVISIONS

WORK TO BE DONE:

THE IMPROVEMENTS CONSIST OF THE FOLLOWING WORK TO BE DONE ACCORDING TO THESE PLANS, AND THE SPECIFICATIONS AND STANDARD DRAWINGS NOTED HEREIN.

STANDARD SPECIFICATIONS DESCRIPTION:

1. CITY OF BANNING "PUBLIC WORKS STANDARD DRAWINGS", DECEMBER 12, 2012.
2. CITY OF BEAUMONT MUNICIPAL CODE AND STANDARD SPECIFICATIONS.
3. COUNTY OF RIVERSIDE TRANSPORTATION DEPARTMENT "ROAD IMPROVEMENT STANDARDS & SPECIFICATIONS", ORDINANCE NO. 461, AS AMENDED BY ORDINANCE NO. 461.10, EFFECTIVE DECEMBER 20, 2007, FOR CITY OF BEAUMONT.
4. CALIFORNIA DEPARTMENT OF TRANSPORTATION "STANDARD PLANS", 2018 EDITION.
5. CALIFORNIA DEPARTMENT OF TRANSPORTATION "STANDARD SPECIFICATIONS", 2015.
6. CALIFORNIA DEPARTMENT OF TRANSPORTATION "CA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES", 2014 EDITION, REVISION 4.
7. AMERICAN PUBLIC WORKS ASSOCIATION STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION (GREENBOOK), 2015 EDITION.

ENGINEER'S NOTES:

CONTRACTOR AGREES THAT HE SHALL ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR JOB SITE CONDITIONS DURING THE COURSE OF CONSCTRUCTION 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 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 ENGINEER.

THE EXISTENCE AND LOCATION OF ANY UNDERGROUND UTILITIES OF STRUCTURES SHOWN ON THESE PLANS ARE OBTAINED BY A DILIGENT SEARCH OF AVAILABLE RECORDS, THE CONTRACTOR IS REQUIRED TO TAKE ALL PRECAUTIONARY MEASURES TO PROTECT THE UTILITIES SHOWN AND ANY OTHER LINES OR STRUCTURES NOT SHOWN ON THESE PLANS AND IS RESPONSIBLE FOR THE PROTECTION OF, ANY DAMAGE TO THESE LINES OR STRUCTURES. THE CONTRACTOR SHALL CALL UNDERGROUND SERVICE ALERT (USA) AT 1-800-227-2600 AT LEAST TWO WORKING DAYS PRIOR TO EXCAVATION IN ORDER TO DETERMINE ACTUAL FIELD LOCATION OF EXISTING UTILITIES.

Call before you Dig
Avoid cutting underground utility lines. It's costly.
Call 811 OR 1-800-227-2600

REVISIONS

MARK		APPR	DATE

PLANS PREPARED BY:
RK engineering group, inc.
NEWPORT BEACH
4000 Westerly Place, Suite 280
Newport Beach, CA 92660
P: 949.474.0809 F: 949.474.0902

SUBMITTED BY:
(signature) 12/16/19
ROBERT KAHN DATE
RCE# 20285 EXP. 09-30-21

REGISTERED PROFESSIONAL ENGINEER — ROBERT KAHN — No. 020285 — Exp. 09-30-21 — CIVIL — STATE OF CALIFORNIA

BANNING, CA — STAGECOACH TOWN USA — Proud History • Prosperous Tomorrow

CITY OF BANNING

RECOMMENDED FOR APPROVAL BY: (signature) 12/26/19
KEVIN D. SIN, RCE #71299 EXP. 12/31/19 DATE
SENIOR CIVIL ENGINEER

APPROVED BY: (signature) 12/30/18
ARTURO VELA, RCE #75696 EXP. 6/30/20 DATE
PUBLIC WORKS DIRECTOR/CITY ENGINEER

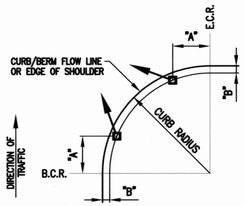
TRAFFIC SIGNAL PLANS
TRACT NO. 37298-1, ATWELL
TITLE SHEET
HIGHLAND SPRINGS AVENUE
SHEET INDEX MAP

W.O. No.
CIP No.
PROJECT No.

POLE AND EQUIPMENT SCHEDULE ■

	STANDARDS				VEH. SIGNAL MTG.		PED. SIG.	P.P.B.		POLE LOC.		L.E.D.	STANDARD MAST ARM MOUNTED I.I.S.N.S. (SEE DETAIL A)	COMMENTS
	TYPE	HEIGHT	SIGNAL M.A.	LUMIN. M.A.	MAST ARM	POLE	MTG.	ø	QUAD	A	B	Luminaire		
A	29-5-100(N)	30'	50'(N)	15'(N)	2-MAS(N)	SV-1-T(N)	SP-1-T(N)	8	3(N)	9.5'	5.5'	41W(N)	Wilson St ➡ (N)	F=19.5'
B	1A	10'	–	–	–	TV-1-T	SP-1-T	2	4	12'	3'	–	–	–
C	✳26-4-161	30'	40'	15'	2-MAS	SV-1-T	SP-1-T	2	4	-3'	7.4'	41W	Highland Springs Ave	–
D	1A	10'	–	–	–	TV-2-T	SP-1-T	4	1	0'	6'	–	–	–
E	PPB	3'10"	–	–	–	–	–	4	1	13.6'	4'	–	–	–
F	29-5-161	30'	55'▲	15'	MAS MAS(N)	SV-1-T	SP-1-T	–	–	10'	17.5'	41W	Eighth St ➡	F=25.5'
G	1A	10'	–	–	–	TV-1-T	SP-1-T	6	2	9.8'	3.1'	–	–	–
H	26-4-161	30'	40'▲	15'	MAS MAS(N)	SV-1-T	SP-1-T	6	2(N)	8.4'	8.2'	41W	Highland Springs Ave	F=21.5'
I	1A(N)	10'	–	–	–	TV-1-T(N)	SP-1-T(N)	8	3(N)	11'	5'	–	–	–

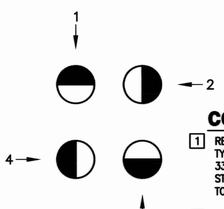
■ EXACT POLE LOCATIONS DETERMINED BY FIELD ENGINEER; POTHOLE POLE FOUNDATIONS PRIOR TO ORDERING POLES.
ALL EQUIPMENT IS EXISTING EXCEPT AS NOTED
(N) = NEW
✳ = INSTALL TYPE V PHOTOELECTRIC CONTROL UNIT ON TRAFFIC SIGNAL POLE
▲ = SIGNAL MAST ARM TO BE REPAINTED.



NOTE: FOR "A" AND "B" DIMENSIONS, SEE POLE SCHEDULE OR AS DIRECTED BY ENGINEER

(TYPICAL SIGNAL POLE PLACEMENT, UNLESS SHOWN ON PLANS)

SIGNAL STANDARD PLACEMENT DIMENSIONS AND EQUIPMENT LOCATIONS

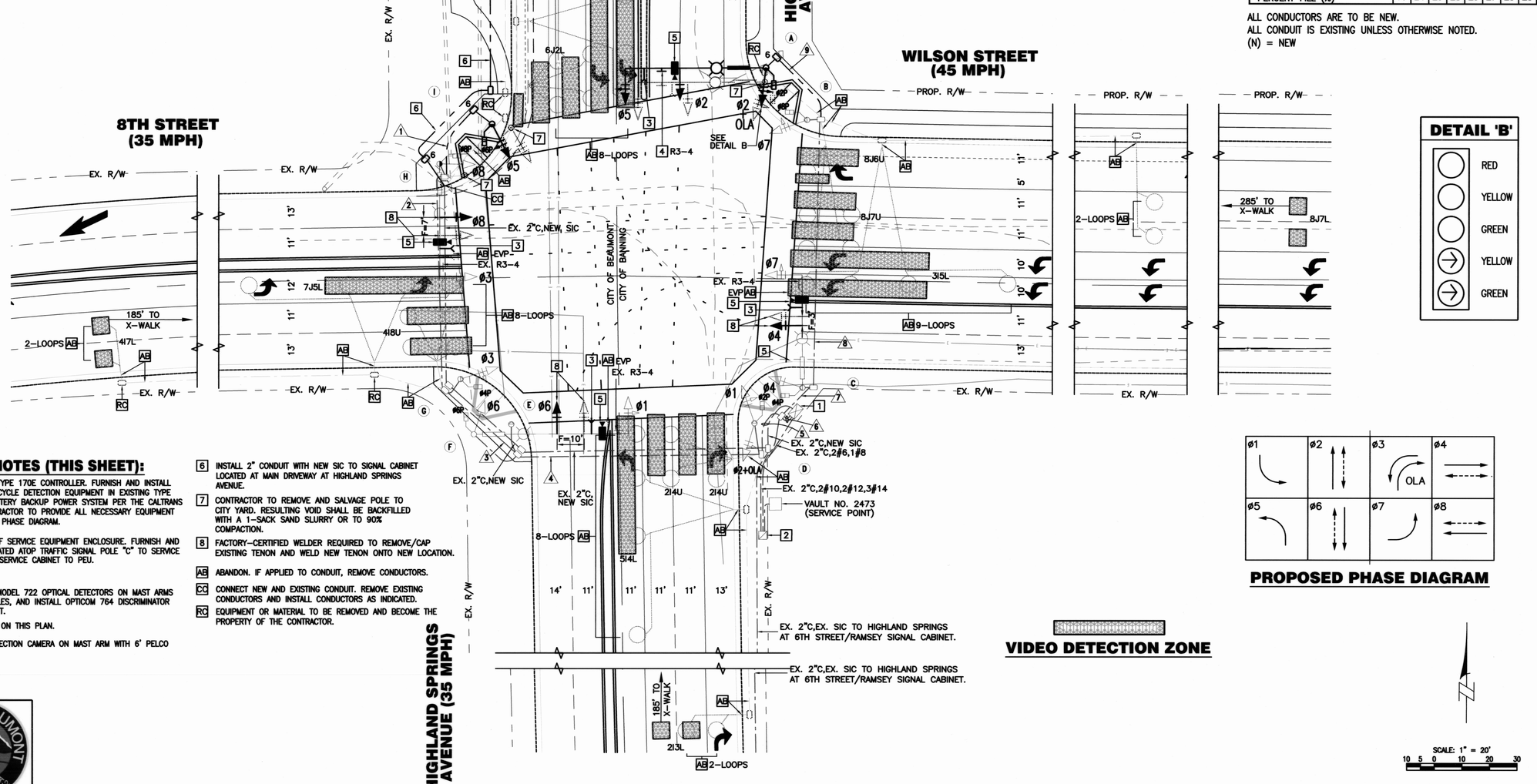


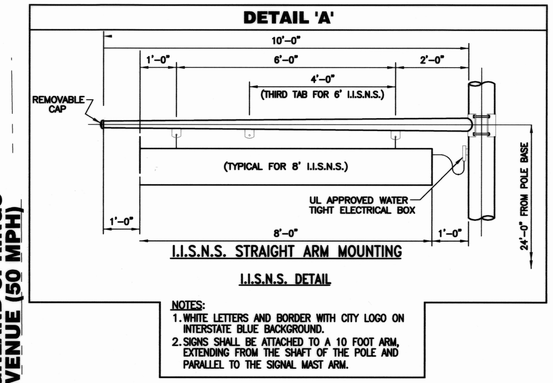
QUADRANT DETAIL
PEDESTRIAN/EQUESTRIAN PUSH BUTTON LOCATION (TOP VIEW)

CONSTRUCTION NOTES (THIS SHEET):

1. REMOVE AND SALVAGE EXISTING TYPE 170E CONTROLLER. FURNISH AND INSTALL TYPE 2070 CONTROLLER WITH BICYCLE DETECTION EQUIPMENT IN EXISTING TYPE 332L CABINET WITH EXISTING BATTERY BACKUP POWER SYSTEM PER THE CALTRANS STANDARD SPECIFICATIONS. CONTRACTOR TO PROVIDE ALL NECESSARY EQUIPMENT TO ACCOMODATE OPERATION PER PHASE DIAGRAM.
2. EXISTING DUAL METER TYPE III-CF SERVICE EQUIPMENT ENCLOSURE. FURNISH AND INSTALL TYPE V PEC TO BE LOCATED ATOP TRAFFIC SIGNAL POLE "C" TO SERVICE CABINET AND ADD 3-#14 FROM SERVICE CABINET TO PEU.
3. FURNISH AND INSTALL OPTICOM MODEL 722 OPTICAL DETECTORS ON MAST ARMS WITH MODEL 138 DETECTOR CABLES, AND INSTALL OPTICOM 764 DISCRIMINATOR MODULES IN CONTROLLER CABINET.
4. INSTALL NEW SIGN AS INDICATED ON THIS PLAN.
5. FURNISH AND INSTALL VIDEO DETECTION CAMERA ON MAST ARM WITH 6' PELCO BRACKET.
6. INSTALL 2" CONDUIT WITH NEW SIC TO SIGNAL CABINET LOCATED AT MAIN DRIVEWAY AT HIGHLAND SPRINGS AVENUE.
7. CONTRACTOR TO REMOVE AND SALVAGE POLE TO CITY YARD. RESULTING VOID SHALL BE BACKFILLED WITH A 1-SACK SAND SLURRY OR TO 90% COMPACTION.
8. FACTORY-CERTIFIED WELDER REQUIRED TO REMOVE/CAP EXISTING TENON AND WELD NEW TENON ONTO NEW LOCATION.

AB ABANDON. IF APPLIED TO CONDUIT, REMOVE CONDUCTORS.
CC CONNECT NEW AND EXISTING CONDUIT. REMOVE EXISTING CONDUCTORS AND INSTALL CONDUCTORS AS INDICATED.
RC EQUIPMENT OR MATERIAL TO BE REMOVED AND BECOME THE PROPERTY OF THE CONTRACTOR.





I.I.S.N.S. STRAIGHT ARM MOUNTING

I.I.S.N.S. DETAIL

NOTES:
1. WHITE LETTERS AND BORDER WITH CITY LOGO ON INTERSTATE BLUE BACKGROUND.
2. SIGNS SHALL BE ATTACHED TO A 10 FOOT ARM, EXTENDING FROM THE SHAFT OF THE POLE AND PARALLEL TO THE SIGNAL MAST ARM.

CONDUCTOR SCHEDULE

AWG SIZE OR CABLE TYPE	POLE OR CIRCUIT	CONDUIT SIZE AND RUN NUMBER							
		2" (N)	3"	3"	4"	4"	2-4"	4"	3"	3" (N)
		1	2	3	4	5	6	7	8	9
12 CSC / 3 CSC	POLE - A	–	–	–	–	–	1	1	1	1
	B	–	–	–	–	–	1	1	1	–
	C	–	–	–	–	–	1	1	–	–
	D	–	–	–	–	1	1	–	–	–
	E	–	–	–	1	1	–	–	–	–
	F	–	–	1	1	1	–	–	–	–
	G	–	1	1	1	1	–	–	–	–
	H	–	1	1	1	1	1	–	–	–
	I	1	1	1	1	1	1	–	–	–
	TOTAL	1	2	3	4	5	8	3	2	1
		1	2	3	4	5	8	3	2	1
#14	PHOTOELECTRIC UNIT	–	–	–	–	–	–	3	–	–
#12	I.I.S.N.S.	–	2	2	2	2	–	2	2	2
#10	LUMINAIRES	–	2	2	2	2	–	2	2	2
#8	GROUND	1	1	1	1	1	1	1	1	1
3M OPTICOM CABLE #138		–	1	1	2	2	4	2	1	1
VIDEO DETECTION		–	1	1	2	2	4	2	1	1
PERCENT FILL (%)		16	24	29	28	29	27	23	25	18

ALL CONDUCTORS ARE TO BE NEW.
ALL CONDUIT IS EXISTING UNLESS OTHERWISE NOTED.
(N) = NEW

PROPOSED PHASE DIAGRAM

VIDEO DETECTION ZONE

SCALE: 1" = 20'
10 5 0 10 20 30

CITY OF BEAUMONT
REVIEWD BY: A.C. NVS 1.17.20
CITY ENGINEER DATE

Call before you Dig
Avoid cutting underground utility lines. It's easily.
Call 811 or 1-800-227-2600

REVISIONS

MARK		APPR	DATE

PLANS PREPARED BY:
RK engineering group, inc.
NEWPORT BEACH
4000 Westerly Place, Suite 280
Newport Beach, CA 92660
P: 949.474.0809 F: 949.474.0902

SUBMITTED BY:
ROBERT KAHN DATE
RCE# 20285 EXP. 09-30-21

REGISTERED PROFESSIONAL ENGINEER ROBERT KAHN No. 020285 Exp. 09-30-21 CIVIL STATE OF CALIFORNIA

CITY OF BANNING
RECOMMENDED FOR APPROVAL BY:
KEVIN D. SIN, RCE #71299 EXP. 12/31/19 — DATE 12/26/19
SENIOR CIVIL ENGINEER
APPROVED BY:
ARTURO VELA, RCE #75696 EXP. 6/30/20 — DATE 12/30/19
PUBLIC WORKS DIRECTOR/CITY ENGINEER

CITY OF BANNING
TRAFFIC SIGNAL MODIFICATION PLAN
HIGHLAND SPRINGS AVE & 8TH STREET / WILSON STREET

W.O. No.
CIP No.
PROJECT No.
SHEET 2 OF 7

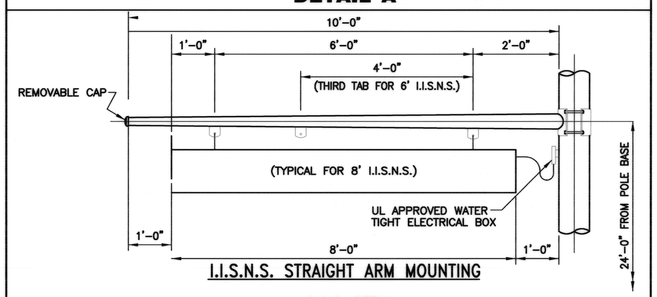
J:\Jobs\24671801-D -Butterfield_Atwell\HS @ Wilson\HS & Wilson.dwg Sheet 2 Plotted By: ovu Date Plotted: 12/04/19

POLE AND EQUIPMENT SCHEDULE

	STANDARDS				VEH. SIGNAL MTG.		PED. SIG.	P.P.B.		POLE LOC.		L.E.D.	STANDARD MAST ARM MOUNTED I.I.S.N.S. (SEE DETAIL A)▲	COMMENTS
	TYPE	HEIGHT	SIGNAL M.A.	LUMIN. M.A.	MAST ARM	POLE	MTG.	ø	QUAD	A	B	Luminaire		
A	26–4–100	30'	45'	15'	2–MAS	SV–1–T	SP–1–T	–	–	0'	11'	41W	Highland Springs Ave	F=15'
AA	PPB	3'10"	–	–	–	–	–	6	3	9'	4.5'	–	–	–
B	15TS	30'	–	15'	–	SV–2–T	SP–1–T	4	4	10'	5'	–	–	–
C	✳ 26–4–100	30'	40'	15'	2–MAS	SV–1–T	SP–1–T	4	4	9'	6.5'	41W	Atwell Dr	F=13'
D	1A	10'	–	–	–	TV–2–T	SP–1–T	2	1	10'	5'	–	–	–
E	19–3–100	30'	25'	15'	1–MAS	SV–1–T	SP–1–T	2	1	9'	6'	41W	Highland Springs Ave	–
F	15TS	30'	–	15'	–	SV–2–T	SP–1–T	3	2	10'	5'	–	–	–
G	29–5–100	30'	50'	15'	2–MAS	SV–1–T	SP–1–T	3	2	9.5'	6.5'	41W	Starlight Ave	F=13'
H	1A	10'	–	–	–	TV–2–T	SP–1–T	–	–	–1.5'	3.5'	–	–	–
HH	PPB	3'10"	–	–	–	–	–	6	3	9.5'	5'	–	–	–

■ EXACT POLE LOCATIONS DETERMINED BY FIELD ENGINEER; POTHOLE POLE FOUNDATIONS PRIOR TO ORDERING POLES.
ALL EQUIPMENT IS NEW
✳ = INSTALL TYPE V PHOTOELECTRIC CONTROL UNIT ON TRAFFIC SIGNAL POLE
▲ IISNS SHALL BE EDGE LIT LED

DETAIL 'A'

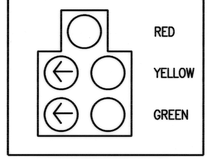


I.I.S.N.S. STRAIGHT ARM MOUNTING

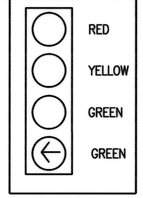
I.I.S.N.S. DETAIL

NOTES:
1. WHITE LETTERS AND BORDER WITH CITY LOGO ON INTERSTATE BLUE BACKGROUND.
2. SIGNS SHALL BE ATTACHED TO A 10 FOOT ARM, EXTENDING FROM THE SHAFT OF THE POLE AND PARALLEL TO THE SIGNAL MAST ARM.

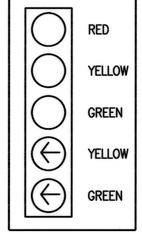
DETAIL 'B'



DETAIL 'D'



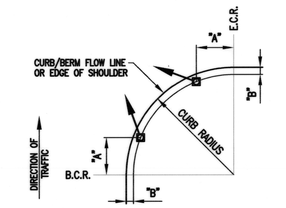
DETAIL 'C'



CONDUCTOR SCHEDULE

AWG SIZE OR CABLE TYPE	POLE OR CIRCUIT	CONDUIT SIZE AND RUN NUMBER								
		3"	3"	4"	2–3"	2–4"	2–4"	2–4"	3"	2"
		1	2	3	4	5	6	7	8	9
12 OSC	POLE – A	–	–	1	1	1	1	–	–	–
	AA	–	–	1	1	1	1	–	–	–
	B	–	–	1	1	1	1	–	–	–
	C	–	–	1	1	1	1	–	–	–
	D	–	–	–	–	1	1	–	–	–
	E	–	–	–	–	1	1	–	–	–
	F	–	–	–	–	1	1	1	1	1
3 OSC	G	1	1	1	1	1	1	–	–	–
	H	–	1	1	1	1	1	–	–	–
	HH	–	1	1	1	1	1	–	–	–
	TOTAL	1	2	3	4	5	8	8	2	1
#14	PHOTOELECTRIC UNIT	–	–	–	–	2	2	–	–	–
#12	I.I.S.N.S.	2	2	2	2	2	–	2	–	
#10	LUMINAIRES	2	2	2	2	2	–	2	–	
#8	GROUND	1	1	1	1	1	1	1	1	
3M OPTICOM CABLE #138		1	1	2	2	3	4	4	1	–
VIDEO DETECTION		1	1	2	2	3	4	4	1	–
PERCENT FILL (%)		18	25	22	24	17	25	24	25	17

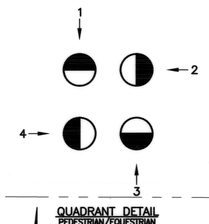
ALL CONDUCTORS AND CONDUITS ARE NEW



NOTE: FOR "A" AND "B" DIMENSIONS, SEE POLE SCHEDULE OR AS DIRECTED BY ENGINEER

(TYPICAL SIGNAL POLE PLACEMENT, UNLESS SHOWN ON PLANS)

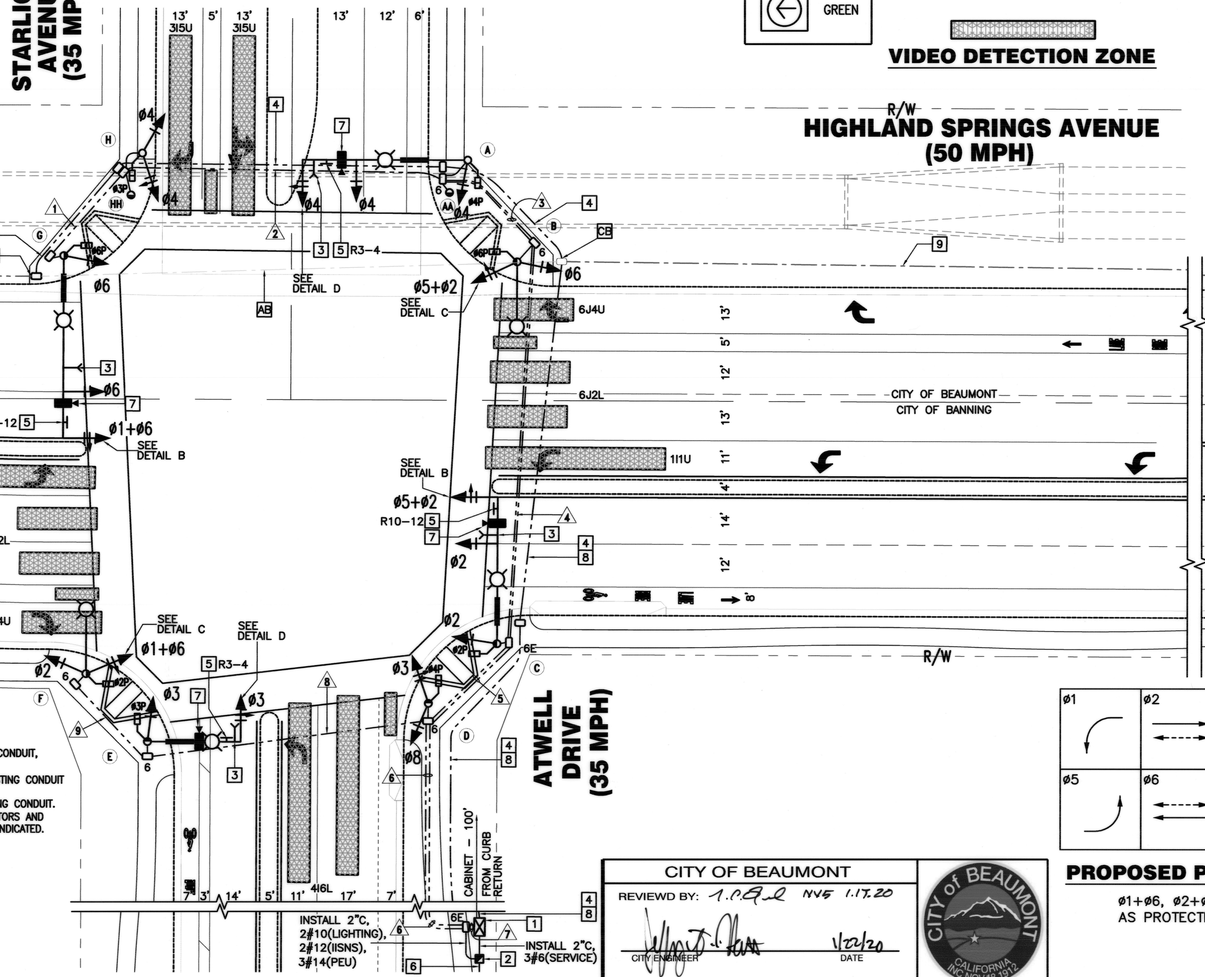
SIGNAL STANDARD PLACEMENT DIMENSIONS AND EQUIPMENT LOCATIONS



QUADRANT DETAIL
PEDESTRIAN/EQUESTRIAN PUSH BUTTON LOCATION (TOP VIEW)

R10–12

R3–4

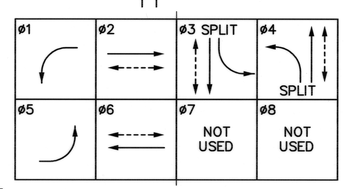


VIDEO DETECTION ZONE

CONSTRUCTION NOTES (THIS SHEET):

1. INSTALL TYPE 2070E CONTROLLER WITH BICYCLE DETECTION EQUIPMENT IN A TYPE 332L CABINET, WITH EXTERNAL MOUNTED BATTERY BACK UP SYSTEM PER THE CALTRANS STANDARD SPECIFICATIONS. CONTRACTOR TO PROVIDE ALL NECESSARY EQUIPMENT TO ACCOMODATE OPERATION PER PLAN.
2. INSTALL TYPE DUAL METER TYPE III–CF SERVICE EQUIPMENT ENCLOSURE WITH ONE 50A–IP CIRCUIT BREAKER FOR METERED SIGNALS, ONE 30A–IP CIRCUIT BREAKER FOR METERED LIGHTING, AND ONE 30A–IP CIRCUIT BREAKERS FOR METERED I.I.S.N.S. PER CALTRANS STD. FURNISH AND INSTALL TYPE V PEC TO BE LOCATED ATOP TRAFFIC SIGNAL POLE "C" TO SERVICE CABINET AND ADD 3–#14 FROM SERVICE CABINET TO PEU.
3. FURNISH AND INSTALL OPTICOM MODEL 722 OPTICAL DETECTORS ON MAST ARMS WITH MODEL 138 DETECTOR CABLES, AND INSTALL OPTICOM 764 DISCRIMINATOR MODULES IN CONTROLLER CABINET.
4. INSTALL 2" CONDUIT WITH NEW SIC TO SIGNAL CABINET LOCATED AT MAIN DRIVEWAY AND HIGHLAND SPRINGS AVENUE.
5. FURNISH AND INSTALL SIGN AS INDICATED ON THIS PLAN.
6. COORDINATE THE SERVICE FEED POINT WITH THE CITY OF BANNING ELECTRIC UTILITY FOR EXACT LOCATION OF TRANSFORMER OR VAULT TO BE USED AT (951) 922–3263.
7. FURNISH AND INSTALL VIDEO DETECTION CAMERA ON MAST ARM WITH 6' PELCO BRACKET.
8. INSTALL 2" CONDUIT AND PULL NEW SIC TO SIGNAL CABINET FROM SUNDANCE DRIVE AND HIGHLAND SPRINGS AVENUE SIGNAL CABINET.
9. PULL NEW SIC IN EXISTING 2" CONDUIT TO SIGNAL CABINET FROM SUNDANCE DRIVE AND HIGHLAND SPRINGS AVENUE SIGNAL CABINET. CONTRACTOR TO PROVIDE NECESSARY EQUIPMENT TO PROVIDE COMMUNICATION BETWEEN CONTROLLERS.

AB ABANDON. IF APPLIED TO CONDUIT, REMOVE CONDUCTORS.
BC INSTALL PULL BOX IN EXISTING CONDUIT RUN.
CC CONNECT NEW AND EXISTING CONDUIT. REMOVE EXISTING CONDUCTORS AND INSTALL CONDUCTORS AS INDICATED.



PROPOSED PHASE DIAGRAM

ø1+ø6, ø2+ø5 SHALL OPERATE AS PROTECTED/PERMISSIVE

SCALE: 1" = 20'
10 5 0 10 20 30

CITY OF BEAUMONT
REVIEWD BY: T.P.G. NVS 1.17.20
CITY ENGINEER 1/22/20 DATE

CITY OF BEAUMONT CALIFORNIA INC. NOV 16, 1912

Call before you Dig
Avoid cutting underground utility lines. It's easy.
Call 811 or 1–800–227–2600

REVISIONS

		APPR	DATE

PLANS PREPARED BY:
RK engineering group, inc.
NEWPORT BEACH
4000 Westerly Place, Suite 280
Newport Beach, CA 92660
P: 949.474.0809 F: 949.474.0902

SUBMITTED BY:
ROBERT KAHN 12/12/19
ROBERT KAHN DATE
RCE# 20285 EXP. 09-30-21

REGISTERED PROFESSIONAL ENGINEER ROBERT KAHN No. 020285 Exp. 09-30-21 CIVIL STATE OF CALIFORNIA

BANNING, CA STAGECOACH TOWN USA

CITY OF BANNING
RECOMMENDED FOR APPROVAL BY:
EXP. 12/31/19 12/26/19 DATE
ARTURO VELA, RCE #75696 EXP. 6/30/20 12/30/19 DATE
PUBLIC WORKS DIRECTOR/CITY ENGINEER

CITY OF BANNING
TRAFFIC SIGNAL PLAN
HIGHLAND SPRINGS AVE & ATWELL DRIVE / STARLIGHT AVENUE

W.O. No.
CIP No.
PROJECT No.
SHEET 3 OF 7

J:\Jobs\24571801–D –Butterfield_Atwell\HS @ Starlight_Ave\HS & Starlight.dwg Sheet: 3 Plotted By: ovu Date Plotted: 12/11/19

POLE AND EQUIPMENT SCHEDULE ■

	STANDARDS				VEH. SIGNAL MTG.		PED. SIG.	P.P.B.		POLE LOC.		L.E.D.	STANDARD MAST ARM MOUNTED I.I.S.N.S. (SEE DETAIL A)	COMMENTS
	TYPE	HEIGHT	SIGNAL M.A.	LUMIN. M.A.	MAST ARM	POLE	MTG.	ø	QUAD	A	B	Luminaire		
Ⓐ	PPB(N)	3'10"	–	–	–	–	–	6(N)	3(N)	12'	4'	–	–	–
Ⓑ	15TS(N)	30'	–	15"(N)	–	SV-2-T(N)	SP-1-T(N)	–	–	10.5'	4'	–	–	–
Ⓒ	26-4-100(N)	30'	40'(N)	15'(N)	2-MAS(N)	SV-2-T(N)	–	–	–	AS SHOWN		41W(N)	Sundance Dr(N)	F=13'
Ⓓ	19-4-100(N)	30'	25'(N)	✳15'(N)	MAS(N)	SV-2-T(N)	SP-1-T(N)	4	4(N)	AS SHOWN		41W(N)	Highland Springs Ave(N)	–
Ⓔ	19-4-100(N)	30'	25'(N)	15'(N)	MAS(N)	SV-2-T(N)	SP-1-T(N)	4	2(N)	11.5'	6.5'	41W(N)	Sundance Dr(N)	–
Ⓕ	PPB(N)	3'10"	–	–	–	–	–	6	3(N)	10.4'	4'	–	–	–
Ⓖ	1A	10'	–	–	–	TV-1-T	SP-1-T(N)	–	–	–2'	5.6'	–	–	–
Ⓗ	26-4-129	30'	–	15'	–	–	–	–	–	–5.6'	4.8'	41W	–	–

■ EXACT POLE LOCATIONS DETERMINED BY FIELD ENGINEER; POTHOLE POLE FOUNDATIONS PRIOR TO ORDERING POLES.
ALL EQUIPMENT IS EXISTING EXCEPT AS NOTED
(N) = NEW
✳ = ROTATE LUMINAIRE 90 DEGREES AS SHOWN ON PLAN.

R73-3

R10-12

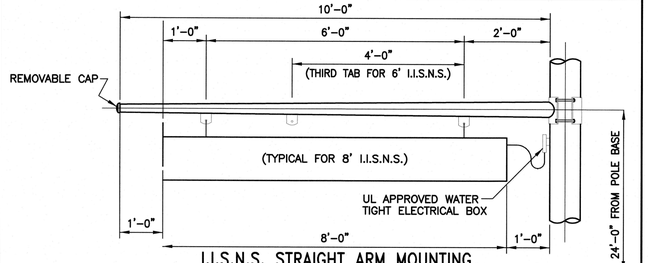
R3-4

QUADRANT DETAIL
PEDESTRIAN/EQUESTRIAN PUSH BUTTON LOCATION (TOP VIEW)

NOTE: FOR "A" AND "B" DIMENSIONS, SEE POLE SCHEDULE OR AS DIRECTED BY ENGINEER
(TYPICAL SIGNAL POLE PLACEMENT, UNLESS SHOWN ON PLANS)

SIGNAL STANDARD PLACEMENT DIMENSIONS AND EQUIPMENT LOCATIONS

DETAIL 'A'

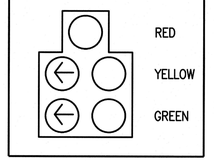


I.I.S.N.S. STRAIGHT ARM MOUNTING

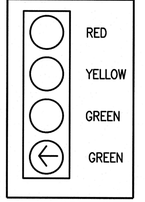
I.I.S.N.S. DETAIL

NOTES:
1. WHITE LETTERS AND BORDER WITH CITY LOGO ON INTERSTATE BLUE BACKGROUND.
2. SIGNS SHALL BE ATTACHED TO A 10 FOOT ARM, EXTENDING FROM THE SHAFT OF THE POLE AND PARALLEL TO THE SIGNAL MAST ARM.

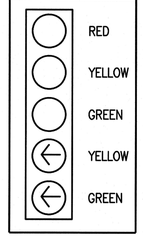
DETAIL 'B'



DETAIL 'D'



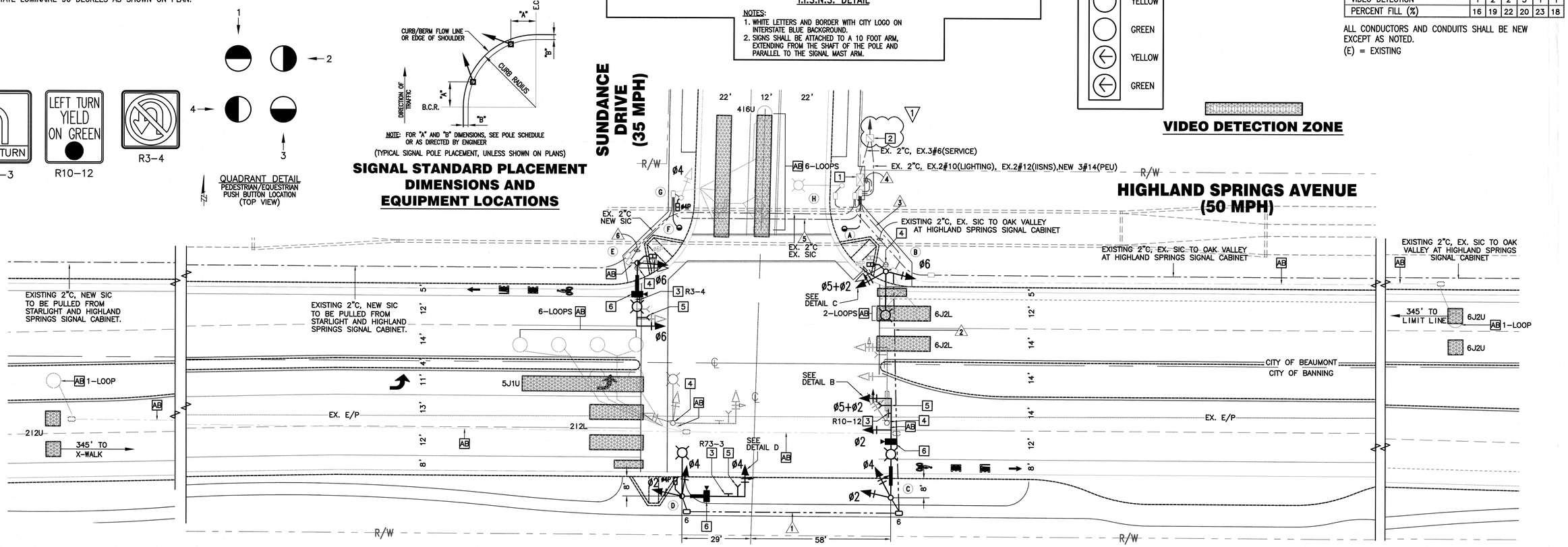
DETAIL 'C'



CONDUCTOR SCHEDULE

AWG SIZE OR CABLE TYPE	POLE OR CIRCUIT	CONDUIT SIZE AND RUN NUMBER 3"	4"	2-4" (E)	3" (E)	3" (E)
		1	2	3	4	5	6
12 CSC	POLE – A	–	–	–	1	–	–
	B	–	–	1	1	–	–
	C	–	1	1	–	–	–
	D	1	1	1	1	–	–
	E	–	–	–	–	1	1
	F	–	–	–	–	1	–
3 CSC	G	–	–	–	1	–	–
	TOTAL	1	1	2	1	3	1	6	4	2	2	1	1
#14	PHOTOELECTRIC UNIT	–	–	–	–	–	–
#12	I.I.S.N.S.	2	2	2	–	2	2
#10	LUMINAIRES	2	2	2	–	2	2
#8	GROUND	1	1	1	1	1	1
3M OPTICOM CABLE #138		1	2	2	3	1	1
VIDEO DETECTION		1	2	2	3	1	1
PERCENT FILL (%)		16	19	22	20	23	18

ALL CONDUCTORS AND CONDUITS SHALL BE NEW EXCEPT AS NOTED.
(E) = EXISTING



CONSTRUCTION NOTES (THIS SHEET):

1. REMOVE AND SALVAGE EXISTING TYPE 170E CONTROLLER. FURNISH AND INSTALL TYPE 2070 CONTROLLER WITH BICYCLE DETECTION EQUIPMENT IN EXISTING TYPE 332L CABINET.FURNISH AND INSTALL BATTERY BACKUP POWER SYSTEM PER THE CALTRANS STANDARD SPECIFICATIONS. CONTRACTOR TO PROVIDE ALL NECESSARY EQUIPMENT TO ACCOMODATE OPERATION PER PHASE DIAGRAM.
2. EXISTING TWO (2) TYPE II-BF 120/240V SERVICE EQUIPMENT TO REMAIN. FURNISH AND INSTALL ONE (1) NEW 50A-1P CIRCUIT BREAKER FOR METERED SIGNALS, ONE (1) NEW 30A-1P CIRCUIT BREAKER FOR METERED LIGHTING AND ONE (1) NEW 30A-1P CIRCUIT BREAKER FOR METERED IISNS. FURNISH AND INSTALL PE RECEPTACLE, TEST SWITCH, CONTACTOR, TERMINAL STRIP AND WIRING. REMOVE AND REPLACE ALL OTHER BRANCH BREAKERS WITH NEW BREAKERS OF THE SAME AMPERAGE AND VOLTAGE. PER CALTRANS STD. FURNISH AND INSTALL TYPE "V" PEC TO BE LOCATED ATOP TRAFFIC SIGNAL POLE "H" TO SERVICE CABINET AND ADD 3-#14 FROM SERVICE CABINET TO PEC.
3. FURNISH AND INSTALL SIGN AS INDICATED ON THIS PLAN.
4. CONTRACTOR TO REMOVE AND SALVAGE POLE TO CITY YARD. RESULTING VOID SHALL BE BACKFILLED WITH A 1-SACK SAND SLURRY OR TO 90% COMPACTION.
5. FURNISH AND INSTALL OPTICOM MODEL 722 OPTICAL DETECTORS ON MAST ARMS WITH MODEL 138 DETECTOR CABLES, AND INSTALL OPTICOM 764 DISCRIMINATOR MODULES IN CONTROLLER CABINET.
6. FURNISH AND INSTALL VIDEO DETECTION CAMERA ON MAST ARM WITH 6' PELCO BRACKET.

AB ABANDON. IF APPLIED TO CONDUIT, REMOVE CONDUCTORS.

PROPOSED PHASE DIAGRAM

ø1 NOT USED	ø2 →	ø4 ↕	NOT USED
ø5 ↱	ø6 ↔	NOT USED	NOT USED

SCALE: 1" = 20'

CITY OF BEAUMONT
REVIEWD BY: NV5 9/24/20
CITY ENGINEER — DATE 09/29/20

SERVICE ADDRESS: 1690 SUNDANCE DRIVE

Call before you Dig
Avoid cutting underground utility lines. It's easy.
Call 811 or 1-800-227-2600

REVISIONS

DATE	NO.	REVISION DESCRIPTION	APPR	DATE
09/04/20	1	UPGRADE EXISTING SERVICE PER CONSTRUCTION NOTE 2.	TCG	9/24/20

PLANS PREPARED BY:
RK engineering group, inc.
NEWPORT BEACH
4000 Westerly Place, Suite 280
Newport Beach, CA 92660
P: 949.474.0809 F: 949.474.0902

SUBMITTED BY:
ROBERT KAHN — DATE 09-04-2020
RCE# 20285 EXP. 09-30-21

REGISTERED PROFESSIONAL ENGINEER — ROBERT KAHN — No. 020285 Exp. 09-30-21 — CIVIL — STATE OF CALIFORNIA

BANNING, CA — STAGECOACH TOWN USA — Proud History • Progressive Tomorrow

CITY OF BANNING
RECOMMENDED FOR APPROVAL BY:
EXP. 12/31/2021 — DATE 10/5/20
ARTURO VELA, RCE #75696 — EXP. 6/30/20 — DATE 10/5/20
PUBLIC WORKS DIRECTOR/CITY ENGINEER

CITY OF BANNING
TRAFFIC SIGNAL MODIFICATION PLAN
HIGHLAND SPRINGS AVE & SUNDANCE DRIVE

W.O. No.
CIP No.
PROJECT No. 3300A
SHEET 4 OF 7

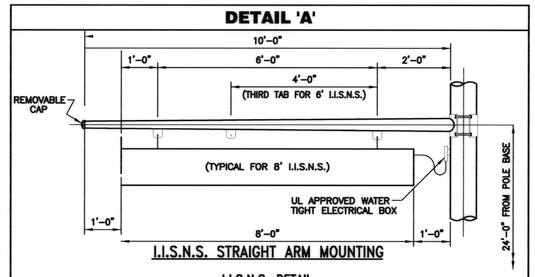
J:\Jobs\24671801-D - Butterfield_Atwell\HS & Sundance Drive\HS & Sundance Dr..dwg Sheet 4 Plotted By: jcarciso Date Plotted: 9/04/20

POLE AND EQUIPMENT SCHEDULE ■

	STANDARDS				VEH. SIGNAL MTG.		PED. SIG.	P.P.B.		POLE LOC.		L.E.D.	STANDARD MAST ARM MOUNTED I.I.S.N.S. (SEE DETAIL A)	COMMENTS
	TYPE	HEIGHT	SIGNAL M.A.	LUMIN. M.A.	MAST ARM	POLE	MTG.	ø	QUAD	A	B	Luminaire		
A	26-4-161	30'	40'(N)	12'	2-MAS(N)	TV-1-T(N)	SP-1-T(N)	–	–	-2'	3.5'	41W(N)	Highland Springs Ave(N)	F=15'
B	PPB(N)	3'10"	–	–	–	–	–	6	3(N)	13.5'	7.5'	–	–	–
C	15TS(N)	30'	–	15'(N)	MAS(N)	SV-1-T(N)	SP-1-T(N)	8	4(N)	12.9'	7'	41W(N)	–	–
D	29-5-100(N)	30'	50'(N)	15'(N)	2-MAS(N)	SV-1-T(N)	SP-1-T(N)	8	4(N)	11'	6'	41W(N)	Meadowline Way(N)	F=23'
E	1A(N)	10'	–	–	–	TV-2-T(N)	SP-1-T(N)	2	1(N)	11.5'	4	–	–	–
F	19-4-161(N)	30'	30'(N)	15'(N)	MAS(N)	SV-1-T(N)	SP-1-T(N)	2	1(N)	10.5'	7.5'	41W(N)	Highland Springs Ave(N)	–
G	15TS(N)	30'	–	15'(N)	–	SV-1-T(N)	SP-1-T(N)	4	2(N)	11'	4'	–	–	–
H	26-4-161	30'	40'(N)	15'	2-MAS(N)	SV-1-T	SP-2-T	4	2	10'	3'	41W(N)	Oak Valley Pkwy	–
I	PPB	3'10"	–	–	–	–	–	6	3	11'	3'	–	–	–
J	1A	10'	–	–	–	TV-2-T(N)	–	–	–	-1.5'	3'	–	–	–

■ EXACT POLE LOCATIONS DETERMINED BY FIELD ENGINEER; POTHOLE POLE FOUNDATIONS PRIOR TO ORDERING POLES.
ALL EQUIPMENT IS EXISTING EXCEPT AS NOTED
(N) = NEW

DETAIL 'A'



I.I.S.N.S. STRAIGHT ARM MOUNTING

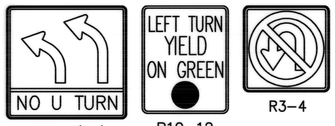
I.I.S.N.S. DETAIL

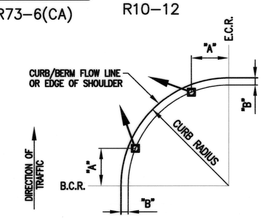
NOTES:
1. WHITE LETTERS AND BORDER WITH CITY LOGO ON INTERSTATE BLUE BACKGROUND.
2. SIGNS SHALL BE ATTACHED TO A 10 FOOT ARM, THE SHAFT OF THE POLE AND PARALLEL TO THE SIGNAL MAST ARM.

CONDUCTOR SCHEDULE

AWG SIZE OR CABLE TYPE	POLE OR CIRCUIT	CONDUIT SIZE AND RUN NUMBER								
		2"	3"	3.5"	4"	2-3"	2-4" (E)	4" (E)	3" (E)	3-4" (E)
		1	2	3	4	5	6	7	8	9
12 CSC / 3 CSC	POLE – A	–	–	–	–	–	1	1	–	–
	B	–	–	–	–	–	–	1	–	–
	C	–	–	–	–	1	1	–	–	–
	D	–	–	–	1	1	1	–	–	–
	E	–	–	–	1	1	1	–	–	–
	F	–	1	1	1	1	1	–	–	–
	G	1	1	1	1	1	1	–	–	–
	H	–	–	–	–	–	1	1	1	1
	I	–	–	–	–	–	1	1	–	–
	J	–	–	–	–	–	1	1	–	–
	TOTAL	1	1	2	3	4	5	8	3	3
#14	PHOTOELECTRIC UNIT	–	–	–	–	–	–	3	–	–
#12	I.I.S.N.S.	–	2	2	2	2	–	2	2	2
#10	LUMINAIRES	–	2	2	2	2	–	2	2	2
#8	GROUND	1	1	1	1	1	1	1	1	1
3M OPTICOM CABLE #138		–	1	1	2	2	4	2	1	1
VIDEO DETECTION		–	1	1	2	2	4	2	1	1
PERCENT FILL (%)		17	24	21	25	25	27	22	23	18

ALL CONDUCTORS AND CONDUITS SHALL BE NEW EXCEPT AS NOTED.
(E) = EXISTING

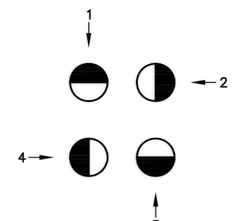




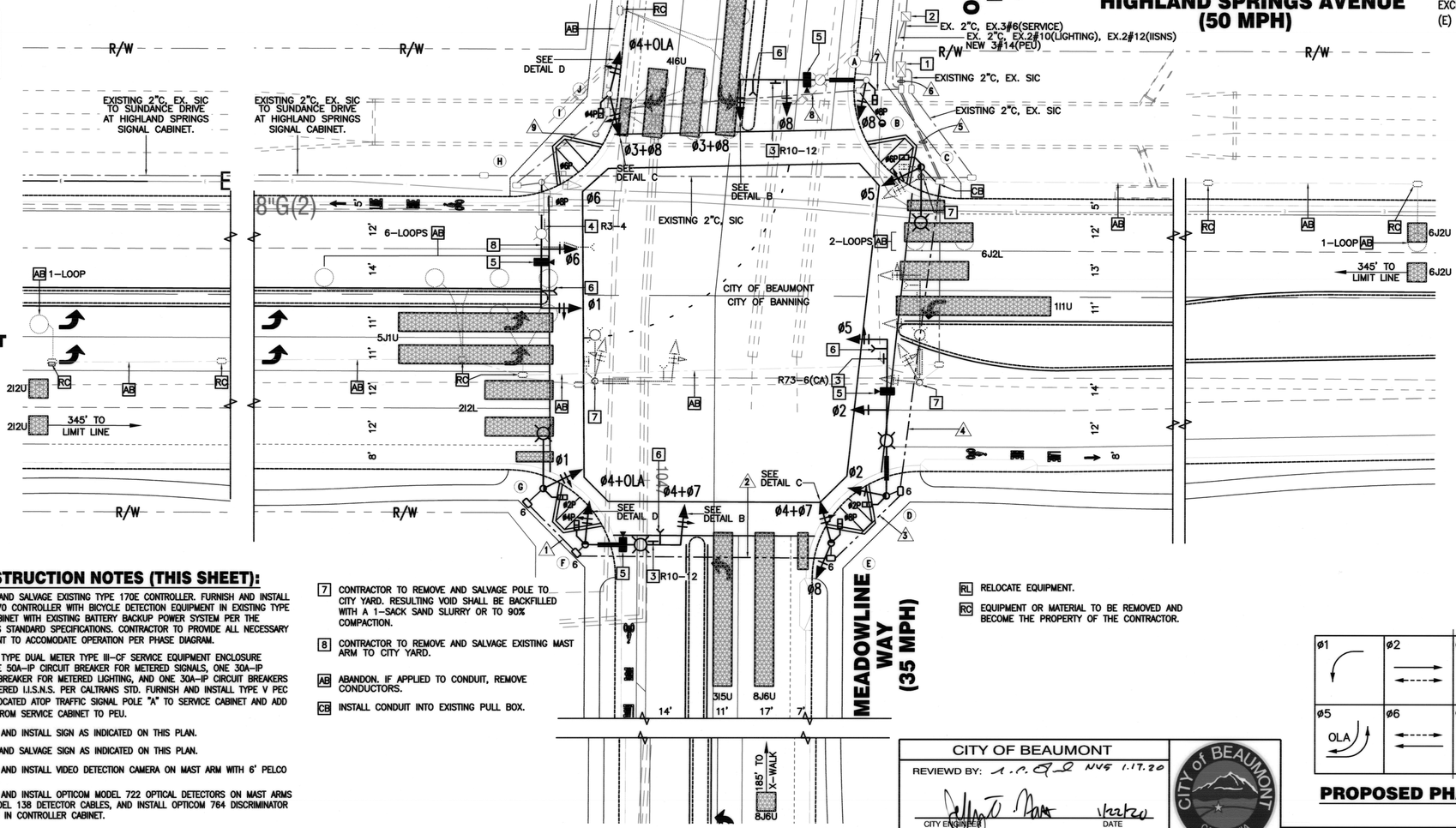
NOTE: FOR "A" AND "B" DIMENSIONS, SEE POLE SCHEDULE OR AS DIRECTED BY ENGINEER

(TYPICAL SIGNAL POLE PLACEMENT, UNLESS SHOWN ON PLANS)

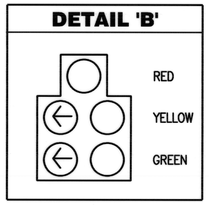
SIGNAL STANDARD PLACEMENT DIMENSIONS AND EQUIPMENT LOCATIONS



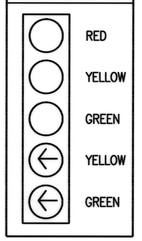
QUADRANT DETAIL
PEDESTRIAN/EQUESTRIAN PUSH BUTTON LOCATION (TOP VIEW)



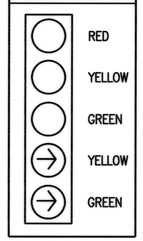
DETAIL 'B'



DETAIL 'C'



DETAIL 'D'



CONSTRUCTION NOTES (THIS SHEET):

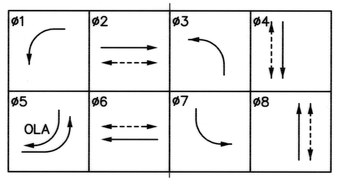
1. REMOVE AND SALVAGE EXISTING TYPE 170E CONTROLLER. FURNISH AND INSTALL TYPE 2070 CONTROLLER WITH BICYCLE DETECTION EQUIPMENT IN EXISTING TYPE 332L CABINET WITH EXISTING BATTERY BACKUP POWER SYSTEM PER THE CALTRANS STANDARD SPECIFICATIONS. CONTRACTOR TO PROVIDE ALL NECESSARY EQUIPMENT TO ACCOMODATE OPERATION PER PHASE DIAGRAM.
2. EXISTING TYPE DUAL METER TYPE III-CF SERVICE EQUIPMENT ENCLOSURE WITH ONE 50A-IP CIRCUIT BREAKER FOR METERED SIGNALS, ONE 30A-IP CIRCUIT BREAKER FOR METERED LIGHTING, AND ONE 30A-IP CIRCUIT BREAKERS FOR METERED I.I.S.N.S. PER CALTRANS STD. FURNISH AND INSTALL TYPE V PEC TO BE LOCATED ATOP TRAFFIC SIGNAL POLE "A" TO SERVICE CABINET AND ADD 3-#14 FROM SERVICE CABINET TO PEU.
3. FURNISH AND INSTALL SIGN AS INDICATED ON THIS PLAN.
4. REMOVE AND SALVAGE SIGN AS INDICATED ON THIS PLAN.
5. FURNISH AND INSTALL VIDEO DETECTION CAMERA ON MAST ARM WITH 6' PELCO BRACKET.
6. FURNISH AND INSTALL OPTICOM MODEL 722 OPTICAL DETECTORS ON MAST ARMS WITH MODEL 138 DETECTOR CABLES, AND INSTALL OPTICOM 764 DISCRIMINATOR MODULES IN CONTROLLER CABINET.
7. CONTRACTOR TO REMOVE AND SALVAGE POLE TO CITY YARD. RESULTING VOID SHALL BE BACKFILLED WITH A 1-SACK SAND SLURRY OR TO 90% COMPACTION.
8. CONTRACTOR TO REMOVE AND SALVAGE EXISTING MAST ARM TO CITY YARD.

AB ABANDON. IF APPLIED TO CONDUIT, REMOVE CONDUCTORS.

CB INSTALL CONDUIT INTO EXISTING PULL BOX.

RL RELOCATE EQUIPMENT.

RC EQUIPMENT OR MATERIAL TO BE REMOVED AND BECOME THE PROPERTY OF THE CONTRACTOR.



PROPOSED PHASE DIAGRAM

SCALE: 1" = 20'
10 5 0 10 20 30

CITY OF BEAUMONT
REVIEWD BY: 1.17.20 1.17.20
CITY ENGINEER DATE

SERVICE ADDRESS: 1698 OAK VALLEY PARKWAY

Call before you Dig
Avoid cutting underground utility lines. It's easy.
Call 811 or 1-800-227-2600

REVISIONS

	APPR	DATE

PLANS PREPARED BY:
RK engineering group, inc.
NEWPORT BEACH
4000 Westerly Place, Suite 280
Newport Beach, CA 92660
P: 949.474.0809 F: 949.474.0902

SUBMITTED BY:
ROBERT KAHN DATE
RCE# 20285 EXP. 09-30-21

REGISTERED PROFESSIONAL ENGINEER ROBERT KAHN No. 020285 Exp. 09-30-21 CIVIL STATE OF CALIFORNIA

STAGECOACH TOWN USA

CITY OF BANNING

RECOMMENDED FOR APPROVAL BY:
EXP. 12/31/19 DATE 12/26/19
ARTURO VELA, RCE #75696 EXP. 6/30/20 DATE 12/30/19
PUBLIC WORKS DIRECTOR/CITY ENGINEER

CITY OF BANNING
TRAFFIC SIGNAL MODIFICATION PLAN
HIGHLAND SPRINGS AVE & MEADOWLINE WAY/OAK VALLEY PARKWAY

W.O. No.
CIP No.
PROJECT No.
SHEET 5 OF 7

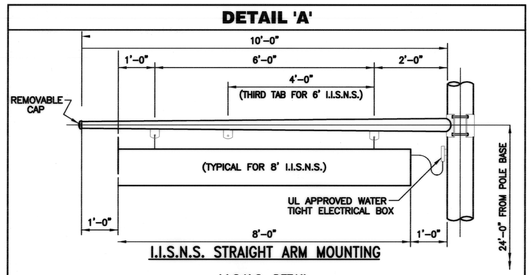
J:\Jobs\24671801--D--Butterfield_Atwell\HS & Oak Valley\HS & Oak Valley.dwg Sheet 5 Plotted By: avu Date Plotted: 12/09/19

POLE AND EQUIPMENT SCHEDULE ■

	STANDARDS				VEH. SIGNAL MTG.		PED. SIG.	P.P.B.		POLE LOC.		L.E.D.	STANDARD MAST ARM MOUNTED I.I.S.N.S. (SEE DETAIL A) ▲	COMMENTS
	TYPE	HEIGHT	SIGNAL M.A.	LUMIN. M.A.	MAST ARM	POLE	MTG.	ø	QUAD	A	B	Luminaire		
(A)	26-4-100	30'	45'	15'	2-MAS	SV-1-T	SP-1-T	4	2	10.8'	7'	41W	Apex St	F=17'
(B)	1A	10'	–	–	–	TV-1-T	SP-1-T	6	3	11'	5'	–	–	–
(C)	24-3-100	30'	35'	15'	MAS	SV-1-T	SP-1-T	6	3	10.7'	6'	41W	Wilson St	–
(D)	15TS	30'	–	15'	–	SV-1-T	SP-1-T	8	4	11'	5'	41W	–	–
(E)	24-4-100	30'	35'	15'	2-MAS	SV-1-T	SP-1-T	8	4	4'	5'	41W	Apex St	F=16'
(F)	1A	10'	–	–	–	TV-1-T	SP-1-T	2	1	6'	5.5'	–	–	–
(G)	PPB	3'10"	–	–	–	–	–	2	1	0'	5.5'	–	–	–
(H)	✳ 17-3-100	30'	20'	15'	MAS	SV-1-T	SP-1-T	–	–	2.9'	9.5'	41W	Wilson St	–
(I)	1A	10'	–	–	–	TV-1-T	SP-1-T	4	2	0'	5.5'	–	–	–

■ EXACT POLE LOCATIONS DETERMINED BY FIELD ENGINEER; POTHOLE POLE FOUNDATIONS PRIOR TO ORDERING POLES.
ALL EQUIPMENT IS NEW.
▲ IISNS SHALL BE EDGE LIT LED
✳ = INSTALL TYPE V PHOTOELECTRIC CONTROL UNIT ON TRAFFIC SIGNAL POLE

DETAIL 'A'



I.I.S.N.S. STRAIGHT ARM MOUNTING

I.I.S.N.S. DETAIL

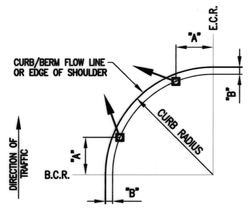
NOTES:
1. WHITE LETTERS AND BORDER WITH CITY LOGO ON INTERSTATE BLUE BACKGROUND.
2. SIGNS SHALL BE ATTACHED TO A 10 FOOT ARM, EXTENDING FROM THE SHAFT OF THE POLE AND PARALLEL TO THE SIGNAL MAST ARM.

CONDUCTOR SCHEDULE

AWG SIZE OR CABLE TYPE	POLE OR CIRCUIT	CONDUIT SIZE AND RUN NUMBER								
		3"	3"	4"	4"	2-4"	2-4"	4"	3"	2"
		1	2	3	4	5	6	7	8	9
12 CSC / 3 CSC	POLE – A	–	–	–	–	1	1	1	1	–
	B	–	–	–	–	1	1	1	1	1
	C	1	1	1	1	1	1	–	–	1
	D	–	1	1	1	1	1	1	–	–
	E	–	–	1	1	1	1	1	–	–
	F	–	–	–	1	1	1	–	–	–
	G	–	–	–	–	1	1	–	–	–
	H	–	–	–	–	1	1	–	–	–
	I	–	–	–	–	1	1	1	–	–
	TOTAL	1	2	3	4	8	8	3	2	1
#14	PHOTOELECTRIC UNIT	–	–	–	–	3	–	–	–	–
#12	I.I.S.N.S.	2	2	2	2	2	–	2	2	–
#10	LUMINAIRES	2	2	2	2	2	–	2	2	–
#8	GROUND	1	1	1	1	1	–	1	1	1
3M OPTICOM CABLE #138		1	1	2	2	4	4	1	1	–
VIDEO DETECTION		1	1	2	2	4	4	1	1	–
PERCENT FILL (%)		16	23	21	25	25	25	17	23	17

ALL CONDUCTORS AND CONDUITS ARE NEW

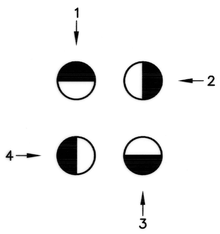
R10-12



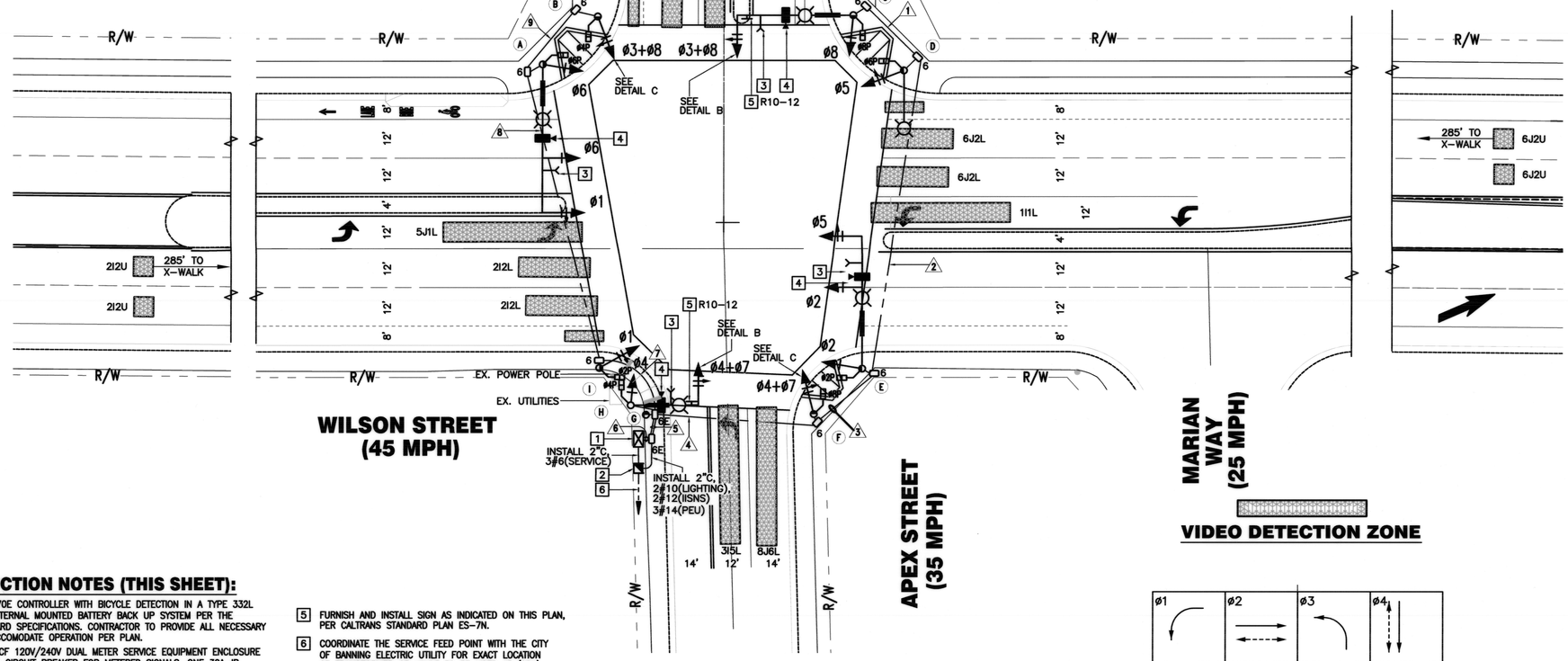
NOTE: FOR "A" AND "B" DIMENSIONS, SEE POLE SCHEDULE OR AS DIRECTED BY ENGINEER

(TYPICAL SIGNAL POLE PLACEMENT, UNLESS SHOWN ON PLANS)

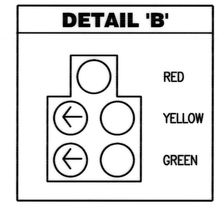
SIGNAL STANDARD PLACEMENT DIMENSIONS AND EQUIPMENT LOCATIONS



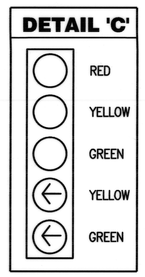
QUADRANT DETAIL
PEDESTRIAN/EQUESTRIAN PUSH BUTTON LOCATION (TOP VIEW)



DETAIL 'B'



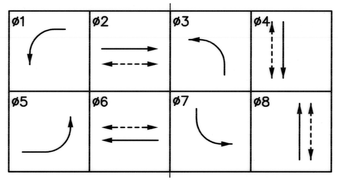
DETAIL 'C'



VIDEO DETECTION ZONE

CONSTRUCTION NOTES (THIS SHEET):

1. INSTALL TYPE 2070E CONTROLLER WITH BICYCLE DETECTION IN A TYPE 332L CABINET, WITH EXTERNAL MOUNTED BATTERY BACK UP SYSTEM PER THE CALTRANS STANDARD SPECIFICATIONS. CONTRACTOR TO PROVIDE ALL NECESSARY EQUIPMENT TO ACCOMODATE OPERATION PER PLAN.
2. INSTALL TYPE III-CF 120V/240V DUAL METER SERVICE EQUIPMENT ENCLOSURE WITH ONE 50A-IP CIRCUIT BREAKER FOR METERED SIGNALS, ONE 30A-IP CIRCUIT BREAKER FOR METERED LIGHTING, AND ONE 30A-IP CIRCUIT BREAKERS FOR METERED I.I.S.N.S. PER CALTRANS STD. FURNISH AND INSTALL TYPE V PEC TO BE LOCATED ATOP TRAFFIC SIGNAL POLE "H" TO SERVICE CABINET AND ADD 3-#14 FROM SERVICE CABINET TO PEU.
3. FURNISH AND INSTALL OPTICOM MODEL 722 OPTICAL DETECTORS ON MAST ARMS WITH MODEL 138 DETECTOR CABLES, AND INSTALL OPTICOM 764 DISCRIMINATOR MODULES IN CONTROLLER CABINET.
4. FURNISH AND INSTALL VIDEO DETECTION CAMERA ON MAST ARM WITH 6' PELCO BRACKET.
5. FURNISH AND INSTALL SIGN AS INDICATED ON THIS PLAN, PER CALTRANS STANDARD PLAN ES-7N.
6. COORDINATE THE SERVICE FEED POINT WITH THE CITY OF BANNING ELECTRIC UTILITY FOR EXACT LOCATION OF TRANSFORMER OR VAULT TO BE USED AT (951) 922-3263.



PROPOSED PHASE DIAGRAM

SCALE: 1" = 20'
10 5 0 10 20 30

Call before you Dig
Avoid cutting underground utility lines. It's easy.
Call 811 or 1-800-227-2600

REVISIONS

	APPR	DATE

PLANS PREPARED BY:
RK engineering group, inc.
NEWPORT BEACH
4000 Westerly Place, Suite 280
Newport Beach, CA 92660
P: 949.474.0809 F: 949.474.0902

SUBMITTED BY:
ROBERT KAHN DATE 12/11/19
RCE# 20285 EXP. 09-30-21

REGISTERED PROFESSIONAL ENGINEER ROBERT KAHN No. 020285 Exp. 09-30-21 CIVIL STATE OF CALIFORNIA

BANNING, CA STAGECOACH TOWN USA Proud History • Prosperous Tomorrow

CITY OF BANNING

RECOMMENDED FOR APPROVAL BY:
EXP. 12/31/19 — DATE 12/26/19
ARTURO VELA, RCE #75696 EXP. 6/30/20 — DATE 12/30/19
PUBLIC WORKS DIRECTOR/CITY ENGINEER

CITY OF BANNING
TRAFFIC SIGNAL PLAN
WILSON STREET & APEX STREET

W.O. No.
CIP No.
PROJECT No.
SHEET 6 OF 7

J:\Jobs\24671801-0 -Butterfield_Atwell\Apex & Wilson\Apex & Wilson.dwg Traffic Signal Plan Plotted By: avu Date Plotted: 12/11/19

SPECIAL PROVISIONS TO STANDARD SPECIFICATIONS FOR TRAFFIC SIGNAL PROJECTS

A. DESCRIPTION:

All new installations and modifications to traffic signals and highway lighting shall conform to the provisions in Section 86, "Signals and Lighting," of the State of California Department of Transportation (CalTrans) Standard Specifications and Standard Plans (latest version), the latest CA-MUTCD (California Manual on Uniform Traffic Control Devices), County of Riverside Ordinace 461 and these Special Provisions.
Traffic signal work is to be performed at the following location:

HIGHLAND SPRINGS AVENUE AT WILSON STREET
HIGHLAND SPRINGS AVENUE AT SUNDANCE DRIVE
HIGHLAND SPRINGS AVENUE AT STARLIGHT AVENUE
HIGHLAND SPRINGS AVENUE AT OAK VALLEY PARKWAY
APEX STREET AT WILSON STREET

B. EQUIPMENT LIST AND DRAWINGS:

The controller cabinet schematic wiring diagram and intersection sketch shall be combined into one drawing so that when the cabinet door is fully open, the drawing is oriented with the intersection.

The Contractor shall furnish a maintenance manual for all controller units, auxiliary equipment and vehicle detector sensor units, control units and amplifiers. The maintenance manual and operation manual may be combined into one manual. The maintenance manual or combined maintenance and operation manual shall be submitted at the time the controllers are delivered for testing or, if ordered by the Engineer, previous to purchase. The maintenance manual shall include, but need not be limited to, the following items:

(a) Specifications
(b) Design characteristics
(c) General operation theory
(d) Function of all controls
(e) Troubleshooting procedure (diagnostic routine)
(f) Block circuit diagram
(g) Geographical layout of components
(h) Schematic diagrams
(i) List of replaceable component parts with stock numbers

The Contractor is required to submit to the Engineer "as-built" prints prior to the City's accepting the installations. The prints shall indicate in red all deviations from the contract plans, such as location of poles, pull boxes and runs, depths of conduit, number of conductors and other appurtenant work for future reference.

The Contractor shall also furnish cabinet inventory sheets. These sheets shall include serial and model numbers of all equipment contained in the cabinet.

The Contractor shall create the initial signal settings and timings for the proposed traffic signal controller operation. A copy of the timing sheet shall be submitted to the City Engineer for approval prior to installation.

C. FOUNDATIONS:

Portland cement concrete shall contain not less than 470 pounds of cement per cubic yard, except concrete for reinforced pile foundations, which shall contain not less than 564 pounds of cement per cubic yard.

D. STANDARDS, STEEL PEDESTALS AND POSTS:

Where the Standard Plans refer to the side tenon detail at the end of the signal mast arm, the applicable tip tenon detail may be substituted.

The traffic signal poles shall not be installed prior to the installation of the traffic signal controller.

The signs and sign mounting hardware as shown on Detail "U" of Standard Plan ES-7N shall be installed at the locations shown on the plans.

E. CONDUIT:

Metallic type conduit shall not be used.

Conduits shall be Type 3, Schedule 80 Polyvinyl Chloride (PVC).

Conduits shall be installed via jacking or drilling per Section 86-2.05C, "Installation," of the Standard Specifications.

After conductors have been installed, the ends of conduits terminating in pull boxes and controller cabinets shall be sealed with an approved type of sealing compound.

All conduit shall be 2", unless otherwise noted.

F. PULL BOXES:

Recesses for suspension of ballast's will not be required.

All pull boxes shall be #5, unless otherwise noted.

Pull boxes installed in unimproved area shall be marked with a Type L marker and be traffic bearing.

G. LUMINAIRES:

Luminaires shall be L.E.D. with type-III distribution.

H. L.E.D. DRIVER:

L.E.D. driver for luminaires shall be mounted within luminaires housing.

I. CONDUCTORS AND WIRING:

Splices shall be insulated by "Method B."

J. BONDING AND GROUTING:

Grounding jumper shall be attached by a 3/16 inch or larger brass bolt in the signal standard or controller pedestal and shall be run to the conduit, ground rod or bonding wire in adjacent pull box.

Grounding jumper shall be visible after cap has been poured on foundation.

Equipment grounding conductors will not be required in conduit containing loop lead-in cables only.

K. SERVICE:

The twelfth paragraph in Section 86-2.11, "Service," of the Standard Specifications is amended to read:

"The Contractor will arrange with the serving utility to complete service connections for both temporary and permanent installations. The Contractor shall pay all costs and fees required by the utility. The City will provide Contractor with address for service cabinet.

Conduit runs between service locations and electrical circuits shall not be placed until the service locations have been verified by the serving utility.

L. VEHICLE SIGNAL FACES AND SIGNAL HEADS:

All lamps for traffic signal units shall be furnished by the Contractor and must conform to the latest CalTrans signal lamp specifications.
Lenses shall be Light Emitting Diode (LED), unless otherwise noted.

Signal section housings shall be metal type.

All vehicle indications shall be 12" diameter and shall have back plates, unless otherwise noted.

M. PEDESTRIAN SIGNALS:

Pedestrian Signal Mounting Assemblies and Pedestrian Signal Housings shall be made from the same manufacturer and the section assemblies shall be uniform in appearance and alignment.
Pedestrian signals shall be provided with a polycarbonate egg crate or Z-crate screen.
Pedestrian signals shall be equipped with light emitting diode countdown pedestrian module.

N. DETECTION:

VIDEO DETECTION

ITERIS VersiCam video detection camera shall be used per this project.

Detection camera shall be installed on mast arm.

O. BATTERY BACK-UP SYSTEM:

The Battery Back-Up System BBS to be installed shall be consistent with the Riverside County specifications for battery back-up systems, dated February 26, 2008.

This specification establishes the minimum requirements for a complete emergency battery back-up system (BBS) for use with Light Emitting Diode (LED) Traffic Signal Modules. The BBS shall include but, not be limited to the following: inverter/charger, power transfer relay, batteries, a separate manually operated non-electronic bypass switch (See Figure 1 - BBS Block Diagram) and all necessary hardware and interconnect wiring. The BBS shall provide reliable emergency power to a traffic signal system (Vehicle and Pedestrian Traffic) in the event of a power failure or interruption.

The BBS shall be capable of providing power for full run-time operation for an "LED-only" intersection (all colors: red, yellow, green and pedestrian heads) or flashing mode operation for an intersection using Red LED's.
The BBS shall be designed for outdoor applications, in accordance with the Transportation Electrical Equipment Specifications (TEES), dated August 16, 2002, Chapter 1, Section 8 requirements.
The BBS shall be listed on the Caltrans Acceptable Brands List (ABL).
The BBS for traffic signal shall have been installed and operational for a period of one year at an intersection in the United States.

Unless specified otherwise, the Battery Backup system Batteries shall be external to the controller cabinet, as specified under Section 2.3 "External Battery Cabinet Option" herein.

P. INTERNALLY ILLUMINATED STREET NAME SIGNS:

Internally Illuminated Street Name Signs (I.I.S.N.S.) shall be double-faced Edge-Lit L.E.D. with photo-electric control.

Sign legends shall be translucent white on blue with 12-inch upper case and 9-inch lower case letters. Minimum copy size for the legend shall be Series C with Series D or E being used whenever message length permits.

Details of color, style, borders and spacing shall conform to the standard established by the County of Riverside.

"Periods" shall not be used on abbreviations. Full-size layouts for each legend shall be submitted to the Engineer for approval prior to fabrication.

The sign fixture shall be designed and constructed to prevent deformation or failure when subjected to 100 mph wind loads, as set forth in the AASHTO publication, Standard Specifications for Structural Supports of Highway Signs, Luminaries, and Traffic Signals, and amendments thereto. The sign panels shall not deform or warp under a 100 mph wind loading. A certificate of Compliance conforming to the provisions in Section 6-1.07, Certificates of Compliance, shall be submitted by the manufacturer with each lot of internally illuminated street name signs.

The signs shall be attached to a 10-foot arm extending from shaft of the pole above and parallel to the signal mast arm. Each 10-foot arm shall have 3 mounting tabs welded to it. The tabs shall be spaced to allow installation of either an eight foot or ten foot sign. A set bolt shall be used to assure the mast arm will not change position after it is installed and aligned.

The mounting assembly shall be designed and constructed to prevent failure when subjected to 100 mph wind loads, as set forth in the AASHTO publication, Standard Specifications for Structural Supports of Highway Signs, Luminaries, and Traffic Signals, and amendments thereto.

Q. EMERGENCY VEHICLE PRE-EMPTION:

The pre-emption system shall be able to identify certain designated vehicles as high priority (emergency types such as fire, police, etc.) and low priority (transit types) via a transmitted optical signal and process for activation of the appropriate phase green or hold a displayed phase green. Pre-set codes in the systems processor (phase selector) shall recognize each vehicle's priority and its class (fire, bus, etc.). The system shall operate on a first come, first served basis except that high priority vehicles shall take precedence over low priority vehicles.

A complete intersection vehicle pre-emption system shall be installed at the intersections as indicated on the contract plan(s) and shall consist of optical detectors (signal receivers) mounted on the indicated signal pole's mast arm (the exact position to be determined in the field); an encoded phase selector within the controller cabinet to activate the phase green; and all cabinet and field wiring to provide an operating system.

The optical detector shall be housed in a weather proof high impact non-corrosive fabricated material; mounting hardware shall also be non-corrosive. Said detector shall incorporate a built-in terminal strip for wire connections.

The optical detector shall have an adjustable responsive range up to 2,500 feet from a discrete optical light source; said discrete light source shall be identified for the proper pre-emption. Operating ambient temperature range shall be -30C to +60C. To achieve optimum operation, the appropriate detector to receive the required optical inputs and electrical outputs (to phase selector) shall be as recommended by the manufacturer.

The phase selector unit provided shall be for either the Model 170E controller or a N.E.M.A. controller as indicated on the plan(s). Installation shall not cause cabinet modification or disrupt normal traffic signal operation unless a valid transmittal is received from an optical detector. The phase selector shall be a two channel device and provide the following functions and features:

Functions
- Only one priority control output (phase green) shall be active at a time.
- High priority signals shall override low priority signals in the same channel or from channel to channel.
- The unit shall have three (3) levels of discriminating the signal.
- All valid signals shall be logged and stored in non-volatile memory; data shall be maintained when power is removed. The following information shall be stored:
  (a) Class
  (b) Code
  (c) Priority
  (d) Direction
  (e) Call duration
  (f) Final greens at end of call
  (g) Duration of final greens displayed
  (h) Time call ended (real time)
  (i) If vehicle passed through intersection

Features
- A port (RS 232 interface) for remote communication via modem.
- A test switch for each channel.
- A pilot light and call status indicator lights.
- Error diagnostic capabilities.

The detector cable shall be a shielded, 3-conductor 20 gage cable with a drain wire and shall conform to the detector and selector manufacturer's recommendation.

R. MODEL 2070E CONTROLLER ASSEMBLIES:

The controller unit, Model 2070E, and its cabinet, Model 332L, shall be in accordance with the provisions of Section No. 86 "Signals, Lighting and Electrical Systems" of the latest edition of the State of California Standard Specifications and these Special Provisions.

Furnishing and installing the required controller assemblies shall be in accordance with the current edition of the State of California Standard Plans, Standard Specifications, the construction plans and the special provisions and these equipment specifications.

All Model 2070E controllers supplied shall have dual Asynchronous Communications Interface Adaptor (ACIA) capability. Dual ACIA's shall be integral to the controller unit. Horizontal printed-circuit board controllers will not be accepted.

The complete control system, including the Model 332L cabinet, shall conform to current State of California, Business and Transportation Agency, Department of Transportation, "Transportation Electrical Equipment Specifications" (TEES) and "Traffic Signal Control Equipment Specifications" (TSCES), including issued addenda.

The above referenced document is available from the State of California, Department of Transportation, Sacramento, for a fee.

The cabinet features shall include push-buttons for manual actuation of all vehicular and pedestrian phases. The buttons shall be rack-mounted. The cabinet shall also be provided with a fluorescent lamp for interior lighting and a pull out drawer assembly. Door lock shall be Corbin No. 2.

An aluminum shelf with integral compartment shall be provided as the next unit installed below the 2070E Local Controller, on all 332L Cabinets. The storage compartment shall have telescoping drawer guides for full extension. The compartment top shall have a non-slip plastic laminate permanently attached. The non-slip laminate SHALL NOT be attached with silicon adhesive.

Each Type 2070 controller assembly consisting of a Model 2070E controller unit shall be furnished with completely wired Model 332L Controller cabinet, Model 222 inductive loop detector sensor units, Model 242 isolators, and Model 210 ECL or equivalent conflict monitor. Conflict monitor shall be capable of monitoring green, amber and red indications. 6A 1220 Baud Internal Modem, Model 204 flasher, units, and other equipment required to provide a complete control system shall be furnished. The Model 332 cabinet shall incorporate a Power Distribution Assembly No. 2 (PDA2L) power distribution assembly. Program 2033 software shall be furnished and installed in each controller unit supplied.

A twelve position interconnect terminal strip shall be provided for termination of the interconnect cable for communication lines.

One C2P modem interconnect harness with a six foot cable shall be wired to the interconnect terminal strip. (Local intersection controller to interconnect terminal strip).

In the cabinet in which the Field Master is installed, an additional C2P modem interconnect harness with a six foot cable shall be wired to the interconnect terminal strip (Field Master controller to interconnect terminal strip). An additional Model 400 modem shall be furnished for the Field Master controller.

Load switch switching circuits shall each be contained in a replacement module (cube type) sealed in epoxy and rated at 15 amperes load (25 amperes triac). Pin 11 on all load switch sockets shall be wired to AC. Output indicators shall be installed on all load switches.

All load switch sockets shall have individual wire terminals; printed circuit boards will not be allowed.

The switching circuit for the flasher unit shall be contained in a replacement module (cube type) sealed in epoxy. The unit shall be rated for 15 amperes load (25 amperes triac).

The Model 332L cabinet shall be equipped with a thermostatically controlled electric fan with ball or roller bearings. A capacity rating of at least 100 cubic feet per minute is required.

Cabinet finish (interior and exterior) shall be anodic coating.

Two (2) complete manuals and four (4) complete cabinet wiring diagrams for each furnished controller assembly shall be supplied in accordance with the above referenced April of 1978 Specifications. The cabinet wiring diagram shall include a reduced schematic drawing (aox. 5.5"x5.5") of the project intersection, which shall include the following, information, at a minimum:
1. Basic intersection geometry, including marked lanes and crosswalks, north arrow and street names.
2. Poles.
3. Traffic signal heads with phase designations.
4. Pedestrian signal heads with phase designations.
5. Loop detectors with input file designations.

The Model 2070E controller and controller cabinet shall be manufactured and furnished by the same manufacturer, and shall form a complete functional controller system capable of providing the traffic signal operation specified. All traffic control equipment to be furnished shall be currently acceptable to CALTRANS. Laboratory, Sacramento, CA, and shall currently be listed on the Department of Transportation Quality Production List (QPL).

The supplier shall perform operational and functional testing of the supplied controller assemblies and additional supplied equipment in accordance with the specifications of the State of California Department of Transportation.

Said tests shall be performed in accordance with current State of California Department of Transportation guidelines; and a Certificate of Compliance shall be issued for each successfully tested controller assembly and additional supplied equipment.

The requirement for the operational and functional testing of the equipment shall be considered as included in the lump sum price paid for traffic signal and lighting, and no additional compensation shall be allowed therefore.

Furnishing, transporting, installing and wiring of traffic signal controller assemblies, including labor, equipment, materials and incidentals, shall be considered as included in the lump sum price paid for traffic signal and lighting, and no additional compensation shall be allowed therefore.

CITY OF BEAUMONT
REVIEWD BY: T.C. NVS 1.17.20
CITY ENGINEER DATE

CITY OF BEAUMONT CALIFORNIA INC NOV 18 1912

Call before you Dig
Avoid cutting underground utility lines. It's easy.
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REVISIONS

		APPR	DATE

PLANS PREPARED BY:
RK engineering group, inc.
NEWPORT BEACH
4000 Westerly Place, Suite 280
Newport Beach, CA 92660
P: 949.474.0809 F: 949.474.0902

SUBMITTED BY:
ROBERT KAHN DATE 12/11/19
RCE# 20285 EXP. 09-30-21

REGISTERED PROFESSIONAL ENGINEER ROBERT KAHN No. 020285 Exp. 09-30-21 CIVIL STATE OF CALIFORNIA

BANNING, CA STAGECOACH TOWN USA Proud History • Prosperous Tomorrow

CITY OF BANNING
RECOMMENDED FOR APPROVAL BY:
EXP. 12/31/19 DATE 12/26/19
ARTURO VELA, RCE #75696 EXP. 6/30/20 DATE 12/30/19
PUBLIC WORKS DIRECTOR/CITY ENGINEER

CITY OF BANNING
SPECIAL PROVISIONS

W.O. No.
CIP No.
PROJECT No.
SHEET 7 OF 7

J:\Jobs\24671801-0 -Butterfield_Revit\HS & Wilson\HS & Wilson.dwg SHEET 7 Plotted By: avu Date Plotted: 12/04/19

IN THE CITY OF BANNING, STATE OF CALIFORNIA

TRACT NO. 37298-1, ATWELL
TRAFFIC SIGNAL INSTALLATION AND MODIFICATION PLANS

CITY OF BANNING GENERAL NOTES:

1. ALL WORK SHALL BE IN ACCORDANCE WITH THESE PLANS, THE CITY OF BANNING STANDARD PLANS, THE CONTRACT PROVISIONS AND THE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION ("GREENBOOK"). ALL REFERENCE SPECIFICATIONS AND STANDARDS SHALL BE THE LATEST EDITION UNLESS OTHERWISE NOTED.
2. WHEN A TECHNICAL CONFLICT IS FOUND TO EXIST IN THE CONTRACT DOCUMENTS THAT CANNOT BE RESOLVED BY REFERENCE TO PRECEDENCE PROVISIONS IN THE "GREENBOOK," THE CONTRACTORS SHALL IMMEDIATELY REPORT SAID CONFLICT TO THE CITY ENGINEERS FOR RESOLUTION.
3. ALL MATERIALS AND METHODS ARE SUBJECT TO THE APPROVAL OF THE CITY ENGINEER.
4. CONSTRUCTION PERMITS SHALL BE OBTAINED FROM THE CITY OF BANNING, ENGINEERING DEPARTMENT, PRIOR TO THE START OF ANY WORK. INSPECTION COORDINATION SHALL BE REQUESTED AT LEAST TWO WORKING DAYS PRIOR TO THE START OF ANY WORK IN PUBLIC RIGHT-OF-WAY WITHIN THE CITY LIMITS. CALL (951) 922-3130 FOR AN INSPECTION REQUEST.
5. THE CONTRACTOR SHALL CONFORM TO ALL CURRENT EDITION OF CA MUTCD TRAFFIC CONTROL POLICIES, METHODS AND PROCEDURES DESCRIBED IN STATE OF CALIFORNIA MANUAL OF TRAFFIC CONTROLS, LATEST NON-METRIC EDITION UNLESS OTHERWISE DIRECTED BY THE CITY ENGINEER.
6. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO MAINTAIN BARRICADES, DELINEATORS OR OTHER TRAFFIC CONTROL DEVICES AT ALL TIMES.
7. THE CONTRACTORS SHALL OBTAIN A PERMIT TO PERFORM EXCAVATION OR TRENCH WORK FOR TRENCHES FIVE (5) FEET OR GREATER IN DEPTH FROM THE CALIFORNIA STATE DIVISION OF INDUSTRIAL SAFETY.
8. THE WALLS AND FACES OF ALL EXCAVATIONS GREATER THAN FIVE (5) FEET IN DEPTH SHALL BE GUARDED BY SHORING, SLOPING OF THE GROUND OR OTHER APPROVED MEANS PURSUANT TO THE REQUIREMENTS OF THE DIVISION OF INDUSTRIAL SAFETY OF THE STATE OF CALIFORNIA. TRENCHES LESS THAN FIVE (5) FEET SHALL ALSO BE GUARDED WHEN THE POTENTIAL EXISTS FOR GROUND MOVEMENT.
9. NO MATERIAL OR EQUIPMENT SHALL BE STORED IN THE PUBLIC RIGHT-OF-WAY WITHOUT OBTAINING A SEPARATE PERMIT FOR THAT PURPOSE.
10. THE LOCATIONS OF UTILITIES SHOWN HAVE BEEN DETERMINED FROM AVAILABLE INFORMATION; HOWEVER, IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO DETERMINE, IN THE FIELD, THE TRUE LOCATION AND ELEVATION OF ANY EXISTING UTILITIES, AND TO EXERCISE PROPER PRECAUTION TO AVOID DAMAGE THERETO. THE CONTRACTOR SHALL CONTACT UNDERGROUND SERVICE ALERT AT 1-800-277-2600 TWO WORKING DAYS BEFORE EXCAVATION.
11. THE CONTRACTOR SHALL COORDINATE CONSTRUCTION WITH ALL UTILITY COMPANIES INCLUDING, BUT NOT LIMITED TO, GAS, TELEPHONE, ELECTRIC, CABLE TELEVISION, LANDSCAPING, LANDSCAPE IRRIGATION, DOMESTIC WATER, RECLAIMED WATER, SEWER, STORM DRAIN, FLOOD CONTROL AND CALTRANS. ALL UTILITY COMPANIES SHALL BE GIVEN TWO WORKING DAYS' NOTICE PRIOR TO WORK AROUND THEIR FACILITIES.
12. THE CONTRACTOR SHALL NOT OPERATE ANY FIRE HYDRANT OR WATER MAIN VALVES WITHOUT APPROPRIATE AGENCY AUTHORIZATION. CONTRACTOR SHALL COORDINATE WITH THE WATER DEPARTMENT, CITY OF BANNING, FOR VALVE OPERATION AND WATER REQUIREMENTS.
13. CURVE DATA REFERS TO THE FACE OF CURB, UNLESS OTHERWISE NOTED.
14. STATIONING REFERS TO THE CENTERLINE OF STREETS EXCEPT WHERE OTHERWISE NOTED.
15. ADEQUATE CONSTRUCTION CONTROL STAKES SHALL BE SET BY THE ENGINEER TO ENABLE THE CONTRACTOR TO CONSTRUCT THE WORK TO THE PLAN GRADE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PRESERVATION OF BENCHMARKS AND CONSTRUCTION CONTROL STAKING DURING CONSTRUCTION.
16. THE CONTRACTOR SHALL NOT DISTURB EXISTING SURVEY MONUMENTS, MONUMENT TIES OR BENCHMARKS WITHOUT PRIOR NOTIFICATION TO THE CITY ENGINEER.
17. REMOVAL AND REPLACEMENT OF EXISTING SURVEY CONTROL, INCLUDING SURVEY MONUMENTS, MONUMENT TIES AND BENCHMARKS, SHALL BE DONE BY A REGISTERED CIVIL ENGINEER OR LICENSED LAND SURVEYOR. SURVEY MONUMENTS THAT WILL BE DESTROYED AS A RESULT OF THIS CONSTRUCTION SHALL BE REPLACED. THE CONTRACTOR SHALL NOTIFY THE ENGINEER ONE WEEK PRIOR TO CONSTRUCTION SO THAT TIES TO MONUMENTS CAN BE ESTABLISHED FOR LATER REPLACEMENT OF THE MONUMENT.
18. THE CONTRACTOR SHALL MAINTAIN ACCESS FOR LOCAL RESIDENTS AND BUSINESSES AT ALL TIMES. A MINIMUM TWELVE (12) FOOT LANE SHALL BE MAINTAINED AT ALL TIMES IN THE CONSTRUCTION AREA FOR RESIDENTS AND EMERGENCY VEHICLES.
19. THE CONTRACTOR SHALL PROVIDE AND MAINTAIN AN EFFECTIVE MEANS OF DUST CONTROL, INCLUDING ADEQUATE WATERING, AT ALL TIMES.
20. ALL GRADING OPERATIONS SHALL BE DISCONTINUED WHEN SUSTAINED WIND VELOCITIES EXCEED 25 MILES PER HOUR.
21. THE CONTRACTOR SHALL NOT CAUSE ANY EXCAVATED MATERIAL, MUD, SILT, OR DEBRIS TO BE DEPOSITED ONTO PUBLIC OR PRIVATE PROPERTY ADJACENT TO THE RIGHT-OF-WAY DURING CONSTRUCTION WITHOUT PRIOR WRITTEN APPROVAL.
22. NO TRENCH BACKFILL SHALL TAKE PLACE WITHOUT PRIOR APPROVAL OF THE CITY INSPECTOR.
23. A GEOTECHNICAL ENGINEER SHALL CERTIFY ALL BACKFILL COMPACTION; FAILURE TO OBTAIN THE REQUIRED DENSITY SHALL REQUIRE REWORKING OF THAT PORTION OF THE WORK UNTIL THE SPECIFIED DENSITY IS OBTAINED.
24. CARE SHOULD BE TAKEN TO PREVENT GRADES, DITCHES, AND SWALES FROM UNDERMINING STREET IMPROVEMENTS. UPON INSPECTION OF THE SITE, THE CITY ENGINEER MAY REQUIRE TEMPORARY NON-ERODIBLE SWALES ENTERING OR LEAVING IMPROVEMENTS.
25. THE FINAL LOCATION AND WIDTH OF DRIVEWAY APPROACH APRONS SHALL BE APPROVED AT THE TIME OF CONSTRUCTION AND SHALL CONFORM TO THE CITY OF BANNING STANDARD DETAILS.
26. ALL EXPOSED CONCRETE SURFACES SHALL CONFORM IN GRADE, COLOR AND FINISH TO MATCH EXISTING CONCRETE.
27. THE CONTRACTOR SHALL STAMP AN "S" IN THE FACE OF THE CURB AT THE LOCATION OF THE SEWER LATERAL.
28. NO CONCRETE SHALL BE PLACED UNTIL THE FORMS AND REINFORCING STEEL HAVE BEEN PLACED, INSPECTED AND APPROVED.
29. ALL UNDERGROUND UTILITIES SHALL BE INSTALLED, TESTED AND APPROVED PRIOR TO PAVING OF STREETS.
30. PAVEMENT STRUCTURAL SECTIONS SHOWN ARE MINIMUM AND SUBJECT TO REVISION AND APPROVAL OF THE CITY ENGINEER AS DETERMINED BY SOILS TESTS TAKEN AFTER COMPLETION OF ROUGH GRADING AND IN CONSIDERATION OF THE APPROPRIATE R-VALUE.
31. ACTUAL THICKNESS OF A.C. PAVEMENT AND/OR BASE COURSE MATERIAL FOR STRUCTURAL STREET SECTIONS SHALL BE RECOMMENDED BY A GEOTECHNICAL REPORT AND SUBMITTED TO THE CITY OF BANNING FOR APPROVAL UPON COMPLETION OF ROUGH GRADING.
32. ALL MANHOLES, CLEANOUT FRAMES, COVERS AND VALVE BOXES SHALL BE RAISED TO FINISHED GRADE BY THE PAVING CONTRACTOR UPON COMPLETION OF PAVING AND PER THE CITY OF BANNING'S REQUIREMENTS.
33. UPON COMPLETION OF CONSTRUCTION, CONTRACTOR SHALL RESTORE ALL SIGNING, STRIPING, BARRICADES, AND OTHER TRAFFIC CONTROL DEVICES TO THE SATISFACTION OF THE CITY ENGINEER.
34. CONTRACTOR SHALL RELOCATE AND/OR REPLACE LANDSCAPING, SPRINKLERS AND SIDEWALKS AFFECTED BY THE CONSTRUCTION TO THE SATISFACTION OF THE CITY ENGINEER.
35. AS-BUILT DRAWINGS SHALL BE PROVIDED BY THE CONTRACTOR TO THE ENGINEER OF RECORD, WHO SHALL PROVIDE RECORD DRAWINGS TO THE CITY ENGINEER.
36. IF AND WHEN TRAFFIC LOOP DETECTORS ARE DISTURBED, THEY SHALL BE REPLACED AS SOON AS POSSIBLE, PER THE CITY ENGINEER'S DIRECTION.
37. STREET NAME AND DIRECTIONAL SIGNS SHALL MEET ALL CA MUTCD AND CITY REQUIREMENTS.

CITY OF BEAUMONT GENERAL NOTES:

1. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE CLEARING OF THE PROPOSED WORK AREA AND RELOCATION COSTS OF ALL EXISTING UTILITIES. THIS INCLUDES UNDERGROUNDING OF EXISTING OVERHEAD LINES ALONG THE PROJECT FRONTAGE AS REQUIRED BY THE CONDITIONS OF APPROVAL. PERMITTEE MUST INFORM CITY OF CONSTRUCTION SCHEDULE AT LEAST 48 HOURS PRIOR TO BEGINNING OF CONSTRUCTION AT (951) 769-8520.
2. ALL WORK SHALL CONFORM TO THE REQUIREMENTS OF THE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION, GREENBOOK, LATEST EDITION AND THE RIVERSIDE COUNTY TRANSPORTATION DEPARTMENT IMPROVEMENT STANDARDS AND SPECIFICATIONS, "LATEST EDITION." COUNTY ORDINANCE NO. 461 AND SUBSEQUENT AMENDMENTS.
3. ALL UNDERGROUND FACILITIES, WITH LATERALS, SHALL BE IN PLACE PRIOR TO PAVING THE STREET SECTION INCLUDING, BUT NOT LIMITED TO, THE FOLLOWING: SEWER, WATER, ELECTRIC, GAS AND STORM DRAIN.
4. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR OR DEVELOPER TO INSTALL AND MAINTAIN ALL CONSTRUCTION, REGULATORY, GUIDE AND WARNING SIGNS WITHIN THE PROJECT LIMITS AND ITS SURROUNDINGS TO PROVIDE SAFE PASSAGE FOR THE TRAVELING PUBLIC AND WORKERS UNTIL THE FINAL COMPLETION AND ACCEPTANCE OF THE PROJECT BY THE CITY. A TRAFFIC CONTROL PLAN MUST BE SUBMITTED WITH APPROVED STREET PLAN FOR REVIEW TO THE PERMITS SECTION OR INSPECTION SECTION (FOR MAP CASES) PRIOR TO OBTAINING AN ENCROACHMENT PERMIT.
5. ANY PRIVATE DRAINAGE FACILITIES SHOWN ON THESE PLANS ARE FOR INFORMATION ONLY. BY SIGNING THESE IMPROVEMENT PLANS, NO REVIEW OR APPROVAL OF THESE PRIVATE FACILITIES ARE IMPLIED OR INTENDED BY CITY OF BEAUMONT PUBLIC WORKS DEPT.
6. THE DEVELOPER WILL INSTALL STREET NAME SIGNS CONFORMING TO R.C.T.D. STANDARD NO. 816.
7. ALL STREET SECTIONS ARE TENTATIVE, ADDITIONAL SOIL TESTS SHALL BE TAKEN AFTER ROUGH GRADING TO DETERMINE THE EXACT STREET SECTION REQUIREMENTS. USE R.C.T.D. STANDARD NO. 401 IF EXPANSIVE SOILS ARE ENCOUNTERED.
8. IT SHALL BE THE RESPONSIBILITY OF THE DEVELOPER TO NOTIFY THE ENGINEER TO INSTALL STREET CENTERLINE MONUMENTS AS REQUIRED BY RIVERSIDE COUNTY ORDINANCE NO. 461. IF CONSTRUCTION CENTERLINE DIFFERS, PROVIDE A TIE TO EXISTING CENTERLINE OF RIGHT-OF-WAY. PRIOR TO ROAD CONSTRUCTION, SURVEY MONUMENTS INCLUDING CENTERLINE MONUMENTS, TIE POINTS, PROPERTY CORNERS AND BENCH MARKS SHALL BE REFERENCED OUT AND CORNER RECORDS FILED WITH THE COUNTY SURVEYOR PURSUANT TO SECTION 8771 OF THE BUSINESS & PROFESSIONAL CODE. SURVEY POINTS DESTROYED DURING CONSTRUCTION SHALL BE RESET, AND A SECOND CORNER RECORD FILED FOR THOSE POINTS PRIOR TO COMPLETION AND ACCEPTANCE OF THE IMPROVEMENTS.
9. ASPHALTIC EMULSION (FOG SEAL) SHALL BE APPLIED NOT LESS THAN FOURTEEN DAYS FOLLOWING PLACEMENT OF THE ASPHALT SURFACING. FOG SEAL AND PAINT BINDER SHALL BE APPLIED AT A RATE OF 0.05 AND 0.03 GALLON PER SQUARE YARD RESPECTIVELY. ASPHALTIC EMULSION SHALL CONFORM TO SECTIONS 37, 39 AND 94 OF THE STATE STANDARD SPECIFICATIONS.
10. PRIME COAT IS REQUIRED PRIOR TO PAVING ALL GRADES IN EXCESS OF TEN PERCENT.
11. CONSTRUCTION PROJECTS DISTURBING MORE THAN ONE ACRE MUST OBTAIN A NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES PERMIT) OWNERS/DEVELOPERS ARE REQUIRED TO FILE A NOTICE OF INTENT (NOI) WITH THE STATE WATER RESOURCES CONTROL BOARD (SWRCB), PREPARE A STORM WATER POLLUTION PREVENTION PLAN (SWPPP) AND MONITORING PLAN FOR THE SITE.
12. THE DEVELOPER SHALL BE RESPONSIBLE FOR THE INSTALLATION OF ADDITIONAL SIGNS AND MARKINGS NOT INCLUDED IN THE SIGNING AND STRIPING PLAN WITHIN THE PROJECT AREAS, OR ON ROADWAYS ADJACENT TO THE PROJECT BOUNDARIES, UPON THE REQUEST OF THE DIRECTOR OF PUBLIC WORKS OR HIS DESIGNEE TO IMPROVE TRAFFIC SAFETY ON THE ROADS UNDER THE JURISDICTION OF THE DEVELOPER.
13. IT SHALL BE THE RESPONSIBILITY OF THE DEVELOPER/CONTRACTOR TO APPLY TO THE RIVERSIDE COUNTY FLOOD CONTROL (RCFC) FOR PERMITS WHEN ANY STORM DRAIN PIPE NEEDS TO BE CONNECTED WITH A RCFC FACILITY AND ADD PERMITEE #_____ ON THE PLAN.
14. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR OR DEVELOPER TO APPLY TO THE CALIFORNIA DEPARTMENT OF TRANSPORTATION (CALTRANS) FOR AN ENCROACHMENT PERMIT FOR ALL WORK PERFORMED WITHIN STATE RIGHT-OF-WAY.
15. CURB DEPRESSIONS AND DRIVEWAY APPROACHES WILL BE INSTALLED AND CONSTRUCTED ACCORDING TO COUNTY STANDARDS NO. 206 AND/OR 207, AS DIRECTED IN THE FIELD.
16. STREET LIGHTS SHALL BE INSTALLED IN ACCORDANCE WITH THE APPROVED STREET LIGHTING PLAN PER CITY OF BEAUMONT'S APPROVED STREET LIGHTING SPECIFICATIONS.
17. FOR ALL DRIVEWAY RECONSTRUCTION BEYOND RIGHT-OF-WAY, PROOF OF DRIVEWAY OWNER NOTIFICATION IS REQUIRED PRIOR TO CONSTRUCTION.
18. INSTALL STREET TREES IN ACCORDANCE WITH ORDINANCE 461 AND THE COMPREHENSIVE LANDSCAPING GUIDELINES (CHOOSE THREE SPECIES AND NAME THEM HERE).
19. THE DEVELOPER SHALL HAVE GEOTECHNICAL/SOILS ENGINEERING FIRM OBSERVE TRENCHING, BACKFILLING, & SOIL COMPACTION OF ALL UTILITY TRENCHES WITHIN ALL EASEMENTS & ROAD RIGHTS OF WAY. TWO SETS OF COMPACTION REPORTS CERTIFYING THAT WORKS WERE DONE IN CONFORMANCE TO STANDARDS & GEOTECHNICAL REPORT SHALL BE SUBMITTED AFTER EACH UTILITY TRENCH IS COMPLETED & CERTIFIED. COMPACTION REPORT MUST BE SUBMITTED TO THE DEPT. OF PUBLIC WORKS AT LEAST TWO WORKING DAYS BEFORE AGGREGATE BASE MATERIALS ARE PLACED ONSITE.
20. WDID NO.7 33C383910

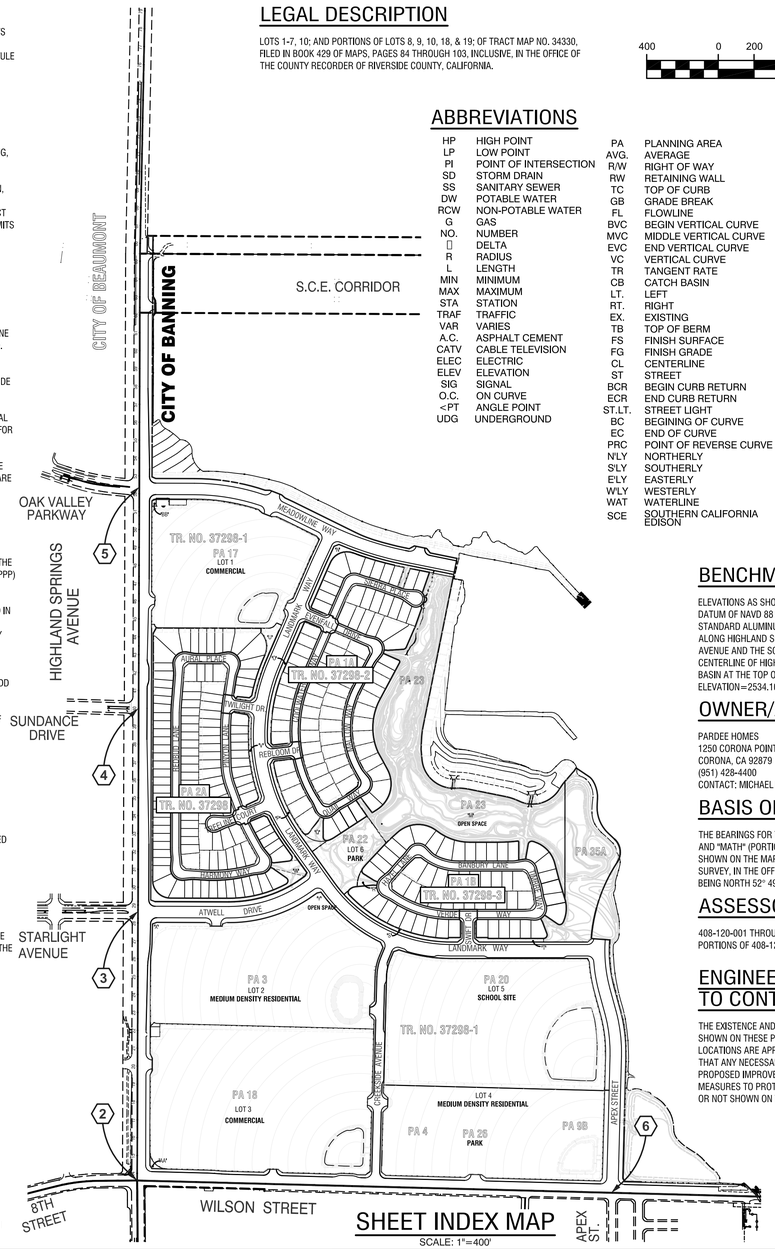
DECLARATION OF ENGINEER OF RECORD:

I HEREBY DECLARE THAT THE DESIGN OF THE IMPROVEMENTS AS SHOWN ON THESE PLANS COMPLIES WITH PROFESSIONAL ENGINEERING STANDARDS AND PRACTICES. AS THE ENGINEER IN RESPONSIBLE CHARGE OF DESIGN OF THESE IMPROVEMENTS, I ASSUME FULL RESPONSIBLE CHARGE FOR SUCH DESIGN. I UNDERSTAND AND ACKNOWLEDGE THAT THE PLAN CHECK OF THESE PLANS BY THE CITY OF BEAUMONT AND BANNING IS A REVIEW FOR THE LIMITED PURPOSE OF ENSURING THAT THE PLANS COMPLY WITH CITY PROCEDURES, AND OTHER APPLICABLE CODES AND ORDINANCES. THE PLAN CHECK IS NOT A DETERMINATION OF THE TECHNICAL ADEQUACY OF THE DESIGN OF THE IMPROVEMENTS. SUCH PLAN CHECK DOES NOT, THEREFORE, RELIEVE ME OF MY RESPONSIBILITY.

AS THE ENGINEER OF RECORD, I AGREE TO DEFEND AND INDEMNIFY THE CITY OF BEAUMONT AND BANNING, ITS OFFICERS, ITS AGENTS, AND ITS EMPLOYEES FROM ANY AND ALL LIABILITY, CLAIMS, DAMAGES, OR INJURIES TO ANY PERSON OR PROPERTY ARISING FROM NEGLIGENT ACTS, ERRORS OR OMMISSIONS OF THE ENGINEER OF RECORD, HIS EMPLOYEES, HIS AGENTS OR HIS CONSULTANTS.

SIGNATURE: _____ DATE: 11-26-19 LICENSE NO: 20285 EXP: 09-30-21

ROBERT KAHN, PE

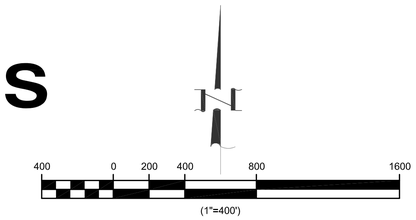


SHEET INDEX MAP

SCALE: 1"=400'

LEGAL DESCRIPTION

LOTS 1-7, 10; AND PORTIONS OF LOTS 8, 9, 10, 18, & 19; OF TRACT MAP NO. 34330, FILED IN BOOK 429 OF MAPS, PAGES 84 THROUGH 103, INCLUSIVE, IN THE OFFICE OF THE COUNTY RECORDER OF RIVERSIDE COUNTY, CALIFORNIA.



ABBREVIATIONS

HP	HIGH POINT
LP	LOW POINT
PI	POINT OF INTERSECTION
SD	STORM DRAIN
SS	SANITARY SEWER
DW	POTABLE WATER
RCW	NON-POTABLE WATER
G	GAS
NO.	NUMBER
Δ	DELTA
R	RADIUS
L	LENGTH
MIN	MINIMUM
MAX	MAXIMUM
STA	STATION
TRAF	TRAFFIC
VAR	VARIES
A.C.	ASPHALT CEMENT
CATV	CABLE TELEVISION
ELEC	ELECTRIC
ELEV	ELEVATION
SIG	SIGNAL
O.C.	ON CURVE
<PT	ANGLE POINT
UDG	UNDERGROUND
PA	PLANNING AREA
AVG.	AVERAGE
R/W	RIGHT OF WAY
RW	RETAINING WALL
TC	TOP OF CURB
GB	GRADE BREAK
FL	FLOWLINE
BVC	BEGIN VERTICAL CURVE
MVC	MIDDLE VERTICAL CURVE
EVC	END VERTICAL CURVE
VC	VERTICAL CURVE
TR	TANGENT RATE
CB	CATCH BASIN
LT.	LEFT
RT.	RIGHT
EX.	EXISTING
TB	TOP OF BERM
FS	FINISH SURFACE
FG	FINISH GRADE
CL	CENTERLINE
ST	STREET
BCR	BEGIN CURB RETURN
ECR	END CURB RETURN
ST.LT.	STREET LIGHT
BC	BEGINING OF CURVE
EC	END OF CURVE
PRC	POINT OF REVERSE CURVE
N'LY	NORTHERLY
S'LY	SOUTHERLY
E'LY	EASTERLY
W'LY	WESTERLY
WAT	WATERLINE
SCE	SOUTHERN CALIFORNIA EDISON

LEGEND

- TRACT BOUNDARY
- STREET CENTERLINE
- SIDEWALK
- DAYLIGHT LINE
- PROPOSED CURB & GUTTER
- EXISTING CURB & GUTTER
- 100 — LOT NUMBER
- 360 — HIGHEST SINGLE-FAMILY RESIDENTAIL LOT NUMBER
- SD — PROPOSED STORM DRAIN
- SS — PROPOSED SANITARY SEWER
- DW — PROPOSED POTABLE WATER
- RCW — PROPOSED NON-POTABLE WATER
- EXISTING STORM DRAIN
- EX SS — EXISTING SANITARY SEWER
- EX DW — EXISTING POTABLE WATER
- 1.00% — PROPOSED STREET GRADE
- G — EXISTING GAS LINE
- STAMPED CONCRETE STREET MEDIAN FINISH
- 7 — TRAFFIC SIGNAL PLAN SHEET NUMBER

BENCHMARK

ELEVATIONS AS SHOWN HEREON ARE IN TERMS OF THE NATIONAL GEODETIC VERTICAL DATUM OF NAVD 88 BASED LOCALLY UPON THE FOLLOWING BENCH MARK: 3-1/4" STANDARD ALUMINUM MWD DISK, FLUSH, LOCATED IN BANNING, 0.6 MILES SOUTH ALONG HIGHLAND SPRINGS AVENUE FROM THE INTERSECTION OF HIGHLAND SPRINGS AVENUE AND THE SOUTHERN PACIFIC RAILROAD BRIDGE, 17.5 FEET EAST OF THE CENTERLINE OF HIGHLAND SPRINGS AVENUE AT THE NORTHWEST CORNER OF CATCH BASIN AT THE TOP OF CURB, 0.5 FEET EAST OF FACE OF CURBS.
ELEVATION=2534.10

OWNER/APPLICANT/DEVELOPER

PARDEE HOMES
1250 CORONA POINTE COURT, SUITE 600
CORONA, CA 92879
(951) 428-4400
CONTACT: MICHAEL HEISHMAN

BASIS OF BEARINGS

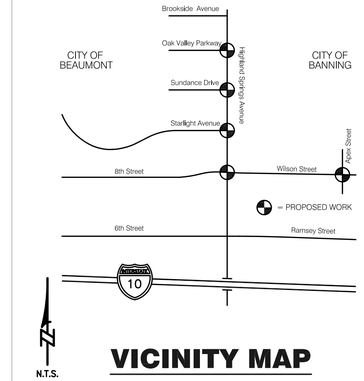
THE BEARINGS FOR THIS SURVEY ARE BASED ON THE LINE BETWEEN STATIONS "TRAK" AND "MATH" (PORTIONS PER NATIONAL GEODETIC SURVEY, NAD 83, EPOCH 1995.5), AS SHOWN ON THE MAP FILED IN BOOK 102, PAGES 50 THROUGH 65 OF RECORDS OF SURVEY, IN THE OFFICE OF THE COUNTY RECORDER OF RIVERSIDE COUNTY, CALIFORNIA, BEING NORTH 52° 49' 02.84" EAST.

ASSESSORS PARCEL NUMBERS

408-120-001 THROUGH -005, -007 THROUGH -009
PORTIONS OF 408-120-006, -010, -012, -019, -020

ENGINEER'S NOTE TO CONTRACTORS:

THE EXISTENCE AND LOCATION OF ANY UNDERGROUND UTILITY PIPES OR STRUCTURES SHOWN ON THESE PLANS WERE OBTAINED BY A SEARCH OF AVAILABLE RECORDS. THESE LOCATIONS ARE APPROXIMATE AND SHALL BE CONFIRMED IN FIELD BY THE CONTRACTOR, SO THAT ANY NECESSARY ADJUSTMENT CAN BE MADE IN ALIGNMENT AND/OR GRADE OF THE PROPOSED IMPROVEMENT. THE CONTRACTOR IS REQUIRED TO TAKE DUE PRECAUTIONARY MEASURES TO PROTECT ANY UTILITY LINES SHOWN AND ANY OTHER LINES NOT OF RECORD OR NOT SHOWN ON THESE PLANS.



VICINITY MAP

SHEET INDEX

SHEET	1	TITLE SHEET AND SHEET INDEX MAP
SHEET	2	TRAFFIC SIGNAL MODIFICATION PLAN HIGHLAND SPRINGS AVENUE AND 8TH STREET / WILSON STREET
SHEET	3	TRAFFIC SIGNAL PLAN HIGHLAND SPRINGS AVENUE AND STARLIGHT AVENUE
SHEET	4	TRAFFIC SIGNAL MODIFICATION PLAN HIGHLAND SPRINGS AVENUE AND SUNDANCE DRIVE
SHEET	5	TRAFFIC SIGNAL MODIFICATION PLAN HIGHLAND SPRINGS AVENUE AND OAK VALLEY PARKWAY
SHEET	6	TRAFFIC SIGNAL PLAN APEX STREET AT WILSON STREET
SHEET	7	SPECIAL PROVISIONS

WORK TO BE DONE:

THE IMPROVEMENTS CONSIST OF THE FOLLOWING WORK TO BE DONE ACCORDING TO THESE PLANS, AND THE SPECIFICATIONS AND STANDARD DRAWINGS NOTED HEREIN.

STANDARD SPECIFICATIONS DESCRIPTION:

1. CITY OF BANNING "PUBLIC WORKS STANDARD DRAWINGS", DECEMBER 12, 2012.
2. CITY OF BEAUMONT MUNICIPAL CODE AND STANDARD SPECIFICATIONS.
3. COUNTY OF RIVERSIDE TRANSPORTATION DEPARTMENT "ROAD IMPROVEMENT STANDARDS & SPECIFICATIONS", ORDINANCE NO. 461, AS AMENDED BY ORDINANCE NO. 461.10, EFFECTIVE DECEMBER 20, 2007, FOR CITY OF BEAUMONT.
4. CALIFORNIA DEPARTMENT OF TRANSPORTATION "STANDARD PLANS", 2018 EDITION.
5. CALIFORNIA DEPARTMENT OF TRANSPORTATION "STANDARD SPECIFICATIONS", 2015.
6. CALIFORNIA DEPARTMENT OF TRANSPORTATION "CA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES", 2014 EDITION, REVISION 4.
7. AMERICAN PUBLIC WORKS ASSOCIATION STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION (GREENBOOK), 2015 EDITION.

ENGINEER'S NOTES:

CONTRACTOR AGREES THAT HE SHALL ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR JOB SITE CONDITIONS DURING THE COURSE OF CONSCTRUCTION 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 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 ENGINEER.

THE EXISTENCE AND LOCATION OF ANY UNDERGROUND UTILITIES OF STRUCTURES SHOWN ON THESE PLANS ARE OBTAINED BY A DILIGENT SEARCH OF AVAILABLE RECORDS, THE CONTRACTOR IS REQUIRED TO TAKE ALL PRECAUTIONARY MEASURES TO PROTECT THE UTILITIES SHOWN AND ANY OTHER LINES OR STRUCTURES NOT SHOWN ON THESE PLANS AND IS RESPONSIBLE FOR THE PROTECTION OF, ANY DAMAGE TO THESE LINES OR STRUCTURES. THE CONTRACTOR SHALL CALL UNDERGROUND SERVICE ALERT (USA) AT 1-800-227-2600 AT LEAST TWO WORKING DAYS PRIOR TO EXCAVATION IN ORDER TO DETERMINE ACTUAL FIELD LOCATION OF EXISTING UTILITIES.

CITY OF BEAUMONT

REVIEWD BY:

_____
CITY ENGINEER DATE

AS-BUILT
DATED: 02/04/2021

RECOMMENDED FOR ACCEPTANCE BY:

_____
STEVEN LATINO, P.E., T.E. DATE
ENGINEERING RESOURCES OF SOUTHERN CALIFORNIA, INC.

Call before you Dig
Avoid cutting underground utility lines. It's costly.
Call 811 or 1-800-227-2600

REVISIONS

MARK		APPR	DATE

PLANS PREPARED BY:
RK engineering group, inc.
4000 Westerly Place, Suite 280
Newport Beach, CA 92660
P: 949.474.0809 F: 949.474.0902

SUBMITTED BY:

_____ 02-04-2021
ROBERT KAHN DATE
RCE# 20285 EXP. 09-30-21

REGISTERED PROFESSIONAL ENGINEER ROBERT KAHN No. 020285 Exp. 09-30-21 CIVIL STATE OF CALIFORNIA

BANNING, CA STAGECOACH TOWN USA Proud History • Prosperous Tomorrow

CITY OF BANNING

RECOMMENDED FOR APPROVAL BY:

_____ _____
KEVIN D. SIN, RCE #71299 EXP. 12/31/19 DATE
SENIOR CIVIL ENGINEER

APPROVED BY:

_____ _____
ARTURO VELA, RCE #75696 EXP. 6/30/20 DATE
PUBLIC WORKS DIRECTOR/CITY ENGINEER

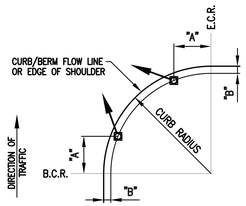
TRAFFIC SIGNAL PLANS
TRACT NO. 37298-1, ATWELL
TITLE SHEET
HIGHLAND SPRINGS AVENUE
SHEET INDEX MAP

W.O. No.
CIP No.
PROJECT No. 3300A (BEAUMONT)
SHEET 1 OF 7

POLE AND EQUIPMENT SCHEDULE ■

	STANDARDS				VEH. SIGNAL MTG.		PED. SIG.	P.P.B.		POLE LOC.		L.E.D.	STANDARD MAST ARM MOUNTED I.I.S.N.S. (SEE DETAIL A)	COMMENTS
	TYPE	HEIGHT	SIGNAL M.A.	LUMIN. M.A.	MAST ARM	POLE	MTG.	ø	QUAD	A	B	Luminaire		
A	29-5-100(N)	30'	50'(N)	15'(N)	2-MAS(N)	SV-1-T(N)	SP-1-T(N)	8	3(N)	9.5'	5.5'	41W(N)	Wilson St ➡ (N)	F=19.5'
B	1A	10'	–	–	–	TV-1-T	SP-1-T	2	4	12'	3'	–	–	–
C	✳26-4-161	30'	40'	15'	2-MAS	SV-1-T	SP-1-T	2	4	-3'	7.4'	41W	Highland Springs Ave	–
D	1A	10'	–	–	–	TV-2-T	SP-1-T	4	1	0'	6'	–	–	–
E	PPB	3'10"	–	–	–	–	–	4	1	13.6'	4'	–	–	–
F	29-5-161	30'	55'▲	15'	MAS MAS(N)	SV-1-T	SP-1-T	–	–	10'	17.5'	41W	Eighth St ➡	F=25.5'
G	1A	10'	–	–	–	TV-1-T	SP-1-T	6	2	9.8'	3.1'	–	–	–
H	26-4-161	30'	40'▲	15'	MAS MAS(N)	SV-1-T	SP-1-T	6	2(N)	8.4'	8.2'	41W	Highland Springs Ave	F=21.5'
I	1A(N)	10'	–	–	–	TV-1-T(N)	SP-1-T(N)	8	3(N)	11'	5'	–	–	–

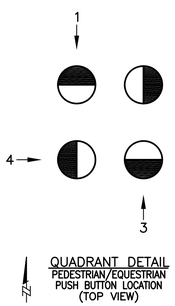
■ EXACT POLE LOCATIONS DETERMINED BY FIELD ENGINEER; POTHOLE POLE FOUNDATIONS PRIOR TO ORDERING POLES.
ALL EQUIPMENT IS EXISTING EXCEPT AS NOTED
(N) = NEW
✳ = INSTALL TYPE V PHOTOELECTRIC CONTROL UNIT ON TRAFFIC SIGNAL POLE
▲ = SIGNAL MAST ARM TO BE REPAINTED.



NOTE: FOR "A" AND "B" DIMENSIONS, SEE POLE SCHEDULE OR AS DIRECTED BY ENGINEER

(TYPICAL SIGNAL POLE PLACEMENT, UNLESS SHOWN ON PLANS)

SIGNAL STANDARD PLACEMENT DIMENSIONS AND EQUIPMENT LOCATIONS

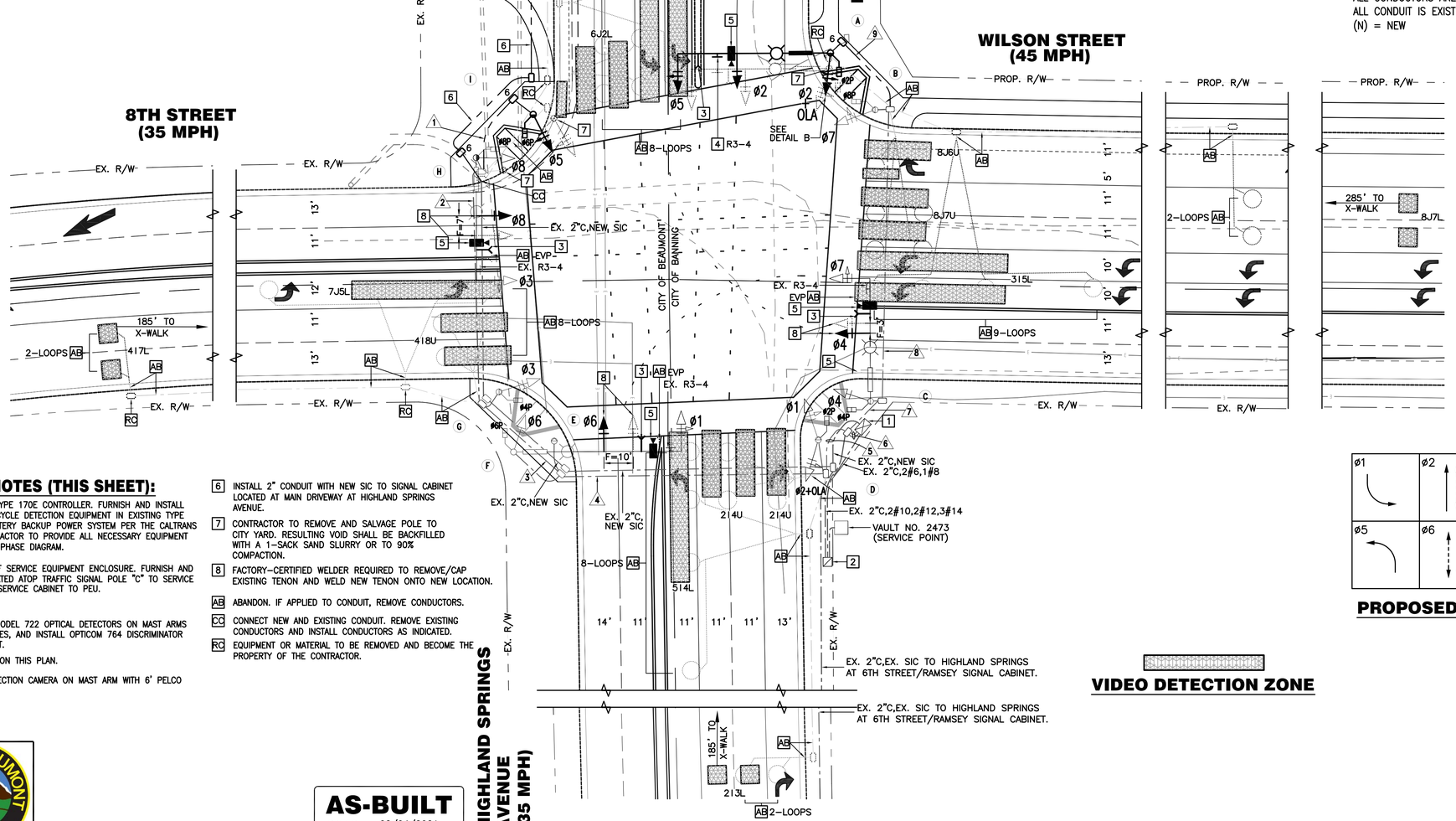


QUADRANT DETAIL
PEDESTRIAN/EQUESTRIAN PUSH BUTTON LOCATION (TOP VIEW)

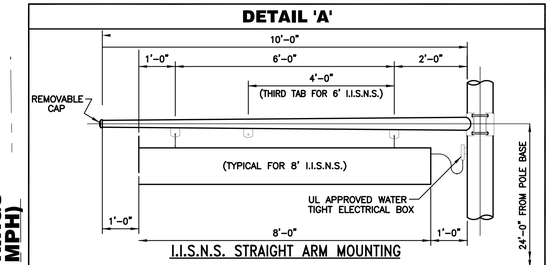
CONSTRUCTION NOTES (THIS SHEET):

1. REMOVE AND SALVAGE EXISTING TYPE 170E CONTROLLER. FURNISH AND INSTALL TYPE 2070 CONTROLLER WITH BICYCLE DETECTION EQUIPMENT IN EXISTING TYPE 332L CABINET WITH EXISTING BATTERY BACKUP POWER SYSTEM PER THE CALTRANS STANDARD SPECIFICATIONS. CONTRACTOR TO PROVIDE ALL NECESSARY EQUIPMENT TO ACCOMODATE OPERATION PER PHASE DIAGRAM.
2. EXISTING DUAL METER TYPE III-CF SERVICE EQUIPMENT ENCLOSURE. FURNISH AND INSTALL TYPE V PEC TO BE LOCATED ATOP TRAFFIC SIGNAL POLE "C" TO SERVICE CABINET AND ADD 3-#14 FROM SERVICE CABINET TO PEU.
3. FURNISH AND INSTALL OPTICOM MODEL 722 OPTICAL DETECTORS ON MAST ARMS WITH MODEL 138 DETECTOR CABLES, AND INSTALL OPTICOM 764 DISCRIMINATOR MODULES IN CONTROLLER CABINET.
4. INSTALL NEW SIGN AS INDICATED ON THIS PLAN.
5. FURNISH AND INSTALL VIDEO DETECTION CAMERA ON MAST ARM WITH 6' PELCO BRACKET.
6. INSTALL 2" CONDUIT WITH NEW SIC TO SIGNAL CABINET LOCATED AT MAIN DRIVEWAY AT HIGHLAND SPRINGS AVENUE.
7. CONTRACTOR TO REMOVE AND SALVAGE POLE TO CITY YARD. RESULTING VOID SHALL BE BACKFILLED WITH A 1-SACK SAND SLURRY OR TO 90% COMPACTION.
8. FACTORY-CERTIFIED WELDER REQUIRED TO REMOVE/CAP EXISTING TENON AND WELD NEW TENON ONTO NEW LOCATION.

AB ABANDON. IF APPLIED TO CONDUIT, REMOVE CONDUCTORS.
CC CONNECT NEW AND EXISTING CONDUIT. REMOVE EXISTING CONDUCTORS AND INSTALL CONDUCTORS AS INDICATED.
RC EQUIPMENT OR MATERIAL TO BE REMOVED AND BECOME THE PROPERTY OF THE CONTRACTOR.



DETAIL 'A'



I.I.S.N.S. STRAIGHT ARM MOUNTING

I.I.S.N.S. DETAIL

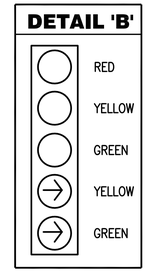
NOTES:
1. WHITE LETTERS AND BORDER WITH CITY LOGO ON INTERSTATE BLUE BACKGROUND.
2. SIGNS SHALL BE ATTACHED TO A 10 FOOT ARM, EXTENDING FROM THE SHAFT OF THE POLE AND PARALLEL TO THE SIGNAL MAST ARM.

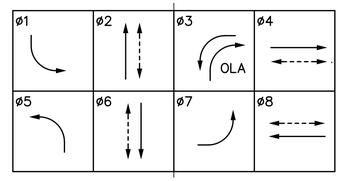
CONDUCTOR SCHEDULE

AWG SIZE OR CABLE TYPE	POLE OR CIRCUIT	CONDUIT SIZE AND RUN NUMBER								
		2" (N)	3"	3"	4"	4"	2-4"	4"	3"	3" (N)
		1	2	3	4	5	6	7	8	9
12 CSC / 3 CSC	POLE - A	–	–	–	–	–	1	1	1	1
	B	–	–	–	–	–	1	1	1	1
	C	–	–	–	–	–	1	1	–	–
	D	–	–	–	–	1	1	–	–	–
	E	–	–	–	1	1	1	–	–	–
	F	–	–	–	1	1	1	–	–	–
	G	–	–	1	1	1	1	1	–	–
	H	–	1	1	1	1	1	1	–	–
	I	1	1	1	1	1	1	1	–	–
	TOTAL	1	1	2	3	4	5	5	2	2
#14	PHOTOELECTRIC UNIT	–	–	–	–	–	–	3	–	–
#12	I.I.S.N.S.	–	2	2	2	2	–	2	2	2
#10	LUMINAIRES	–	2	2	2	2	–	2	2	2
#8	GROUND	1	1	1	1	1	1	1	1	1
3M OPTICOM CABLE #138		–	1	1	2	2	4	2	1	1
VIDEO DETECTION		–	1	1	2	2	4	2	1	1
PERCENT FILL (%)		16	24	29	28	29	27	23	25	18

ALL CONDUCTORS ARE TO BE NEW.
ALL CONDUIT IS EXISTING UNLESS OTHERWISE NOTED.
(N) = NEW

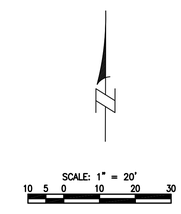
DETAIL 'B'





PROPOSED PHASE DIAGRAM

VIDEO DETECTION ZONE



CITY OF BEAUMONT
REVIEWD BY:
CITY ENGINEER DATE

AS-BUILT
DATED: 02/04/2021

Call before you Dig
Avoid cutting underground utility lines. It's easy.
Call 811 or 1-800-227-2600

REVISIONS

MARK		APPR	DATE

PLANS PREPARED BY:
RK engineering group, inc.
NEWPORT BEACH
4000 Westerly Place, Suite 280
Newport Beach, CA 92660
P: 949.474.0809 F: 949.474.0902

SUBMITTED BY:
ROBERT KAHN
RCE# 20285 EXP. 09-30-21
02-04-2021 DATE

REGISTERED PROFESSIONAL ENGINEER ROBERT KAHN No. 020285 Exp. 09-30-21 CIVIL STATE OF CALIFORNIA

BANNING, CA STAGECOACH TOWN USA Proud History • Prosperous Tomorrow

CITY OF BANNING
RECOMMENDED FOR APPROVAL BY:
KEVIN D. SIN, RCE #71299 EXP. 12/31/19 DATE
SENIOR CIVIL ENGINEER
APPROVED BY:
ARTURO VELA, RCE #75696 EXP. 6/30/20 DATE
PUBLIC WORKS DIRECTOR/CITY ENGINEER

CITY OF BANNING
TRAFFIC SIGNAL MODIFICATION PLAN
HIGHLAND SPRINGS AVE & 8TH STREET / WILSON STREET

W.O. No.
CIP No.
PROJECT No. 3300A (BEAUMONT)
SHEET 2 OF 7

0:\2450-2499\24671801-D - Butterfield_Atwell\2021 AS-BUILTS\DWG\HS & Wilson.dwg Sheet 2 Plotted By: jnarciso Date Plotted: 2/25/21

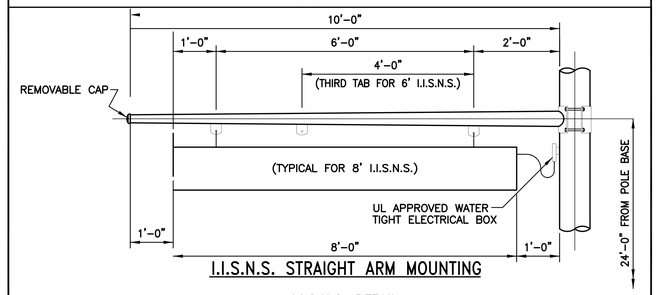
POLE AND EQUIPMENT SCHEDULE

	STANDARDS				VEH. SIGNAL MTG.		PED. SIG.	P.P.B.		POLE LOC.		L.E.D.	STANDARD MAST ARM MOUNTED I.I.S.N.S. (SEE DETAIL A) ▲	COMMENTS
	TYPE	HEIGHT	SIGNAL M.A.	LUMIN. M.A.	MAST ARM	POLE	MTG.	ø	QUAD	A	B	Luminaire		
A	26-4-100	30'	45'	15'	2-MAS	SV-1-T	SP-1-T	–	–	0'	11'	41W	Highland Springs Ave	F=15'
AA	PPB	3'10"	–	–	–	–	–	6	3	9'	4.5'	–	–	–
B	15TS	30'	–	15'	–	SV-2-T	SP-1-T	4	4	10'	5'	–	–	–
C	✳ 26-4-100	30'	40'	15'	2-MAS	SV-1-T	SP-1-T	4	4	9'	6.5'	41W	Atwell Dr	F=13'
D	1A	10'	–	–	–	TV-2-T	SP-1-T	2	1	10'	5'	–	–	–
E	26-3-100	30'	40'	15'	2-MAS	SV-1-T	SP-1-T	2	1	9'	6'	41W	Highland Springs Ave	–
F	15TS	30'	–	15'	–	SV-2-T	SP-1-T	3	2	10'	5'	–	–	–
G	29-5-100	30'	50'	15'	2-MAS	SV-1-T	SP-1-T	3	2	9.5'	6.5'	41W	Starlight Ave	F=13'
H	1A	10'	–	–	–	TV-2-T	SP-1-T	–	–	–1.5'	3.5'	–	–	–
HH	PPB	3'10"	–	–	–	–	–	6	3	9.5'	5'	–	–	–

1 ▲ 10' 1A

■ EXACT POLE LOCATIONS DETERMINED BY FIELD ENGINEER; POTHOLE POLE FOUNDATIONS PRIOR TO ORDERING POLES.
ALL EQUIPMENT IS NEW
✳ = INSTALL TYPE V PHOTOELECTRIC CONTROL UNIT ON TRAFFIC SIGNAL POLE
▲ IISNS SHALL BE EDGE LIT LED

DETAIL 'A'

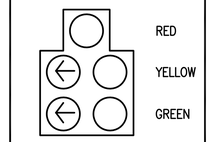


I.I.S.N.S. STRAIGHT ARM MOUNTING

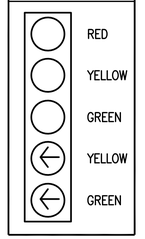
I.I.S.N.S. DETAIL

NOTES:
1. WHITE LETTERS AND BORDER WITH CITY LOGO ON INTERSTATE BLUE BACKGROUND.
2. SIGNS SHALL BE ATTACHED TO A 10 FOOT ARM, EXTENDING FROM THE SHAFT OF THE POLE AND PARALLEL TO THE SIGNAL MAST ARM.

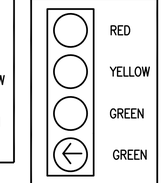
DETAIL 'B'



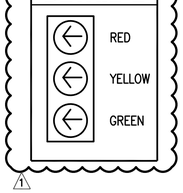
DETAIL 'C'



DETAIL 'D'



DETAIL 'E'



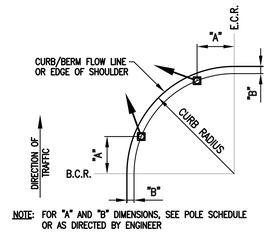
1

CONDUCTOR SCHEDULE

AWG SIZE OR CABLE TYPE	POLE OR CIRCUIT	CONDUIT SIZE AND RUN NUMBER								
		3"	3"	4"	2–3"	2–4"	2–4"	2–4"	3"	2"
		1	2	3	4	5	6	7	8	9
12 CSC	POLE – A	–	–	1	1	–	1	–	–	–
	AA	–	–	1	1	–	1	–	–	–
	B	–	–	1	1	–	1	–	–	–
	C	–	–	1	1	–	1	–	–	–
	D	–	–	1	1	–	1	–	–	–
	E	–	–	1	1	–	1	–	–	–
	F	–	–	1	1	–	1	–	–	–
3 CSC	G	1	1	1	1	–	1	–	–	–
	H	–	1	1	1	–	1	–	–	–
	HH	–	1	1	1	–	1	–	–	–
	TOTAL	1	2	3	4	5	8	8	2	1
#14	PHOTOELECTRIC UNIT	–	–	–	–	2	2	–	–	–
#12	I.I.S.N.S.	2	2	2	2	2	2	–	2	–
#10	LUMINAIRES	2	2	2	2	2	2	–	2	–
#8	GROUND	1	1	1	1	1	1	1	1	1
3M OPTICOM CABLE #138		1	1	2	2	3	4	4	1	–
VIDEO DETECTION		1	1	2	2	3	4	4	1	–
PERCENT FILL (%)		18	25	22	24	17	25	24	25	17

ALL CONDUCTORS AND CONDUITS ARE NEW

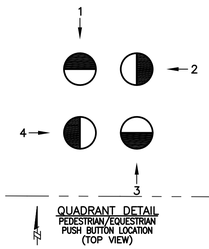
VIDEO DETECTION ZONE



NOTE: FOR "A" AND "B" DIMENSIONS, SEE POLE SCHEDULE OR AS DIRECTED BY ENGINEER

(TYPICAL SIGNAL POLE PLACEMENT, UNLESS SHOWN ON PLANS)

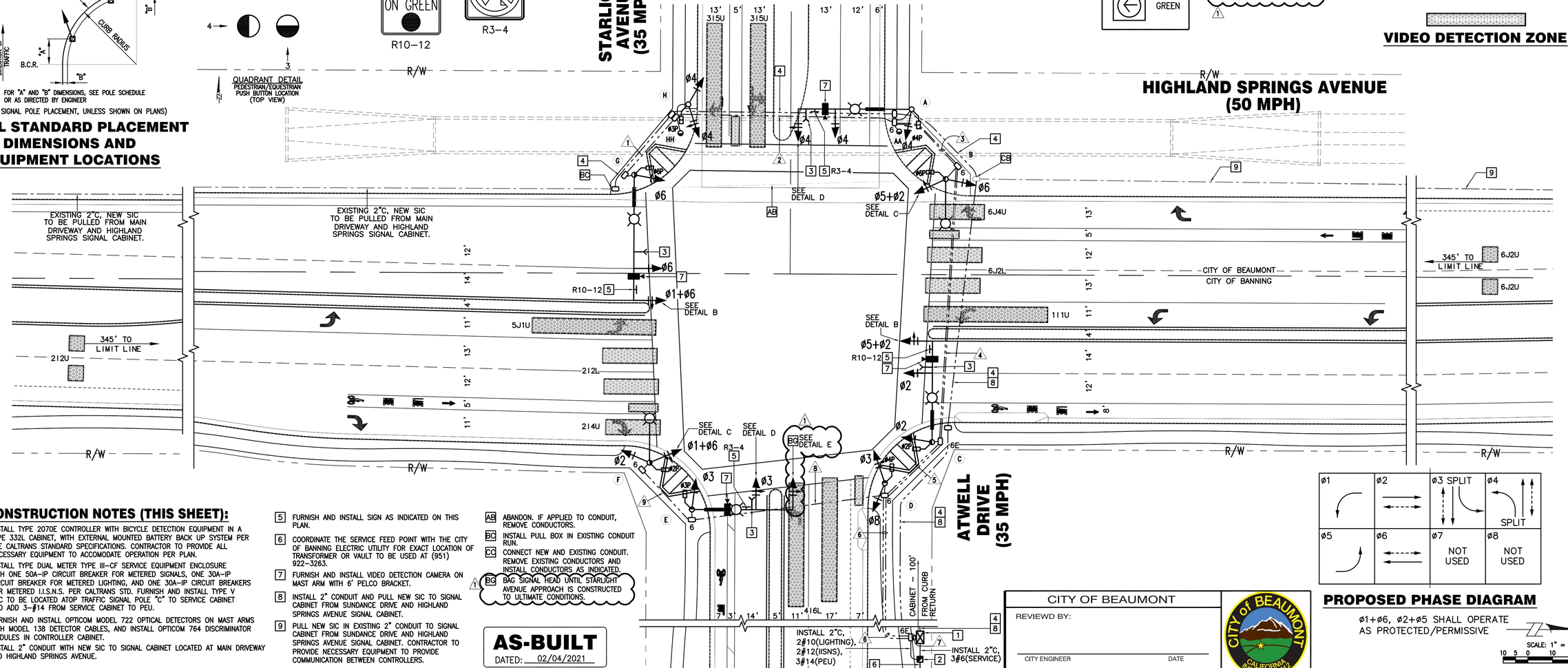
SIGNAL STANDARD PLACEMENT DIMENSIONS AND EQUIPMENT LOCATIONS



QUADRANT DETAIL
PEDESTRIAN/EQUESTRIAN PUSH BUTTON LOCATION (TOP VIEW)

R10-12

R3-4



PROPOSED PHASE DIAGRAM

ø1+ø6, ø2+ø5 SHALL OPERATE AS PROTECTED/PERMISSIVE

SCALE: 1" = 20'
10 5 0 10 20 30

CONSTRUCTION NOTES (THIS SHEET):

1. INSTALL TYPE 2070E CONTROLLER WITH BICYCLE DETECTION EQUIPMENT IN A TYPE 332L CABINET, WITH EXTERNAL MOUNTED BATTERY BACK UP SYSTEM PER THE CALTRANS STANDARD SPECIFICATIONS. CONTRACTOR TO PROVIDE ALL NECESSARY EQUIPMENT TO ACCOMODATE OPERATION PER PLAN.
2. INSTALL TYPE DUAL METER TYPE III-CF SERVICE EQUIPMENT ENCLOSURE WITH ONE 50A-IP CIRCUIT BREAKER FOR METERED SIGNALS, ONE 30A-IP CIRCUIT BREAKER FOR METERED LIGHTING, AND ONE 30A-IP CIRCUIT BREAKERS FOR METERED I.I.S.N.S. PER CALTRANS STD. FURNISH AND INSTALL TYPE V PEC TO BE LOCATED ATOP TRAFFIC SIGNAL POLE "C" TO SERVICE CABINET AND ADD 3-#14 FROM SERVICE CABINET TO PEU.
3. FURNISH AND INSTALL OPTICOM MODEL 722 OPTICAL DETECTORS ON MAST ARMS WITH MODEL 138 DETECTOR CABLES, AND INSTALL OPTICOM 764 DISCRIMINATOR MODULES IN CONTROLLER CABINET.
4. INSTALL 2" CONDUIT WITH NEW SIC TO SIGNAL CABINET LOCATED AT MAIN DRIVEWAY AND HIGHLAND SPRINGS AVENUE.
5. FURNISH AND INSTALL SIGN AS INDICATED ON THIS PLAN.
6. COORDINATE THE SERVICE FEED POINT WITH THE CITY OF BANNING ELECTRIC UTILITY FOR EXACT LOCATION OF TRANSFORMER OR VAULT TO BE USED AT (951) 922-3263.
7. FURNISH AND INSTALL VIDEO DETECTION CAMERA ON MAST ARM WITH 6' PELCO BRACKET.
8. INSTALL 2" CONDUIT AND PULL NEW SIC TO SIGNAL CABINET FROM SUNDANCE DRIVE AND HIGHLAND SPRINGS AVENUE SIGNAL CABINET.
9. PULL NEW SIC IN EXISTING 2" CONDUIT TO SIGNAL CABINET FROM SUNDANCE DRIVE AND HIGHLAND SPRINGS AVENUE SIGNAL CABINET. CONTRACTOR TO PROVIDE NECESSARY EQUIPMENT TO PROVIDE COMMUNICATION BETWEEN CONTROLLERS.

AB ABANDON. IF APPLIED TO CONDUIT, REMOVE CONDUCTORS.
BC INSTALL PULL BOX IN EXISTING CONDUIT RUN.
CC CONNECT NEW AND EXISTING CONDUIT. REMOVE EXISTING CONDUCTORS AND INSTALL CONDUCTORS AS INDICATED.
1 BG BAG SIGNAL HEAD UNTIL STARLIGHT AVENUE APPROACH IS CONSTRUCTED TO ULTIMATE CONDITIONS.

AS-BUILT
DATED: 02/04/2021

CITY OF BEAUMONT
REVIEWD BY:
CITY ENGINEER DATE

Call before you Dig
Avoid cutting underground utility lines. It's costly.
Call 811 or 1-800-227-2600

REVISIONS

		APPR	DATE
1	REVISED POLE E FROM TYPE 19-3-100 TO TYPE 26-3-100 TO ACCOMMODATE FUTURE PROTECTED LEFT TURN PHASE.		03/25/20

PLANS PREPARED BY:
RK engineering group, inc.
NEWPORT BEACH
4000 Westerly Place, Suite 280
Newport Beach, CA 92660
P: 949.474.0809 F: 949.474.0902

SUBMITTED BY:
ROBERT KAHN
RCE# 20285 EXP. 09-30-21
02-04-2021 DATE

REGISTERED PROFESSIONAL ENGINEER – ROBERT KAHN – No. 020285 – Exp. 09-30-21 – CIVIL – STATE OF CALIFORNIA

BANNING, CA – STAGECOACH TOWN USA – Proud History • Prosperous Tomorrow

CITY OF BANNING

RECOMMENDED FOR APPROVAL BY:

KEVIN D. SIN, RCE #71299 EXP. 12/31/19 DATE
SENIOR CIVIL ENGINEER

ARTURO VELA, RCE #75696 EXP. 6/30/20 DATE
PUBLIC WORKS DIRECTOR/CITY ENGINEER

CITY OF BANNING
TRAFFIC SIGNAL PLAN
INTERIM CONDITIONS
HIGHLAND SPRINGS AVE & ATWELL DRIVE / STARLIGHT AVENUE

W.O. No.
CIP No.
PROJECT No. 3300A (BEAUMONT)
SHEET 3 OF 7

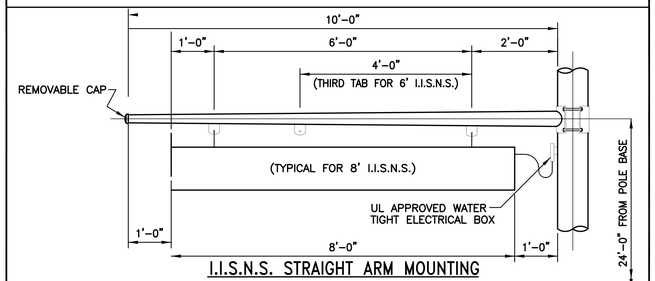
O:\2450-2499\24671801-D -Butterfield_Atwell\2021 AS-BUILTS\DWG\HS & Starlight_INTERIM.dwg Sheet 3 Plotted By: jnarciso Date Plotted: 2/25/21

POLE AND EQUIPMENT SCHEDULE

	STANDARDS				VEH. SIGNAL MTG.		PED. SIG.	P.P.B.		POLE LOC.		L.E.D.	STANDARD MAST ARM MOUNTED I.I.S.N.S. (SEE DETAIL A) ▲	COMMENTS
	TYPE	HEIGHT	SIGNAL M.A.	LUMIN. M.A.	MAST ARM	POLE	MTG.	ø	QUAD	A	B	Luminaire		
A	26-4-100	30'	45'	15'	2-MAS	SV-1-T	SP-1-T	–	–	0'	11'	41W	Highland Springs Ave	F=15'
AA	PPB	3'10"	–	–	–	–	–	6	3	9'	4.5'	–	–	–
B	15TS	30'	–	15'	–	SV-2-T	SP-1-T	4	4	10'	5'	41W	1 –	–
C	26-4-100	30'	40'	15'	2-MAS	SV-1-T	SP-1-T	4	4	9'	6.5'	41W	Atwell Dr	F=13'
D	1A	10'	–	–	–	TV-2-T	SP-1-T	2	1	10'	5'	–	–	–
E	26-3-100	30'	40'	15'	2-MAS	SV-1-T	SP-1-T	2	1	9'	6'	41W	Highland Springs Ave	–
F	15TS	30'	–	15'	–	SV-2-T	SP-1-T	3	2	10'	5'	41W	1 –	–
G	29-5-100	30'	50'	15'	2-MAS	SV-1-T	SP-1-T	3	2	9.5'	6.5'	41W	Starlight Ave	F=13'
H	1A	10'	–	–	–	TV-2-T	SP-1-T	–	–	-1.5'	3.5'	–	–	–
HH	PPB	3'10"	–	–	–	–	–	6	3	9.5'	5'	–	–	–

■ ALL EQUIPMENT IS NEW UNLESS OTHERWISE INDICATED ON PLAN.

DETAIL 'A'

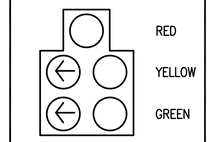


I.I.S.N.S. STRAIGHT ARM MOUNTING

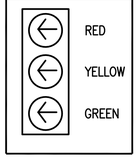
I.I.S.N.S. DETAIL

NOTES:
1. WHITE LETTERS AND BORDER WITH CITY LOGO ON INTERSTATE BLUE BACKGROUND.
2. SIGNS SHALL BE ATTACHED TO A 10 FOOT ARM, EXTENDING FROM THE SHAFT OF THE POLE AND PARALLEL TO THE SIGNAL MAST ARM.

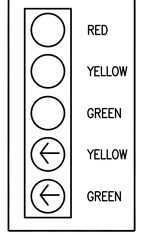
DETAIL 'B'



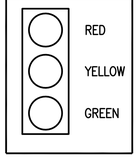
DETAIL 'E'



DETAIL 'C'



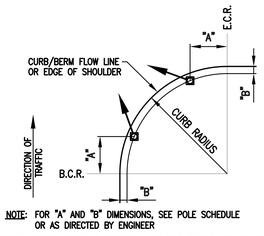
DETAIL 'F'



CONDUCTOR SCHEDULE

AWG SIZE OR CABLE TYPE	POLE OR CIRCUIT	CONDUIT SIZE AND RUN NUMBER								
		3"	3"	4"	2–3"	2–4"	2–4"	2–4"	3"	2"
		1	2	3	4	5	6	7	8	9
12 CSC	POLE – A	–	–	1	1	–	1	–	–	–
	AA	–	–	1	1	–	1	–	–	–
	B	–	–	1	1	1	1	–	–	–
	C	–	–	–	–	1	1	–	–	–
	D	–	–	–	–	1	1	–	–	–
	E	–	–	–	–	1	1	1	–	–
	F	–	–	–	–	1	1	1	1	–
3 CSC	G	1	1	1	1	1	1	–	–	–
	H	–	1	1	1	1	1	–	–	–
	HH	–	1	1	1	1	1	–	–	–
	TOTAL	1	1	2	3	4	5	8	8	2
#14	PHOTOELECTRIC UNIT	–	–	–	–	2	2	–	–	–
#12	I.I.S.N.S.	2	2	2	2	2	–	2	–	1
#10	LUMINAIRES	2	2	2	2	2	–	2	–	–
#8	GROUND	1	1	1	1	1	1	1	1	–
3M OPTICOM CABLE #138		1	1	2	2	3	4	4	1	–
VIDEO DETECTION		1	1	2	2	3	4	4	1	–
PERCENT FILL (%)		18	25	22	24	17	25	24	25	17

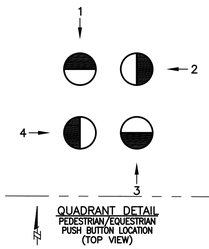
ALL CONDUCTORS AND CONDUITS ARE NEW



NOTE: FOR "A" AND "B" DIMENSIONS, SEE POLE SCHEDULE OR AS DIRECTED BY ENGINEER

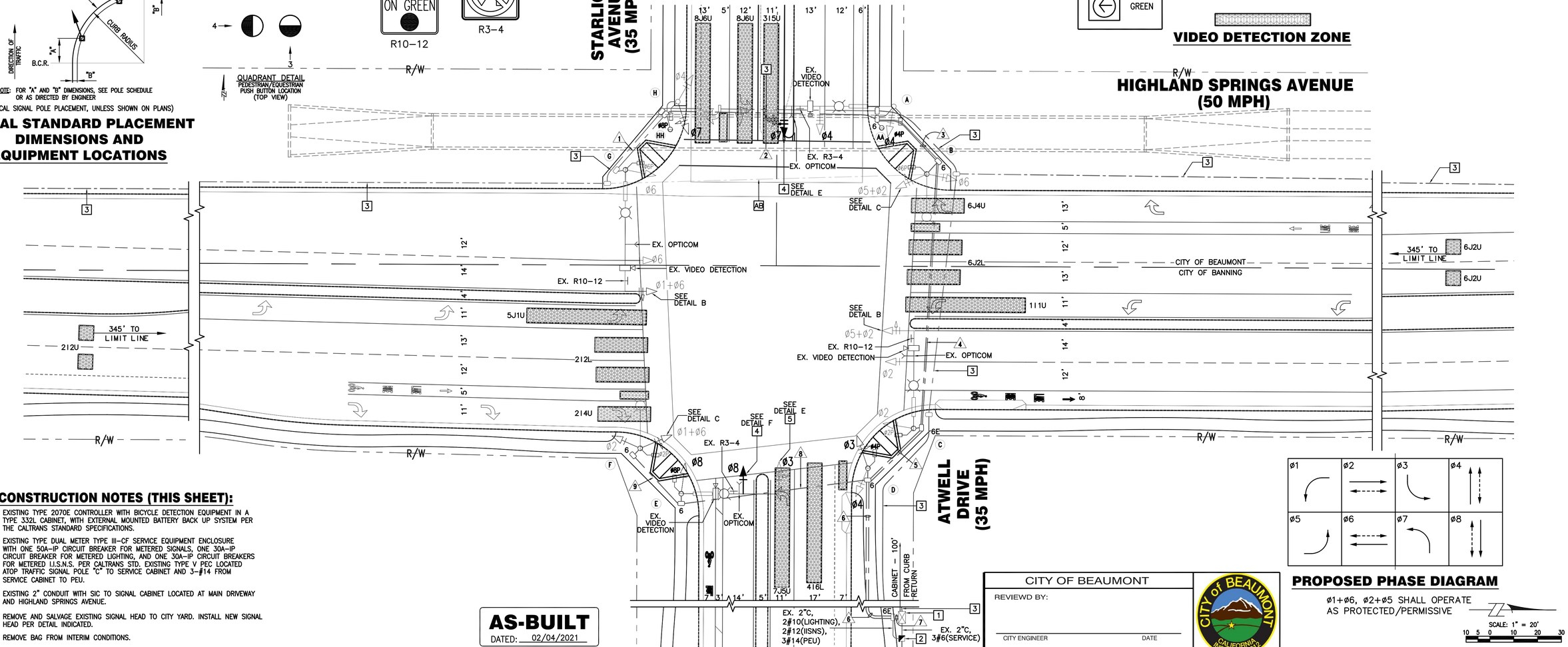
(TYPICAL SIGNAL POLE PLACEMENT, UNLESS SHOWN ON PLANS)

SIGNAL STANDARD PLACEMENT DIMENSIONS AND EQUIPMENT LOCATIONS



R10–12

R3–4



VIDEO DETECTION ZONE

PROPOSED PHASE DIAGRAM

ø1+ø6, ø2+ø5 SHALL OPERATE AS PROTECTED/PERMISSIVE

SCALE: 1" = 20'

10 5 0 10 20 30

CONSTRUCTION NOTES (THIS SHEET):

1. EXISTING TYPE 2070E CONTROLLER WITH BICYCLE DETECTION EQUIPMENT IN A TYPE 332L CABINET, WITH EXTERNAL MOUNTED BATTERY BACK UP SYSTEM PER THE CALTRANS STANDARD SPECIFICATIONS.
2. EXISTING TYPE DUAL METER TYPE III–CF SERVICE EQUIPMENT ENCLOSURE WITH ONE 50A–IP CIRCUIT BREAKER FOR METERED SIGNALS, ONE 30A–IP CIRCUIT BREAKER FOR METERED LIGHTING, AND ONE 30A–IP CIRCUIT BREAKERS FOR METERED I.I.S.N.S. PER CALTRANS STD. EXISTING TYPE V PEC LOCATED ATOP TRAFFIC SIGNAL POLE "C" TO SERVICE CABINET AND 3–#14 FROM SERVICE CABINET TO PEU.
3. EXISTING 2" CONDUIT WITH SIC TO SIGNAL CABINET LOCATED AT MAIN DRIVEWAY AND HIGHLAND SPRINGS AVENUE.
4. REMOVE AND SALVAGE EXISTING SIGNAL HEAD TO CITY YARD. INSTALL NEW SIGNAL HEAD PER DETAIL INDICATED.
5. REMOVE BAG FROM INTERIM CONDITIONS.

AS-BUILT
DATED: 02/04/2021

CITY OF BEAUMONT
REVIEWD BY:
CITY ENGINEER DATE

Call before you Dig
Avoid cutting underground utility lines. It's costly.
Call 811 or 1-800-227-2600

REVISIONS

		APPR	DATE
1	REVISED PER FIELD REVIEW BY CONTRACTOR.		02/04/21

PLANS PREPARED BY:
RK engineering group, inc.
NEWPORT BEACH
4000 Westerly Place, Suite 280
Newport Beach, CA 92660
P: 949.474.0809 F: 949.474.0902

SUBMITTED BY:
ROBERT KAHN
RCE# 20285 EXP. 09-30-21
02-04-2021 DATE

REGISTERED PROFESSIONAL ENGINEER – ROBERT KAHN – No. 020285 – Exp. 09-30-21 – CIVIL – STATE OF CALIFORNIA

CITY OF BANNING
RECOMMENDED FOR APPROVAL BY:
KEVIN D. SIN, RCE #71299 EXP. 12/31/19 DATE
SENIOR CIVIL ENGINEER
ARTURO VELA, RCE #75696 EXP. 6/30/20 DATE
PUBLIC WORKS DIRECTOR/CITY ENGINEER

CITY OF BANNING
TRAFFIC SIGNAL PLAN
ULTIMATE CONDITIONS
HIGHLAND SPRINGS AVE & ATWELL DRIVE / STARLIGHT AVENUE

W.O. No.
CIP No.
PROJECT No. 3300A (BEAUMONT)
SHEET 3 OF 7

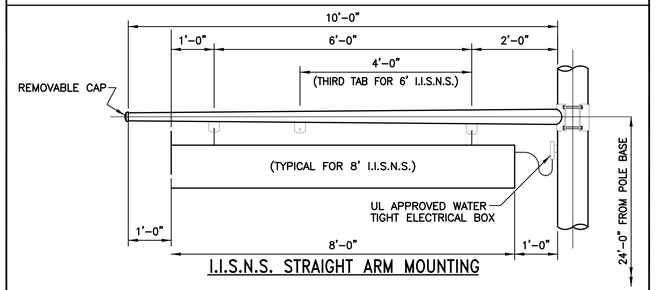
O:\2450-2499\24671801-D -Butterfield_Atwell\2021 AS-BUILTS\DWG\HS & Starlight_ULTIMATE.dwg Sheet 3 Plotted By: jnarciso Date Plotted: 2/25/21

POLE AND EQUIPMENT SCHEDULE ■

	STANDARDS				VEH. SIGNAL MTG.		PED. SIG.	P.P.B.		POLE LOC.		L.E.D.	STANDARD MAST ARM MOUNTED I.I.S.N.S. (SEE DETAIL A)	COMMENTS
	TYPE	HEIGHT	SIGNAL M.A.	LUMIN. M.A.	MAST ARM	POLE	MTG.	ø	QUAD	A	B	Luminaire		
A	PPB(N)	3'10"	–	–	–	–	–	6(N)	3(N)	12'	4'	–	–	–
B	15TS(N)	30'	–	15"(N)	–	SV-2-T(N)	SP-1-T(N)	–	–	10.5'	4'	41W(N)	2 –	–
C	26-4-100(N)	30'	40'(N)	15'(N)	2-MAS(N)	SV-2-T(N)	–	–	–	AS SHOWN		41W(N)	Sundance Dr(N)	F=13'
D	19-4-100(N)	30'	25'(N)	✳15'(N)	MAS(N)	SV-2-T(N)	SP-1-T(N)	4	4(N)	AS SHOWN		41W(N)	Highland Springs Ave(N)	–
E	19-4-100(N)	30'	25'(N)	15'(N)	MAS(N)	SV-2-T(N)	SP-1-T(N)	4	2(N)	11.5'	6.5'	41W(N)	Sundance Dr(N)	–
F	PPB(N)	3'10"	–	–	–	–	–	6	3(N)	10.4'	4'	–	–	–
G	1A	10'	–	–	–	TV-1-T	SP-1-T(N)	–	–	–2'	5.6'	–	–	–
H	26-4-129	30'	–	15'	–	–	–	–	–	–5.6'	4.8'	41W	–	–

■ EXACT POLE LOCATIONS DETERMINED BY FIELD ENGINEER; POTHOLE POLE FOUNDATIONS PRIOR TO ORDERING POLES.
ALL EQUIPMENT IS EXISTING EXCEPT AS NOTED
(N) = NEW
✳ = ROTATE LUMINAIRE 90 DEGREES AS SHOWN ON PLAN.

DETAIL 'A'

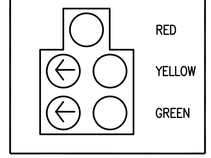


I.I.S.N.S. STRAIGHT ARM MOUNTING

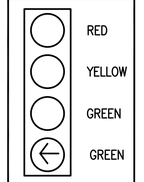
I.I.S.N.S. DETAIL

NOTES:
1. WHITE LETTERS AND BORDER WITH CITY LOGO ON INTERSTATE BLUE BACKGROUND.
2. SIGNS SHALL BE ATTACHED TO A 10 FOOT ARM, EXTENDING FROM THE SHAFT OF THE POLE AND PARALLEL TO THE SIGNAL MAST ARM.

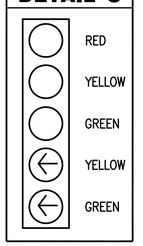
DETAIL 'B'



DETAIL 'D'



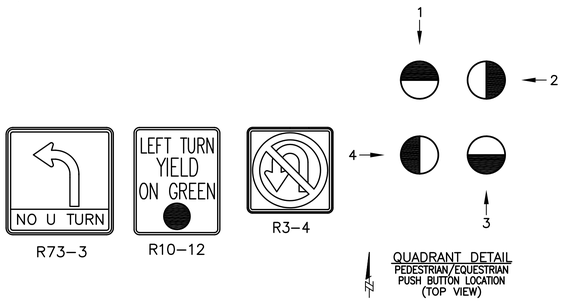
DETAIL 'C'



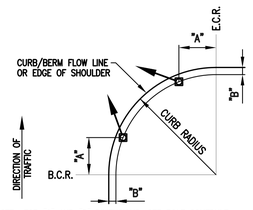
CONDUCTOR SCHEDULE

AWG SIZE OR CABLE TYPE	POLE OR CIRCUIT	CONDUIT SIZE AND RUN NUMBER 3"	4"	4" (E)	2-4" (E)	3" (E)	3" (E)
		1	2	3	4	5	6
12 CSC / 3 CSC	POLE – A	–	–	–	1	–	–
	B	–	–	1	–	–	–
	C	–	1	–	1	–	–
	D	1	1	1	1	–	–
	E	–	–	–	1	1	1
	F	–	–	–	1	1	–
	G	–	–	–	1	1	–
	TOTAL	1	2	1	3 – 6	4	2 – 2
#14	PHOTOELECTRIC UNIT	–	–	–	–	–	–
#12	I.I.S.N.S.	2	2	2	–	2	2
#10	LUMINAIRES	2	2	2	–	2	2
#8	GROUND	1	1	1	1	1	1
3M OPTICOM CABLE #138		1	2	2	3	1	1
VIDEO DETECTION		1	2	2	3	1	1
PERCENT FILL (%)		16	19	22	20	23	18

ALL CONDUCTORS AND CONDUITS SHALL BE NEW EXCEPT AS NOTED.
(E) = EXISTING



QUADRANT DETAIL
PEDESTRIAN/EQUESTRIAN PUSH BUTTON LOCATION (TOP VIEW)

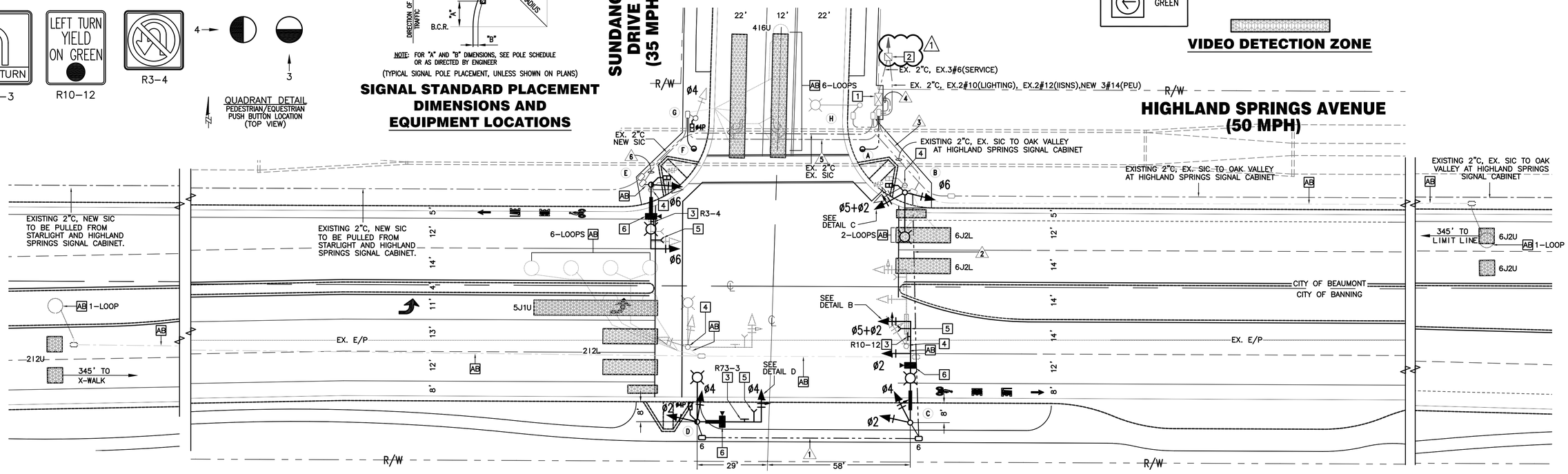


NOTE: FOR "A" AND "B" DIMENSIONS, SEE POLE SCHEDULE OR AS DIRECTED BY ENGINEER

(TYPICAL SIGNAL POLE PLACEMENT, UNLESS SHOWN ON PLANS)

SIGNAL STANDARD PLACEMENT DIMENSIONS AND EQUIPMENT LOCATIONS

VIDEO DETECTION ZONE



CONSTRUCTION NOTES (THIS SHEET):

1. REMOVE AND SALVAGE EXISTING TYPE 170E CONTROLLER. FURNISH AND INSTALL TYPE 2070 CONTROLLER WITH BICYCLE DETECTION EQUIPMENT IN EXISTING TYPE 332L CABINET.FURNISH AND INSTALL BATTERY BACKUP POWER SYSTEM PER THE CALTRANS STANDARD SPECIFICATIONS. CONTRACTOR TO PROVIDE ALL NECESSARY EQUIPMENT TO ACCOMODATE OPERATION PER PHASE DIAGRAM.
2. EXISTING TWO (2) TYPE II-BF 120/240V SERVICE EQUIPMENT TO REMAIN. FURNISH AND INSTALL ONE (1) NEW 50A-1P CIRCUIT BREAKER FOR METERED SIGNALS, ONE (1) NEW 30A-1P CIRCUIT BREAKER FOR METERED LIGHTING AND ONE (1) NEW 30A-1P CIRCUIT BREAKER FOR METERED IISNS. FURNISH AND INSTALL PE RECEPTACLE, TEST SWITCH, CONTACTOR, TERMINAL STRIP AND WIRING. REMOVE AND REPLACE ALL OTHER BRANCH BREAKERS WITH NEW BREAKERS OF THE SAME AMPERAGE AND VOLTAGE. PER CALTRANS STD. FURNISH AND INSTALL TYPE "V" PEC TO BE LOCATED ATOP TRAFFIC SIGNAL POLE "H" TO SERVICE CABINET AND ADD 3-#14 FROM SERVICE CABINET TO PEC.
3. FURNISH AND INSTALL SIGN AS INDICATED ON THIS PLAN.
4. CONTRACTOR TO REMOVE AND SALVAGE POLE TO CITY YARD. RESULTING VOID SHALL BE BACKFILLED WITH A 1-SACK SAND SLURRY OR TO 90% COMPACTION.
5. FURNISH AND INSTALL OPTICOM MODEL 722 OPTICAL DETECTORS ON MAST ARMS WITH MODEL 138 DETECTOR CABLES, AND INSTALL OPTICOM 764 DISCRIMINATOR MODULES IN CONTROLLER CABINET.
6. FURNISH AND INSTALL VIDEO DETECTION CAMERA ON MAST ARM WITH 6' PELCO BRACKET.

AB ABANDON. IF APPLIED TO CONDUIT, REMOVE CONDUCTORS.

AS-BUILT
DATED: 02/04/2021

ø1	ø2	ø4	
NOT USED	→	↓	NOT USED
ø5	ø6		
↳	↔	NOT USED	NOT USED

PROPOSED PHASE DIAGRAM

SCALE: 1" = 20'
10 5 0 10 20 30

CITY OF BEAUMONT
REVIEWD BY:
CITY ENGINEER DATE

SERVICE ADDRESS: 1690 SUNDANCE DRIVE

Call before you Dig
Avoid cutting underground utility lines. It's easy.
Call 811 OR 1-800-227-2600

REVISIONS

DATE	NO.	REVISION DESCRIPTION	APPR	DATE
09/04/20	1	UPGRADE EXISTING SERVICE PER CONSTRUCTION NOTE 2.		
02/04/21	2	REVISED PER FIELD REVIEW BY CONTRACTOR.		

PLANS PREPARED BY:
RK engineering group, inc.
NEWPORT BEACH
4000 Westerly Place, Suite 280
Newport Beach, CA 92660
P: 949.474.0809 F: 949.474.0902

SUBMITTED BY:
ROBERT KAHN 02-04-2021
RCE# 20285 EXP. 09-30-21 DATE

REGISTERED PROFESSIONAL ENGINEER ROBERT KAHN No. 020285 Exp. 09-30-21 CIVIL STATE OF CALIFORNIA

STAGECOACH TOWN USA

CITY OF BANNING

RECOMMENDED FOR APPROVAL BY:
EXP. 12/31/19 DATE
ARTURO VELA, RCE #75696 EXP. 6/30/20 DATE
PUBLIC WORKS DIRECTOR/CITY ENGINEER

CITY OF BANNING
TRAFFIC SIGNAL MODIFICATION PLAN
HIGHLAND SPRINGS AVE & SUNDANCE DRIVE

W.O. No.
CIP No.
PROJECT No. 3300A (BEAUMONT)
SHEET 4 OF 7

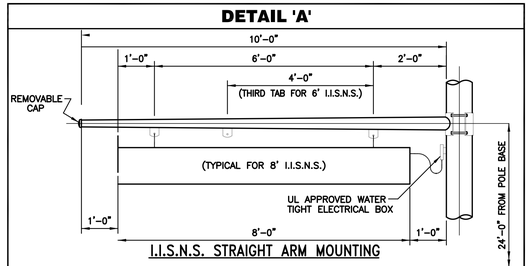
O:\2450-2499\24671801-D -Butterfield_Atwell\2021 AS-BUILTS\DWG\HS & Sundance Dr.dwg Sheet 4 Plotted By: jnarciso Date Plotted: 2/25/21

POLE AND EQUIPMENT SCHEDULE ■

	STANDARDS				VEH. SIGNAL MTG.		PED. SIG.	P.P.B.		POLE LOC.		L.E.D.	STANDARD MAST ARM MOUNTED I.I.S.N.S. (SEE DETAIL A)	COMMENTS
	TYPE	HEIGHT	SIGNAL M.A.	LUMIN. M.A.	MAST ARM	POLE	MTG.	ø	QUAD	A	B	Luminaire		
A	26-4-161	30'	40'(N)	12'	2-MAS(N)	TV-1-T(N)	SP-1-T(N)	–	–	-2'	3.5'	41W(N)	Highland Springs Ave(N)	F=15'
B	PPB(N)	3'10"	–	–	–	–	–	6	3(N)	13.5'	7.5'	–	–	–
C	15TS(N)	30'	–	15'(N)	MAS(N)	SV-1-T(N)	SP-1-T(N)	8	4(N)	12.9'	7'	41W(N)	–	–
D	29-5-100(N)	30'	50'(N)	15'(N)	2-MAS(N)	SV-1-T(N)	SP-1-T(N)	8	4(N)	11'	6'	41W(N)	Meadowline Way(N)	F=23'
E	1A(N)	10'	–	–	–	TV-2-T(N)	SP-1-T(N)	2	1(N)	11.5'	4	–	–	–
F	19-4-161(N)	30'	30'(N)	15'(N)	MAS(N)	SV-1-T(N)	SP-1-T(N)	2	1(N)	10.5'	7.5'	41W(N)	Highland Springs Ave(N)	–
G	15TS(N)	30'	–	15'(N)	–	SV-1-T(N)	SP-1-T(N)	4	2(N)	11'	4'	41W(N) 1	–	–
H	26-4-161	30'	40'(N)	15'	2-MAS(N)	SV-1-T	SP-2-T	4	2	10'	3'	41W(N)	Oak Valley Pkwy	–
I	PPB	3'10"	–	–	–	–	–	6	3	11'	3'	–	–	–
J	1A	10'	–	–	–	TV-2-T(N)	–	–	–	-1.5'	3'	–	–	–

■ EXACT POLE LOCATIONS DETERMINED BY FIELD ENGINEER; POTHOLE POLE FOUNDATIONS PRIOR TO ORDERING POLES.
ALL EQUIPMENT IS EXISTING EXCEPT AS NOTED
(N) = NEW

DETAIL 'A'



I.I.S.N.S. STRAIGHT ARM MOUNTING

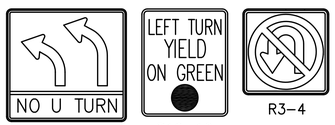
I.I.S.N.S. DETAIL

NOTES:
1. WHITE LETTERS AND BORDER WITH CITY LOGO ON INTERSTATE BLUE BACKGROUND.
2. SIGNS SHALL BE ATTACHED TO A 10 FOOT ARM, THE SHAFT OF THE POLE AND PARALLEL TO THE SIGNAL MAST ARM.

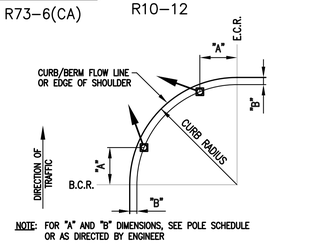
CONDUCTOR SCHEDULE

AWG SIZE OR CABLE TYPE	POLE OR CIRCUIT	CONDUIT SIZE AND RUN NUMBER								
		2"	3"	3.5"	4"	2-3"	2-4" (E)	4" (E)	3" (E)	3" (E)
		1	2	3	4	5	6	7	8	9
12 CSC / 3 CSC	POLE – A	–	–	–	–	–	1	–	–	–
	B	–	–	–	–	–	–	1	–	–
	C	–	–	–	–	1	1	–	–	–
	D	–	–	–	1	1	1	–	–	–
	E	–	–	1	1	1	1	–	–	–
	F	–	1	1	1	1	1	–	–	–
	G	1	1	1	1	1	1	–	–	–
	H	–	–	–	–	–	1	1	1	1
	I	–	–	–	–	–	1	1	1	–
	J	–	–	–	–	–	1	1	–	–
	TOTAL	1	1	2	3	4	5	8	3	3
#14	PHOTOELECTRIC UNIT	–	–	–	–	–	–	3	–	–
#12	I.I.S.N.S.	–	2	2	2	2	–	2	2	2
#10	LUMINAIRES	–	2	2	2	2	–	2	2	2
#8	GROUND	1	1	1	1	1	1	1	1	1
3M OPTICOM CABLE #138		–	1	1	2	2	4	2	1	1
VIDEO DETECTION		–	1	1	2	2	4	2	1	1
PERCENT FILL (%)		17	24	21	25	25	27	22	23	18

ALL CONDUCTORS AND CONDUITS SHALL BE NEW EXCEPT AS NOTED.
(E) = EXISTING



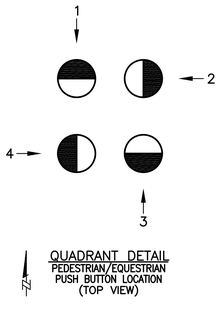
R73-6(CA) R10-12



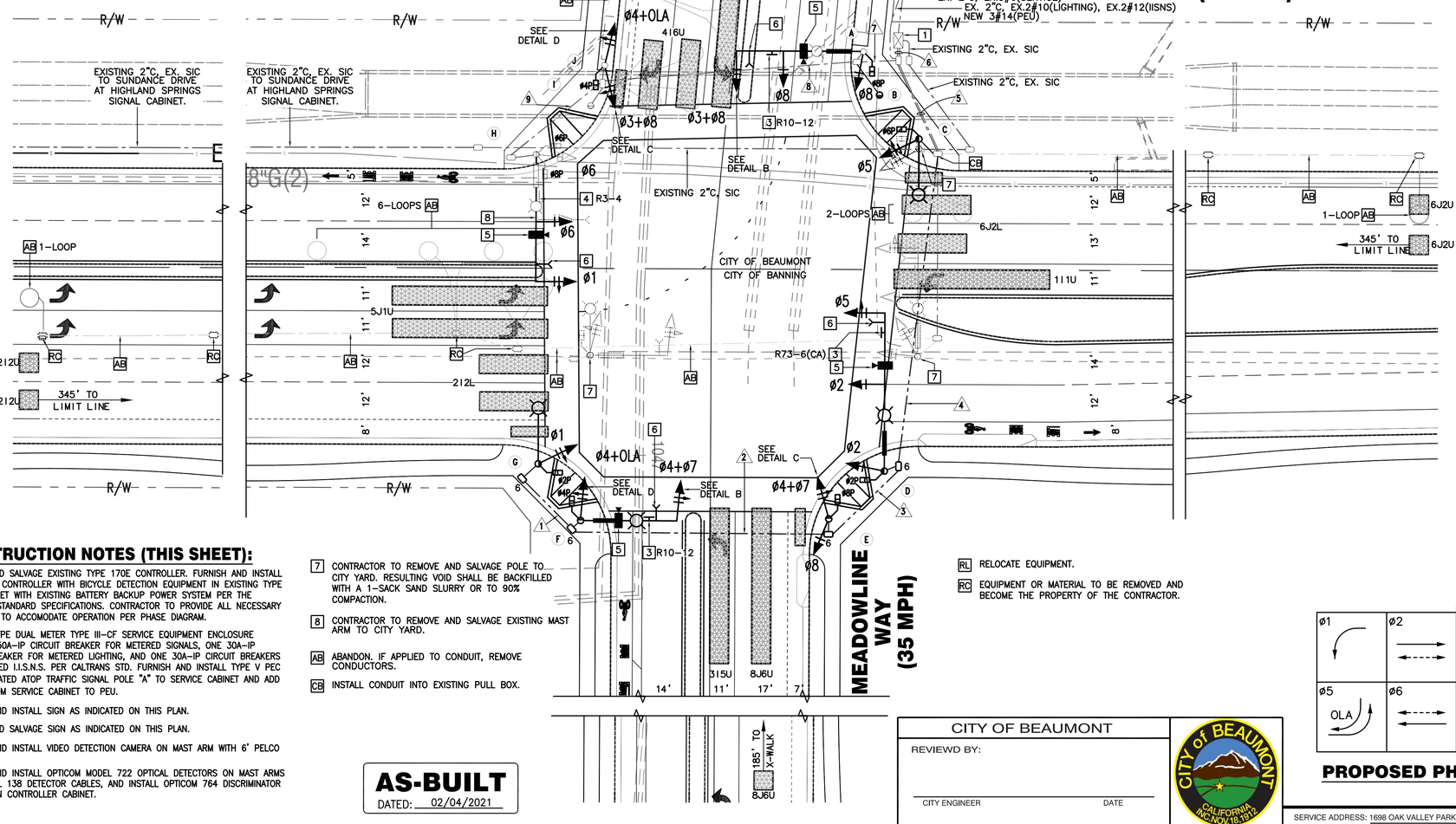
NOTE: FOR "A" AND "B" DIMENSIONS, SEE POLE SCHEDULE OR AS DIRECTED BY ENGINEER

(TYPICAL SIGNAL POLE PLACEMENT, UNLESS SHOWN ON PLANS)

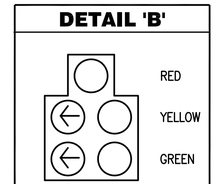
SIGNAL STANDARD PLACEMENT DIMENSIONS AND EQUIPMENT LOCATIONS



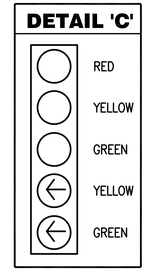
QUADRANT DETAIL
PEDESTRIAN/EQUESTRIAN PUSH BUTTON LOCATION (TOP VIEW)



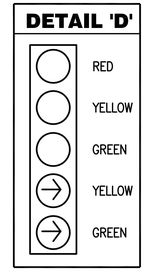
DETAIL 'B'



DETAIL 'C'



DETAIL 'D'



CONSTRUCTION NOTES (THIS SHEET):

1. REMOVE AND SALVAGE EXISTING TYPE 170E CONTROLLER. FURNISH AND INSTALL TYPE 2070 CONTROLLER WITH BICYCLE DETECTION EQUIPMENT IN EXISTING TYPE 332L CABINET WITH EXISTING BATTERY BACKUP POWER SYSTEM PER THE CALTRANS STANDARD SPECIFICATIONS. CONTRACTOR TO PROVIDE ALL NECESSARY EQUIPMENT TO ACCOMODATE OPERATION PER PHASE DIAGRAM.
2. EXISTING TYPE DUAL METER TYPE III-CF SERVICE EQUIPMENT ENCLOSURE WITH ONE 50A-IP CIRCUIT BREAKER FOR METERED SIGNALS, ONE 30A-IP CIRCUIT BREAKER FOR METERED LIGHTING, AND ONE 30A-IP CIRCUIT BREAKERS FOR METERED I.I.S.N.S. PER CALTRANS STD. FURNISH AND INSTALL TYPE V PEC TO BE LOCATED ATOP TRAFFIC SIGNAL POLE "A" TO SERVICE CABINET AND ADD 3-#14 FROM SERVICE CABINET TO PEU.
3. FURNISH AND INSTALL SIGN AS INDICATED ON THIS PLAN.
4. REMOVE AND SALVAGE SIGN AS INDICATED ON THIS PLAN.
5. FURNISH AND INSTALL VIDEO DETECTION CAMERA ON MAST ARM WITH 6' PELCO BRACKET.
6. FURNISH AND INSTALL OPTICOM MODEL 722 OPTICAL DETECTORS ON MAST ARMS WITH MODEL 138 DETECTOR CABLES, AND INSTALL OPTICOM 764 DISCRIMINATOR MODULES IN CONTROLLER CABINET.
7. CONTRACTOR TO REMOVE AND SALVAGE POLE TO CITY YARD. RESULTING VOID SHALL BE BACKFILLED WITH A 1-SACK SAND SLURRY OR TO 90% COMPACTION.
8. CONTRACTOR TO REMOVE AND SALVAGE EXISTING MAST ARM TO CITY YARD.

AB ABANDON. IF APPLIED TO CONDUIT, REMOVE CONDUCTORS.

CB INSTALL CONDUIT INTO EXISTING PULL BOX.

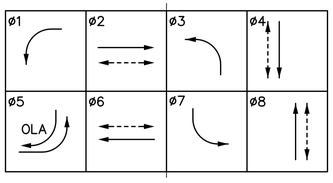
RL RELOCATE EQUIPMENT.

RC EQUIPMENT OR MATERIAL TO BE REMOVED AND BECOME THE PROPERTY OF THE CONTRACTOR.

AS-BUILT
DATED: 02/04/2021

CITY OF BEAUMONT
REVIEWD BY:
CITY ENGINEER DATE

SERVICE ADDRESS: 1698 OAK VALLEY PARKWAY



PROPOSED PHASE DIAGRAM

SCALE: 1" = 20'
10 5 0 10 20 30

Call before you Dig
Avoid cutting underground utility lines. It's costly.
Call 811 OR 1-800-227-2600

REVISIONS

1 REVISED PER FIELD REVIEW BY CONTRACTOR.		02/04/21
	APPR	DATE

PLANS PREPARED BY:
RK engineering group, inc.
NEWPORT BEACH
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Newport Beach, CA 92660
P: 949.474.0809 F: 949.474.0902

SUBMITTED BY:
ROBERT KAHN 02-04-2021
RCE# 20285 EXP. 09-30-21 DATE

REGISTERED PROFESSIONAL ENGINEER ROBERT KAHN No. 020285 Exp. 09-30-21 CIVIL STATE OF CALIFORNIA

BANNING, CA STAGECOACH TOWN USA Proud History • Prosperous Tomorrow

CITY OF BANNING
RECOMMENDED FOR APPROVAL BY:
EXP. 12/31/19 DATE
ARTURO VELA, RCE #75696 EXP. 6/30/20 DATE
PUBLIC WORKS DIRECTOR/CITY ENGINEER

CITY OF BANNING
TRAFFIC SIGNAL MODIFICATION PLAN
HIGHLAND SPRINGS AVE & MEADOWLINE WAY/OAK VALLEY PARKWAY

W.O. No.
CIP No.
PROJECT No. 3300A (BEAUMONT)
SHEET 5 OF 7

O:\2450-2499\24671801-D -Butterfield_Atwell\2021 AS-BUILTS\DWG\HS & Oak Valley.dwg Sheet 5 Plotted By: jnorcisio Date Plotted: 2/25/21

SPECIAL PROVISIONS TO STANDARD SPECIFICATIONS FOR TRAFFIC SIGNAL PROJECTS

A. DESCRIPTION:

All new installations and modifications to traffic signals and highway lighting shall conform to the provisions in Section 86, "Signals and Lighting," of the State of California Department of Transportation (CalTrans) Standard Specifications and Standard Plans (latest version), the latest CA-MUTCD (California Manual on Uniform Traffic Control Devices), County of Riverside Ordinace 461 and these Special Provisions.
Traffic signal work is to be performed at the following location:

HIGHLAND SPRINGS AVENUE AT WILSON STREET
HIGHLAND SPRINGS AVENUE AT SUNDANCE DRIVE
HIGHLAND SPRINGS AVENUE AT STARLIGHT AVENUE
HIGHLAND SPRINGS AVENUE AT OAK VALLEY PARKWAY
APEX STREET AT WILSON STREET

B. EQUIPMENT LIST AND DRAWINGS:

The controller cabinet schematic wiring diagram and intersection sketch shall be combined into one drawing so that when the cabinet door is fully open, the drawing is oriented with the intersection.

The Contractor shall furnish a maintenance manual for all controller units, auxiliary equipment and vehicle detector sensor units, control units and amplifiers. The maintenance manual and operation manual may be combined into one manual. The maintenance manual or combined maintenance and operation manual shall be submitted at the time the controllers are delivered for testing or, if ordered by the Engineer, previous to purchase. The maintenance manual shall include, but need not be limited to, the following items:

(a) Specifications
(b) Design characteristics
(c) General operation theory
(d) Function of all controls
(e) Troubleshooting procedure (diagnostic routine)
(f) Block circuit diagram
(g) Geographical layout of components
(h) Schematic diagrams
(i) List of replaceable component parts with stock numbers

The Contractor is required to submit to the Engineer "as-built" prints prior to the City's accepting the installations. The prints shall indicate in red all deviations from the contract plans, such as location of poles, pull boxes and runs, depths of conduit, number of conductors and other appurtenant work for future reference.

The Contractor shall also furnish cabinet inventory sheets. These sheets shall include serial and model numbers of all equipment contained in the cabinet.

The Contractor shall create the initial signal settings and timings for the proposed traffic signal controller operation. A copy of the timing sheet shall be submitted to the City Engineer for approval prior to installation.

C. FOUNDATIONS:

Portland cement concrete shall contain not less than 470 pounds of cement per cubic yard, except concrete for reinforced pile foundations, which shall contain not less than 564 pounds of cement per cubic yard.

D. STANDARDS, STEEL PEDESTALS AND POSTS:

Where the Standard Plans refer to the side tenon detail at the end of the signal mast arm, the applicable tip tenon detail may be substituted.

The traffic signal poles shall not be installed prior to the installation of the traffic signal controller.

The signs and sign mounting hardware as shown on Detail "U" of Standard Plan ES-7N shall be installed at the locations shown on the plans.

E. CONDUIT:

Metallic type conduit shall not be used.

Conduits shall be Type 3, Schedule 80 Polyvinyl Chloride (PVC).

Conduits shall be installed via jacking or drilling per Section 86-2.05C, "Installation," of the Standard Specifications.

After conductors have been installed, the ends of conduits terminating in pull boxes and controller cabinets shall be sealed with an approved type of sealing compound.

All conduit shall be 2", unless otherwise noted.

F. PULL BOXES:

Recesses for suspension of ballast's will not be required.

All pull boxes shall be #5, unless otherwise noted.

Pull boxes installed in unimproved area shall be marked with a Type L marker and be traffic bearing.

G. LUMINAIRES:

Luminaires shall be L.E.D. with type-III distribution.

H. L.E.D. DRIVER:

L.E.D. driver for luminaires shall be mounted within luminaires housing.

I. CONDUCTORS AND WIRING:

Splices shall be insulated by "Method B."

J. BONDING AND GROUTING:

Grounding jumper shall be attached by a 3/16 inch or larger brass bolt in the signal standard or controller pedestal and shall be run to the conduit, ground rod or bonding wire in adjacent pull box.

Grounding jumper shall be visible after cap has been poured on foundation.

Equipment grounding conductors will not be required in conduit containing loop lead-in cables only.

K. SERVICE:

The twelfth paragraph in Section 86-2.11, "Service," of the Standard Specifications is amended to read:

"The Contractor will arrange with the serving utility to complete service connections for both temporary and permanent installations. The Contractor shall pay all costs and fees required by the utility. The City will provide Contractor with address for service cabinet."

Conduit runs between service locations and electrical circuits shall not be placed until the service locations have been verified by the serving utility.

L. VEHICLE SIGNAL FACES AND SIGNAL HEADS:

All lamps for traffic signal units shall be furnished by the Contractor and must conform to the latest CalTrans signal lamp specifications.
Lenses shall be Light Emitting Diode (LED), unless otherwise noted.

Signal section housings shall be metal type.

All vehicle indications shall be 12" diameter and shall have back plates, unless otherwise noted.

M. PEDESTRIAN SIGNALS:

Pedestrian Signal Mounting Assemblies and Pedestrian Signal Housings shall be made from the same manufacturer and the section assemblies shall be uniform in appearance and alignment.
Pedestrian signals shall be provided with a polycarbonate egg crate or Z-crate screen.
Pedestrian signals shall be equipped with light emitting diode countdown pedestrian module.

N. DETECTION:

VIDEO DETECTION

ITERIS VersiCam video detection camera shall be used per this project.

Detection camera shall be installed on mast arm.

O. BATTERY BACK-UP SYSTEM:

The Battery Back-Up System BBS to be installed shall be consistent with the Riverside County specifications for battery back-up systems, dated February 26, 2008.

This specification establishes the minimum requirements for a complete emergency battery back-up system (BBS) for use with Light Emitting Diode (LED) Traffic Signal Modules. The BBS shall include but, not be limited to the following: inverter/charger, power transfer relay, batteries, a separate manually operated non-electronic bypass switch (See Figure 1 – BBS Block Diagram) and all necessary hardware and interconnect wiring. The BBS shall provide reliable emergency power to a traffic signal system (Vehicle and Pedestrian Traffic) in the event of a power failure or interruption.

The BBS shall be capable of providing power for full run-time operation for an "LED-only" intersection (all colors: red, yellow, green and pedestrian heads) or flashing mode operation for an intersection using Red LED's.
The BBS shall be designed for outdoor applications, in accordance with the Transportation Electrical Equipment Specifications (TEES), dated August 16, 2002, Chapter 1, Section 8 requirements.
The BBS shall be listed on the Caltrans Acceptable Brands List (ABL).
The BBS for traffic signal shall have been installed and operational for a period of one year at an intersection in the United States.

Unless specified otherwise, the Battery Backup system Batteries shall be external to the controller cabinet, as specified under Section 2.3 "External Battery Cabinet Option" herein.

P. INTERNALLY ILLUMINATED STREET NAME SIGNS:

Internally Illuminated Street Name Signs (I.I.S.N.S.) shall be double-faced Edge-Lit L.E.D. with photo-electric control.

Sign legends shall be translucent white on blue with 12-inch upper case and 9-inch lower case letters. Minimum copy size for the legend shall be Series C with Series D or E being used whenever message length permits.

Details of color, style, borders and spacing shall conform to the standard established by the County of Riverside.

"Periods" shall not be used on abbreviations. Full-size layouts for each legend shall be submitted to the Engineer for approval prior to fabrication.

The sign fixture shall be designed and constructed to prevent deformation or failure when subjected to 100 mph wind loads, as set forth in the AASHTO publication, Standard Specifications for Structural Supports of Highway Signs, Luminaries, and Traffic Signals, and amendments thereto. The sign panels shall not deform or warp under a 100 mph wind loading. A certificate of Compliance conforming to the provisions in Section 6-1.07, Certificates of Compliance, shall be submitted by the manufacturer with each lot of internally illuminated street name signs.

The signs shall be attached to a 10-foot arm extending from shaft of the pole above and parallel to the signal mast arm. Each 10-foot arm shall have 3 mounting tabs welded to it. The tabs shall be spaced to allow installation of either an eight foot or ten foot sign. A set bolt shall be used to assure the mast arm will not change position after it is installed and aligned.

The mounting assembly shall be designed and constructed to prevent failure when subjected to 100 mph wind loads, as set forth in the AASHTO publication, Standard Specifications for Structural Supports of Highway Signs, Luminaries, and Traffic Signals, and amendments thereto.

Q. EMERGENCY VEHICLE PRE-EMPTION:

The pre-emption system shall be able to identify certain designated vehicles as high priority (emergency types such as fire, police, etc.) and low priority (transit types) via a transmitted optical signal and process for activation of the appropriate phase green or hold a displayed phase green. Pre-set codes in the systems processor (phase selector) shall recognize each vehicle's priority and its class (fire, bus, etc.). The system shall operate on a first come, first served basis except that high priority vehicles shall take precedence over low priority vehicles.

A complete intersection vehicle pre-emption system shall be installed at the intersections as indicated on the contract plan(s) and shall consist of optical detectors (signal receivers) mounted on the indicated signal pole's mast arm (the exact position to be determined in the field); an encoded phase selector within the controller cabinet to activate the phase green; and all cabinet and field wiring to provide an operating system.

The optical detector shall be housed in a weather proof high impact non-corrosive fabricated material; mounting hardware shall also be non-corrosive. Said detector shall incorporate a built-in terminal strip for wire connections.

The optical detector shall have an adjustable responsive range up to 2,500 feet from a discrete optical light source; said discrete light source shall be identified for the proper pre-emption. Operating ambient temperature range shall be -30C to +60C. To achieve optimum operation, the appropriate detector to receive the required optical inputs and electrical outputs (to phase selector) shall be as recommended by the manufacturer.

The phase selector unit provided shall be for either the Model 170E controller or a N.E.M.A. controller as indicated on the plan(s). Installation shall not cause cabinet modification or disrupt normal traffic signal operation unless a valid transmittal is received from an optical detector. The phase selector shall be a two channel device and provide the following functions and features:

Functions
- Only one priority control output (phase green) shall be active at a time.
- High priority signals shall override low priority signals in the same channel or from channel to channel.
- The unit shall have three (3) levels of discriminating the signal.
- All valid signals shall be logged and stored in non-volatile memory; data shall be maintained when power is removed. The following information shall be stored:
  (a) Class
  (b) Code
  (c) Priority
  (d) Direction
  (e) Call duration
  (f) Final greens at end of call
  (g) Duration of final greens displayed
  (h) Time call ended (real time)
  (i) If vehicle passed through intersection

Features
- A port (RS 232 interface) for remote communication via modem.
- A test switch for each channel.
- A pilot light and call status indicator lights.
- Error diagnostic capabilities.

The detector cable shall be a shielded, 3-conductor 20 gage cable with a drain wire and shall conform to the detector and selector manufacturer's recommendation.

R. MODEL 2070E CONTROLLER ASSEMBLIES:

The controller unit, Model 2070E, and its cabinet, Model 332L, shall be in accordance with the provisions of Section No. 86 "Signals, Lighting and Electrical Systems" of the latest edition of the State of California Standard Specifications and these Special Provisions.

Furnishing and installing the required controller assemblies shall be in accordance with the current edition of the State of California Standard Plans, Standard Specifications, the construction plans and the special provisions and these equipment specifications.

All Model 2070E controllers supplied shall have dual Asynchronous Communications Interface Adaptor (ACIA) capability. Dual ACIA's shall be integral to the controller unit. Horizontal printed-circuit board controllers will not be accepted.

The complete control system, including the Model 332L cabinet, shall conform to current State of California, Business and Transportation Agency, Department of Transportation, "Transportation Electrical Equipment Specifications" (TEES) and "Traffic Signal Control Equipment Specifications" (TSCES), including issued addenda.

The above referenced document is available from the State of California, Department of Transportation, Sacramento, for a fee.

The cabinet features shall include push-buttons for manual actuation of all vehicular and pedestrian phases. The buttons shall be rack-mounted. The cabinet shall also be provided with a fluorescent lamp for interior lighting and a pull out drawer assembly. Door lock shall be Corbin No. 2.

An aluminum shelf with integral compartment shall be provided as the next unit installed below the 2070E Local Controller, on all 332L Cabinets. The storage compartment shall have telescoping drawer guides for full extension. The compartment top shall have a non-slip plastic laminate permanently attached. The non-slip laminate SHALL NOT be attached with silicon adhesive.

Each Type 2070 controller assembly consisting of a Model 2070E controller unit shall be furnished with completely wired Model 332L Controller cabinet, Model 222 inductive loop detector sensor units, Model 242 isolators, and Model 210 ECL or equivalent conflict monitor. Conflict monitor shall be capable of monitoring green, amber and red indications. 6A 1220 Baud Internal Modem, Model 204 flasher, units, and other equipment required to provide a complete control system shall be furnished. The Model 332 cabinet shall incorporate a Power Distribution Assembly No. 2 (PDA2L) power distribution assembly. Program 2033 software shall be furnished and installed in each controller unit supplied.

A twelve position interconnect terminal strip shall be provided for termination of the interconnect cable for communication lines.

One C2P modem interconnect harness with a six foot cable shall be wired to the interconnect terminal strip. (Local intersection controller to interconnect terminal strip).

In the cabinet in which the Field Master is installed, an additional C2P modem interconnect harness with a six foot cable shall be wired to the interconnect terminal strip (Field Master controller to interconnect terminal strip). An additional Model 400 modem shall be furnished for the Field Master controller.

Load switch switching circuits shall each be contained in a replacement module (cube type) sealed in epoxy and rated at 15 amperes load (25 amperes triac). Pin 11 on all load switch sockets shall be wired to AC. Output indicators shall be installed on all load switches.

All load switch sockets shall have individual wire terminals; printed circuit boards will not be allowed.

The switching circuit for the flasher unit shall be contained in a replacement module (cube type) sealed in epoxy. The unit shall be rated for 15 amperes load (25 amperes triac).

The Model 332L cabinet shall be equipped with a thermostatically controlled electric fan with ball or roller bearings. A capacity rating of at least 100 cubic feet per minute is required.

Cabinet finish (interior and exterior) shall be anodic coating.

Two (2) complete manuals and four (4) complete cabinet wiring diagrams for each furnished controller assembly shall be supplied in accordance with the above referenced April of 1978 Specifications. The cabinet wiring diagram shall include a reduced schematic drawing (aox. 5.5"x5.5") of the project intersection, which shall include the following, information, at a minimum:
1. Basic intersection geometry, including marked lanes and crosswalks, north arrow and street names.
2. Poles.
3. Traffic signal heads with phase designations.
4. Pedestrian signal heads with phase designations.
5. Loop detectors with input file designations.

The Model 2070E controller and controller cabinet shall be manufactured and furnished by the same manufacturer, and shall form a complete functional controller system capable of providing the traffic signal operation specified. All traffic control equipment to be furnished shall be currently acceptable to CALTRANS. Laboratory, Sacramento, CA, and shall currently be listed on the Department of Transportation Quality Production List (QPL).

The supplier shall perform operational and functional testing of the supplied controller assemblies and additional supplied equipment in accordance with the specifications of the State of California Department of Transportation.

Said tests shall be performed in accordance with current State of California Department of Transportation guidelines; and a Certificate of Compliance shall be issued for each successfully tested controller assembly and additional supplied equipment.

The requirement for the operational and functional testing of the equipment shall be considered as included in the lump sum price paid for traffic signal and lighting, and no additional compensation shall be allowed therefore.

Furnishing, transporting, installing and wiring of traffic signal controller assemblies, including labor, equipment, materials and incidentals, shall be considered as included in the lump sum price paid for traffic signal and lighting, and no additional compensation shall be allowed therefore.

CITY OF BEAUMONT
REVIEWD BY:
CITY ENGINEER DATE

CITY OF BEAUMONT CALIFORNIA INCORPORATED NOV. 10, 1912

AS-BUILT
DATED: 02/04/2021

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Avoid cutting underground utility lines. It's costly.
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REVISIONS

		APPR	DATE

PLANS PREPARED BY:
RK engineering group, inc.
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SUBMITTED BY:
ROBERT KAHN DATE 02-04-2021
RCE# 20285 EXP. 09-30-21

REGISTERED PROFESSIONAL ENGINEER ROBERT KAHN No. 020285 Exp. 09-30-21 CIVIL STATE OF CALIFORNIA

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CITY OF BANNING
RECOMMENDED FOR APPROVAL BY:
EXP. 12/31/19 DATE
ARTURO VELA, RCE #75696 EXP. 6/30/20 DATE
PUBLIC WORKS DIRECTOR/CITY ENGINEER

CITY OF BANNING
SPECIAL PROVISIONS

W.O. No.
CIP No.
PROJECT No. 3300A (BEAUMONT)
SHEET 7 OF 7

O:\2450-2499\24671801-D -Butterfield_Atwell\2021 AS-BUILTS\DWG\HS & Wilson.dwg SHEET 7 Plotted By: jnarciso Date Plotted: 2/25/21