

CITY AND COUNTY OF DENVER

STATE OF COLORADO



DEPARTMENT OF PUBLICWORKS / ENGINEERING DIVISION

BID DOCUMENTS PACKAGE

Contract No. 201206603

DENVER TRAFFIC IMPROVEMENT PROJECT
2012

June 20, 2012



DENVER
THE MILE HIGH CITY

Department of Public Works
Engineering Division

Capital Projects Management – Dept. 506
Right-of-Way Services – Dept. 507
Policy and Planning – Dept. 509
Traffic Engineering Services – Dept. 508

201 West Colfax Avenue
Denver, CO 80202
www.Work4Denver.com

NOTICE OF APPARENT LOW BIDDER

Jacobs Investments LLC, dba Colorado Boring Co.
3813 Canal Dr.
Fort Collins, CO. 80524

The MANAGER OF PUBLIC WORKS has considered the Bids submitted on **July 20, 2012**, for work to be done and materials to be furnished in and for:

CONTRACT NO 201206603 Denver Traffic Improvement Project 2012

as set forth in detail in the Contract Documents for the City and County of Denver, Colorado. It appears that your Bid is fair, equitable, and to the best interest of the City and County; therefore, said Bid is hereby accepted at the bid price contained herein, subject to the approval and execution of the Contract Documents by the City in accordance with the Charter of the City and County of Denver, and to your furnishing the items specified below. The award is based on the total bid items: **202-00848 through 700-70589 (Thirty-Seven [37])**, the total estimated cost thereof being: **Six Hundred Seventy-Five Thousand Twenty Dollars and No Cents (\$675,020.00)**.

It will be necessary for you to appear forthwith at the office of the Department of Public Works, Contract Administration, 201 W. Colfax Ave., Dept 614, Denver, Colorado 80202, to receive the said Contract Documents, execute the same and return them to the Department of Public Works, Contract Administration within the time limit set forth in the Bid Proposal.

In accordance with the requirements set forth in the Contract Documents, you are required to furnish the following documents:

- a. Insurance Certificates: General Liability and Automotive Liability, Workman's Compensation and Employer Liability;
- b. One original Power of Attorney relative to Performance and/or Payment Bond; and,

All construction Contracts made and entered into by the City and County of Denver are subject to Affirmative Action and Equal Opportunity Rules and Regulations, as adopted by the Manager of Public Works, and each contract requiring payment by the City of one-half million dollars (\$500,000.00) or more shall first be approved by the City Council acting by ordinance and in accordance with Section B1.12.2 of the Charter of the City and County of Denver.

Prior to issuance of Notice to Proceed, all Equal Opportunity requirements must be completed. Additional information may be obtained by contacting the Director of Contract Compliance at (720-913-1700).

NOTICE OF APPARENT LOW BIDDER

PROJECT NO. 201206603

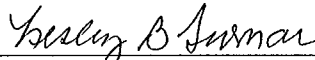
Page 2

The Bid Security submitted with your Bid, will be returned upon execution of the Contract and furnishing of the Performance Bond. In the event you should fail to execute the Contract and to furnish the performance Bond within the time limit specified, said Bid Security will be retained by the City and County of Denver as liquidated damages, and not as a penalty for the delay and extra work caused thereby.

Dated at Denver, Colorado this 6th day of August 2012.

CITY AND COUNTY OF DENVER

By



Jose M. Cornejo
Manager of Public Works

GD/joa

cc: H. Woods (CAO), Gallagher (AUD), Schellinger (Treasury/Tax Compliance), DSBO Inbox, Tam Nguyen, Merritt (PW-Aud), PCO, Lisa Ferreira, File.

STATE OF COLORADO

DEPARTMENT OF TRANSPORTATION

Contracts and Market Analysis Branch

4201 East Arkansas Avenue
Denver, Colorado 80222
Telephone: (303) 757-9736
Facsimile: (303) 757-9868

AQC M320-075
Denver Traffic Improvement 2012
Project Code 18536



August 16, 2012

Mr. Jose Cornejo
City of Denver
Public Works
201 W. Colfax
Denver, CO 80202

Dear Mr Cornejo:

Based on my review of the financial statement dated August 13, 2012 and receipt of:

- CDOT Form 605, Contractors Performance Capability Statement
- CDOT Form 606, Anti-Collusion Affidavit
- CDOT Form 621, Assignment of Anti-Trust Claims and
- Documentation of conformance with CDOT UDBE Contract Goal Policy,

the City's award of Project AQC M320-075 to Colorado Boring is approved.

Please include a copy of FHWA Form 1273 as part of your contract with Colorado Boring Your cooperation in this matter is appreciated.

Sincerely,

Richard E. Ott
CDOT Award Officer

JSW/jsw

cc:

Tanya Bower, R-6
Region EEO Officer, R-6
Ott, Agreements
Yehdego/Ngo, Projects & Grants
Loeper, Program & Project Analysis
Liljenberg, R. Business Programs
Central Files

CITY AND COUNTY OF DENVER
DEPARTMENT OF PUBLIC WORKS
Engineering Division

BID FORM AND SUBMITTAL PACKAGE ACKNOWLEDGMENT

CONTRACT NO. 201206603
FEDERAL AID PROJECT NO. : AQC M320-075
DENVER TRAFFIC IMPROVEMENT PROJECT 2012

BIDDER: Jacobs Investments LLC, dba Colorado Boring Co.

ADDRESS: 3813 Canal Dr.
Fort Collins, CO. 80524

The undersigned bidder states that the undersigned bidder has received and had an opportunity to fully and thoroughly examine a complete set of the Contract Documents for **CONTRACT NO. 201206603, DENVER TRAFFIC IMPROVEMENT PROJECT 2012**, made available to the undersigned bidder pursuant to Notice of Invitation for Bids dated June 20, 2012.

The undersigned bidder acknowledges that a complete and final set of the Contract Documents for the referenced Project, the components of which are identified below, are bound and maintained as the record set of Contract Documents by the Contract Administration Division of the Department of Public Works and that this Record Set is available for examination by the undersigned bidder.

The undersigned bidder, having thoroughly examined each of the components identified below and contained in Contract Documents, **HEREBY SUBMITS THIS BID FORM AND SUBMITTAL PACKAGE**, fully understanding that the Contract Documents, as defined in Paragraph 1 of the contract, including this executed Bid Form and Submittal Package, constitute all of the terms, conditions and requirements upon which this submission is based and further understanding that, by submission of this Bid Form and Submittal Package, the City shall rely on the representations and commitments of the undersigned bidder contained herein.

The following completed documents comprising this Bid Form and Submittal Package will be included with and, by this reference, are expressly incorporated into the Contract Documents specified at Paragraph 1 of the Contract:

Bid Form and Submittal Package Acknowledgment Form
Bid Form
List of Proposed Disadvantaged Business Enterprise(s)
Commitment to Disadvantaged Business Enterprise Participation
DBE Letter(s) of Intent
Joint Venture Affidavit (if applicable)
Joint Venture Eligibility Form (if applicable)
Bid Bond
Bidder / Contractor / Vendor / Proposer Disclosure Form

The following designated documents constitute that portion of the Contract Documents made available by the Notice of Invitation for Bids, but not included in the Bid Form and Submittal Package:

Notice of Invitation for Bids
Instructions to Bidders
Addenda (as applicable)
Equal Employment Opportunity Provisions (Appendix A and Appendix F)
Contract Form
General Contract Conditions
Special Contract Conditions
Performance and Payment Bond
Notice to Apparent Low Bidder
Notice to Proceed
Contractor's Certification of Payment Form
Final/Partial Lien Release Form
Final Receipt
Change Orders (as applicable)
Federal Requirements (as applicable)
Prevailing Wage Rate Schedule(s)
Technical Specifications
Contract Drawings
Accepted Shop Drawings
Insurance Provision

The undersigned bidder expressly assumes responsibility for the complete contents of these designated documents as bound together with the Bid Form and Submittal Package submitted herewith and designated the Contract Documents.

IN WITNESS WHEREOF, the undersigned bidder has signed personally or by duly authorized officer or agent and duly attested.

BIDDER:

Name: Jacobs Investment LLC
dba Colorado boring Co.

By: [Signature]

Title: Manager

ATTEST:

By: [Signature]

[SEAL]

CITY AND COUNTY OF DENVER
DEPARTMENT OF PUBLIC WORKS
Engineering Division

BID FORM

CONTRACT NO. 201206603
FEDERAL AID PROJECT NO.: AQC M320-075

DENVER TRAFFIC IMPROVEMENT PROJECT 2012

TO: The Manager of Public Works
City and County of Denver
c/o Contract Administration
201 West Colfax, Dept. 614
Denver, Colorado 80202

BIDDER Jacobs Investments LLC dba Colorado Boring Co.

The Undersigned Bidder, having examined the plans, technical specifications, and remainder of the proposed Contract Documents as designated and enumerated in the General and Special Contract Conditions and any and all addenda thereto; having investigated the location of and conditions affecting the proposed Work; and being acquainted with and fully understanding the extent and character of the Work covered by this bid, and all factors and conditions affecting or which may be affected by Work, HEREBY SUBMITS THIS BID, pursuant to an advertisement of a Notice of Invitation for Bids as published on **June 20, 2012**, to furnish all required materials, tools, appliances, equipment and plant; to perform all necessary labor and to undertake and complete: **CITY OF DENVER CONTRACT NO. 201206603, DENVER TRAFFIC IMPROVEMENT PROJECT 2012** in Denver, Colorado, in full accordance with and conformity to the Plans, Technical Specifications, and Contract Documents hereto attached or by reference made a part hereof, at and for the following price(s) set forth on this Bid Form.

The following documents, which taken as a whole constitute the Contract Documents for this Project, and which are incorporated herein, by reference, were made available to the Bidder as provided in the Advertisement of Notice of Invitation for Bids, were received by the bidder, and form the basis for this bid:

Advertisement of Notice of Invitation for Bids
Instructions to Bidders
Bid Bond
Addenda (as applicable)
DBE Documents
Equal Employment Opportunity Provisions
(Appendices A, B, E and F)
Bid Form
Commitment to DBE Participation
Contract Form
General Contract Conditions
Special Contract Conditions
Performance and Payment Bond
Notice to Apparent Low Bidder
Notice to Proceed
Contractor's Certification of Payment Form
Final/Partial Lien Release Form
Final Receipt
Change Orders (as applicable)

Federal Requirements
Contractors Performance Capability Statement
Anti-Collusion Affidavit
Assignment of Anti-Trust Claims
Underutilized DBE Bid Conditions Assurance
On-the-Job Training (where applicable)
Required Contract Provisions Federal Aid
Construction Contracts
Prevailing Wage Rate Schedule(s)
Technical Specifications
Contract Drawings
Accepted Shop Drawings
Certificate of Insurance

Item No.	Description and Price	Estimated Quantity	Estimated Cost
202-00848	REMOVAL OF TRAFFIC SIGNAL CONTROLLER AND CABINET at the unit price of \$ <u>275.⁰⁰</u> per EACH.	77 EA	\$ <u>21,175.⁰⁰</u>
202-99999	REMOVAL OF TRAFFIC SIGNAL CABINET BASE at the unit price of \$ <u>500.⁰⁰</u> per EACH.	20 EA	\$ <u>10,000.⁰⁰</u>
203-01597	POTHOLING at the unit price of \$ <u>150.⁰⁰</u> per EACH.	150 EA	\$ <u>22,500.⁰⁰</u>
208-00002	EROSION LOG (12 INCH) at the unit price of \$ <u>2.⁰⁰</u> per LINEAR FOOT.	500 LF	\$ <u>1000.⁰⁰</u>
208-00034	GRAVEL BAG at the unit price of \$ <u>2.⁰⁰</u> per LINEAR FOOT.	200 LF	\$ <u>400.⁰⁰</u>
208-00045	CONCRETE WASHOUT STRUCTURE at the unit price of \$ <u>2000.⁰⁰</u> per EACH.	1 EA	\$ <u>2000.⁰⁰</u>
208-00051	STORM DRAIN INLET PROTECTION (TYPE 1) at the unit price of \$ <u>3.⁰⁰</u> per LINEAR FOOT.	115 LF	\$ <u>345.⁰⁰</u>
208-00052	STORM DRAIN INLET PROTECTION (TYPE 2) at the unit price of \$ <u>3.⁰⁰</u> per LINEAR FOOT.	300 LF	\$ <u>900.⁰⁰</u>
208-00103	REMOVAL AND DISPOSAL OF SEDIMENT (LABOR) at the unit price of \$ <u>25.⁰⁰</u> per HOUR.	80 HR	\$ <u>2000.⁰⁰</u>
208-00105	REMOVAL AND DISPOSAL OF SEDIMENT (EQUIPMENT) at the unit price of \$ <u>50.⁰⁰</u> per HOUR.	40 HR	\$ <u>2000.⁰⁰</u>
208-00205	EROSION CONTROL SUPERVISOR at the unit price of \$ <u>60.⁰⁰</u> per HOUR.	120 HR	\$ <u>7200.⁰⁰</u>

Item No.	Description and Price	Estimated Quantity	Estimated Cost
607-11525	FENCE (PLASTIC) at the unit price of \$ <u>5.⁰⁰</u> per LINEAR FOOT.	200 LF	\$ <u>1,000.⁰⁰</u>
608-00000	CONCRETE SIDEWALK at the unit price of \$ <u>165.⁰⁰</u> per SQUARE YARD.	110 SY	\$ <u>18,150.⁰⁰</u>
613-01200	2 INCH ELECTRICAL CONDUIT (PLASTIC) at the unit price of \$ <u>15.⁰⁰</u> per LINEAR FOOT.	750 LF	\$ <u>11,250.⁰⁰</u>
613-01300	3 INCH ELECTRICAL CONDUIT (PLASTIC) at the unit price of \$ <u>19.⁰⁰</u> per LINEAR FOOT.	2,900 LF	\$ <u>55,100.⁰⁰</u>
613-07000	PULL BOX (SPECIAL) at the unit price of \$ <u>600.⁰⁰</u> per EACH.	77 EA	\$ <u>46,200.⁰⁰</u>
613-07101	PULL BOX (TYPE A) at the unit price of \$ <u>600.⁰⁰</u> per EACH.	77 EA	\$ <u>46,200.⁰⁰</u>
613-07104	PULL BOX (TRAFFIC) at the unit price of \$ <u>600.⁰⁰</u> per EACH.	77 EA	\$ <u>46,200.⁰⁰</u>
613-60500	CONDUIT AND FIBER REPAIR at the unit price of \$ <u>100.⁰⁰</u> per EACH.	25 EA	\$ <u>2,500.⁰⁰</u>
614-03102	CONCRETE FOOTING (CABINET BASE) at the unit price of \$ <u>1,900.⁰⁰</u> per EACH.	17 EA	\$ <u>32,300.⁰⁰</u>
614-75848	TRAFFIC SIGNAL CONTROLLER AND CABINET (INSTALL ONLY) at the unit price of \$ <u>1,000.⁰⁰</u> per EACH.	77 EA	\$ <u>77,000.⁰⁰</u>
614-86004	SPREAD SPECTRUM RADIO (INSTALL ONLY) at the unit price of \$ <u>1,200.⁰⁰</u> per EACH.	4 EA	\$ <u>4,800.⁰⁰</u>
614-86105	TELEMETRY (FIELD) at the unit price of \$ <u>750.⁰⁰</u> per EACH.	75 EA	\$ <u>56,250.⁰⁰</u>

Item No.	Description and Price	Estimated Quantity	Estimated Cost
626-00000	MOBILIZATION at the unit price of \$ <u>58,000.⁰⁰</u> per LUMP SUM.	1 LS	\$ <u>58,000.⁰⁰</u>
630-00000	FLAGGING at the unit price of \$ <u>25.⁰⁰</u> per HOUR.	258 HR	\$ <u>6,450.⁰⁰</u>
630-00003	UNIFORMED TRAFFIC CONTROL at the unit price of \$ <u>75.⁰⁰</u> per HOUR.	308 HR	\$ <u>23,100.⁰⁰</u>
630-00012	TRAFFIC CONTROL MANAGEMENT at the unit price of \$ <u>600.⁰⁰</u> per DAY.	129 DAY	\$ <u>77,400.⁰⁰</u>
630-80341	CONSTRUCTION TRAFFIC SIGN (PANEL SIZE A) at the unit price of \$ <u>50.⁰⁰</u> per EACH.	6 EA	\$ <u>300.⁰⁰</u> <i>300.00 incl</i>
630-80342	CONSTRUCTION TRAFFIC SIGN (PANEL SIZE B) at the unit price of \$ <u>50.⁰⁰</u> per EACH.	26 EA	\$ <u>1,300.⁰⁰</u>
630-80355	PORTABLE MESSAGE SIGN PANEL at the unit price of \$ <u>2,000.⁰⁰</u> per EACH.	2 EA	\$ <u>4,000.⁰⁰</u>
630-80358	ADVANCE WARNING FLASHING OR SEQ ARROW PANEL (C TYPE) at the unit price of \$ <u>2,000.⁰⁰</u> per EACH.	2 EA	\$ <u>4,000.⁰⁰</u>
630-80380	TRAFFIC CONE at the unit price of \$ <u>10.⁰⁰</u> per EACH.	200 EA	\$ <u>2,000.⁰⁰</u>
700-70010	F/A MINOR CONTRACT REVISIONS at the unit price of \$ <u>25,000.00</u> per FORCE ACCT.	1 FA	\$ <u>25,000.00</u>
700-70011	F/A PARTNERING at the unit price of \$ <u>1,000.00</u> per FORCE ACCT.	1 FA	\$ <u>1,000.00</u>
700-70022	F/A OJT COLORADO TRAINING PROGRAM at the unit price of \$ <u>1,000.00</u> per FORCE ACCT.	1 FA	\$ <u>1,000.00</u>

Item No.	Description and Price	Estimated Quantity	Estimated Cost
700-70380	F/A EROSION CONTROL at the unit price of \$ <u>2,000.00</u> per FORCE ACCT.	1 FA	\$ <u>2,000.00</u>
700-70589	F/A ENVIRONMENTAL HEALTH & SAFETY MANAGEMENT at the unit price of \$ <u>3,000.00</u> per FORCE ACCT.	1 FA	\$ <u>3,000.00</u>

Total Bid Amount of:

Six Hundred Twenty five thousand twenty dollars
and zero cents
Dollars (\$ ~~6~~ 675,020.00)

[Total bid amount equals the sum of each estimated cost for item numbers 202-00848 through 700-70589 (Thirty-Seven [37]) Total Bid Items]

If the Manager mails a written Notice of Apparent Low Bidder, addressed to the Bidder's business address stated on this Bid Form, the Undersigned Bidder shall, in accordance with the Contract Documents, be ready to, and shall, within five (5) days after the date of the Notice: (i) execute the attached form of Contract in conformity with this bid; (ii) furnish the required proofs of insurance; and (iii) furnish the required bond in the sum of the full amount of this bid, executed by a surety company acceptable to the Manager.

The Harbord Fire Ins. Co, a corporation of the State of Conn., is hereby offered as Surety on said bond. If such surety is not approved by the Manager, another and satisfactory surety company shall be furnished.

Enclosed with this bid is a bid guarantee, as defined in the attached Instructions to Bidders, in the amount of 5%. The Undersigned Bidder agrees that the entire amount of this bid guarantee is to be paid to and become the property of the City as liquidated damages, and not as a penalty, if: (i) the bid is considered to be the best by the City; (ii) the City notifies the Undersigned Bidder that it is the Apparent Low Bidder; and (iii) the Undersigned Bidder fails to execute the Contract in the form prescribed or to furnish the required bond and proofs of insurance, within five (5) days after the date of such notification.

The following persons, firms or corporations are interested with the Undersigned Bidder in this bid:

Name: na Name: na

Address: _____ Address: _____

If there are no such persons, firms, or corporations, please so state in the following space:

)

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5

CITY AND COUNTY OF DENVER
DEPARTMENT OF PUBLIC WORKS
 Engineering Division



**List of Proposed
 MWBE or DBE
 Bidders, Subcontractors,
 Suppliers (Manufacturers) or Brokers**

Office of Economic Development
 Division of Small Business Opportunity
 Compliance Unit
 201 West Colfax Avenue, Dept. 907
 Denver, CO 80202
 Phone: 720-913-1999
 Fax: 720-913-1803
 DSBO@denvergov.org

City and County of Denver Contract No. _____

The undersigned Bidder proposes to utilize the following MWBE or DBE for the project. All listed firms are **CURRENTLY** certified by the City and County of Denver. Only the level of MWBE or DBE participation listed at the bid opening will count toward satisfaction of the project goal. Only bona fide commissions may be counted for Brokers. MWBE or DBE prime bidders must detail their bid information below. Please copy and attach this page to list additional MWBE or DBE.

Address:	Contact Person:	
Type of Service:	Dollar Amount: \$:	Percent of Project:

MWBE or DBE Prime Bidder

Business Name:		
Address:	Contact Person:	
Type of Service:	Dollar Amount: \$:	Percent of Project:

Subcontractors, Suppliers, Manufacturers or Brokers (check one box)

<input type="checkbox"/> Subcontractor <i>XA</i>	<input type="checkbox"/> Supplier (✓)	<input type="checkbox"/> Manufacturer (✓)	<input type="checkbox"/> Broker (✓)
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Business Name: <i>Carney Services</i>			
Address: <i>P.O. Box 1258 Wellington, CO 80671</i>	Type of Service: <i>Traffic Control</i>		
Contact Person: <i>Carrie Carney</i>	Dollar Amount: \$: <i>38743.20</i>	Percent of Project: <i>6%</i>	
<input type="checkbox"/> Subcontractor (✓)	<input type="checkbox"/> Supplier (✓)	<input type="checkbox"/> Manufacturer (✓)	<input type="checkbox"/> Broker (✓)

Business Name:			
Address:	Type of Service:		
Contact Person:	Dollar Amount: \$:	Percent of Project:	
<input type="checkbox"/> Subcontractor (✓)	<input type="checkbox"/> Supplier (✓)	<input type="checkbox"/> Manufacturer (✓)	<input type="checkbox"/> Broker (✓)

Business Name:		
Address:	Type of Service:	
Contact Person:	Dollar Amount: \$:	Percent of Project:

Subcontractors, Suppliers, Manufacturers or Brokers (check one box)				
<input type="checkbox"/> Subcontractor (✓)	<input type="checkbox"/> Supplier (✓)	<input type="checkbox"/> Manufacturer (✓)	<input type="checkbox"/> Broker (✓)	
Business Name:				
Address:		Type of Service:		
Contact Person:		Dollar Amount: \$:	Percent of Project:	
<input type="checkbox"/> Subcontractor (✓)	<input type="checkbox"/> Supplier (✓)	<input type="checkbox"/> Manufacturer (✓)	<input type="checkbox"/> Broker (✓)	
Business Name:				
Address:		Type of Service:		
Contact Person:		Dollar Amount: \$:	Percent of Project:	
<input type="checkbox"/> Subcontractor (✓)	<input type="checkbox"/> Supplier (✓)	<input type="checkbox"/> Manufacturer (✓)	<input type="checkbox"/> Broker (✓)	
Business Name:				
Address:		Type of Service:		
Contact Person:		Dollar Amount: \$:	Percent of Project:	
<input type="checkbox"/> Subcontractor (✓)	<input type="checkbox"/> Supplier (✓)	<input type="checkbox"/> Manufacturer (✓)	<input type="checkbox"/> Broker (✓)	
Business Name:				
Address:		Type of Service:		
Contact Person:		Dollar Amount: \$:	Percent of Project:	
<input type="checkbox"/> Subcontractor (✓)	<input type="checkbox"/> Supplier (✓)	<input type="checkbox"/> Manufacturer (✓)	<input type="checkbox"/> Broker (✓)	
Business Name:				
Address:		Type of Service:		
Contact Person:		Dollar Amount: \$:	Percent of Project:	
<input type="checkbox"/> Subcontractor (✓)	<input type="checkbox"/> Supplier (✓)	<input type="checkbox"/> Manufacturer (✓)	<input type="checkbox"/> Broker (✓)	
Business Name:				
Address:		Type of Service:		
Contact Person:		Dollar Amount: \$:	Percent of Project:	
<input type="checkbox"/> Subcontractor (✓)	<input type="checkbox"/> Supplier (✓)	<input type="checkbox"/> Manufacturer (✓)	<input type="checkbox"/> Broker (✓)	
Business Name:				
Address:		Type of Service:		
Contact Person:		Dollar Amount: \$:	Percent of Project:	
<input type="checkbox"/> Subcontractor (✓)	<input type="checkbox"/> Supplier (✓)	<input type="checkbox"/> Manufacturer (✓)	<input type="checkbox"/> Broker (✓)	

COMP-FRM-011

The undersigned Bidder hereby certifies that the aforementioned subcontractors and suppliers have full knowledge that their names have been offered as subcontractors and suppliers for the work, and the Bidder further certifies that the dollar amount of work to be performed by the aforementioned DBE(s) was furnished to the Bidder prior to the bid opening. The undersigned Bidder agrees that after the bid opening, it shall submit to the City an executed and completed DBE "Letter of Intent" in five working days (5), on each of its DBE or DBE subcontractors. The "Letter of Intent" form is contained in the Contract Documents.

The undersigned Bidder acknowledges the right of the City to reject any or all bids submitted, to waive informalities in bids and to re-advertise this Project for bids.

The undersigned certifies that it has carefully checked all words and figures and all statements made in these Bid Forms.

This bid is submitted upon the declaration that neither, I (we), nor, to the best of my (our) knowledge, none of the members of my (our) firm or company have either directly or indirectly entered into any agreement, participated in any collusion or otherwise taken any action in restraint of free competitive bidding in connection with this bid.

Business Address of Bidder: 3813 Canal Dr.

City, State, Zip Code: Ft. Collins, CO. 80524

Telephone Number of Bidder: 970-494-1996 Fax No. 970-494-4449

Contact Name for this Project: Lloyd Seaden

Social Security or Federal Employer ID Number of Bidder: 84-1325968

Name and location of the last work of this kind herein contemplated upon which the Bidder was engaged:

Denver Monocore - TISSIP

For information relative thereto, please refer to:

Name: Jon Jacobs

Title: Managing Member

Address: 3813 Canal Dr. Ft. Collins, CO. 80524

The undersigned acknowledges receipt, understanding, and full consideration of the following addenda to the Contract Documents:

Addenda Number _____ Date _____

Addenda Number _____ Date _____

Addenda Number _____ Date _____

Dated this 18th day of July, 2012

Signature of Bidder:

If an Individual: _____ doing business

as _____.

If a Partnership:

Jacobs Investments LLC dba Colorado Boxing Co.

by: _____, General Partner.

If a Corporation:

a _____, Corporation,

by: _____, its President.

Attest:

Secretary

(Corporate Seal)

If a Joint Venture, signature of all Joint Venture participants.

Firm: _____

Corporation (), Partnership () or () Limited Liability Company

By: _____

(If a Corporation)

Attest:

Title: _____

Secretary (Corporate Seal)

Firm: _____

Corporation (), Partnership () or () Limited Liability Company

By: _____

(If a Corporation)

Attest:

Title: _____

Secretary (Corporate Seal)

Firm: _____

Corporation (), Partnership () or () Limited Liability Company

By: _____

(If a Corporation)

Attest:

Title: _____

Secretary (Corporate Seal)

CITY AND COUNTY OF DENVER
DEPARTMENT OF PUBLIC WORKS
Engineering Division



**COMMITMENT TO DBE
PARTICIPATION**

Office of Economic Development
Division of Small Business Opportunity
Compliance Unit
201 West Colfax Avenue, Dept. 907
Denver, CO 80202
Phone: 720-913-1999
Fax: 720-913-1803
DSBO@denvergov.org

The undersigned has satisfied the DBE participant requirements in the following manner
(Please check the appropriate box):

☒ The Bidder/Proposer is committed to a minimum of 5 % DBE utilization on the project, and will submit Letters of Intent (LOI) for each subcontractor/subconsultant listed in the Bid Forms as follows:

Hard Bids: Five (5) business days after the bid opening

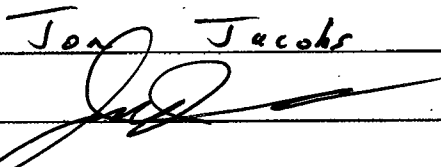
Request for Proposals: With the proposal when due

☐ The Bidder/Proposer is unable to meet the project goal of _____ % DBE, but is committed to a minimum of _____ % DBE utilization on the project. The Bidder/Proposer understands that they must submit a detailed statement of their good faith effort in accordance with DRMC Section 28-62 and 28-67 of Ordinance 760 and must submit Letters of Intent for each DBE listed in the Bid Forms, within five (5) business days after the bid opening or at time proposal is submitted.

☐ The Bidder/Proposer is a certified DBE in good standing with the City and is committed to self-perform a minimum of _____ % of the work on the contract.

Bidder/Proposer (Name of Firm): Jacobs Investment LLC dba Colorado Bonding Co.

Firm's Representative (Please print): Jon Jacobs

Signature (Firm's Representative): 

Title: Managing Member

Address: 3813 Canal Pr.

City: pt. Collins

State: CO

Zip: 80524

Phone: 970-494-1996

Fax: 970-494-4449

Email: jon.cbc1@gmail.com

A copy of the DBE Certification must be attached.



DENVER

THE GOLDEN CITY
Office of Economic Development
Division of Small Business Opportunity
Compliance Unit
201 West Colfax Ave., Dept. 907
Denver, CO 80202
Phone: 720-913-1999 Fax: 720-913-1803

LETTER OF INTENT (LOI)

INSTRUCTIONS FOR COMPLETION & SUBMISSION:

- * All lines must be completed or marked N/A for Not Applicable
- * Submit the attached completed checklist with this letter
 - o Email to dsbo@denvergov.org, OR
 - o Fax: 720-913-1803, OR
 - o Hand-Delivery: Office Economic Dev. 1st Fl., "Business Assistance Center (BAC)"
- * FOR RFPs: LOIs should be submitted with Proposal.

Contract No.:

Project Name:

A. The Following Section is To Be Completed by the Bidder/Consultant
This Letter of Intent Must be Signed by the Bidder/Consultant and M/WBE, SBE or DBE

Name of Bidder/Consultant:		Self-Performing: <input type="checkbox"/> Yes <input type="checkbox"/> No	Phone:	
Contact Person:	Email:		Fax:	
Address:	City:	State:	Zip:	

B. The Following Section is To Be Completed by the M/WBE, SBE or DBE, if any Tier
This Letter of Intent Must be Signed by the M/WBE, SBE or DBE and Bidder/Consultant

Name of Certified Firm:		Phone:		
Contact Person:	Email:		Fax:	
Address:	City:	State:	Zip:	
Please check the designation which applies to the certified firm:	<input type="checkbox"/> MBE/WBE (%)	<input type="checkbox"/> SBE (%)	<input type="checkbox"/> DBE (%)	<input type="checkbox"/> Self-Performing (%)

Indirect Utilization: If this M/WBE, SBE or DBE is not a direct first tier subcontractor/subconsultant, supplier or broker to the Bidder/ Consultant, please indicate the name of the subcontractor/subconsultant, supplier or broker which is utilizing the participation of this firm:

A Copy of the M/WBE, SBE or DBE Letter of Certification must be Attached

Identify the scope of the work to be performed or supply item that will be provided by the M/WBE/SBE/DBE. On unit price bids only, identify which bid line items the M/WBE/SBE/DBEs scope of work or supply corresponds to.

<input type="checkbox"/> Subcontractor/Subconsultant (%)	<input type="checkbox"/> Supplier (%)	<input type="checkbox"/> Broker (%)
--	---------------------------------------	-------------------------------------

Bidder intends to utilize the aforementioned M/WBE, SBE or DBE for the Work/Supply described above. The cost of the work and percentage of the total subcontractor M/WBE, SBE or DBE bid amount is:

\$ _____ %

Consultant intends to utilize the aforementioned M/WBE, SBE or DBE for the Work/Supply described above. The percentage of the work of the total subconsultant M/WBE, SBE or DBE will perform is:

If the fee amount of the work to be performed is requested, the fee amount, is: \$ _____ %

Bidder/Consultant's Signature: _____ Date: _____

Title: _____

M/WBE, SBE or DBE or Self-Performing Firm's Signature: _____ Date: _____

Title: _____

If the above named Bidder/Consultant is not determined to be the successful Bidder/Consultant, this Letter of Intent shall be null and void.

Letter of Intent (LOI) Checklist

*All lines must be completed or marked N/A for Not Applicable
Submit the attached completed checklist with this letter.*

Completed ✓	
<input type="checkbox"/>	Project Number & Project Name
<input type="checkbox"/>	Section A: Name of Bidder/Consultant, Contact Person, Address, City, State, Zip, Phone, Email
<input type="checkbox"/>	Section B: Name of Certified Firm, Contact Person, Address, City, State, Zip, Phone, Email
<input type="checkbox"/>	Designation checked for MBE/WBE, SBE or DBE
<input type="checkbox"/>	Indirect Utilization: Name of subcontractor/subconsultant, supplier or broker is indicated if using the participation of a 2 nd tier subcontractor/subconsultant, supplier or broker.
<input type="checkbox"/>	Scope of work performed or item supplied by M/WBE, SBE or DBE
<input type="checkbox"/>	Line items performed, if line-item bid.
<input type="checkbox"/>	Copy of M/WBE, SBE or DBE Letter of Certification Attached
<input type="checkbox"/>	Designation checked for Subcontractor/Subconsultant, Supplier or Broker
	If project is a hard bid...
<input type="checkbox"/>	Bidder has indicated dollar amount for value of work going to Subcontractor/ Subconsultant, Supplier or Broker
<input type="checkbox"/>	Bidder has indicated percentage for value of work going to Subcontractor/ Subconsultant, Supplier or Broker
	If project is an RFP/RFQ...
<input type="checkbox"/>	Consultant has indicated percentage for value of work going to Subcontractor/ Subconsultant, Supplier or Broker Name & contact name for MWBE.
<input type="checkbox"/>	Fee amount if fee amount of work to be performed is requested.
<input type="checkbox"/>	Bidder/Consultant's Signature, Title & Date
<input type="checkbox"/>	M/WBE, SBE or DBE Firm's Signature, Title and Date

Select One ✓	SUBMITTED VIA... (Bidder/Consultant is strongly urged to deliver the LOI via one of the methods below. Delivery to any other point cannot be guaranteed timely delivery.)
<input type="checkbox"/>	Email to DSBO@denvergov.org
<input type="checkbox"/>	Fax to 720-913-1803
<input type="checkbox"/>	Hand Delivery to Office of Economic Development, 1 st Floor, "Business Assistance Center"

The complete and accurate information that is required for the Letter of Intent is based on the following sections of the Ordinance: Section 28-63 and Section 28-68. Failure to complete this information on the Letter of Intent (LOI) may automatically deem a bid or proposal non-responsive.

COMP-FRM-012 Revised 04/12/12



DENVER
THE HIGH MILE CITY

JOINT VENTURE AFFIDAVIT

Office of Economic Development
Division of Small Business Opportunity
Compliance Unit
201 West Colfax Avenue, Dept. 907
Denver, CO 80202
Phone: 720-913-1999
Fax: 720-913-1803
DSBO@denvergov.org

The Undersigned swear that the foregoing statements are correct and include all material information necessary to identify and explain the terms and operation of our joint venture and the intended participation by each joint venturer in the undertaking. Further, the Undersigned covenant and agree to provide the City current, complete, and accurate information regarding actual joint venture work and the payment thereof and any proposed changes in any of the joint venture arrangements and to permit the audit and examination of the books, records, and files of the joint venture, by authorized representatives of the City or Federal funding agency, if applicable. Any material misrepresentation will be grounds for terminating any contract which may be awarded and for initiating action under Federal or State laws concerning false statements.

Name of Firm: na

Print Name: _____ Title _____

Signature: _____ Date: _____

Notary Public

County of _____ State of _____ My Commission Expires: _____

Subscribed and sworn before me this
_____ day of _____, 20____

Notary Seal

Notary Signature: _____

Address: _____

Name of Firm: _____

Print Name: _____ Title _____

Signature: _____ Date: _____

Notary Public

County of _____ State of _____ My Commission Expires: _____

Subscribed and sworn before me this
_____ day of _____, 20____

Notary Seal

Notary Signature: _____

Address: _____

Name of Firm: _____

Print Name: _____ Title _____

Signature: _____ Date: _____

Notary Public

County of _____ State of _____ My Commission Expires: _____

Subscribed and sworn before me this
_____ day of _____, 20____

Notary Seal

Notary Signature: _____

Address: _____



JOINT VENTURE ELIGIBILITY FORM

Office of Economic Development
Division of Small Business Opportunity
Compliance Unit
201 West Colfax Avenue, Dept. 907
Denver, CO 80202
Phone: 720-913-1999
Fax: 720-913-1803
DSBO@denvergov.org

Joint Venture means an association of two (2) or more business enterprises to constitute a single business enterprise to perform a City construction or professional design and construction services contract for which purpose they combine their property, capital, efforts, skills and knowledge, and in which each joint venturer is responsible for a distinct, clearly defined portion of the work of the contract, performs a commercially useful function, and whose share in the capital contribution, control, management responsibilities, risks and profits of the joint venture are equal to its ownership interest. Joint ventures must have an agreement in writing specifying the terms and conditions of the relationships between the joint venturers and their relationship and responsibility to the contract.

The Division of Small Business Opportunity (DSBO) requires the following information be provided from participants of a prospective joint venture, to assist DSBO in evaluating the proposed joint venture. This Joint Venture Eligibility form and the Joint Venture Affidavit apply if SBEs, MBEs, WBEs or DBEs participate in this joint venture.

Please return this form, the Joint Venture Affidavit, and a copy of your Joint Venture Agreement to: Division of Small Business Opportunity, 201 West Colfax Avenue, Denver, CO 80202, at least ten (10) working days prior to bid opening or proposal.

If you have questions regarding this process, please contact DSBO at 720-913-1999.

Joint Venture Information

Name:			Contact Person:
Address:			
City:	State:	Zip:	Phone:

Joint Venture Participants

Name:			Contact Person:
Address:			
City:	State:	Zip:	Phone:
% Ownership:	Certifying Entity:	Type Certification & Date: (S/M/W or DBE)	
Type of Work for which Certification was granted:			

Name:			Contact Person:
Address:			
City:	State:	Zip:	Phone:
% Ownership:	Certifying Entity:	Type Certification & Date: (S/M/W or DBE)	
Type of Work for which Certification was granted:			

General Information

SBE/MBE/WBE/DBE Initial Capital Contributions: \$	%
Future capital contributions (explain requirements) (attach additional sheets if necessary):	
Source of Funds for the SBE/MBE/WBE/DBE Capital Contributions:	
Describe the portion of the work or elements of the business controlled by the SBE/MBE/WBE or DBE: (attach additional sheets if necessary)	
Describe the portion of the work or elements of the business controlled by non-SBE/MBE/WBE or DBE: (attach additional sheets if necessary)	

JOINT VENTURE ELIGIBILITY FORM

General Information

Describe the SBE/MBE/WBE or DBE's involvement in the overall management of the joint venture (e.g., participation on a management committee or managing board voting rights, etc.) (attach additional sheets if necessary)

Describe the SBE/MBE/WBE or DBE's share in the profits of the joint venture:

Describe the SBE/MBE/WBE or DBE's share in the risks of the joint venture:

Describe the roles and responsibilities of each joint venture participant with respect to managing the joint venture (use additional sheets if necessary):

a. SBE/MBE/WBE or DBE joint venture participant:

b. Non- SBE/MBE/WBE or DBE joint venture participant:

Describe the roles and responsibilities of each joint venture participant with respect to operation of the joint venture (use additional sheets if necessary):

a. SBE/MBE/WBE or DBE joint venture participant:

b. Non- SBE/MBE/WBE or DBE joint venture participant:

Which firm will be responsible for accounting functions relative to the joint venture's business?

Explain what authority each party will have to commit or obligate the other to insurance and bonding companies, financing institutions, suppliers, subcontractors, and/or other parties?

Please provide information relating to the approximate number of management, administrative, support and non-management employees that will be required to operate the business and indicate whether they will be employees of the SMWBE, non-SMWBE or joint venture:

	Non- SBE/MBE/WBE/DBE	SBE/MBE/WBE/DBE	Joint Venture
Management			
Administrative			
Support			
Hourly Employees			

JOINT VENTURE ELIGIBILITY FORM

Please provide the name of the person who will be responsible for hiring employees for the joint venture.

Who will they be employed by?

Are any of the proposed joint venture employees currently employees of any of the joint venture partners?

Yes
(Y)

No
(N)

If yes, please list the number and positions and indicate which firm currently employs the individual(s), (use additional sheets if necessary)

Number of employees

Position

Employed By

Attach a copy of the proposed joint venture agreement, promissory note or loan agreement (if applicable), and any and all written agreements between the joint venture partners.

List all other business relationships between the joint venture participants, including other joint venture agreements in which the parties are jointly involved.

If there are any significant changes in or pertaining to this submittal, the joint venture members must immediately notify the Division of Small Business Opportunity.

COMP-FRM-015

COLORADO DEPARTMENT OF TRANSPORTATION – Form 605
**CONTRACTORS PERFORMANCE CAPABILITY
STATEMENT**

Project #

201206603

1. List names of partnerships or joint ventures ☒ none

List decreases in the contractors fiscal or workmanship qualifications compared to the last prequalification statement submitted to CDOT. (Attach additional sheets if necessary)

a. Key personnel changes ☒ none

b. Key equipment changes ☒ none

c. Fiscal capability changes (legal actions, etc.) ☒ none

d. Other changes that may affect the contractors ability to perform work ☒ none

I DECLARE UNDER PENALTY OF PERJURY IN THE SECOND DEGREE, AND ANY OTHER APPLICABLE STATE OR FEDERAL LAWS, THAT THE STATEMENTS MADE ON THIS DOCUMENT ARE TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE

Contractor's firm or company name

By

Date

Jacobs Investments LLC
dba Colorado Boring Co.

Title

Manager

7-18-2012

2nd Contractor's firm or company name (if joint venture)

By

Date

Title

**COLORADO DEPARTMENT OF TRANSPORTATION
ANTI-COLLUSION AFFIDAVIT**
Project No.: 201206603Location: Denver

I hereby attest that I am the person responsible within my firm for the final decision as to the price(s) and amount of this bid or, if not, that I have written authorization, enclosed herewith, from that person to make the statements set out below on his or her behalf and on behalf of my firm.

I further attest that:

1. The price(s) and amount of this bid have been arrived at independently, without consultation, communication or agreement for the purpose or with the effect of restricting competition with any other firm or person who is a bidder or potential prime bidder.
- 2A. Neither the price(s) nor the amount of this bid have been disclosed to any other firm or person who is a bidder or potential prime bidder on this project, and will not be so disclosed prior to bid opening.
- 2B. Neither the prices nor the amount of the bid of any other firm or person who is a bidder or potential prime bidder on this project have been disclosed to me or my firm.
- 3A. No attempt has been made to solicit, cause or induce any firm or person who is a bidder or potential prime bidder to refrain from bidding on this project, or to submit a bid higher than the bid of this firm, or any intentionally high or non-competitive bid or other form of complementary bid.
- 3B. No agreement has been promised or solicited for any other firm or person who is a bidder or potential prime bidder on this project to submit an intentionally high, noncompetitive or other form of complementary bid on this project.
4. The bid of my firm is made in good faith and not pursuant to any consultation, communication, agreement or discussion with, or inducement or solicitation by or from any firm or person to submit any intentionally high, noncompetitive or other form of complimentary bid.
5. My firm has not offered or entered into a subcontract or agreement regarding the purchase or sale of materials or services from any firm or person, or offered, promised or paid cash or anything of value to any firm or person, whether in connection with this or any other project, in consideration for an agreement or promise by any firm or person to refrain from bidding or to submit any intentionally high, noncompetitive or other form of complementary bid or agreeing or promising to do so on this project.
6. My firm has not accepted or been promised any subcontract or agreement regarding the sale of materials or services to any firm or person, and has not been promised or paid cash or anything of value by any firm or person whether in connection with this or any other project, in consideration for my firm's submitting any intentionally high, noncompetitive or other form of complementary bid, or agreeing or promising to do so, on this project.
7. I have made a diligent inquiry of all members, officers, employees, and agents of my firm with responsibilities relating to the preparation, approval or submission of my firm's bid on this project and have been advised by each of them that he or she has not participated in any communication, consultation, discussion, agreement, collusion, or other conduct inconsistent with any of the statements and representations made in this affidavit.
8. I understand and my firm understands that any misstatement in this affidavit is and shall be treated as a fraudulent concealment from the Colorado Department of Transportation, of the true facts relating to the submission of bids for this contract.

I DECLARE UNDER PENALTY OF PERJURY IN THE SECOND DEGREE, AND ANY OTHER APPLICABLE STATE OR FEDERAL LAWS, THAT THE STATEMENTS MADE ON THIS DOCUMENT ARE TRUE AND COMPLETE TO THE BEST OF MY KNOWLEDGE.

Contractors firm or company name:

Jacobs Investments LLC
dba Colorado Boring Co

By:

Date:

7-18-12

Title:

Manager2nd Contractors firm or company name:

By:

Date:

Title:

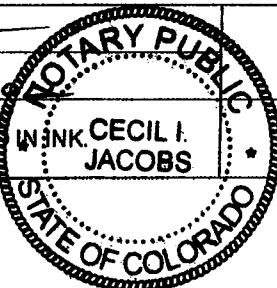
Sworn to before me this 18 day of July 2012

Notary Public

My commission expires:

10-10-2012

NOTE: THIS DOCUMENT MUST BE SIGNED



COLORADO DEPARTMENT OF TRANSPORTATION
ASSIGNMENT OF ANTITRUST CLAIMS

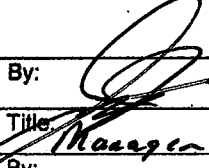
Project No.:

201206603

Contractor and Colorado Department of Transportation (CDOT) recognize that in actual economic practice antitrust violations ultimately impact CDOT. Therefore, for good cause and as consideration for executing this contract and for receiving payments hereunder:

1. Contractor hereby irrevocably assigns to CDOT any and all claims it may now have or which may hereafter accrues to it under federal or state antitrust laws in connection with the particular project, goods or services purchased or acquired by CDOT pursuant to this contract.
2. Contractor hereby expressly agrees:
 - a. That, upon becoming aware that a third party has commenced a civil action asserting on Contractor's behalf an antitrust claim which has been assigned to CDOT hereunder, Contractor shall immediately advise in writing:
 - (1) Such third party that the antitrust claim has been assigned to CDOT, and
 - (2) CDOT that such civil action is pending and the date on which, in accordance with subparagraph a.(1) above, Contractor notified such third party that the antitrust claim had been assigned to CDOT.
 - b. To take no action which will in any way diminish the value of the claims or rights assigned or dedicated to CDOT hereunder; and
 - c. Promptly to pay over to CDOT its proper share of any payment under an antitrust claim brought on Contractor's behalf by any third party and which claim has been assigned to CDOT hereunder.
3. Further, Contractor agrees that in the event it hires one or more subcontractors to perform any of its duties under the contract, Contractor shall require that each such subcontractor:
 - a. Irrevocably assign to CDOT (as a third party beneficiary) any and all claims that such subcontractor may have or which may thereafter accrue to the subcontractor under federal or state antitrust laws in connection with any goods or services provided by the subcontractor in carrying out the subcontractor's obligations to Contractor;
 - b. Upon becoming aware that a third party has commenced a civil action on the subcontractor's behalf asserting an antitrust claim which has been assigned to CDOT hereunder, shall immediately advise in writing:
 - (1) Such third party that the antitrust claim has been assigned to CDOT, and
 - (2) Contractor and CDOT that such civil action is pending and the date on which, in accordance with subparagraph b.(1) above, the subcontractor notified such third party that the antitrust claim had been assigned to CDOT;
 - c. Take no action which will in any way diminish the value of the claims or rights assigned or dedicated to CDOT hereunder; and
 - d. Promptly pay over to CDOT its proper share of any payment under an antitrust claim brought on the subcontractor's behalf by any third party and which claim has been assigned or dedicated to CDOT pursuant hereto.

I, acting in my capacity as officer of a bidder (bidders if a joint venture) do agree to the above assignment of antitrust claims.

Contractors firm or company name: <i>Jewels Investments LLC</i> <i>dba Colorado Building Co</i>	By: 	Date: <i>7-18-12</i>
	Title: <i>Manager</i>	
2 ND Contractors firm or company name:	By:	Date:
	Title:	

Form 621

**COLORADO DEPARTMENT OF TRANSPORTATION
BIDDERS LIST DATA and UNDERUTILIZED
DBE (UDBE) BID CONDITIONS ASSURANCE**

Project #:

201206603

Location:

Denver

Prime Contractor Instructions: This form has two sections, both must be completed and submitted with your bid. Complete Section I to list *all* subcontract quotes received (non-DBE and DBE). Complete Section II to report only Underutilized DBE (UDBE) participation percentages which qualify under the contract goal specification for this project. Please review CDOT Form #715 instructions *before* completing Section II. Attach additional sheets as necessary.

POLICY

It is the policy of the Colorado Department of Transportation that underutilized disadvantaged business enterprises have equal opportunity to participate on projects financed with federal, state or local entity funds. Consistent with 49 Code of Federal Regulations (CFR) Part 26.11, the Bidders List data provided by the Contractors will provide CDOT as accurate data as possible about the universe of DBE and non-DBE firms actively seeking work on its highway construction contracts, for use in setting overall DBE goals.

SECTION I: CDOT BIDDERS LIST INFORMATION (Non-DBEs and DBEs)

- 1) Are all subcontract bids (quotes) received by your firm for this project listed below? ☒ Yes ☐ No
- 2) *If No*, make certain any additional subcontract bidding information is submitted to the CDOT Business Programs Office before 4:00 pm on the day after bids are opened to ensure CDOT has the best data possible for setting future DBE goals (use the same table format as below):
CDOT Business Programs Office
4201 E. Arkansas Ave., Room 200
Denver, Colorado 80222
FAX: 303-757-9019
EMAIL: eo@dot.state.co.us
- 3) The most recent CDOT Bidders List will be posted online at: www.dot.state.co.us/EEO/DBEProgramPage.htm

Name of firm submitting Bid/Quote	Certified DBE firm?		Work Item(s) description	Firm being used?		
	Yes	No		Yes	No	Maybe
1. G.E. Const.		✓	Fiber	✓		
2. G.B.T. Const.		✓	Signal Cab.	✓		
3. Carnes Service	✓		Traffic Control	✓		
4.						
5.						
6.						
7.						
8.						
9.						
10.						
11.						
12.						
13.						
14.						

Name of firm submitting Bid/Quote	Certified DBE firm?		Work item(s) description	Firm being used?		
	Yes	No		Yes	No	Maybe
15.						
16.						
17.						
18.						
19.						
20.						

SECTION II: UNDERUTILIZED DBE (UDBE) PARTICIPATION COMMITMENT

- 1) Total eligible Underutilized DBE (UDBE) percentage amount from Box A below: **6.0 %**
- 2) Will your company's Underutilized DBE (UDBE) participation commitment meet the contract goal? ☒ Yes ☐ No
- 3) List the UDBE firms, committed work items, and eligible UDBE percentage of your bid committed to each.

UDBE Firm name	Certification #	Committed work item(s)	% Commitment toward DBE Goal*
1. <i>Carnes Services</i>	<i>5521</i>	<i>Traffic Control</i>	<i>6.0 %</i>
2.			%
3.			%
4.			%
5.			%

BOX A: TOTAL ELIGIBLE UDBE PERCENTAGE AMOUNT (Round to nearest hundredth) →

6.0 %

* Detailed instructions on how to calculate DBE commitment amounts are available on CDOT Form #715 and in the "Counting DBE Participation Toward Contract Goals and CDOT's annual DBE goal" section of the "DBE - Definitions and Requirements" in the *Standard Special Provisions*.

I understand that, if my company is determined to be the low bidder for the contract on this project, I must submit a completed CDOT Form #715 CERTIFICATION OF UNDERUTILIZED DBE PARTICIPATION for each firm listed in Section II of this form to the Transportation Department by 4:00 pm on the *third* work day after the day bids are opened. The actual amounts submitted on each CDOT Form #715 must equal or exceed the DBE percentage commitments documented on this form. In addition, if my company does not meet the DBE/UDBE goal for this project, I must submit a completed CDOT Form #718 DBE GOOD FAITH EFFORT DOCUMENTATION before 4:00 pm on the *day* after bids are opened. CDOT Form #715s submitted for firms not included on this form, OR for amounts exceeding those listed on this form, will be accepted but NOT counted as Good Faith Efforts. Only the efforts the contractor made *prior* to the bid opening will count as Good Faith Efforts.

I understand my obligation to abide by the Policy stated above Section I. I shall not discriminate on the basis of race, color, age, sex, national origin, or handicap in the bidding process or the performance of contracts.

I DECLARE UNDER PENALTY OF PERJURY IN THE SECOND DEGREE, AND ANY OTHER APPLICABLE STATE OR FEDERAL LAWS, THAT THE STATEMENTS MADE IN THIS DOCUMENT ARE TRUE AND COMPLETE TO THE BEST OF MY KNOWLEDGE.

Company Name:

Jacobs Engineering LLC dba Colorado Bridge Co

Date:

7/18/12

Company Officer Signature:

Title:

Manager

CITY AND COUNTY OF DENVER
DEPARTMENT OF PUBLIC WORKS
ENGINEERING DIVISION

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**CITY AND COUNTY OF DENVER
DEPARTMENT OF PUBLIC WORKS
Engineering Division**

**PROJECT NO. 201206603
DENVER TRAFFIC IMPROVEMENT PROJECT 2012**

STATEMENT OF QUANTITIES

Item No.	Description	Estimated Quantity
202-00848	REMOVAL OF TRAFFIC SIGNAL CONTROLLER AND CABINET	77 EA
202-99999	REMOVAL OF TRAFFIC SIGNAL CABINET BASE	20 EA
203-01597	POTHOLING	150 EA
208-00002	EROSION LOG (12 INCH)	500 LF
208-00034	GRAVEL BAG	200 LF
208-00045	CONCRETE WASHOUT STRUCTURE	1 EA
208-00051	STORM DRAIN INLET PROTECTION (TYPE 1)	115 LF
208-00052	STORM DRAIN INLET PROTECTION (TYPE 2)	300 LF
208-00103	REMOVAL AND DISPOSAL OF SEDIMENT (LABOR)	80 HR
208-00105	REMOVAL AND DISPOSAL OF SEDIMENT (EQUIPMENT)	40 HR
208-00205	EROSION CONTROL SUPERVISOR	120 HR
607-11525	FENCE (PLASTIC)	200 LF
608-00000	CONCRETE SIDEWALK	110 SY
613-01200	2 INCH ELECTRICAL CONDUIT (PLASTIC)	750 LF
613-01300	3 INCH ELECTRICAL CONDUIT (PLASTIC)	2,900 LF
613-07000	PULL BOX (SPECIAL)	77 EA
613-07101	PULL BOX (TYPE A)	77 EA
613-07104	PULL BOX (TRAFFIC)	77 EA
613-60500	CONDUIT AND FIBER REPAIR	25 EA
614-03102	CONCRETE FOOTING (CABINET BASE)	17 EA
614-75848	TRAFFIC SIGNAL CONTROLLER AND CABINET (INSTALL ONLY)	77 EA
614-86004	SPREAD SPECTRUM RADIO (INSTALL ONLY)	4 EA
614-86105	TELEMETRY (FIELD)	75 EA
626-00000	MOBILIZATION	1 LS
630-00000	FLAGGING	258 HR
630-00003	UNIFORMED TRAFFIC CONTROL	308 HR
630-00012	TRAFFIC CONTROL MANAGEMENT	129 DAY
630-80341	CONSTRUCTION TRAFFIC SIGN (PANEL SIZE A)	6 EA
630-80342	CONSTRUCTION TRAFFIC SIGN (PANEL SIZE B)	26 EA
630-80355	PORTABLE MESSAGE SIGN PANEL	2 EA



**CITY AND COUNTY OF DENVER
DEPARTMENT OF PUBLIC WORKS
Engineering Division**

**PROJECT NO. 201206603
DENVER TRAFFIC IMPROVEMENT PROJECT 2012**

STATEMENT OF QUANTITIES

Item No.	Description	Estimated Quantity
630-80358	ADVANCE WARNING FLASHING OR SEQ ARROW PANEL (C TYPE)	2 EA
630-80380	TRAFFIC CONE	200 EA
700-70010	F/A MINOR CONTRACT REVISIONS	1 FA
700-70011	F/A PARTNERING	1 FA
700-70022	F/A OJT COLORADO TRAINING PROGRAM	1 FA
700-70380	F/A EROSION CONTROL	1 FA
700-70589	F/A ENVIRONMENTAL HEALTH & SAFETY MANAGEMENT	1 FA

CITY AND COUNTY OF DENVER
DEPARTMENT OF PUBLIC WORKS
ENGINEERING DIVISION

NOTICE OF INVITATION FOR BIDS
FEDERAL AID PROJECT NO. : AQC M320-075
CITY OF DENVER CONTRACT NO. 201206603

DENVER TRAFFIC IMPROVEMENT PROJECT 2012

BID SCHEDULE:
11:00 AM, Local Time
JULY 20, 2012

Sealed bids will be received at the Office of Economic Development (OED) Reception Desk located on the 2nd floor at 201 West Colfax, Denver, CO 80202, beginning at 10:30 a.m., and no later than 11:00 a.m., on the bid date.

Bids submitted prior to 10:30 a.m. on the specified bid opening date/time shall be presented at the Office of Contract Administration, Attention: Public Works Contract Administration, 201 West Colfax Avenue, Department 614, Denver, Colorado 80202. All properly delivered bids will then be publicly opened and read aloud in Room 1.D.1 on the 1st floor at 201 West Colfax, Denver, Colorado 80202:

Prior to submitting a bid, the bidder shall consult the Contractor's Bulletin Board located at 201 W. Colfax, 2nd Floor, Denver, Colorado, 80202 and/or www.work4denver.com.

GENERAL STATEMENT OF WORK:

Design of signal system infrastructures; and furnish and install system software and equipment, signal equipments (signal controller cabinets, controllers, Line Conditioning UPSs, Hubs, etc.) interconnect conduits, communication devices and communication media. The project is located on Sheridan Blvd. from Quincy to I-70, Federal Blvd. from Dartmouth to 52nd, and Alameda Ave. from Broadway to Sheridan.

ESTIMATED CONSTRUCTION COST:

The estimated cost of construction for this project is between \$585,805.50 and \$715,984.50

DOCUMENTS AND BID INFORMATION AVAILABLE:

Contract Documents complete with Technical Specifications and, if applicable, construction drawings will be available on the first day of publication at: www.work4denver.com. To download digital Contract Documents at a cost of \$10.00 per download, reference eBid Document Number #2122526. Contact QuestCDN.com at 952-233-1632 or info@questcdn.com for assistance.

PRE-BID CONFERENCE:

A pre-bid conference will be held for this Project at 1:00 PM, local time, on JULY 03, 2012. This meeting will take place in conference room 1.D.1., 201 W. Colfax Ave. Denver, CO. 80202.

PREQUALIFICATION REQUIREMENTS:

NONE

DISADVANTAGED BUSINESS ENTERPRISE (DBE) PARTICIPATION:

Federally-funded construction, reconstruction, remodeling, and professional design services contracts made and entered into by the City and County of Denver are subject to Federal Statutes and Regulations regarding Disadvantaged Business Enterprise participation and all Disadvantaged Business Enterprises Utilization.

The Director of the Division of Small Business Opportunity is authorized to establish project goals for expenditures on construction, reconstruction and remodeling and professional design services work let by the City and County of Denver. The specific goal for this project is:

5.00 % Disadvantaged Business Enterprise (DBE)

The project goal must be met with certified participants as set forth in 49 CFR Part 26. For compliance with good faith effort requirements, as set forth in Part 26, the DBE solicitation level required for this project is 100% of the City and Denver's certified DBE's and 100% of the State of Colorado's Department of Transportation (CDOT's) certified DBE's.

The Director of the Division of Small Business Opportunity urges all participants in the construction, reconstruction, remodeling, and professional design services projects not to discriminate against women and minorities or any other persons and to assist in achieving these goals.

The CDOT Form 347, Certification of EEO Compliance, is no longer required to be submitted in the bid package. This form certified that the contractor/proposed subcontractors were in compliance with the Joint Reporting Committee EEO-1 form requirements. The EEO-1 Report must still be submitted to the Joint Reporting Committee if the contractors and subcontractors meet the eligibility requirements (29CRF 1602.7); CDOT will, however, no longer require certification.

MISCELLANEOUS:

Contracts for construction, reconstruction, and remodeling are subject to the City prevailing wage rate requirements established pursuant to Section 20-76, D.R.M.C.

As its best interest may appear, the City and County of Denver reserves the right to reject any or all bids and to waive informalities in bids.

Publication Dates: June 20, 21, 22, 2012

Published In: The Daily Journal

**CITY AND COUNTY OF DENVER
DEPARTMENT OF PUBLIC WORKS
Engineering Division**

INSTRUCTIONS TO BIDDERS

IB-1 INSTRUCTION TO BIDDERS

These Instructions to Bidders are a part of the Contract Documents and are intended to serve as a guide to bidders. They are general in nature and may be amended or supplemented as needed to support any one specific invitation to bid. Each bidder shall prepare its bid in strict compliance with all requirements of the Contract Documents and by careful application of these instructions.

IB-2 BIDDING

The copy of the Contract Documents contains the Bid Form and Submittal Package for this Project, which must be used to submit a bid hereunder. The bidder must fully complete, execute and submit this Bid Form and Submittal Package, along with any other specified components of the Contract Documents, as its bid for the referenced Project.

A bidder is not required to submit as part of its bid the entire set of Contract Documents distributed by the City pursuant to the Notice of Invitation for Bids, if the bidder executes and submits the Bidder Acknowledgment Form included with the Bid Form and Submittal Package as part of its bid. However, each bidder, by submitting its bid, shall be conclusively presumed to have received and reviewed all of the information contained in the Contract Documents as this term is further defined herein.

Each bid must be enclosed in a sealed envelope, must be addressed to the Manager and must show on the face of the envelope the full name of the bidder, the City Project number, and descriptive title of the Project for which the bid is made.

The advertisement for Notice of Invitation for Bids will identify where and when the bid must be delivered.

IB-3 CONTRACT DOCUMENTS AS PUBLISHED BY CITY

Each bidder shall be responsible for, and shall be deemed to have received, all the information contained in the Contract Documents as distributed by the City pursuant to the Notice of Invitation for Bids, including addenda, whether or not such bidder has reviewed all or part of the Contract Documents in either its hard copy form or in any other format. If organizations or companies other than the City or its design professional distribute the City's Contract Documents for review by prospective bidders, whether in hard copy or via electronic or other media, neither the City nor its design professional shall be responsible for the content, completeness or accuracy of any information distributed or transmitted by any such organization or company.

IB-4 COMPLETING AND SIGNING THE BID FORMS

The bidder must complete the Bid Form by legibly writing or printing in ink, in words and figures as required, all the bidder's prices offered for the Work to be performed. All blank spaces, which require a response of the bidder, must be properly completed in full. If in the process of evaluating a bid, words and figures, as written on the Bid Form by the bidder, do not agree, the written words will govern.

For Bid Forms requiring unit price bids, the bidder shall write in the Bid Form spaces provided a unit price for each item for which a quantity is given and shall also write the product of each unit price and the quantity specified in the "Amount" or "Total" space provided.

Each bidder must sign the Bid Form and give the bidder's current business address. If an individual, the signature must be of the individual offering the bid; if a partnership, the signature must be that of a general partner; and if a corporation, both the president and the secretary must sign and the seal of the corporation must be affixed. Signatures of other persons may be acceptable if the bid contains sufficient evidence, satisfactory to the City in its sole discretion, to indicate that the other persons are authorized to bind the bidder.

IB-5 UNACCEPTABLE BIDS

The City will not accept bids from Bidders not prequalified with the Department of Public Works (if prequalification is required for this project), in arrears to the City upon debt or contract, or which are defaulters (as surety or otherwise) upon any obligation to the City.

IB-6 INFORMAL AND UNBALANCED BIDS

Any alteration, interlineation, erasure, omission, deletion or addition by the bidder to the Bid Form and Submittal Package or other parts of the Contract Documents submitted with the Bid Form and Submittal Package, as originally issued to the bidder, shall render the accompanying bid informal and may constitute cause for rejection.

Any unauthorized addition, conditional or alternate bids, failure to provide a unit price, lump sum amount or authorized alternate item specified or other irregularities of any kind which tend to render the bid incomplete, indefinite or ambiguous shall render the bid informal and may constitute cause for rejection.

Bids that are unbalanced so that each item does not reasonably carry its own proportion of cost or that contain inadequate or unreasonable prices for any item may be rejected. Bids which have not acknowledged all addenda to the Contract Documents issued for this bid may also be rejected.

The right is reserved by the City to reject any or all bids and to waive any informality where it is deemed by the City to be in the best interests of the City to do so.

IB-7 ONLY ONE BID ACCEPTED

The City will accept only one bid for the same work from any one bidder. This includes bids that may be submitted under different names by one business enterprise.

IB-8 BID GUARANTEE

As a guarantee of good faith on the part of the bidder, each bid must be accompanied by a bid guarantee, consisting of either a certified or cashier's check made payable without condition to the order of the City and County of Denver or a bid bond written by an approved corporate surety in favor of the City and County of Denver. If the bid of a bidder is acceptable and the bidder is notified by the Manager that it is considered to be the Apparent Low Bidder and said bidder fails to execute a contract in the form prescribed or to furnish a performance and payment bond with a legally responsible and approved surety or to furnish the required evidence of insurance or satisfy all conditions precedent to contract execution within five (5) days after such notice is made by the City, said bid guarantee shall be forfeited to the City as liquidated damages and not as a penalty.

The bid guarantee shall be in the amount of **five percent (5%)** of the total bid unless otherwise specified in the Notice of Invitation for Bids and on the form appearing in the Contract Documents in the Bid Form and Submittal Package. Failure to submit a proper bid guarantee, satisfying all of the requirements specified herein and on the form provided herein shall render the bid non-responsive and may constitute cause for rejection.

Following award and execution of the Contract by the Apparent Low Bidder, or earlier in the sole discretion of the City, bid guarantees of all but the Apparent Low Bidder will be returned. When the Apparent Low Bidder executes the Contract and delivers to the City satisfactory performance and payment bonds, required insurance documentation, and has satisfied all conditions precedent to contract execution by the City, and after approval, if any, by the Council of the City of the proposed Contract with the Apparent Low Bidder, the bid guarantee of the Apparent Low Bidder shall be returned. Such return shall be made within one hundred twenty (120) days from date bids are opened unless otherwise specified in the Special Contract Conditions.

IB-9 SITE INSPECTION AND INVESTIGATIONS

Prior to submitting a bid, the bidder is invited to inspect the work site and its surroundings. Although the bidder is not required to make such an inspection before bidding, for purposes of the Contract it shall be conclusively presumed that by failing to make such an inspection, the bidder has waived the right to later claim additional compensation or time extensions for conditions which would have been evident had the site been inspected.

Drawings and Technical Specifications, defining the Work to be done, were prepared on the basis of interpretation by the design professionals of information derived from investigations of the work site. Such information and data are subject to sampling errors, and the interpretation of the information and data depends to a degree on the judgment of the design professional. In view of this, the bidder is invited to make such additional investigations as the bidder's judgment dictates the need for such investigations. Information about the degree of difficulty of the Work to be done cannot totally be derived from either the Drawings or Technical Specifications or from the Manager or his representatives.

Since the bid information cannot be guaranteed, the Contractor shall have assumed the risks attendant to successful performance of the Work and shall never make claim for additional compensation or time extensions on the grounds that the nature or amount of work to be done was not understood by the bidder at the time of the bidding.

IB-10 INCONSISTENCIES

Any seeming inconsistencies or ambiguities between different provisions of the Contract Documents or any point which the bidder believes requires a decision or interpretation by the City must be inquired into by the bidder by addressing a formal written communication to the Manager of Public Works and sending or delivering it to the offices of the Division of Public Works advertising this Project for bid at least forty-eight (48) hours, excluding Saturdays, Sundays, and holidays, before the time set for the opening of bids.

Information about the decision or interpretation made in response to any inquiry will be posted on the Contractor's Bulletin Board (refer to IB-12 CONTRACTOR'S BULLETIN BOARD, for the location of the Contractor's Bulletin Board). If the matter raised requires, in the sole discretion of the Manager, that an addendum to the bid documents be issued, such addendum will be published and each bidder shall be required to acknowledge the addendum by signing and identifying it in the Bid Form when submitting the bid.

After bids are opened, all bidders must abide by the formal response of the Manager, as to any interpretation. The City shall not be bound and the bidder shall not rely on any oral communication, interpretation clarification or determination of the Contract Documents prior to bid opening.

IB-11 WITHDRAWAL OF BID

A bidder may withdraw its bid at any time prior to the time for receipt of bids set forth in the Notice of Invitation for Bids by making written request upon the Manager of Public Works. After such time, no bid may be withdrawn or modified.

Such request must be signed by the persons authorized to bind the bidder as defined in IB-3, COMPLETING AND SIGNING BID FORMS.

IB-12 CONTRACTOR'S BULLETIN BOARD

It shall be conclusively presumed that the bidder has, before submitting any bid, read and shall take full responsibility for all addenda, posted decisions, and other information relevant to the bid posted by the City on the Contractor's Bulletin Board. The Contractor's Bulletin Board is located on the 2nd floor at 201 W. Colfax Avenue, Denver, CO 80202.

IB-13 PRE-BID MEETING

Bidders are urged to attend the pre-bid meeting(s) scheduled for this Project. Attendance is not mandatory; however, bidders will be held responsible for all information presented at such meeting(s).

IB-14 ADDENDA

As its best interests may require, the City may issue addenda to the Contract Documents. Such addenda shall be posted on the Contractor's Bulletin Board and made available to all persons having purchased a set of Contract Documents as set forth in the Notice of Invitation for Bids contained herein. All bidders must acknowledge receipt of all addenda on the Bid Form at the time of submission of the bid.

IB-15 BID OPENING

Bidders are invited to be present at the bid opening. Unless otherwise suspended, delayed or canceled by posted notice from the Manager, bid opening will occur at the time and place designated in the Notice of Invitation for Bid.

IB-16 EVALUATION OF BIDS AND BASIS OF BID SELECTION

Bids will be evaluated after being read in open meeting at the place designated for such bid opening. All low bidders' bids will be reviewed for responsiveness to the requirements of the Contract Documents and whether or not the bids contain irregularities which could give any bidder an unfair advantage.

Selection will be made on the basis of the lowest, total, responsible, responsive, qualified bid, which bid shall include the total base bid set forth on the Bid Form, plus the total of any alternates set forth on the Bid Form and selected by the City during evaluation. Alternates, if any are included in the bid, will be selected in the priority shown on the Bid Form, subject to the limits of available funds. Bid selection will be subject to all requirements and special bidder qualifications contained herein and subject to approval of such resulting Contract in accordance with the Charter and Revised Municipal Code of the City and County of Denver. In addition to all other specified requirements, the City will correct arithmetical errors in all bids and corrected totals only will be considered as the basis of selection.

Upon concluding that the bid is, in fact, the lowest, total, responsive bid to the bidding conditions and that of a responsible, qualified bidder, the City will notify the Apparent Low Bidder.

As its best interests may appear, the City and County of Denver reserves the right to waive informalities in bids, to reject any and all bids and to re-bid the Project.

IB-17 NOTICE TO APPARENT LOW BIDDER

The Notice to Apparent Low Bidder, a form of which is included in the Contract Special Conditions Section of the Contract Documents, is issued by the City directly to the selected bidder and informs the bidder that the Manager intends to seek approval of the execution of the Contract by the City in accordance with the Charter and Revised Municipal Code of the City and County of Denver. Specifically, it informs the bidder of its obligations with respect to execution of the Contract and instructs the bidder on how to proceed toward execution of the Contract. The City reserves the right to notify the Apparent Low Bidder, at any time within one hundred twenty (120) days from the date of the opening of the bids, that approval to contract with the Apparent Low Bidder shall be sought in accordance with the Charter and Revised Municipal Code of the City and County of Denver.

In accordance with the terms and conditions contained in the Bid Form and Submittal Package and any additional requirements set forth in the Notice to Apparent Low Bidder or elsewhere in the Contract Documents, the Apparent Low Bidder shall execute the Contract Form contained in the bound sets of Contract Documents made available by the City for execution in the appropriate number of counterparts. The Apparent Low Bidder shall return the fully executed Contract Document sets, along with any supplemental documents required herein, to the City and shall comply with all other conditions precedent to Contract execution within five (5) days of the date of issuance of the Notice to Apparent Low Bidder by the City. Failure to comply with each of these requirements within five (5) days of the date of issuance of the Notice to Apparent Low Bidder by the City shall render the bid non-responsive and may constitute cause for rejection.

Issuance of such Notice shall not, however, constitute a commitment on the part of the City or create any rights in the Apparent Low Bidder to any contract with the City.

IB-18 EXECUTION OF CONTRACT

The process of executing a contract requires action by both the apparent low bidder and the City. After it notifies the Apparent Low Bidder, the City will prepare sufficient copies of the Contract Documents by incorporating all of the documents submitted by the Apparent Low Bidder into executable copies of the Contract Documents made available pursuant to the Notice of Invitation for Bids. These copies will then be made available to the Apparent Low Bidder who shall thereafter properly sign all of the copies. At this time, the successful bidder shall also provide certain supplemental documents for incorporation into the Contract Documents. These supplemental documents shall include: the properly executed Certificate of Insurance Forms evidencing the apparent low bidder's satisfactory compliance with the insurance

requirements set forth in the Contract Documents; a properly executed Payment and Performance Bond Form and appropriate Power of Attorney evidencing the Apparent Low Bidder's satisfactory compliance with the bonding requirements set forth in the Contract Documents; and documentation of compliance with any other conditions precedent to execution of the Contract by the City set forth in the Contract Documents. The insurance and bond forms contained in the Contract Special Conditions Section of the Contract Documents must be used in satisfying these supplemental document requirements.

These documents are then delivered to the City within the prescribed time period for examination of the documents to determine whether or not the Contractor has correctly executed the Contract and has correctly provided the required supplemental documents and that these documents are satisfactorily and properly completed. From here, all of the documents are forwarded to the City Attorney who will, if the insurance and bonding offered is acceptable and if all other elements of the Contract Documents are in order, recommend that the Manager and the Mayor approve the documents and, when required by the City Charter, prepare an ordinance for submittal to City Council authorizing the execution of the Contract. The City Attorney shall in all applicable instances submit the proposed contract and ordinance to City Council. After City Council approval, the Contract shall be reviewed by the City Attorney and routed for execution by the Mayor, the Clerk for attestation and the Auditor for countersignature and registration. When the total process of contract execution is complete, a Notice to Proceed will be issued and a single executed copy of the Contract will be delivered to the Contractor. Any work performed or materials purchased prior to the issuance of the Notice to Proceed, is at the Contractor's risk.

IB-19 BONDING REQUIREMENTS

In accordance with the provisions of General Contract Conditions, Title 15, PERFORMANCE AND PAYMENT BONDS, the minimum bonding requirements for this Contract are set forth in the form **CITY AND COUNTY OF DENVER PERFORMANCE AND PAYMENT BOND** contained in the Special Conditions Section of the Contract Documents. Upon receipt of Notice to Apparent Low Bidder, the apparent low bidder must cause this form bond to be purchased, executed and furnished, along with appropriate Powers of Attorney and a surety authorization letter (in form similar to the one attached), to the City.

IB-20 INSURANCE REQUIREMENTS

The minimum insurance requirements for this Contract are set forth in the Special Conditions Section of the Contract Documents. Bidders are urged to consider, in preparing a bid hereunder, that each condition, requirement or specification set forth in the form certificate must be complied with by the Contractor and all subcontractors performing Work on the Project, unless such requirements are specifically accepted in writing by the City's Risk Management Office. The Contractor must either include all subcontractors performing work hereunder as insureds under each required policy or furnish a separate certificate for each subcontractor. In either case, the Contractor shall insure that each subcontractor complies with all of the coverage requirements.

IB-21 PERMITS AND LICENSES

All permits, licenses and approvals required in the prosecution of the work shall be obtained and paid for by the Contractor.

IB-22 WAGE RATE REQUIREMENTS

In preparing any bid hereunder, the Contractor must comply with and should carefully consider all requirements and conditions of the City's Payment of Prevailing Wages Ordinance, Sections 20-76 through 20-79, D.R.M.C. and any determinations made by the City pursuant thereto.

At the time of the preparation of the Contract Documents, the then-current prevailing wage rates applicable to this Project shall be bound within the Contract Documents made available to potential bidders for the Project. If, more than ten (10) days prior to the actual date of bid opening, the Career Service Board determines that prevailing wages rates different from those bound in the Contract Documents are applicable to one or more of the various classes of laborers, mechanics and workers encompassed by this Project, such different prevailing wage rates shall be provided in an addendum. If different prevailing wage rates are determined by the Career Service Board ten (10) or less days prior to the actual date of bid opening, the City will determine on a case by case basis in its sole discretion whether such different prevailing wage rates are to be included in an addendum. In conjunction with such determination, the City may elect, in its sole discretion, to postpone the date of bid opening on the Project. In any event, the bidder will be held, at

the actual date of bid opening, to those prevailing wage rates incorporated into the Contract Documents and as modified by any such addenda.

These prevailing wage rates shall be considered the **minimum** City prevailing wage rates to be paid by all contractors or subcontractors for a period not to exceed one (1) year from the date of the Contract. Increases in prevailing wages subsequent to the date of the Contract for a period not to exceed one (1) year shall not be mandatory on either the contractor or subcontractors. Future increases in prevailing wages on contracts whose period of performance exceeds one (1) year shall be mandatory for the contractor and subcontractors only on the yearly anniversary date of the Contract. The **minimum** City prevailing wage rate for any such subsequent yearly period or portion thereof shall be the wage rates in effect on the yearly anniversary date of the contract which begins such subsequent period. In no event shall any increases in prevailing wages over the amounts thereof as stated in such Technical Specifications and addenda thereto result in any increased liability on the part of the City and the possibility and risk of any such increase is assumed by all contractors entering into any such contract with the City. Decreases in prevailing wages subsequent to the date of the contract for a period not to exceed one year (1) shall not be permitted. Decreases in prevailing wages on contracts whose period of performance exceeds one (1) year shall not be effective except on the yearly anniversary date of the contract.

IB-23 TAX REQUIREMENTS

General. Bidders are referred to the General Contract Condition 322, TAXES, as to taxes to which they may be subject in performing the Work under this Contract, including but not limited to sales and use taxes and the Denver Occupational Privilege Tax. The following instructions are to be considered along with the General Contract Conditions and not in lieu of them.

Sales and Use Tax. Construction and building materials sold to contractors and subcontractors for use on structures, roads, streets, highways, and other public works owned by the City and County of Denver are exempt from state, RTD, and Cultural Facilities District sales and use taxes. However, such materials will be subject to sales and use taxes imposed by the City and County of Denver.

It is the responsibility of the Contractor and its subcontractors to apply to the Colorado Department of Revenue ("CDOR") for a certificate, or certificates, of exemption indicating that their purchase of construction or building materials is for a public project, and to deliver to the City copies of such applications as soon as possible after approval by the CDOR. Bidders shall not include in their bid amounts the exempt state, RTD, and Cultural Facilities District Sales and Use Taxes.

Denver Occupational Privilege Tax. Any employee working for a contractor, or a subcontractor, who earns over \$500 working in Denver during a calendar month, is subject to the payment of the Employee Occupational Privilege Tax. The Contractor and any subcontractor must pay the Business Occupational Privilege Tax for each of its employees who is subject to such tax.

IB-24 DISCLOSURE OF PRINCIPALS

Pursuant to D.R.M.C. 20-69, any bid in excess of \$100,000.00 must be accompanied by a separate detachable page setting forth the following information:

(1) The name of any officer, director, owner or principal of the business entity, including identity of any shareholder who owns or controls 5% or more of the business entity, and either 1) the names of his or her spouse, and children under eighteen years of age; or 2) a statement that he or she or his or her spouse, or children, if any, under the age of eighteen have or have not made a contribution, as defined in D.R.M.C. 15-32, or contribution in kind, as defined in D.R.M.C. 15-32, to any candidate, as defined in D.R.M.C. 15-32, during the last five years and identifying by name himself or herself or any spouse or child under the age of eighteen who has made such a contribution or contribution in-kind to a candidate.

(2) The names of any subcontractors or suppliers whose share of the bid exceeds \$100,000.00 of the contract or formal bid amount.

(3) The names of any unions with which the bidder has a collective bargaining agreement.

If the total bid amount is in excess of \$500,000.00, the information required in (1) above must be provided at the time of bid submittal, and the information required in (2) and (3) must be submitted in a

timely fashion prior to award. The list of subcontractors required by this instrument is different and separate from the bidding list required on BF-4.

If the total bid amount is less than \$500,000.00 but more than \$100,000.00, such information must be provided prior to award of the contract. Failure to provide the required information in a timely fashion shall render any bid to which D.R.M.C. 20-69 applies non-responsive.

While a bidder or supplier who has already disclosed such information need not provide such information with a second or subsequent bid or proposal unless such information has changed, it shall be the responsibility of each such bidder or proposer to verify that such information is still current as of the date of such subsequent bid or proposal and is in fact on file with the City Clerk.

A form which should be used for such disclosure is contained in the Special Conditions Section of the Contract Documents. The form is entitled: Bidder/Contractor/Vendor/Proposer Disclosure. Failure to provide or update the required information in a timely fashion shall render any bid to which D.R.M.C. 20-69 applies non-responsive.

IB-25 DISADVANTAGED BUSINESS ENTERPRISE (DBE) REQUIREMENTS

Department of Transportation (DOT) 49 CFR Part 26 ("Part 26") applies to this Project and will be incorporated into any agreement entered into by the City and contained in County of Denver Bid Documents. It is the policy of DOT and the City and County of Denver that DBEs to ensure non-discrimination in the award and administration of DOT-assisted contracts financed in whole or in part with Federal funds. Consequently, the Bidders must fully comply with the DBE requirements of Part 26 in bidding and performing hereunder.

The contractor, sub recipient or subcontractor shall not discriminate on the basis or race, color, national origin, or sex in the performance of this contract. The contractor shall carry out applicable requirements of 49CFR Part 26 in the award and administration of DOT-assisted contracts. Failure by the contractor to carry out these requirements is a material breach of this contract, which may result in the termination of this contract or such other remedy, as the recipient deemed appropriate. Each contract signed by the contractor with a subcontractor must include this paragraph.

Part 26 provides for the adoption of a good faith goals program, to be administered by the Division of Small Business Opportunity (DSBO). As such, each bidder must comply with the terms and conditions of the Part 26 in making its bid and, if awarded the Contract, in performing all Work thereunder. A bidder's failure to comply with Part 26, any Rules or Regulations promulgated pursuant thereto, or any additional requirements contained herein may render a bid non-responsive and may constitute cause for rejection.

In order to comply with the bid requirements of Part 26, a Bidder shall either meet the established DBE Project goal or, in the alternative, demonstrate that the bidder has made sufficient good faith efforts to meet the goal. In preparing a bid to meet the established DBE Project goal, bidders should consider the following instructions relating to compliance with Part 26:

1. Under Part 26, the Director of the Division of Small Business Opportunity establishes a project goal for this project. The specific goal for this project is stated in the Notice of Invitation for Bids bound herein.
2. In preparing its bid, each Bidder shall list on the Bid Form pages entitled "List of Proposed Disadvantage Business Enterprise Bidders, Sub-contractors, Suppliers, Manufacturers, or Brokers" the name, address, work description/supply, committed level of participation and other required information for each DBE of any tier which the bidder intends to use in performing the Work on this Project. Only DBEs identified and the levels of participation listed for each on this Bid Form page at the time of bid opening will be considered in determining whether the bidder has met the designated participation goal. Additional, revised or corrected participation submitted after bid opening will not be considered in determining responsiveness.
3. All DBE firms listed on the Bid Form must be properly certified under guidelines of the Department of Transportation 49 CFR Part 26 by the City of Denver DSBO's Office or the State of Colorado Department of Transportation (CDOT's) Office in order to count towards

meeting the designated goals. Both DSBO and CDOT maintain a current listing of certified DBE firms. The DBE Directory is located at www.dot.state.co.us/app_ucp/. Bidders are encouraged to utilize these directories to assist them in locating DBEs for the work/supply required on the project. The most current directories must be utilized in preparing a bid. DBE certification does not, however, constitute a representation or warranty by the City as to the qualification of any listed firm.

4. In accordance with the requirements of Part 26, DSBO will evaluate each bid to determine the responsiveness of the bid to Part 26 requirements. In determining if a Bidder's committed levels of participation meet or exceed the stated DBE goal, DSBO will base its calculation of applicable amounts and percentages on the total base bid amount, not including any listed alternates, of each bid as follows:
 - a. The bid information provided by the agency will be used to determine the total base bid amount of each bid. Each Bidder's total base bid amount will be multiplied by the DBE percentage goal established for the project to determine the exact dollar amounts of required DBE participation for the Project. These amounts will then be compared against the dollar amounts for the DBE firm(s) committed for participation by the Bidder. If the total dollar amount of participation listed meets or exceeds the established DBE dollar amount goal listed, then the DSBO will determine that goals have been met.
 - b. In addition, DSBO will determine the exact commitment percentage for each listed DBE firm by dividing the dollar amount listed for each firm by the total base bid dollar amount submitted by the bidder. These individual percentages, when totaled for all listed DBEs, will establish the total committed percentage level of DBE participation that the bidder must comply with during the life of the Contract. In all cases, the committed percentage level of DBE participation must equal or exceed the assigned DBE goal for the Project.
 - c. In providing the exact dollar amount of participation for each listed DBE firm a bidder should take care never to round up in determining whether or not the total of these amounts meets or exceeds the established percentage goal. The goal must be met or exceeded by both dollar amounts and percentage for DSBO to determine that the bidder has met or exceeded the applicable DBE goal.
 - d. As previously mentioned compliance with the DBE goal will be determined on the base bid alone. If a bid contains alternates, participation contained in any alternate will not count towards satisfaction of the Project goals. However, should any designated alternate be selected by the City for inclusion in the Contract ultimately awarded, the DBE goal percentage level submitted at bid time, on the base bid, will also apply to the selected alternates and must be maintained for the life of the Contract on the total contract amount, including any alternate work. Thus, even though such participation will not be considered in evaluating bids, Bidders are urged to consider participation in preparing bids for designated alternates.
 - e. On projects where force account or allowance bid items have been included, bidders must meet the DBE goal percentage based upon the total base bid, including all such items that he submitted to the City. However, when a force account or allowance is designated by the City to be either performed or purchased from a specific company, the bidder may back out the dollar amount of the force account or allowance from the total base bid and meet the DBE goal on the remaining reduced amount.
5. In accordance with Part 26 the City and County of Denver will require the total DBE participation commitment to be achieved in accordance with the following:

DBE bidders can count themselves for self-performance toward meeting the DBE goal, but only for the scope of work and at a percentage level they will be actually performing themselves.

DBE credit will be counted only for work actually performed by the DBEs own forces.

Work actually performed by DBEs is deemed to include the cost of materials and supplies purchased and equipment leased by the DBE from non-DBE sources. Work subcontracted can only count if the subcontractor is another DBE.

The entire fee or commission charged by a DBE, if reasonable and not excessive, will be counted.

Under Joint Ventures, the total value of distinct and clearly defined portions of the work of the contract that the DBE performs with its own workforce will be counted.

Each DBE must perform a "commercially useful function" to be counted toward the goal and at least 30% of the work must be performed by a DBE of the total cost of its contract for the DBE to be presumed to be performing a "commercially useful function".

Supplies or materials can be only counted for 60% of the total cost of the materials or supplies toward meeting the DBE goal and a DBE manufacture can count 100% of the cost of the materials or supplies toward the goal. Manufactures' representatives and packagers shall be counted in the same manner as brokers.

In utilizing the DBE participation of a Broker, only the bona fide fees and commissions earned by them for their performance of a commercially useful function will count toward meeting the project goals. The Bidder must separate the bona fide brokerage fees and commissions from the actual cost of the supplies or materials provided to determine the actual dollar amount of participation that can be counted towards meeting the goal.

6. On or before the fifth (5th) working day after bid opening, all of the Bidders are required to submit an executed "DBE Letter of Intent" for each DBE listed on the Bid Form as a subcontractor, supplier, manufacturer, or broker of any tier. Each Letter of Intent shall be submitted only for the DBEs listed at the time of bid opening, since this is the only participation that will be counted toward satisfaction of the project goals. A form for the DBE Letter of Intent is included with the Bid Form. The DBE Letter of Intent is a written communication from the Bidder to the City evidencing an understanding that the Bidder has or will enter into a contractual relationship with the DBE and/or that its subcontractor(s) and supplier(s), manufacturer(s), and broker(s) will do so. Each DBE Letter of Intent shall be accompanied by either a copy of the City and County of Denver's (DSBO) DBE certification letter or the State of Colorado's (CDOT) DBE certification letter and DBE Work Codes Sheet for each proposed DBE firm identified at bid time. Bidders are urged to carefully review these Letters before submission to the City to ensure that they are properly completed and executed by the appropriate parties.

In preparing a bid to demonstrate a good faith effort, Bidders should consider the following instructions relating to compliance with Part 26:

1. If any Bidder is unable to meet the designated project DBE goal at the time the bids are opened or elects to present a good faith effort in lieu of or in addition to attempting to satisfy the designated project goals, that Bidder shall submit on or before the fifth (5th) working day after the bid opening a detailed statement, with supporting documentation, setting forth its good faith efforts made prior to bid opening. The different kinds of efforts as well as the quantity and intensity of the efforts will be considered in determining whether the Bidder has made a good faith effort. A Bidder who fails to meet the project goal and cannot show, to the Director's satisfaction, that it made a good faith effort to meet the DBE goal shall be considered non-responsive.
2. For compliance with good faith effort requirements as set forth in Part 26, the DBE solicitation level required for this project is 100% of the City and County of Denver's certified DBE's and 100% of the State of Colorado's Colorado Department of Transportation (CDOT's) certified DBE's. Therefore, both DBE certified lists must be utilized in solicitation

effort in order to meet the good faith effort requirement. The statement of good faith efforts shall include a specific response to each of the following as further defined by rule or regulation. The Bidder must identify the portions of the project that it will self-perform and the Bidder must solicit DBE participation in every category in which it will not self perform. The required level of DBE participation is set forth in the Notice of Invitation for Bids, which is also contained within the project Contract documents. A Bidder may include any additional information the Bidder believes may be relevant. Failure of a Bidder to show good faith efforts as to any one of the following categories shall render its overall good faith showing insufficient and its bid non-responsive. Item (1) through (4) of the D.R.M.C. Section 28-208, Subsection (b) are set forth below:

- a. If pre-bid meetings are scheduled by the City at which DBEs may be informed of subcontracting opportunities under a proposed contract to be bid, attendance at such pre-bid meetings is not mandatory; however, bidders are responsible for the information provided at these meetings. The good faith effort statement must reflect the bidder's knowledge of the information provided at these meetings.
- b. Written verification of the placing of an advertisement soliciting bids from DBEs for three (3) consecutive days in general or construction-related publications approved by the Director. All such advertisements must expressly advertise a given project and expressly state that DBE participation on that project is being sought; other incidental references to the project or listing of the bidder as a plan holder are not sufficient. All such advertisements shall begin at least fifteen (15) days prior to bid opening. If the City publishes notice for bids on a project less than fifteen (15) days prior to bid opening, verification of advertisements for at least four (4) consecutive days shall be provided.
- c. Verification of efforts made by the Bidder to contact, by written notice, all certified DBEs who have the capability to perform the work of the contract, that their interest in the contract is being solicited, in sufficient time to allow the DBEs to participate effectively is required. The notice shall expressly describe the potential subcontracting, supplier or broker opportunities for all applicable certification categories for the particular project.
- d. Verification that, reasonably consistent with industry practice and the Bidder's past practices on similar projects, the Bidder analyzed the needs of the project in light of such industry practice and past practice, together with the goal of facilitating DBE participation on the project, and identified portions of the work to be performed by DBEs in order to achieve the project goal.
- d. For each DBE which contacted the Bidder or which the Bidder contacted or attempted to subcontract with, consistent with industry practice, a statement giving the reasons why the Bidder and the DBE did not succeed in reaching a subcontracting, supplier, manufacturer or broker agreement.
- e. Verification that the Bidder rejected DBEs because they did not submit the lowest bid or they were not qualified. Such verification shall include a verified statement of the amounts of all bids received from potential subcontractors, suppliers, manufacturers or brokers on the project and a verified statement that the Bidder rejected DBEs because they did not submit the lowest bid from among such bids or were not qualified.
- f. Verification that the Bidder made efforts to assist DBEs in obtaining bonds, if any are required.

In accordance with Part 26 the Bidder agrees that it is committed to meeting either the DBE participation goal or the DBE participation set forth in its statement of good faith efforts. This commitment must be expressly indicated on the "Commitment to Disadvantaged Business Enterprise Participation" form included with the Bid Form. This commitment includes the following understandings:

1. The Bidder understands it must maintain the committed DBE participation goal level throughout the life of the Contract and as required in 49 CFR Section 26.53 (f) (1) & (2) which states: A prime may not terminate for convenience a DBE subcontractor (or an approved substitute DBE firm) and then perform the work of the terminated subcontract with its own forces of those of an affiliate, without prior written consent. When a DBE subcontractor is terminated, or fails to complete its work on the contract for any reason, the prime contractor is required to make good faith efforts to find other DBE subcontractor to substitute for the original DBE. These good faith efforts shall be directed at finding another DBE to perform at least the same amount of work under the contract as the DBE that was terminated, to the extent needed to meet the contract goal.
2. The Bidder understands that it must establish and maintain records and submit regular reports, as required, which will allow the City to assess progress toward satisfying the DBE participation goal and other affirmative action efforts.
3. The Bidder understands that if Change Orders or any other Contract modifications are issued under the Contract, the Bidder shall have a continuing obligation to immediately inform DSBO in writing of any agreed upon increase or decrease in the scope of work of such Contract, regardless of whether such increase or decrease in scope of work has been reduced to writing at the time of notification.
4. The Bidder understands that if Change Orders or other Contract modifications are issued under the Contract that include an increase in the scope of work of a contract for construction, reconstruction, or remodeling, whether by amendment, change order, force account or otherwise which increases the dollar value of the contract, whether or not such change is within the scope of work designated for performance by a DBE at the time of Contract award, then such amendment, change order or other modification shall be contemporaneously submitted to the DSBO. Those amendments, change orders, force accounts or other Contract modifications that involve a changed scope of work that cannot be performed by existing project subcontractors or by the Bidder shall be subject to goals for DBEs equal to the original goal on the Contract which were included in the bid or showing of a good faith efforts.

Prime Contractor agree to pay each subcontractor under this prime contract for satisfactory performance on a contract no later than seven (7) days from the receipt of each payment the prime contractor receives from the City and County of Denver. The prime contractor agrees further to return retainage payments to each subcontractor within thirty (30) days after the subcontractor's work is satisfactorily completed. Any delay or postponement of payment from the above referenced time frame may occur only for a good cause following written approval of the City and County of Denver. This clause applies both to DBE and non-DBE subcontractors.

All Bidders are charged with knowledge of and are solely responsible for complying with each requirement of Part 26 in making a bid and, if awarded, in performing the Work described in the Contract Documents. These instructions are intended only to generally assist the Bidder in preparing and submitting a compliant bid. Should any questions arise regarding specific circumstances, Bidders must consult 49 CFR Part 26, appropriate DOT Rules and Regulations, or contact the Project's designated DSBO representative at (720) 913-1700.

INSTRUCTIONS TO BIDDERS - All bidders must submit an DSBO "Bidder's List Data Form" for themselves, as well as any subcontractor/supplier/manufacture/manufacture representative/broker that contacted the bidder or that the bidder contacted who provided a bid or quote, regardless if the firm is a DBE or a non-DBE firm. DSBO is required by DOT 49 CFR Part 26 Regulations to create and maintain a bidders list on DOT-assisted projects. Therefore, bidders need to provide these completed forms at the time of bid as a part of their "Bid Form & Submittal Document".

IB-26 DISCLOSURE OF INFORMATION

All submissions and other materials provided or produced pursuant to this Invitation for Bids may be subject to the Colorado Open Records Law, C.R.S. 24-72-201, et seq. As such, bidders are urged to review these disclosure requirements and any exceptions to disclosure of information furnished by another party and, prior to submission of a bid to the City, appropriately identify materials that are not subject to

disclosure. In the event of a request to the City for disclosure of such information, the City shall advise the bidder of such request to give the bidder an opportunity to object to the disclosure of designated confidential materials furnished to the City. In the event of the filing of a lawsuit to compel such disclosure, the City will tender all such material to the court for judicial determination of the issue of disclosure and each bidder agrees to intervene in such lawsuit to protect and assert its claims of privilege against disclosure of such material. Each bidder further agrees to defend, indemnify and save and hold harmless the City, its officers, agents and employees, from any claim, damages, expense, loss or costs arising out of the bidder's intervention to protect and assert its claims of privilege against disclosure under the Open Records Law including, but not limited to, prompt reimbursement to the City of all reasonable attorney fees, costs and damages that the City may incur directly or may be ordered to pay by such court.

IB-27 GENERAL BIDDING INFORMATION

Bidders are instructed to contact the Contract Administrator designated below for this Project for pre-bid, post-bid and general City bidding information. Bidders can also visit DenverGov.com for information, both general and project specific. The Contract Administrator assigned to this project is Toni Green who can be reached via email at toni.green@denvergov.org.

IB-28 FEDERAL REQUIREMENTS

This project is funded, in whole or in part, by federal funding made available through the Federal Highway Administration ("FHWA") and administered by the Colorado Department of Transportation ("CDOT"). As such, each bidder must comply review and comply with certain bid requirements (the "Federal Forms") in formulating and submitting its bid for the Project, and, if awarded a contract pursuant to this bid, must comply with certain "Federal Requirements." The required Federal Forms are included in the Bid Package at pages BF-24 through BF-28. The Federal Requirements are attached to the Bid Document Package, pages at BDP-63 through BDP-79. The Contractor shall be presumed to have considered and completed all Federal Requirements and Forms as part of its bid and shall be presumed to have carefully considered and accounted for all costs of complying with the Federal Requirements in formulating and submitting a bid hereunder.

**RULES AND REGULATIONS
REGARDING
EQUAL EMPLOYMENT OPPORTUNITY**

Promulgated and adopted by the Manager of Public Works pursuant to and by authority of Article III, Division 2, Chapter 28 of the Revised Municipal Code of the City and County of Denver, and for the purpose of insuring that contractors, subcontractors and suppliers soliciting and receiving compensation for contract work from or through the City and County of Denver provide equal opportunity in employment without regard to race, color, creed, sex, national origin, age, religion, marital status, political opinion or affiliation or mental or physical handicap and meet certain requirements for the hiring, training, promotion, and treatment during employment of members of ethnic groups subject to differential treatment, including persons of African descent (Black), Spanish-surnamed (Hispanic), Asian-American and American Indian Groups.

RULE I - DEFINITIONS

- A. "City" means the City and County of Denver.
- B. "Manager" shall mean the Manager of Public Works for the City and County of Denver.
- C. "Contract" means a contract entered into with the City and County of Denver, financed in whole or in part by local resources or funds of the City and County of Denver, for the construction of any public building or prosecution or completion of any public work.
- D. "Contractor" means the original party to a contract with the City and County of Denver, also referred to as the "general" or "prime" contractor.
- E. "Director" means the Director of the Division of Small Business Opportunity.
- F. "Subcontractor" means any person, company, association, partnership, corporation, or other entity which assumes by subordinate agreement some or all of the obligations of the general or prime contractor.
- G. The phrase "Bidding Specifications" as used in Article III, Division 2 of Chapter 28 of the Revised Municipal Code shall include BID CONDITION, INVITATION TO BID, and NOTICE OF PROPOSAL.
- H. "Affirmative Action Program" means a set of specific and result-oriented procedures or steps to which a contractor commits himself to apply every good faith effort to employ members of ethnic minority groups, to include persons of African descent (Black), Spanish surnamed (Hispanic), Asian-American, American Indians, and persons with mental or physical handicap.
- I. "Division of Small Business Opportunity" means the City agency established pursuant to Article III, Division 1 of Chapter 28 of the Denver Revised Municipal Code.

RULE II - NOTICE OF HEARING

When results of conciliation efforts are unsatisfactory to the Manager and he is informed in accordance with Article III, Division 2 of Chapter 28 of the Revised Municipal code that a contractor or subcontractor has apparently failed to meet affirmative action and equal employment opportunity requirements after a reasonable period of notice to correct deficiencies, the Manager will , prior to imposition of any sanctions, afford the general contractor a hearing in order to determine whether the contractor or his subcontractors have failed to comply with the affirmative action and equal employment opportunity requirements of Article III, Division 2 of Chapter 28 of the Revised Municipal Code or of the contract. Written notice of such hearing shall be delivered personally or sent by certified mail, return receipt requested, to the contractor and to any subcontractor involved, at least ten (10) days prior to the date scheduled for the hearing.

RULE III - HEARING

- A. Contractors will appear at hearings and may be represented by counsel, and may present testimony orally and other evidence.
- B. Hearings shall be conducted by one or more hearing examiners designated as such by the Manager.
- C. The Director of the Division of Small Business Opportunity may participate in hearings as a witness.
- D. Hearings shall be held at the place specified in the notice of hearing.
- E. All oral testimony shall be given under oath or affirmation and a record of such proceedings shall be made.
- F. All hearings shall be open to the public.
- G. The hearing officer shall make recommendations to the Manager who shall make a final decision.

REGULATIONS

REGULATION NO. 1 - ORDINANCE:

The Rules and Regulations of the Manager shall be inserted in the bidding specifications for every contract for which bidding is required.

REGULATION NO. 2 - EXEMPTIONS:

Each contract and subcontract, regardless of the dollar amount, shall be subject to affirmative action requirements unless specifically exempted in writing individually by the Manager. Exemptions apply only to "affirmative action" in equal employment opportunity, and are not to be construed as condonation in any manner of "discrimination" or "discriminatory practices" in employment because of race, color, creed, sex, age, national origin, religion, marital status, political opinion or mental or physical handicap.

REGULATION NO. 3 - DIRECTOR OF CONTRACT COMPLIANCE:

The Director of the Division of Small Business Opportunity shall perform the duties assigned to such official by Article III, Division 2 Chapter 28 of the Revised Municipal Code and by the Manager. (1) The Director of the Division of Small Business Opportunity or designated representatives shall inform bidders and contractors of affirmative action procedures, programs, and goals in accordance with the Ordinance at pre-bid and pre-construction conference; (2) make regular on-site inspections; (3) supply contractors and subcontractors with report forms to be completed by them when requested, and furnished to the Director of the Division of Small Business Opportunity; and (4) review payroll records, employment records and practices of general contractors and their subcontractors and suppliers during the performance of any contract. The Director of the Division of Small Business Opportunity shall promptly report apparent affirmative action deficiencies to the Manager.

REGULATION NO. 4 - GOALS AND TIMETABLES:

In general, goals and timetables should take into account anticipated vacancies and the availability of skills in the market place from which employees should be drawn. In addition, where discrimination in employment by a general contractor or any of his subcontractors is indicated, a corrective action program will take into account the need by the general contractor and his subcontractors to correct past discriminatory practices and reach goals of minority manpower utilization on a timely basis through such recruiting and advertising efforts as are necessary and appropriate.

REGULATION NO. 5 - AWARD OF CONTRACTS:

It shall be the responsibility of the Director of the Division of Small Business Opportunity to determine the affirmative action capability of bidders, contractors and subcontractors and to recommend to the Manager the award of contracts to those bidders, contractors and subcontractors and suppliers who demonstrate the ability and willingness to comply with the terms of their contract.

REGULATION NO. 6 - PUBLICATION AND DUPLICATION:

Copies of these Rules and Regulations as amended by the Manager from time to time, shall as soon as practicable and after Notice being published will be made a part of all City Contracts.

REGULATION NO. 7 - NOTICE TO PROCEED:

Prior to issuance of the Notice to Proceed a sign-off will be required of the Director of the Division of Small Business Opportunity or his designee.

REGULATION NO. 8 - CONTRACTS WITH SUBCONTRACTORS:

To the greatest extent possible, the contractor shall make a good faith effort to contract with minority contractors, subcontractors and suppliers for services and supplies by taking affirmative actions which include but are not limited to the following:

1. Advertise invitations for subcontractor bids in minority community news media.
2. Contact minority contractor organizations for referral of prospective subcontractors.
3. Purchase materials and supplies from minority material suppliers.

REGULATION NO. 9 - AGENCY REFERRALS:

It shall be no excuse that the union with which the contractor or subcontractor has an agreement providing for referral, exclusive or otherwise, failed to refer minority employees.

REGULATION NO. 10 - CLAUSES:

The Manager shall include the appropriate clauses in every contract and the contractor shall cause to be inserted in every subcontract the appropriate clauses:

1. APPENDIX A: City and County of Denver Equal Opportunity Clause - ALL CONTRACTS funded only with City and County of Denver monies.
2. APPENDIX B: Equal Opportunity Clause (11246) - ALL FEDERAL ASSISTED.
3. APPENDIX C: Section 3 - Assurance of Compliance - HUD ASSISTED PROJECTS.
4. APPENDIX D: Section 3 - Clause - HUD ASSISTED PROJECTS.

All amendments to the appendices shall be included by reference.

REGULATION NO. 11 - SHOW CAUSE NOTICES:

When the Manager has reasonable cause to believe that a contractor has violated Article III, Division 2 of Chapter 28 of the Denver Revised Municipal Code, he may issue a notice requiring the contractor to show cause, within fifteen (15) days why enforcement procedures, or other appropriate action to insure compliance, should not be instituted.

**REGULATION NO. 12 - BID CONDITIONS - AFFIRMATIVE ACTION
REQUIREMENTS - EQUAL EMPLOYMENT OPPORTUNITY:**

1. APPENDIX E: The Bid Conditions - Affirmative Action Requirements - Equal Employment Opportunity as amended and published by the U.S. Department of Labor Employment Standards Administration, Office of Federal Contract Compliance, shall be inserted verbatim for bidding specification for every non-exempt contract involving the use of Federal funds.
2. APPENDIX F: The Bid Conditions - Affirmative Action Requirements - Equal Employment Opportunity as published by the Department of Public Works, City and County of Denver, shall be inserted verbatim as bidding specifications for every non-exempt contract using City funds.

CITY AND COUNTY OF DENVER
DEPARTMENT OF PUBLIC WORKS

APPENDIX A

**CITY AND COUNTY OF DENVER EQUAL OPPORTUNITY CLAUSE -
ALL CONTRACTS**

1. The Contractor will not discriminate against any employee or applicant for employment because of race, creed, color, sex, age, national origin, religion, marital status, political opinion or affiliation, or mental or physical handicap. The Contractor will take affirmative action to ensure that applicants are employed, and that employees are treated during employment without regard to their race, creed, color, sex, age, national origin, religion, marital status, political opinion or affiliation, or mental or physical handicap. Such action shall include, but not be limited to the following: employment, upgrading, demotion, or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship. The Contractor agrees to post in conspicuous places, available to employees and applicants for employment, notices to be provided setting forth the provisions of this nondiscrimination clause.
2. The Contractor will, in all solicitations or advertisements for employees placed by or on behalf of the contractor state that all qualified applicants will receive consideration for employment without regard to race, creed, color, sex, age, national origin, religion, marital status, political opinion or affiliation, or mental or physical handicap.
3. The Contractor will send to each labor union or representative of workers with which he has a collective bargaining agreement or other contract or understanding, a notice to be provided, advising the said labor union or workers' representatives of the contractor's commitments under this section, and shall post copies of the notice in conspicuous places available to employees and applicants for employment.
4. Each Contractor will comply with all provisions of Article III, Division 2 of Chapter 28 of the Revised Municipal Code, and the rules, regulations, and relevant orders of the Manager and the Director.
5. The Contractor will furnish all information and reports required by Article III, Division 2 of Chapter 28 of the Revised Municipal Code, and by rules, regulations and orders of the Manager and Director or pursuant thereto, and will permit access to his books, records, and accounts by the Manager, Director, or their designee for purposes of investigation to ascertain compliance with such rules, regulations, and orders.
6. In the event of the Contractor's noncompliance with the nondiscrimination clauses of this contract or with any of the said rules, regulations or orders, this contract may be canceled, terminated, or suspended in whole or in part and the Contractor may be declared ineligible for further City contracts in accordance with procedures authorized in Article III, Division 2, Chapter 28 of the Revised Municipal Code, or by rules, regulations, or order of the Manager.
7. The Contractor will include Regulation 12, Paragraph 2 and the provisions of paragraphs (1) through (6) in every subcontract of purchase order unless exempted by rules, regulations, or orders of the Manager issued pursuant to Article III, Division 2, Chapter 28 of the Revised Municipal Code, so that such provisions will be binding on each subcontractor or supplier. The Contractor will take such action with respect to any subcontract or purchase order as the administering agency may direct as a means of enforcing such provisions, including sanctions for noncompliance.

The applicant further agrees to be bound by the above equal opportunity clauses with respect to its own employment practices when it participates in City contracts. The Contractor agrees to assist and cooperate actively with the Manager and the Director in obtaining compliance of subcontractors and suppliers with the equal opportunity clause and the rules, regulations and relevant orders of the Manager, and will furnish the Manager and the Director such information as they may require for the supervision of compliance, and will otherwise assist the Manager and Director in the discharge of the City's primary responsibility for securing compliance. The Contractor further agrees to refrain from entering into any contract or contract

modification subject to Article III, Division 2 of Chapter 28 of the Revised Municipal Code with a contractor debarred from, or who has not demonstrated eligibility for, City contracts.

The Contractor will carry out such sanctions and penalties for violation of the equal opportunity clause as may be imposed upon contractors and subcontractors by the Manager and Director. In addition, the Contractor agrees that failure or refusal to comply with these undertakings the Manager may take any or all of the following actions:

- A. Cancellation, termination, or suspension in whole or in part of this contract.
- B. Refrain from extending any further assistance to the applicant under the program with respect to which the failure occurred until satisfactory assurance of future compliance has been received from such applicant.
- C. Refer the case to the City Attorney for appropriate legal proceedings.

SUBCONTRACTS: Each prime Contractor or Subcontractor shall include the equal opportunity clause in each of its subcontracts.

APPENDIX B

EQUAL EMPLOYMENT OPPORTUNITY CLAUSE

During the performance of this contract, the contractor agrees as follows:

1. The contractor will not discriminate against any employee or applicant for employment because of race, color, religion, sex, or national origin. The contractor will take affirmative action to ensure that applicants are employed, and that employees are treated during employment without regard to their race, color, religion, sex, or national origin. Such action shall include, but not be limited to the following:

Employment, upgrading, demotion, or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship. The contractor agrees to post in conspicuous places, available to employees and applicants for employment, notices to be provided setting forth the provisions of this nondiscrimination clause.
2. The contractor will, in all solicitations or advertisements for employees placed by or on behalf of the contractor, state that all qualified applicants will receive considerations for employment without regard to race, color, religion, sex, or national origin.
3. The contractor will send to each labor union or representative of workers with which he has a collective bargaining agreement or other contract or understanding, a notice to be provided advising the said labor union or workers' representatives of the contractor's commitments under this section, and shall post copies of the notice in conspicuous places available to employees and applicants for employment.
4. The contractor will comply with all provisions of Executive Order 11246 of September 24, 1965, as amended, and of the rules, regulations, and relevant orders of the Secretary of Labor.
5. The contractor will furnish all information and reports required by Executive Order 11246 of September 24, 1965, and by rules, regulations, and orders of the Secretary of Labor, or pursuant thereto, and will permit access to his books, records, and accounts by the administering agency and the Secretary of Labor for purposes of investigation to ascertain compliance with such rules, regulations, and orders.
6. In the event of the contractor's noncompliance with the nondiscrimination clauses of this contract or with any of the said rules, regulations, or orders, this contract may be canceled, terminated or suspended in whole or in part and the contractor may be declared ineligible for further Government contracts or federally assisted construction contracts in accordance with procedure authorized in Executive Order 11246 of September 24, 1965, and such other sanctions may be imposed and remedies invoked as provided in Executive Order 11246 of September 24, 1965, or by rule, regulation, or order of the Secretary of Labor, or as otherwise provided by law.
7. The contractor will include the portion of the sentence immediately preceding paragraph (1) and the provisions of paragraphs (1) through (7) in every subcontract or purchase order unless exempted by rules, regulations, or orders of the Secretary of Labor issued pursuant to section 204 of Executive Order 11246 of September 24, 1965, so that such provisions will be binding upon each subcontractor or vendor. The contractor will take such action with respect to any subcontract or purchase order as the administering agency may direct as a means of enforcing such provision, including sanctions for noncompliance: Provided, however, that in the event a contractor becomes involved in, or is threatened with, litigation with a subcontractor or vendor as a result of such direction by the administering agency the contractor may request the United States to enter into such litigation to protect the interests of the United States.

NOTICES TO BE POSTED PER PARAGRAPH (1) AND (3) OF THE EEO CLAUSE

EQUAL EMPLOYMENT OPPORTUNITY IS THE LAW

**Discrimination is Prohibited by
the Civil Rights Act of 1964
and by Executive Order No. 11246**

Title VII of the Civil Rights Act of 1964

Administered by: The Equal Employment Opportunity Commission

Prohibits discrimination because of Race, Color, Religion, sex, or National Origin by Employers with 25 or more employees, by Labor Organizations with a hiring hall of 25 or more members, by Employment Agencies, and by Joint Labor-Management Committees for Apprenticeship or Training.

ANY PERSON who believes that he or she has been discriminated against SHOULD CONTACT:

The Equal Employment Opportunity Commission (EEOC)
2401 E Street, NW
Washington, D.C. 20506

Executive Order No. 11256

Administered by: The Office of Federal Contract Compliance Programs

Prohibits discrimination because of Race, Color, Religion, Sex, or National Origin, and requires affirmative action to ensure equality of opportunity in all aspects of employment, by all Federal Government Contractors and Subcontractors, and by Contractors Performing Work Under a Federal Assisted Construction Contract, regardless of the number of employees in either case.

ANY PERSON who believes that he or she has been discriminated against SHOULD CONTACT:

The Office of Federal Contract Compliance Programs
U. S. Department of Labor
Washington, D.C. 20210

APPENDIX E

Notice of Requirement for Affirmative Action to Ensure Equal Employment Opportunity (Executive Order 11246, as amended)

1. The Offeror's or Bidder's attention is called to the "Equal Opportunity Clause" and the "Standard Federal Equal Employment Opportunity Construction Contract Specifications" set forth herein.
2. The goals and timetables for minority and female participation, expressed in percentage terms for the contractor's aggregate workforce in each trade on all construction work in the covered area are as follows:

Timetables: Until Further Notice

Goals:

- (a) Minority Participation in Each Trade: 13.8 percent
- (b) Female Participation in Each Trade: 6.9 percent

These goals are applicable to all the contractor's construction work (whether or not it is Federal or Federally-assisted) performed in the covered area. If the contractor performs construction work in a geographic area located outside of the covered area, it shall apply the goal established for such geographic area where the work is actually performed. With regard to this second area, the contractor also is subject to the goal for both its Federally involved and non-Federally involved construction.

The contractor's compliance with the executive order and the regulations in 41 CFR Part 60-4 shall be based on its implementation of the Equal Opportunity Clause, specific affirmative action obligations required by the specifications set forth in 41 CFR 60-4.3(a), and its efforts to meet the goal. The hours of minority employment and training must be substantially uniform throughout the length of the contract, and in each grade, and the contract shall make a good faith effort to employ minorities evenly on each of its projects. The transfer of minority employees or trainees from contractor to contractor or from project to project, for the sole purpose of meeting the contractor's goal, shall be a violation of the contract, the executive order, and the regulations in 41 CFR Part 60-4. Compliance with the goal will be measured against the total work hours performed.

3. The contractor shall provide written notification to the Director, OFCCP, within 10 working days of award of any construction subcontract in excess of \$10,000 at any tier for construction work under the contract resulting from this solicitation. The notification shall list the name, address, and telephone number of the subcontractor; employee identification number; estimated dollar amount of the subcontract; estimated starting and completion dates of the subcontract; and the geographic area in which the contract is performed.
4. As used in this notice and in the contract resulting from this solicitation, the "covered area" is the City and County of Denver, Colorado.

STANDARD FEDERAL ASSURANCES

NOTE: As used below the term "contractor" shall mean and include the "Party of the Second Part," and the term "sponsor" shall mean the "City".

During the term of this contract, the contractor, for itself, its assignees and successors in interest (hereinafter referred to as the "contractor") agrees as follows:

1. Compliance with Regulations. The contractor shall comply with the Regulations relative to nondiscrimination in federally assisted programs of the Department of Transportation (hereinafter "DOT") Title 49, Code of Federal Regulations, Part 21, as they may be amended from time to time (hereinafter referred to as the Regulations), which are herein incorporated by reference and made a part of this contract.

2. Nondiscrimination. The contractor, with regard to the work performed by it during the contract, shall not discriminate on the grounds of race, color, sex, creed or national origin in the selection and retention of subcontractors, including procurements of materials and leases of equipment. The contractor shall not participate either directly or indirectly in the discrimination prohibited by section 21.5 of the Regulations, including employment practices when the contract covers a program set forth in Appendix B of the Regulations.

3. Solicitations for Subcontractors, Including Procurements of Materials and Equipment. In all solicitations either by competitive bidding or negotiations made by the contractor for work to be performed under a subcontract, including procurements or materials or leases of equipment, each potential subcontractor or supplier shall be notified by the contractor of the contractor's obligations under this contract and the Regulations relative to nondiscrimination on the grounds of race, color, or national origin.

4. Information and Reports. The contractor shall provide all information and reports required by the Regulations or directives issued pursuant thereto and shall permit access to its books, records, accounts, other sources of information, and its facilities as may be determined by the to be pertinent to ascertain compliance with such Regulations, orders, and instructions. Where any information required of a contractor is in the exclusive possession of another who fails or refuses to furnish this information, the contractor shall so certify to the sponsor, as appropriate, and shall set forth what efforts it has made to obtain the information.

5. Sanctions for Noncompliance. In the event of the contractor's noncompliance with the nondiscrimination provisions of this contract, the sponsor shall impose such contract sanctions as it may determine to be appropriate, including, but not limited to:

- a. Withholding of payments to the contractor under the contract until the contractor complies, and/or
- b. Cancellation, termination, or suspension of the contract, in whole or in part.

6. Incorporation of Provisions. The contractor shall include the provisions of paragraphs 1 through 5 in every subcontract, including procurements of materials and leases of equipment, unless exempt by the Regulations or directives issued pursuant thereto. The contractor shall take such action with respect to any subcontract or procurement as the sponsor or may direct as a means of enforcing such provisions including sanctions for noncompliance. Provided, however, that in the event a contractor becomes involved in, or is threatened with, litigation with a subcontractor or supplier as a result of such direction, the contractor may request the sponsor to enter into such litigation to protect the interests of the sponsor and, in addition, the contractor may request the United States to enter into such litigation to protect the interests of the United States.

**STANDARD FEDERAL EQUAL EMPLOYMENT OPPORTUNITY CONSTRUCTION
CONTRACT SPECIFICATIONS (41 CFR 60-4.3)
(VERSION 2, 4/23/90)**

1. As used in these specifications:

- a. "Covered area" means the geographical area described in the solicitation from which this contract resulted;
- b. "Director" means Director, Office of Federal Contract Compliance Programs (OFCCP), U.S. Department of Labor, or any person to whom the Director delegates authority;
- c. "Employer identification number" means the Federal social security number used on the Employer's Quarterly Federal Tax Return, U.S. Treasury Department Form 941;
- d. "Minority" includes:
 - (1) Black (all persons having origins in any of the Black African racial groups not of Hispanic origin);
 - (2) Hispanic (all persons of Mexican, Puerto Rican, Cuban, Central or South American, or other Spanish culture or origin regardless of race);
 - (3) Asian and Pacific Islander (all persons having origins in any of the original peoples of the Far East, Southeast Asia, the Indian Subcontinent, or the Pacific Islands); and
 - (4) American Indian or Alaskan native (all persons having origins in any of the original peoples of North America and maintaining identifiable tribal affiliations through membership and participation or community identification).

2. Whenever the contractor, or any subcontractor at any tier, subcontracts a portion of the work involving any construction trade, it shall physically include in each subcontract in excess of \$10,000 the provisions of these specifications and the Notice which contains the applicable goals for minority and female participation and which is set forth in the solicitations from which this contract resulted.

3. If the contractor is participating (pursuant to 41 CFR 60-4.5) in a Hometown Plan approved by the U.S. Department of Labor in the covered area either individually or through an association, its affirmative action obligations on all work in the Plan area (including goals and timetables) shall be in accordance with that Plan for those trades which have unions participating in the Plan. Contractors shall be able to demonstrate their participation in and compliance with the provisions of any such Hometown Plan. Each contractor or subcontractor participating in an approved plan is individually required to comply with its obligations under the EEO clause and to make a good faith effort to achieve each goal under the Plan in each trade in which it has employees. The overall good faith performance by other contractors or subcontractors toward a goal in an approved Plan does not excuse any covered contractor's or subcontractor's failure to take good faith efforts to achieve the Plan goals and timetables.

4. The contractor shall implement the specific affirmative action standards provided in paragraphs 7a through 7p of these specifications. The goals set forth in the solicitation from which this contract resulted are expressed as percentages of the total hours of employment and training of minority and female utilization the contractor should reasonably be able to achieve in each construction trade in which it has employees in the covered area. Covered construction contractors performing construction work in a geographical area where they do not have a Federal or federally assisted construction contract shall apply the minority and female goals established for the geographical area where the work is being performed. Goals are published periodically in the Federal Register in notice form, and such notices may be obtained

from any Office of Federal Contract Compliance Programs office or from Federal procurement contracting officers. The contractor is expected to make substantially uniform progress in meeting its goals in each craft during the period specified.

5. Neither the provisions of any collective bargaining agreement nor the failure by a union with whom the contractor has a collective bargaining agreement to refer either minorities or women shall excuse the contractor's obligations under these specifications, Executive Order 11246 or the regulations promulgated pursuant thereto.

6. In order for the nonworking training hours of apprentices and trainees to be counted in meeting the goals, such apprentices and trainees shall be employed by the contractor during the training period and the contractor shall have made a commitment to employ the apprentices and trainees at the completion of their training, subject to the availability of employment opportunities. Trainees shall be trained pursuant to training programs approved by the U.S. Department of Labor.

7. The contractor shall take specific affirmative actions to ensure equal employment opportunity. The evaluation of the contractor's compliance with these specifications shall be based upon its effort to achieve maximum results from its actions. The contractor shall document these efforts fully and shall implement affirmative action steps at least as extensive as the following:

a. Ensure and maintain a working environment free of harassment, intimidation, and coercion at all sites, and in all facilities at which the contractor's employees are assigned to work. The contractor, where possible, will assign two or more women to each construction project. The contractor shall specifically ensure that all foremen, superintendents, and other onsite supervisory personnel are aware of and carry out the contractor's obligation to maintain such a working environment, with specific attention to minority or female individuals working at such sites or in such facilities.

b. Establish and maintain a current list of minority and female recruitment sources, provide written notification to minority and female recruitment sources and to community organizations when the contractor or its unions have employment opportunities available, and maintain a record of the organizations' responses.

c. Maintain a current file of the names, addresses, and telephone numbers of each minority and female off-the-street applicant and minority or female referral from a union, a recruitment source, or community organization and of what action was taken with respect to each such individual. If such individual was sent to the union hiring hall for referral and was not referred back to the contractor by the union or, if referred, not employed by the contractor, this shall be documented in the file with the reason therefore along with whatever additional actions the contractor may have taken.

d. Provide immediate written notification to the Director when the union or unions with which the contractor has a collective bargaining agreement has not referred to the contractor a minority person or female sent by the contractor, or when the contractor has other information that the union referral process has impeded the contractor's efforts to meet its obligations.

e. Develop on-the-job training opportunities and/or participate in training programs for the area which expressly include minorities and women, including upgrading programs and apprenticeship and trainee programs relevant to the contractor's employment needs, especially those programs funded or approved by the Department of Labor. The contractor shall provide notice of these programs to the sources compiled under 7b above.

f. Disseminate the contractor's EEO policy by providing notice of the policy to unions and training programs and requesting their cooperation in assisting the contractor in meeting its EEO obligations; by including it in any policy manual and collective bargaining agreement; by

publicizing it in the company newspaper, annual report, etc.; by specific review of the policy with all management personnel and with all minority and female employees at least once a year; and by posting the company EEO policy on bulletin boards accessible to all employees at each location where construction work is performed.

g. Review, at least annually, the company's EEO policy and affirmative action obligations under these specifications with all employees having any responsibility for hiring, assignment, layoff, termination, or other employment decisions including specific review of these items with onsite supervisory personnel such as superintendents, general foremen, etc., prior to the initiation of construction work at any job site. A written record shall be made and maintained identifying the time and place of these meetings, persons attending, subject matter discussed, and disposition of the subject matter.

h. Disseminate the contractor's EEO policy externally by including it in any advertising in the news media, specifically including minority and female news media, and providing written notification to and discussing the contractor's EEO policy with other contractors and subcontractors with whom the contractor does or anticipates doing business.

i. Direct its recruitment efforts, both oral and written, to minority, female, and community organizations, to schools with minority and female students; and to minority and female recruitment and training organizations serving the contractor's recruitment area and employment needs. Not later than one month prior to the date for the acceptance of applications for apprenticeship or other training by any recruitment source, the contractor shall send written notification to organizations, such as the above, describing the openings, screening procedures, and tests to be used in the selection process.

j. Encourage present minority and female employees to recruit other minority persons and women and, where reasonable provide after school, summer, and vacation employment to minority and female youth both on the site and in other areas of a contractor's workforce.

k. Validate all tests and other selection requirements where there is an obligation to do so under 41 CFR Part 60-3.

l. Conduct, at least annually, an inventory and evaluation at least of all minority and female personnel, for promotional opportunities and encourage these employees to seek or to prepare for, through appropriate training, etc., such opportunities.

m. Ensure that seniority practices, job classifications, work assignments, and other personnel practices do not have a discriminatory effect by continually monitoring all personnel and employment related activities to ensure that the EEO policy and the contractor's obligations under these specifications are being carried out.

n. Ensure that all facilities and company activities are non-segregated except that separate or single user toilet and necessary changing facilities shall be provided to assure privacy between the sexes.

o. Document and maintain a record of all solicitations of offers for subcontracts from minority and female construction contractors and suppliers, including circulation of solicitations to minority and female contractor associations and other business associations.

p. Conduct a review, at least annually, of all supervisor's adherence to and performance under the contractor's EEO policies and affirmative action obligations.

8. Contractors are encouraged to participate in voluntary associations which assist in fulfilling one or more of their affirmative action obligations (7a through p). The efforts of a contractor association, joint

contractor union, contractor community, or other similar groups of which the contractor is a member and participant, may be asserted as fulfilling any one or more of its obligations under 7a through p of these specifications provided that the contractor actively participates in the group, makes every effort to assure that the group has a positive impact on the employment of minorities and women in the industry, ensures that the concrete benefits of the program are reflected in the contractor's minority and female workforce participation, makes a good faith effort to meet its individual goals and timetables, and can provide access to documentation which demonstrates the effectiveness of actions taken on behalf of the contractor. The obligation to comply, however, is the contractor's and failure of such a group to fulfill an obligation shall not be a defense for the contractor's noncompliance.

9. A single goal for minorities and a separate single goal for women have been established. The contractor, however, is required to provide equal employment opportunity and to take affirmative action for all minority groups, both male and female, and all women, both minority and non-minority. Consequently, if the particular group is employed in a substantially disparate manner (for example, even though the contractor has achieved its goals for women generally,) the contractor may be in violation of the Executive Order if a specific minority group of women is underutilized.

10. The contractor shall not use the goals and timetables or affirmative action standards to discriminate against any person because of race, color, religion, sex, or national origin.

11. The contractor shall not enter into any subcontract with any person or firm debarred from Government contracts pursuant to Executive Order 11246.

12. The contractor shall carry out such sanctions and penalties for violation of these specifications and of the Equal Opportunity Clause, including suspension, termination, and cancellation of existing subcontracts as may be imposed or ordered pursuant to Executive Order 11246, as amended, and its implementing regulations, by the Office of Federal Contract Compliance Programs. Any contractor who fails to carry out such sanctions and penalties shall be in violation of these specifications and Executive Order 11246, as amended.

13. The contractor, in fulfilling its obligations under these specifications, shall implement specific affirmative action steps, at least as extensive as those standards prescribed in paragraph 7 of these specifications, so as to achieve maximum results from its efforts to ensure equal employment opportunity. If the contractor fails to comply with the requirements of the Executive Order, the implementing regulations, or these specifications, the Director shall proceed in accordance with 41 CFR 60-4.8.

14. The contractor shall designate a responsible official to monitor all employment related activity to ensure that the company EEO policy is being carried out, to submit reports relating to the provisions hereof as may be required by the Government, and to keep records. Records shall at least include for each employee, the name, address, telephone number, construction trade, union affiliation if any, employee identification number when assigned, social security number, race, sex, status (e.g., mechanic, apprentice, trainee, helper, or laborer), dates of changes in status, hours worked per week in the indicated trade, rate of pay, and locations at which the work was performed. Records shall be maintained in an easily understandable and retrievable form; however, to the degree that existing records satisfy this requirement, contractors shall not be required to maintain separate records.

15. Nothing herein provided shall be construed as a limitation upon the application of other laws which establish different standards of compliance or upon the application of requirements for the hiring of local or other area residents (e.g., those under the Public Works Employment Act of 1977 and the Community Development Block Grant Program).

**CITY AND COUNTY OF DENVER
DEPARTMENT OF PUBLIC WORKS
ENGINEERING DIVISION**

APPENDIX F

AFFIRMATIVE ACTION REQUIREMENTS

EQUAL EMPLOYMENT OPPORTUNITY

For All Non-Exempt Construction Contracts to Be Awarded by the
City and County of Denver, Department of Public Works.

NOTICE

EACH BIDDER, CONTRACTOR OR SUBCONTRACTOR (HEREINAFTER THE CONTRACTOR) MUST FULLY COMPLY WITH THE REQUIREMENTS OF THESE BID CONDITIONS AS TO EACH CONSTRUCTION TRADE IT INTENDS TO USE ON THIS CONSTRUCTION CONTRACT, AND ALL OTHER CONSTRUCTION WORK (BOTH CITY AND NON-CITY) IN THE DENVER AREA DURING THE PERFORMANCE OF THIS CONTRACT OR SUBCONTRACT. THE CONTRACTOR COMMITS ITSELF TO THE GOALS FOR MINORITY MANPOWER UTILIZATION, AS APPLICABLE, AND ALL OTHER REQUIREMENTS, TERMS AND CONDITION OF THESE BID CONDITIONS BY SUBMITTING A PROPERLY SIGNED BID.

THE CONTRACTOR SHALL APPOINT A COMPANY EXECUTIVE TO ASSUME THE RESPONSIBILITY FOR THE IMPLEMENTATION OF THE REQUIREMENTS, TERMS AND CONDITIONS OF THESE BID CONDITIONS.

/s/

Manager of Public Works
City and County of Denver

EQUAL OPPORTUNITY PROVISIONS (Cont'd)

A. REQUIREMENTS - AN AFFIRMATIVE ACTION PLAN:

Contractors shall be subject to the provisions and requirements of these bid conditions including the goals and timetables for minority* and female utilization, and specific affirmative action steps set forth by the Office of Contract Compliance. The contractor's commitment to the goals for minority, and female utilization as required constitutes a commitment that it will make every good faith effort to meet such goals.

1. GOALS AND TIMETABLES:

The goals and timetables for minority and female participation, expressed in percentage terms for the contractor's aggregate workforce in each trade are as follows:

GOALS FOR MINORITY PARTICIPATION FOR EACH TRADE	GOALS FOR FEMALE PARTICIPATION FOR EACH TRADE
From January 1, 1982 to Until Further Notice	From January 1, 1982 to Until Further Notice
21.7% - 23.5%	6.9%

The goals for minority and female utilization above are expressed in terms of hours of training and employment as a proportion of the total number of hours to be worked by the contractor's aggregate workforce, which includes all supervisory personnel, in each trade, on all projects for the City and County of Denver during the performance of its contract (i.e., The period beginning with the first day of work on the City and County of Denver funded construction contract and ending with the last day of work).

The hours of minority and female employment and training must be substantially uniform throughout the length of the contract in each trade and minorities and females must be employed evenly on each of a contractor's projects. Therefore, the transfer of minority or female employees from contractor to contractor or from project to project for the purpose of meeting the contractor's goals shall be a violation of these Bid Conditions.

If the Contractor counts the nonworking hours of apprentices they must be employed by the Contractor during the training period; the Contractor must have made a commitment to employ apprentices at the completion of their training subject to the availability of employment opportunities; and the apprentices must be trained pursuant to training programs approved by the Bureau of Apprenticeship and Training.

* "Minority" is defined as including, Blacks, Spanish Surname Americans, Asian-Americans, and American Indians, and includes both men and minority women.

2. SPECIFIC AFFIRMATIVE ACTION STEPS:

No contractor shall be found to be in noncompliance solely on account of its failure to meet its goals, but will be given an opportunity to demonstrate that the contractor has instituted all the specific affirmative action steps specified and has made every good faith effort to make these steps work toward the attainment of its goals within the timetables, all to the purpose of expanding minority and female utilization in its aggregate workforce. A contractor, who fails to comply with its obligation under the Equal Opportunity Clause of its contract and fails to achieve its commitments to the goals for minority and female utilization has the burden of proving that it has engaged in an Affirmative Action Program directed at increasing minority and female utilization and that such efforts were at least as extensive and as specific as the following:

- a. The Contractor should have notified minority and female organizations when employment opportunities were available and should have maintained records of the organization's response.

- b. The Contractor should have maintained a file of the names and addresses of each minority and female referred to it by any individual or organization and what action was taken with respect to each such referred individual, and if the individual was not employed by the Contractor, the reasons. If such individual was sent to the union hiring hall for referral and not referred back by the union or if referred, not employed by the Contractor, the file should have documented this and their reasons.
- c. The Contractor should have promptly notified the Department of Public Works, and the Division of Small Business Opportunity when the union or unions with which the Contractor has collective bargaining agreements did not refer to the contractor a minority or female sent by the contractor, or when the Contractor has other information that the union referral process has impeded efforts to meet its goals.
- d. The Contractor should have disseminated its EEO policy within its organization by including it in any employee handbook or policy manual; by publicizing it in company newspapers and annual reports and by advertising such policy at reasonable intervals in union publications. The EEO policy should be further disseminated by conducting staff meetings to explain and discuss the policy; by posting of the policy; and by review of the policy with minority and female employees.
- e. The Contractor should have disseminated its EEO policy externally by informing and discussing it with all recruitment sources; by advertising in news media, specifically including minority and female news media; and by notifying and discussing it with all subcontractors.
- f. The Contractor should have made both specific and reasonably recurrent written and oral recruitment efforts. Such efforts should have been directed at minority and female organizations, schools with substantial minority and female enrollment, and minority and female recruitment and training organizations within the Contractor's recruitment area.
- g. The Contractor should have evidence available for inspection that all tests and other selection techniques used to select from among candidates for hire, transfer, promotion, training, or retention are being used in a manner that does not violate the OFCCP Testing Guidelines in 41 CFR Part 60-3.
- h. The Contractor should have made sure that seniority practices and job classifications do not have a discriminatory effect.
- i. The Contractor should have made certain that all facilities are not segregated by race.
- j. The Contractor should have continually monitored all personnel activities to ensure that its EEO policy was being carried out including the evaluation of minority and female employees for promotional opportunities on a quarterly basis and the encouragement of such employees to seek those opportunities.
- k. The Contractor should have solicited bids for subcontracts from available minority and female subcontractors engaged in the trades covered by these Bid Conditions, including circulation of minority and female contractor associations.

NOTE: The Director and the Division of Small Business Opportunity will provide technical assistance on questions pertaining to minority and female recruitment sources, minority and female community organizations, and minority and female news media upon receipt of a request for assistance from a contractor.

3. **NON - DISCRIMINATION:**

In no event may a contractor utilize the goals and affirmative action steps required in such a manner as to cause or result in discrimination against any person on account of race, color, religion, sex, marital status, national origin, age, mental or physical handicap, political opinion or affiliation.

4. COMPLIANCE AND ENFORCEMENT:

In all cases, the compliance of a contractor will be determined in accordance with its obligations under the terms of these Bid Conditions. All contractors performing or to perform work on projects subject to these Bid Conditions hereby agree to inform their subcontractors in writing of their respective obligations under the terms and requirements of these Bid Conditions, including the provisions relating to goals of minority and female employment and training.

A. CONTRACTORS SUBJECT TO THESE BID CONDITIONS:

In regard to these Bid Conditions, if the Contractor meets the goals set forth therein or can demonstrate that it has made every good faith effort to meet these goals, the Contractor shall be presumed to be in compliance with Article III, Division 2 of Chapter 28 of the Revised Municipal Code, the implementing regulations and its obligations under these Bid Conditions. In the event, no formal sanctions or proceedings leading toward sanctions shall be instituted unless the contracting or administering agency otherwise determines that the contractor is violating the Equal Opportunity Clause.

1. Where the Division of Small Business Opportunity finds that a contractor failed to comply with the requirements of Article III, Division 2 of Chapter 28 of the Revised Municipal Code or the implementing regulations and the obligations under these Bid Conditions, and so informs the Manager, the Manager shall take such action and impose such sanctions, which include suspension, termination, cancellation, and debarment, as may be appropriate under the Ordinance and its regulations. When the Manager proceeds with such formal action it has the burden of proving that the Contractor has not met the goals contained in these Bid Conditions. The Contractor's failure to meet its goals shall shift to it the requirement to come forward with evidence to show that it has met the good faith requirements of these Bid Conditions.
2. The pendency of such proceedings shall be taken into consideration by the Department of Public Works in determining whether such contractor can comply with the requirements of Article III, Division 2 of Chapter 28 of the Revised Municipal Code, and is therefore a "responsible prospective contractor".
3. The Division of Small Business Opportunity shall review the Contractor's employment practices during the performance of the contract, if the Division of Small Business Opportunity determines that the Contractor's Affirmative Action Plan is no longer an acceptable program, the Director shall notify the Manager.

B. OBLIGATIONS APPLICABLE TO CONTRACTORS:

It shall be no excuse that the union with which the Contractor has a collective bargaining agreement providing for exclusive referral failed to refer minority or female employees. Discrimination in referral for employment, even if pursuant to provisions of a collective bargaining agreement, is prohibited by the National Labor Relations Act, as amended, Title VI of the Civil Rights Act of 1964, as amended, and Article III, Division 2 of Chapter 28 of the Revised Municipal Code. It is the policy of the Department of Public Works that contractors have a responsibility to provide equal employment opportunity, if they wish to participate in City and County of Denver contracts. To the extent they have delegated the responsibility for some of their employment practices to a labor organization and, as a result, are prevented from meeting their obligations pursuant to Article III, Division 2, Chapter 28 of the Revised Municipal Code, such Contractors cannot be considered to be in compliance with Article III, Division 2, Chapter 28 of the Revised Municipal Code, or its implementing rules and regulations.

C. GENERAL REQUIREMENTS:

Contractors are responsible for informing their subcontractors in writing regardless of tier, as to their respective obligations. Whenever a Contractor subcontracts a portion of work in any trade covered by these Bid Conditions, it shall include these Bid Conditions in such subcontracts and each subcontractor shall be bound by these Bid Conditions to the full extent as if it were the prime contractor. The Contractor shall not, however, be held accountable for the failure of its subcontractors to fulfill their obligations under these Bid Conditions. However, the prime contractor shall give notice to the Director of any refusal or failure of any subcontractor to fulfill the obligations under these Bid Conditions. A subcontractor's failure to comply will be treated in the same manner as such failure by a prime contractor.

1. Contractors hereby agree to refrain from entering into any contract or contract modification subject to Article III, Division 2, Chapter 28 of the Revised Municipal Code with a contractor debarred from, or who is determined not to be a "responsive" bidder for the City and County of Denver contracts pursuant to the Ordinance.
2. The Contractor shall carry out such sanctions and penalties for violation of these Bid Conditions and the Equal Opportunity Clause including suspension, termination and cancellation of existing subcontracts and debarment from future contracts as may be ordered by the Manager pursuant to Article III, Division 2, Chapter 28 of the Revised Municipal Code and its implementing regulations.
3. Nothing herein is intended to relieve any contractor during the term of its contract from compliance with Article III, Division 2, Chapter 28 of the Revised Municipal Code, and the Equal Opportunity Clause of its contract with respect to matters not covered in these Bid Conditions.
4. Contractors must keep such records and file such reports relating to the provisions of these Bid Conditions as shall be required by the Office of Contract Compliance.
5. Requests for exemptions from these Bid Conditions must be made in writing, with justification, to the Manager of Public Works, 201 W. Colfax, Dept. 608, Denver, Colorado 80202, and shall be forwarded through and with the endorsement of the Director.

**CITY AND COUNTY OF DENVER
DEPARTMENT OF PUBLIC WORKS
ENGINEERING DIVISION**

**FEDERAL AID PROJECT NO. AQC M320-075
CITY OF DENVER CONTRACT NO. 201206603**

DENVER TRAFFIC IMPROVEMENT PROJECT 2012

CONTRACT

THIS CONTRACT AND AGREEMENT, made and entered into, by and between the City and County of Denver, a municipal corporation of the State of Colorado, hereinafter referred to as the "City," party of the first part, and

**Jacobs Investments LLC dba Colorado Boring Co.
3813 Canal Drive
Fort Collins, CO 80524**

hereinafter referred to as the "Contractor," party of the second part,

WITNESSETH, Commencing on **June 20, 2012**, and for at least three (3) days the City advertised that sealed bids would be received for furnishing all labor, tools, supplies, equipment, materials, and everything necessary and required for the following:

FEDERAL AID PROJECT NO. AQC M320-075 CITY OF DENVER CONTRACT NO. 201206603

WHEREAS, bids pursuant to said advertisement have been received by the Manager of Public Works, who has recommended that a Contract for said work be made and entered into with the above named Contractor who was the lowest, responsive, qualified bidder therefore, and

WHEREAS, said Contractor is now willing and able to perform all of said work in accordance with said advertisement and its bid.

NOW THEREFORE, in consideration of the compensation to be paid the Contractor, the mutual agreements hereinafter contained, and subject to the terms hereinafter stated, it is mutually agreed as follows:

1. CONTRACT DOCUMENTS

It is agreed by the parties hereto that the following list of documents, instruments, technical specifications, plans, drawings and other materials which are attached hereto and bound herewith, incorporated herein by reference or otherwise referenced in these documents constitute and shall be referred to either as the "Contract Documents" or the "Contract," and all of said documents, instruments, technical specifications, Plans, Drawings and other materials taken together as a whole constitute the Contract between the parties hereto, and they are as fully a part of this agreement as if they were set out verbatim and in full herein:

*Advertisement of Notice of Invitation for Bids
Instructions to Bidders
Bid Bond
Addenda (as applicable)
DBE Documents
Equal Employment Opportunity Provisions (Appendices A, B, E and F)
Bid Form
Commitment to DBE Participation
Contract Form
General Contract Conditions*

Special Contract Conditions
Performance and Payment Bond
Notice to Apparent Low Bidder
Notice to Proceed
Contractor's Certification of Payment Form
Final/Partial Lien Release Form
Certificate of Contract Release
Change Orders (as applicable)
Federal Requirements (as applicable)
Prevailing Wage Rate Schedule(s)
Technical Specifications
Contract Drawings
Accepted Shop Drawings

2. SCOPE OF WORK

The Contractor agrees to and shall furnish all labor, tools, supplies, equipment, materials and everything necessary for and required to do, perform and complete all of the Work described, drawn, set forth, shown and included in said Contract Documents.

3. TERMS OF PERFORMANCE

The Contractor agrees to undertake the performance of the Work under this Contract within ten (10) days after being notified to commence work by issuance of a Notice to Proceed in substantially the form contained herein from the Manager and agrees to fully complete said Work within **180 (One Hundred Eighty Days)** consecutive calendar days from the effective date of said Notice, plus such extension or extensions of time as may be granted in accordance with the provisions of the General Contract Conditions and any applicable Special Contract Conditions.

4. TERMS OF PAYMENT

The City agrees to pay the Contractor for the performance of all of the Work required under this Contract, and the Contractor agrees to accept as the Contractor's full and only compensation therefore, such sum or sums of money as may be proper in accordance with the price or prices set forth in the Contractor's Bid Form hereto attached and made a part hereof for **bid item numbers 202-00848 through 700-70589 (Thirty-Seven [37]) Total Bid Items, the total estimated cost thereof being Six Hundred Seventy-Five Thousand Twenty Dollars and No Cents (\$675,020.00).** Adjustments to said Contract Amount and payment of amounts due hereunder shall be made in accordance with the provisions of the General Contract Conditions and any applicable Special Contract Conditions.

5. NO DISCRIMINATION IN EMPLOYMENT

In connection with the performance of the Work under this Contract, the Contractor agrees not to refuse to hire, discharge, promote or demote, or to discriminate in matters of compensation against any person otherwise qualified, solely because of race, color, religion, national origin, gender, age, military status, sexual orientation, marital status, or physical or mental disability; and the Contractor further agrees to insert the foregoing provision in all subcontracts hereunder.

6. DBE AND EQUAL OPPORTUNITY REQUIREMENTS

The Contractor agrees to comply with all requirements of the City's Equal Employment Opportunity program and the Federal Disadvantaged Business Enterprise Participation program as set out in Article III, Division 2, Chapter 28 of the Denver Revised Municipal Code, and any rules, regulations and guidelines set forth hereunder for such programs. This compliance shall include the obligation to maintain throughout the term of the contract that level of DBE participation upon which the Contract was initially awarded, unless otherwise authorized by the law or any rules, regulations or guidelines.

7. WAGE RATE REQUIREMENTS

In performance of all Work hereunder, the Contractor agrees to comply with and be bound by all requirements and conditions of the City's Payment of Prevailing Wages Ordinance, Sections 20-76 through 20-79, D.R.M.C. and any determinations made by the City pursuant thereto.

8. APPLICABILITY OF LAWS

The Agreement between the Contractor and the City shall be deemed to have been made in the City and County of Denver, State of Colorado and shall be subject to, governed by, and interpreted and construed by or in accordance with the laws of the State of Colorado and the Charter, Revised Municipal Code, Rules, Regulations, Executive Orders and fiscal rules of the City. As such, the Contractor shall at all times comply with the provisions of the Charter, Revised Municipal Code, Rules, Regulations, Executive Orders and fiscal rules of the City, and those State of Colorado and Federal Laws, Rules and Regulations, which in any manner limit, control or apply to the actions or operations of the Contractor, any subcontractors, employees, agents or servants of the Contractor engaged in the Work or affecting the materials and equipment used in the performance of the Work, as the same may be, from time to time, promulgated, revised or amended. The Charter and Revised Municipal Code of the City and County of Denver, as the same may be amended from time to time, are hereby expressly incorporated into this Agreement as if fully set out herein by this reference.

9. APPROPRIATION

The amount of money which has been appropriated and encumbered for the purpose of this contract, to date, is equal to or in excess of the Contract Amount. The Manager, upon reasonable written request, will advise the Contractor in writing of the total amount of appropriated and encumbered funds which remain available for payment for all Work under the Contract.

The issuance of any change order or other form or order or directive by the City which would cause the aggregate payable under the contract to exceed the amount appropriated for the contract is expressly prohibited. In no event shall the issuance of any change order or other form of order or directive by the City be considered valid or binding if it requires additional compensable work to be performed, which work will cause the aggregate amount available under the Contract to exceed the amount appropriated and encumbered for this Contract, unless and until such time as the Contractor has been advised in writing by the Manager that a lawful appropriation, sufficient to cover the entire cost of such additional work, has been made.

It shall be the responsibility of the Contractor to verify that the amounts already appropriated for this Contract are sufficient to cover the entire cost of such work, and any work undertaken or performed in excess of the amount appropriated is undertaken or performed in violation of the terms of this contract, without the proper authorization for such work, and at the Contractor's own risk.

10. APPROVALS

In the event this Contract calls for the payment by the City of five hundred thousand dollars (\$500,000.00) or more, approval by the Board of Councilmen of the City and County of Denver, acting by ordinance, in accordance with Section 3.2.6 of the Charter of the City and County of Denver, is and shall be an express condition precedent to the lawful and binding execution and effect and performance of this contract.

11. ASSIGNMENT

The Contractor shall not assign any of its rights, benefits, obligations or duties under this Contract except upon the prior written consent and approval of the Manager City to such assignment.

12. DISPUTES RESOLUTION PROCESS

It is the express intention of the parties to this Contract that all disputes of any nature whatsoever regarding the Contract including, but not limited to, any claims for compensation or damages arising out of breach or default under this Contract, shall be resolved by administrative hearing pursuant to the provisions of Section 56-106, D.R.M.C. The Contractor expressly agrees that this dispute resolution process is the only dispute resolution mechanism that will be recognized by the parties for any claims put forward by the Contractor, notwithstanding any other claimed theory of entitlement on the part of the Contractor or its subcontractors or suppliers.

13. CONTRACT BINDING

It is agreed that this Contract shall be binding on and inure to the benefit of the parties hereto, their heirs, executors, administrators, assigns and successors.

14. PARAGRAPH HEADINGS

The captions and headings set forth herein are for convenience of reference only and shall not be construed so as to define or limit the terms and provisions hereof.

15. SEVERABILITY

It is understood and agreed by the parties hereto that, if any part, term, or provision of this Contract, except for the provisions of this Contract requiring prior appropriation and limiting the total amount to be paid by the City, is by the courts held to be illegal or in conflict with any law of the State of Colorado, the validity of the remaining portions or provisions shall not be affected, and the rights and obligations of the parties shall be construed and enforced as if the Contract did not contain the particular part, term or provision held to be invalid.

16. ELECTRONIC SIGNATURES AND ELECTRONIC RECORDS:

Contractor consents to the use of electronic signatures by the City. The Agreement, and any other documents requiring a signature hereunder, may be signed electronically by the City in the manner specified by the City. The Parties agree not to deny the legal effect or enforceability of the Agreement solely because it is in electronic form or because an electronic record was used in its formation. The Parties agree not to object to the admissibility of the Agreement in the form of an electronic record, or a paper copy of an electronic document, or a paper copy of a document bearing an electronic signature, on the ground that it is an electronic record or electronic signature or that it is not in its original form or is not an original.

Contract Control Number:

IN WITNESS WHEREOF, the parties have set their hands and affixed their seals at
Denver, Colorado as of

SEAL

CITY AND COUNTY OF DENVER

ATTEST:

By_____

APPROVED AS TO FORM:

REGISTERED AND COUNTERSIGNED:

By_____

By_____

By_____



IN WITNESS WHEREOF, the parties have executed this agreement and affixed their seals at Denver, Colorado as of the day first above written.

Contract Control Number: 201206603

Vendor Name: Jacobs Investments LLC, dba Colorado Boring Co.

By: _____

Name: _____

(please print)

Title: _____

(please print)

ATTEST: [if required]

By: _____

Name: _____

(please print)

Title: _____

(please print)



**CITY AND COUNTY OF DENVER
DEPARTMENT OF PUBLIC WORKS**

Construction Contract General Conditions

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CITY AND COUNTY OF DENVER
DEPARTMENT OF PUBLIC WORKS
ENGINEERING DIVISION

SPECIAL CONTRACT CONDITIONS

SC-1 CONSTRUCTION SPECIFICATIONS

Except as amended herein or in the attached Technical Specifications, all Work performed under the terms of this Contract shall be governed by the applicable provisions of the following latest editions:

City and County of Denver:

Standard Specifications for Construction, GENERAL CONTRACT CONDITIONS,
(The Index for which is bound herein and commonly referred to as the "Orange Book")
(1999 Edition) ****General Contract Conditions 1801 and 1802 concerning warranties and guarantees are hereby deleted in their entirety****

Transportation Standards and Details for the Engineering Division

City and County of Denver Traffic Standard Drawings

Wastewater Management Division

– *Standard Detail Drawings*

– *Storm Drainage and Sanitary Sewer Construction Detail and Technical Specifications*

Colorado Department of Transportation:

Standard Specifications for Road and Bridge Construction
(Sections 200 through 700 of the 2011 Edition)

Federal Highway Administration:

Manual on Uniform Traffic Control Devices for Streets & Highways (MUTCD)

Building & Fire Codes:

Building Code of the City and County of Denver
(International Building Code 2006 Series, City and County of Denver Amendments 2006)

National Fire Protection Association Standards

(As referenced in the Building Code of the City and County of Denver)

The aforementioned City and County of Denver documents are available for review at the Capital Projects Management Office, 201 W. Colfax Ave., Dept. 506, (5th floor), Denver, CO 80202. The *Standard Specifications for Construction, GENERAL CONTRACT CONDITIONS* are available at http://www.denvergov.org/dpw_contract_admin/ContractAdministration/ContractorReferenceDocuments/tabid/440535/Default.aspx. *Transportation Standards and Details for the Engineering Division* and the Wastewater Management Division – *Standard Detail Drawings*, are available at <http://www.denvergov.org>.

The “*Colorado Department of Transportation Standard Specifications for Road and Bridge Construction*” is available for review on CDOT’s website at <http://www.coloradodot.info/> and can be purchased from the Colorado Department of Transportation.

The *Manual on Uniform Traffic Control Devices for Streets & Highways* is available for review at the Federal Highway Administration Website at: www.fhwa.dot.gov, The FHWA website also contains purchasing information.

SC-2 CONSTRUCTION DOCUMENTS

The construction documents consist of Plans, Drawings and Technical Specifications as identified in the Index for Contract Drawings, the Index for Technical Specifications and any additional Plans attached hereto.

SC-3 ENGINEERING DIVISION / CITY ENGINEER

General Condition 206, TRANSPORTATION DIVISION, is modified as follows:

The Engineering Division is a unit of the Department of Public Works and is supervised by the City Engineer, who is subordinate to the Manager of Public Works. This Division is responsible for the planning, design, construction, operation and maintenance of all of the City's transportation facilities and the planning, design and construction of all of the City's wastewater facilities, except for the City's Municipal Airport System. All references to the Transportation Division or the Deputy Manager of Public Works for Transportation are deleted and replaced with references to the Engineering Division and City Engineer, respectively.

SC-4 CITY DELEGATION OF AUTHORITY

With reference to General Contract Condition 109, DEPUTY MANAGER, General Contract Condition 206, ENGINEERING DIVISION and General Contract Condition 214, CITY'S CONTRACT ADMINISTRATION LINE OF AUTHORITY, the Manager hereby designates the City Engineer (the "Director") as the City official responsible for those certain actions and decisions designated as the responsibility of the Deputy Manager under the General Conditions and delegates to the Director the authority necessary to undertake those responsibilities under this Contract. The Director shall have supervisory responsibility over the Project Manager. Additionally, Contractor questions concerning the Plans and Technical Specifications shall be directed to:

Denver Department of Public Works /Engineering Division,

Project Manager
City Project Manager
Tam Nguyen

Telephone

720-865-3156

SC-5 LIQUIDATED DAMAGES

Should the Contractor fail to complete all Work within the Contract Time allocated under the Contract Form at Paragraph 3, TERMS OF PERFORMANCE, the Contractor shall become liable to the City and County of Denver for liquidated damages, and not as a penalty, at the rate of **\$500.00** for each Day that the Contractor exceeds the time limits herein specified, all in accordance with provisions of General Contract Condition 602, LIQUIDATED DAMAGES; ADMINISTRATIVE COSTS; ACTUAL DAMAGES.

Representative hourly rates for the City administrative costs described in General Contract Condition 602.2 shall be as follows for this Project:

Project Manager	\$69 per hour
Project Engineer	\$63 per hour
Inspector	\$49 per hour
Surveying, if necessary	\$100 per hour

SC-6 SUBCONTRACTS

In accordance with General Contract Condition 501, SUBCONTRACTS no limit shall apply to that percentage of the Work which may be sublet providing that the subcontractors receive prior approval in accordance with General Contract Condition 502, SUBCONTRACTOR ACCEPTANCE.

SC-7 PAYMENTS TO CONTRACTORS

In accordance with General Contract Condition 902, PAYMENT PROCEDURE, the party(ies) responsible for review of all Pay Applications shall be:

<u>Agency/Firm</u>	<u>Name</u>	<u>Telephone</u>
Public Works/Transportation/City Engineer	Tam Nguyen	720-865-3156

In accordance with General Contract Condition 906, APPLICATIONS FOR PAYMENT, each Application submitted shall include the following:

1. The estimate of Work completed shall be based on the approved schedule of values or unit prices, as applicable, and the percent of the Work complete.
2. Each such estimate of Work completed shall specifically identify those DBE Subcontractors or Suppliers that the Contractor is utilizing on the Project pursuant to the requirements of 49 C.F.R., Part 23.
3. The Contractor shall also submit to the Auditor and other appropriate officials of the City in a timely fashion, information required by General Contract Condition 1004, REPORTING WAGES PAID.

In accordance with General Contract condition 907, RELEASES AND CONTRACTORS CERTIFICATION OF PAYMENT, Applications for Payment must be accompanied by completed Partial or Final Claim Release Form, as appropriate, from EACH subcontractor and supplier, AND the Contractors' Certification of Payment Form. The forms, Final/Partial Release and Certificate of Payment (Subcontractor/Supplier) and the Contractor's Certification of Payment, either of which must be used are attached hereto.

SC-8 RESERVED

SC-9 CONSTRUCTION INSPECTION BY THE CITY

General Condition 1701, AUTHORITY OF INSPECTORS, is modified as follows:

1701.1 Persons who are employees of the City or who are under contract to the City or the City as lessee will be assigned to inspect and test the Work. These persons may perform any tests and observe the Work to determine whether or not designs, materials used, manufacturing and construction processes and methods applied, and equipment installed satisfy the requirements of the drawings and specifications, accepted Shop Drawings, Product Data and Samples, and the General Contractor's warranties and guarantees. The General Contractor shall permit these inspectors unlimited access to the Work and provide means of safe access to the Work, which cost shall be included as a Cost of the Work without any increase to the Guaranteed Maximum Price. In addition, General Contractor shall provide whatever access and means of access are needed to off-site facilities used to store or manufacture materials and equipment to be incorporated into the Work and shall respond to any other reasonable request to further the inspector's ability to observe or complete any tests. Such inspections shall not relieve the General Contractor of any of its quality control responsibilities or any other obligations under the Contract. All inspections and all tests conducted by the City are for the convenience and benefit of the City. These inspections and tests do not constitute acceptance of the materials or Work tested or inspected, and the City may reject or accept any Work or materials at any time prior to the inspections pursuant to G.C. 2002, whether or not previous inspections or tests were conducted by the inspector or a City representative.

.2 The Building Inspection Division will perform building code compliance inspections for structures designed for human occupancy. It is the General Contractor's responsibility to schedule and obtain these inspections. If a code compliance inspection results in identification of a condition which will be at variance to the Contract Documents, the General Contractor shall immediately notify the Project Manager and confirm such notification with formal correspondence no later than forty-eight (48) hours after the occurrence.

.3 When any unit of government or political subdivision, utility or railroad corporation is to pay a portion of the cost of the Work, its respective representatives shall have the right to inspect the Work. This inspection shall not make any unit of government or political subdivision, utility or railroad corporation a party to the Contract, and shall not interfere with the rights of either party.

SC-10 DISPOSAL OF NON-HAZARDOUS WASTE AT DADS

In accordance with the Landfill Agreement made between the City and Waste Management of Colorado, Inc., bidders will be required to haul dedicated loads (non-hazardous entire loads of waste) to the Denver-Arapahoe Disposal Site ("DADS") for disposal. DADS is located at Highway 30 and Hampden Avenue in Arapahoe County, Colorado. The City will pay all fees associated with such disposal but the bidder shall be responsible for the costs of transporting the loads. Non-hazardous waste is defined as those substances and materials not defined or classified as hazardous by the Colorado Hazardous Waste Commission pursuant to C.R.S. §25-15-101(6), as amended from time to time, and includes construction debris, soil and asbestos. Bidders shall not use Gun Club Road between I-70 and Mississippi Avenue as a means of access to DADS.

SC-11 PROHIBITION ON USE OF CCA-TREATED WOOD PRODUCTS

The use of any wood products pressure-treated with chromated copper arsenate (CCA) is prohibited. Examples of CCA-treated wood products include wood used in play structures, decks, picnic tables, landscaping timbers, fencing, patios, walkways and boardwalks.

SC-12 DEBARRED SUBCONTRACTORS PROHIBITED

The Contractor is prohibited from hiring any subcontractor that is currently debarred by the City in accordance with section 20-77 of the Denver Revised Municipal Code.

SC-13 TERMINOLOGY

Terminology used in Colorado Department of Transportation (CDOT) Standards and Specifications and City and County of Denver (CCD) Standards and Specifications may differ but shall be considered interchangeable where appropriate. Examples are Department of Public Works (CCD) and Department (CDOT), Project Manager (CCD) and Engineer (CDOT), Traffic Maintenance Plan (CCD) and Traffic Control Plan (CDOT).

SC-14 TECHNICAL SPECIFICATIONS

Section 106 of the CDOT Standard Specifications is hereby incorporated into this contract except where conflicts exist between Section 106 and the General Contract Conditions or Special Contract Conditions. Where conflicts exist, the General Contract Conditions or Special Contract Conditions shall govern.

SC-15 MODIFICATION TO GENERAL CONTRACT CONDITION 405

General Contract Condition 405 is hereby revised for this project as follows:

G.C. 405.2 shall include the following:

Shop Drawings shall be submitted in accordance with Section 105.02 of the CDOT Standard Specifications. Any work performed by the Contractor prior to receipt of approved shop drawings is at the sole risk of the Contractor.

SC-16 MODIFICATION TO GENERAL CONTRACT CONDITION 809

General Contract Condition 809 is hereby revised for this project as follows:

Add G.C. 809.3 as follows:

.3 Fossils may be uncovered during excavation for the project. The Colorado Department of Transportation will furnish a paleontologist to monitor project excavations. The Contractor shall notify the Engineer at least five working days prior to the start of excavation operations to allow for scheduling of the monitor. The paleontologist, Mr. Steve Wallace, can be contacted at (303) 757-9632.

If fossils are encountered, they will be evaluated and, if deemed important, removed prior to further excavation. When directed, the Contractor shall excavate the site in such manner as to preserve the fossils uncovered and shall remove them as directed by the Engineer.

SC-17 FEDERAL REQUIREMENTS

This Project is funded, in whole or in part, by federal funding made available through the Federal Highway Administration ("FHWA") and administered by the Colorado Department of Transportation ("CDOT"). As such, performance under this contract is subject to certain "Federal Requirements" contained or referenced in Attachment A to this contract, attached hereto and incorporated herein by this reference. The Contractor shall thoroughly review and shall strictly comply with all Federal Requirements in performing its Work under this contract.

SC-18 ATTORNEY'S FEES

Colorado Revised Statute 38-26-107 requires that in the event any person or company files a verified statement of amounts due and unpaid in connection with a claim for labor and materials supplied on this project, the City shall withhold from payments to the Contractor sufficient funds to insure the payment of any such claims. Should the City and County of Denver be made a party to any lawsuit to enforce such unpaid claims or any lawsuit arising out of or relating to such withheld funds, the Contractor agrees to pay to the City its costs and a reasonable attorney's fee which cost shall be included as a Cost of the Work.

Because the City Attorney Staff does not bill the City for legal services on an hourly basis, the Contractor agrees a reasonable fee shall be computed at the rate of one hundred dollars per hour of City Attorney time.

SC-19 CONTRACT FORMS

In accordance with the terms and conditions of the Contract Documents, the City requires the use of certain form documents in complying with or satisfying various obligations, notifications and conditions in contracting with the City or performing Work hereunder. These form documents are referenced by title throughout the Contract Documents for mandatory use as directed. The following are the forms that shall be detached and utilized in accordance with the Contract Documents:

1. Performance and Payment Bond
2. Performance and Payment Bond Surety Authorization Letter (Sample)

The following are forms that will be issued by the City during construction:

1. Notice to Apparent Low Bidder (Sample)
2. Notice to Proceed (Sample)
3. Certificate of Contract Release (Sample)

SC 20: INSURANCE

General Condition 1601 is hereby deleted in its entirety and replaced with the following:

(1) **General Conditions:** Contractor agrees to secure, at or before the time of execution of this Agreement, the following insurance covering all operations, goods or services provided pursuant to this Agreement. Contractor shall keep the required insurance coverage in force at all times during the term of the Agreement, or any extension thereof, during any warranty period, and for three (3) years after termination of the Agreement. The required insurance shall be underwritten by an insurer licensed or authorized to do business in Colorado and rated by A.M. Best Company as "A-"VIII or better. Each policy shall contain a valid provision or endorsement requiring notification to the City in the event any of the required policies be canceled or non-renewed before the expiration date thereof. Such written notice shall be sent to the parties identified in the Notices section of this Agreement. Such notice shall reference the City contract number listed on the signature page of this Agreement. Said notice shall be sent thirty (30) days prior to such cancellation or non-renewal unless due to non-payment of premiums for which notice shall be sent ten (10) days prior. If such written notice is unavailable from the insurer, contractor shall provide written notice of cancellation, non-renewal and any reduction in coverage to the parties identified in the Notices section by certified mail, return receipt requested within three (3) business days of such notice by its insurer(s) and referencing the City's contract number. If any policy is in excess of a deductible or self-insured retention, the City must be notified by the Contractor. Contractor shall be responsible for the payment of any deductible or self-insured retention. The insurance coverages specified in this Agreement are the minimum requirements, and these requirements do not lessen or limit the liability of the Contractor. The Contractor shall maintain, at its own expense, any additional kinds or amounts of insurance that it may deem necessary to cover its obligations and liabilities under this Agreement.

(2) **Proof of Insurance:** Contractor shall provide a copy of this Agreement to its insurance agent or broker. Contractor may not commence services or work relating to the Agreement prior to placement of coverage. Contractor certifies that the certificate of insurance attached as part of the Contract Documents, preferably an ACORD certificate, complies with all insurance requirements of this Agreement. The City requests that the City's contract number be referenced on the Certificate. The City's acceptance of a certificate of insurance or other proof of insurance that does not comply with all insurance requirements set forth in this Agreement shall not act as a waiver of Contractor's breach of this Agreement or of any of the City's rights or remedies under this Agreement. The City's Risk Management Office may require additional proof of insurance, including but not limited to policies and endorsements.

(3) **Additional Insureds:** For Commercial General Liability and Auto Liability, Contractor and subcontractor's insurer(s) shall name the City and County of Denver, its elected and appointed officials, employees and volunteers as additional insured.

(4) **Waiver of Subrogation:** For all coverages, Contractor's insurer shall waive subrogation rights against the City.

(5) **Subcontractors and Subconsultants:** All subcontractors and subconsultants (including independent contractors, suppliers or other entities providing goods or services required by this Agreement) shall be subject to all of the requirements herein and shall procure and maintain the same coverages required of the Contractor. Contractor shall include all such subcontractors as additional insured under its policies (with the exception of Workers' Compensation) or shall ensure that all such subcontractors and subconsultants maintain the required coverages. Contractor agrees to provide proof of insurance for all such subcontractors and subconsultants upon request by the City.

(6) **Workers' Compensation/Employer's Liability Insurance:** Contractor shall maintain the coverage as required by statute for each work location and shall maintain Employer's Liability insurance with limits of \$100,000 per occurrence for each bodily injury claim, \$100,000 per occurrence for each bodily injury caused by disease claim, and \$500,000 aggregate for all bodily injuries caused by disease claims. Contractor expressly represents to the City, as a material representation upon which the City is relying in entering into this Agreement, that none of the Contractor's officers or employees who may be eligible under any statute or law to reject Workers' Compensation Insurance shall effect such rejection during any part of the term of this Agreement, and that any such rejections previously effected, have been revoked as of the date Contractor executes this Agreement.

(7) **Commercial General Liability:** Contractor shall maintain a Commercial General Liability insurance policy with limits of \$1,000,000 for each occurrence, \$1,000,000 for each personal and advertising injury claim, \$2,000,000 products and completed operations aggregate, and \$2,000,000 policy aggregate.

(8) **Business Automobile Liability:** Contractor shall maintain Business Automobile Liability with limits of \$1,000,000 combined single limit applicable to all owned, hired and non-owned vehicles used in performing services under this Agreement

(9) **Additional Provisions:**

- (a) For Commercial General Liability, the policies must provide the following:
 - (i) That this Agreement is an Insured Contract under the policy;
 - (ii) Defense costs in excess of policy limits;
 - (ii) A severability of interests, separation of insureds or cross liability provision; and
 - (iii) A severability of interests or separation of insureds provision (no insured vs. insured exclusion); and, a provision that coverage is primary and non-contributory with other coverage or self-insurance maintained by the City.
- (b) For claims-made coverage:
 - (i) The retroactive date must be on or before the contract date or the first date when any goods or services were provided to the City, whichever is earlier
- (c) Contractor shall advise the City in the event any general aggregate or other aggregate limits are reduced below the required per occurrence limits. At their own expense, and where such general aggregate or other aggregate limits have been reduced below the required per occurrence limit, the Contractor will procure such per occurrence limits and furnish a new certificate of insurance showing such coverage is in force.

SC-21 DEFENSE AND INDEMNIFICATION

General Condition 1602, INDEMNIFICATION, is modified to read in full as follows:

DEFENSE AND INDEMNIFICATION

- (a) To the fullest extent permitted by law, the Contractor hereby agrees to defend, indemnify, and hold harmless City, its appointed and elected officials, agents and employees against all liabilities, claims, judgments, suits or demands for damages to persons or property arising out of, resulting from, or related to the work performed under this Contract that are due to the negligence or fault of the Contractor or the Contractor's agents, representatives, subcontractors, or suppliers ("Claims"). This indemnity shall be interpreted in the broadest possible manner consistent with the applicable law to indemnify the City.

- (b) Contractor's duty to defend and indemnify City shall arise at the time written notice of the Claim is first provided to City regardless of whether suit has been filed and even if Contractor is not named as a Defendant.
- (c) Contractor will defend any and all Claims which may be brought or threatened against City and will pay on behalf of City any expenses incurred by reason of such Claims including, but not limited to, court costs and attorney fees incurred in defending and investigating such Claims or seeking to enforce this indemnity obligation. Such payments on behalf of City shall be in addition to any other legal remedies available to City and shall not be considered City's exclusive remedy.
- (d) Insurance coverage requirements specified in this Contract shall in no way lessen or limit the liability of the Contractor under the terms of this indemnification obligation. The Contractor shall obtain, at its own expense, any additional insurance that it deems necessary for the City's protection.
- (e) This defense and indemnification obligation shall survive the expiration or termination of this Contract.

SC-22 GREENPRINT DENVER REQUIREMENTS

In accordance with the City and County of Denver Executive Order 123: Greenprint Denver Office and Sustainability Policy (dated October 27, 2007), and the U.S. Green Building Council's Leadership in Energy and Environmental Design (LEED) program, Contractor shall, wherever possible, recycle construction and demolition waste, and install building materials that contain recycled content. Non-hazardous solid waste that is eligible for reuse or recycling is not subject to the DADS disposal requirement defined in SC-10. The Contractor shall recycle and/or reuse construction and demolition waste and implement sustainable development practices on construction projects in compliance with any Project Requirements of the Better Denver Program Sustainability Form that are included in the Contract Documents.

At the Project Pre-Construction Meeting, the Contractor shall provide a written summary of how the Contractor intends to meet any applicable Project Requirement, and the type of documentation to be provided. The Contractor shall maintain and keep current documentation of the materials recycled or reused, organized in accordance with any applicable Closeout Form for Contractors provided in the Contract Documents for the duration of the Project. A copy of the completed Closeout Form, the quantity tabulation, and all supporting documentation for materials reused or recycled shall be delivered to the Project Manager as a submittal requirement of Final Acceptance.

SC-23 CITY AUDITOR AND MANAGER OF FINANCE

Section 211, City Auditor, of the General Contract Conditions, 1999 Edition, is amended to read in its entirety as follows:

211 CITY AUDITOR AND MANAGER OF FINANCE

The City Auditor, an independent elected official, reviews certified payrolls for compliance with prevailing wage requirements before payment is made to a Contractor. The City's Manager of Finance pays the Contractor for Work approved under the Contract.

SC-24 NO EMPLOYMENT OF ILLEGAL ALIENS TO PERFORM WORK UNDER THE AGREEMENT:

a. This Agreement is subject to Division 5 of Article IV of Chapter 20 of the Denver Revised Municipal Code, and any amendments (the "Certification Ordinance").

b. The Contractor certifies that:

- (1) At the time of its execution of this Agreement, it does not knowingly employ or contract with an illegal alien who will perform work under this Agreement.
- (2) It will participate in the E-Verify Program, as defined in § 8-17.5-101(3.7), C.R.S., to confirm the employment eligibility of all employees who are newly hired for employment to perform work under this Agreement.

c. The Contractor also agrees and represents that:

- (1) It shall not knowingly employ or contract with an illegal alien to perform work under the Agreement.

- (2) It shall not enter into a contract with a subconsultant or subcontractor that fails to certify to the Contractor that it shall not knowingly employ or contract with an illegal alien to perform work under the Agreement.
- (3) It has confirmed the employment eligibility of all employees who are newly hired for employment to perform work under this Agreement, through participation in the E-Verify Program.
- (4) It is prohibited from using the E-Verify Program procedures to undertake pre-employment screening of job applicants while performing its obligations under the Agreement, and that otherwise requires the Contractor to comply with any and all federal requirements related to use of the E-Verify Program including, by way of example, all program requirements related to employee notification and preservation of employee rights.
- (5) If it obtains actual knowledge that a subconsultant or subcontractor performing work under the Agreement knowingly employs or contracts with an illegal alien, it will notify such subconsultant or subcontractor and the City within three (3) days. The Contractor will also then terminate such subconsultant or subcontractor if within three (3) days after such notice the subconsultant or subcontractor does not stop employing or contracting with the illegal alien, unless during such three-day period the subconsultant or subcontractor provides information to establish that the subconsultant or subcontractor has not knowingly employed or contracted with an illegal alien.
- (6) It will comply with any reasonable request made in the course of an investigation by the Colorado Department of Labor and Employment under authority of § 8-17.5-102(5), C.R.S., or the City Auditor, under authority of D.R.M.C. 20-90.3.

d. The Contractor is liable for any violations as provided in the Certification Ordinance. If Contractor violates any provision of this section or the Certification Ordinance, the City may terminate this Agreement for a breach of the Agreement. If the Agreement is so terminated, the Contractor shall be liable for actual and consequential damages to the City. Any such termination of a contract due to a violation of this section or the Certification Ordinance may also, at the discretion of the City, constitute grounds for disqualifying Contractor from submitting bids or proposals for future contracts with the City.

SC-25 RETAINAGE

Section 908.1, Retainage, of the General Contract Conditions, 1999 Edition, is amended to read in its entirety as follows:

908 Retainage

.1 The City shall deduct and retain a total of five percent (5%) from the total amount of approved applications for payment, including Change Orders. The City may also deduct in addition to retainage as stated above, the additional amount(s) of any and all outstanding claims pursuant to CRS §38-26-107 from each approved application for payment.

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**CITY AND COUNTY OF DENVER
DEPARTMENT OF PUBLIC WORKS**

Bond No. 34BCSZ8398

PERFORMANCE AND PAYMENT BOND

KNOW ALL MEN BY THESE PRESENTS, that we, the undersigned Jacobs Investments LLC dba Colorado Boring Company, a corporation organized and existing under and by virtue of the laws of the State of COLORADO, hereafter referred to as the "Contractor", and Hartford Fire Insurance Company, a corporation organized and existing under and by virtue of the laws of the State of CONNECTICUT, and authorized to transact business in the State of Colorado, as Surety, are held and firmly bound unto the CITY AND COUNTY OF DENVER, a municipal corporation of the State of Colorado, hereinafter referred to as the "City", in the penal sum of Six Hundred Seventy-Five Thousand Twenty Dollars and No Cents (\$675,020.00), lawful money of the United States of America, for the payment of which sum, well and truly to be made, we bind ourselves and our heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these presents;

THE CONDITION OF THE FOREGOING OBLIGATION IS SUCH THAT:

WHEREAS, the above bounden Contractor has entered into a written contract with the aforesaid City for furnishing all labor and tools, supplies, equipment, superintendence, materials and everything necessary for and required to do, perform and complete the construction of **CONTRACT NO. 201206603, FEDERAL PROJECT NO: AQC M320-075, DENVER TRAFFIC IMPROVEMENT PROJECT 2012**, Denver, Colorado, and has bound itself to complete the project within the time or times specified or pay liquidated damages, all as designated, defined and described in the said Contract and Conditions thereof, and in accordance with the Plans and Technical Specifications therefore, a copy of said Contract being made a part hereof;

NOW, THEREFORE, if the said Contractor shall and will, in all particulars well and truly and faithfully observe, perform and abide by each and every Covenant, Condition and part of said Contract, and the Conditions, Technical Specifications, Plans, and other Contract Documents thereto attached, or by reference made a part thereof and any alterations in and additions thereto, according to the true intent and meaning in such case, then this obligation shall be and become null and void; otherwise, it shall remain in full force and effect;

PROVIDED FURTHER, that if the said Contractor shall satisfy all claims and demands incurred by the Contractor in the performance of said Contract, and shall fully indemnify and save harmless the City from all damages, claims, demands, expense and charge of every kind (including claims of patent infringement) arising from any act, omission, or neglect of said Contractor, its agents, or employees with relation to said work; and shall fully reimburse and repay to the City all costs, damages, and expenses which it may incur in making good any default based upon the failure of the Contractor to fulfill its obligation to furnish maintenance, repairs or replacements for the full guarantee period provided in the Contract Documents, then this obligation shall be null and void; otherwise it shall remain in full force and effect;

PROVIDED FURTHER, that if said Contractor shall at all times promptly make payments of all amounts lawfully due to all persons supplying or furnishing it or its subcontractors with labor and materials, rental machinery, tools or equipment used or performed in the prosecution of work provided for in the above Contract and that if the Contractor will indemnify and save harmless the City for the extent of any and all payments in connection with the carrying out of such Contract, then this obligation shall be null and void; otherwise it shall remain in full force and effect;

PROVIDED FURTHER, that if the said Contractor fails to duly pay for any labor, materials, team hire, sustenance, provisions, provender, gasoline, lubricating oils, fuel oils, grease, coal, or any other supplies or materials used or consumed by said Contractor or its subcontractors in performance of the work contracted to be done, or fails to pay any person who supplies rental machinery, tools or equipment, all amounts due as the result of the use of such machinery, tools or equipment in the prosecution of the work, the Surety will pay the same in any amount not exceeding the amount of this obligation, together with interest as provided by law;

PROVIDED FURTHER, that the said Surety, for value received, hereby stipulates and agrees that no change, extension of time, alteration or addition to the terms of the Contract, or to contracts with others in connection with this project, or the work to be performed thereunder, or the Technical Specifications and Plans accompanying the same, shall in any way affect its obligation on this bond and it does hereby waive notice of any change, extension of time, alteration or addition to the terms of the Contract, or contracts, or to the work, or to the Technical Specifications and Plans.

IN WITNESS WHEREOF, said Contractor and said Surety have executed these presents as of this

21 day of August, 2012

Attest:

Secretary



Jacobs Investments LLC dba Colorado Boring Co.

Contractor

By:

President

Hartford Fire Insurance Co.

Surety

By:

Attorney-In-Fact Thomas Sauer

(Accompany this bond with Attorney-in-Fact's authority from the Surety to execute bond, certified to include the date of the bond).

APPROVED AS TO FORM:

Attorney for the ~~City and County of~~ Denver

By:

Assistant City Attorney

APPROVED FOR THE CITY AND COUNTY OF
DENVER

By:

MAYOR

By:

MANAGER OF PUBLIC WORKS

POWER OF ATTORNEY

Direct Inquiries/Claims to:

THE HARTFORD

BOND, T-4

690 ASYLUM AVENUE

HARTFORD, CONNECTICUT 06115

call: 888-266-3488 or fax: 860-757-5835

NOW ALL PERSONS BY THESE PRESENTS THAT:

Agency Code: 34-342944, 34-343684 & 34-343685

- | | |
|-------------------------------------|--|
| <input checked="" type="checkbox"/> | Hartford Fire Insurance Company, a corporation duly organized under the laws of the State of Connecticut |
| <input checked="" type="checkbox"/> | Hartford Casualty Insurance Company, a corporation duly organized under the laws of the State of Indiana |
| <input checked="" type="checkbox"/> | Hartford Accident and Indemnity Company, a corporation duly organized under the laws of the State of Connecticut |
| <input type="checkbox"/> | Hartford Underwriters Insurance Company, a corporation duly organized under the laws of the State of Connecticut |
| <input type="checkbox"/> | Twin City Fire Insurance Company, a corporation duly organized under the laws of the State of Indiana |
| <input type="checkbox"/> | Hartford Insurance Company of Illinois, a corporation duly organized under the laws of the State of Illinois |
| <input type="checkbox"/> | Hartford Insurance Company of the Midwest, a corporation duly organized under the laws of the State of Indiana |
| <input type="checkbox"/> | Hartford Insurance Company of the Southeast, a corporation duly organized under the laws of the State of Florida |

having their home office in Hartford, Connecticut, (hereinafter collectively referred to as the "Companies") do hereby make, constitute and appoint, **up to the amount of unlimited:**

Thomas Sauer, Michael Flaherty, Sharon A. Leonard, Alberto Paez
of
Littleton, CO

their true and lawful Attorney(s)-in-Fact, each in their separate capacity if more than one is named above, to sign its name as surety(ies) only as delineated above by ☒, and to execute, seal and acknowledge any and all bonds, undertakings, contracts and other written instruments in the nature thereof, on behalf of the Companies in their business of guaranteeing the fidelity of persons, guaranteeing the performance of contracts and executing or guaranteeing bonds and undertakings required or permitted in any actions or proceedings allowed by law.

In Witness Whereof, and as authorized by a Resolution of the Board of Directors of the Companies on July 21, 2003 the Companies have caused these presents to be signed by its Assistant Vice President and its corporate seals to be hereto affixed, duly attested by its Assistant Secretary. Further, pursuant to Resolution of the Board of Directors of the Companies, the Companies hereby unambiguously affirm that they are and will be bound by any mechanically applied signatures applied to this Power of Attorney.



Paul A. Bergenholtz

Paul A. Bergenholtz, Assistant Secretary

David T. Akers

David T. Akers, Assistant Vice President

STATE OF CONNECTICUT

} ss. Hartford

COUNTY OF HARTFORD

On this 4th day of August, 2004, before me personally came David T. Akers, to me known, who being by me duly sworn, did depose and say: that he resides in the County of Hampden, Commonwealth of Massachusetts; that he is the Assistant Vice President of the Companies, the corporations described in and which executed the above instrument; that he knows the seals of the said corporations; that the seals affixed to the said instrument are such corporate seals; that they were so affixed by authority of the Boards of Directors of said corporations and that he signed his name thereto by like authority.



CERTIFICATE

Scott E. Paseka

Scott E. Paseka
Notary Public

My Commission Expires October 31, 2007

I, the undersigned, Assistant Vice President of the Companies, DO HEREBY CERTIFY that the above and foregoing is a true and correct copy of the Power of Attorney executed by said Companies, which is still in full force effective as of

Signed and sealed at the City of Hartford.



Gary W. Stumper

Gary W. Stumper, Assistant Vice President



Tom Sauer Bond Agency, LLC

Performance and Payment Bond
Surety Authorization

8/20/2012

Fax Number: 720-913-3183
Telephone Number: 720-913-3267

Assistant City Attorney
201 W. Colfax Avenue, Dept. 1207
Denver Colorado 80202

Re: Jacobs Investments LLC dba Colorado Boring Co.
3813 Canal Drive Fort Collins CO 80524

Contract No: 201206603
AQC M320-075
Denver Traffic Improvement Project 2012
Contract Amount: \$675,020.00
Performance and Payment Bond No: 34BCSZZ8398

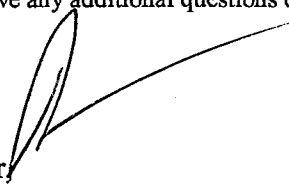
Dear Assistant City Attorney,

The Performance and Payment Bonds covering the above captioned project were executed by this agency, through Hartford Fire Insurance Company, on August 22, 2012.

We hereby authorize the city and County of Denver, Department of Public Works, to date all bonds and powers of attorney to coincide with the date of the contract.

If you should have any additional questions or concerns, please don't hesitate to give me a call at 303-738-3856.

Sincerely,



Thomas Sauer
Hartford Fire Insurance Company
Attorney in Fact

PRIVACY NOTICE

This message is intended only for the use of the individual or entity to which this is addressed and may contain information that is privileged, confidential, or exempt from disclosure under applicable Federal or State Law. If the render of this message is not the intended recipient or the employee or agent responsible for delivering the message to the intended recipient, you are hereby notified that any dissemination, distribution, or reproduction of this communication is prohibited.

5619 South Curtice Street • Littleton, Colorado 80120
Direct Line 303-738-3856 / Toll Free 866-288-3856
Fax Line 303-738-9184
Tom@tsballc.com - Al@tsballc.com - Shari@tsballc.com



CERTIFICATE OF LIABILITY INSURANCE

OP ID: KH

DATE (MM/DD/YYYY)

08/21/12

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

IMPORTANT: If the certificate holder is an ADDITIONAL INSURED, the policy(ies) must be endorsed. If SUBROGATION IS WAIVED, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).

PRODUCER PFS Insurance Group - JT 4848 Thompson Pkwy, Ste 200 Johnstown, CO 80534 Tad Borrett		970-635-9400 970-635-9401	CONTACT NAME: PHONE (A/C, No. Ext): E-MAIL ADDRESS: PRODUCER CUSTOMER ID #: COBOR-1	
INSURED Jacobs Investments, LLC Colorado Boring, LLC Northern Lights Leasing, LLC 3813 Canal Drive Fort Collins, CO 80524		INSURER(S) AFFORDING COVERAGE		NAIC #
		INSURER A: Travelers Insurance		25615
		INSURER B: Pinnacol Assurance		41190
		INSURER C:		
		INSURER D:		
		INSURER E:		
		INSURER F:		

COVERAGES**CERTIFICATE NUMBER:****REVISION NUMBER:**

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

INSR LTR	TYPE OF INSURANCE	ADDL INSR	SUBR WVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS
A	<input checked="" type="checkbox"/> GENERAL LIABILITY			0075R25A	08/01/12	08/01/13	EACH OCCURRENCE \$ 1,000,000
	<input checked="" type="checkbox"/> COMMERCIAL GENERAL LIABILITY						DAMAGE TO RENTED PREMISES (Ea occurrence) \$ 300,000
	<input type="checkbox"/> CLAIMS-MADE <input checked="" type="checkbox"/> OCCUR			0075R25A	08/01/12	08/01/13	MED EXP (Any one person) \$ 10,000
	<input checked="" type="checkbox"/> Limited Pollution						PERSONAL & ADV INJURY \$ 1,000,000
GEN'L AGGREGATE LIMIT APPLIES PER:							GENERAL AGGREGATE \$ 2,000,000
<input type="checkbox"/> POLICY <input checked="" type="checkbox"/> PRO-JECT <input type="checkbox"/> LOC							PRODUCTS - COMP/OP AGG \$ 2,000,000
A	<input checked="" type="checkbox"/> AUTOMOBILE LIABILITY			0075R25A	08/01/12	08/01/13	COMBINED SINGLE LIMIT (Ea accident) \$ 1,000,000
	<input checked="" type="checkbox"/> ANY AUTO						BODILY INJURY (Per person) \$
	<input type="checkbox"/> ALL OWNED AUTOS						BODILY INJURY (Per accident) \$
	<input type="checkbox"/> SCHEDULED AUTOS						PROPERTY DAMAGE (Per accident) \$
<input checked="" type="checkbox"/> HIRED AUTOS							\$
<input checked="" type="checkbox"/> NON-OWNED AUTOS							\$
A	<input checked="" type="checkbox"/> UMBRELLA LIAB <input checked="" type="checkbox"/> OCCUR			0075R25A	08/01/12	08/01/13	EACH OCCURRENCE \$ 2,000,000
	<input type="checkbox"/> EXCESS LIAB <input type="checkbox"/> CLAIMS-MADE						AGGREGATE \$ 2,000,000
	<input type="checkbox"/> DEDUCTIBLE						\$
	<input checked="" type="checkbox"/> RETENTION \$ 10,000						\$
B	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY			4021687	08/01/12	08/01/13	<input checked="" type="checkbox"/> WC STATU-TORY LIMITS <input checked="" type="checkbox"/> OTH-ER
	ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? (Mandatory in NH)	Y/N	N/A	BLANKET WAIVER OF SUBROGA	08/01/12	08/01/13	E.L. EACH ACCIDENT \$ 1,000,000
	If yes, describe under DESCRIPTION OF OPERATIONS below						E.L. DISEASE - EA EMPLOYEE \$ 1,000,000
							E.L. DISEASE - POLICY LIMIT \$ 1,000,000
A	Inland Marine			8137P008	08/01/12	08/01/13	Deductibl 1,000 Scheduled 1,112,014

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (Attach ACORD 101, Additional Remarks Schedule, if more space is required)
Contract No. 201206603, The City and County of Denver, its elected and appointed officials, employees and volunteers are named as additional insured with regards to the commercial general liability policy and the business auto liability policy.

CERTIFICATE HOLDER**CANCELLATION**

CITYOFD City and County of Denver Department of Public Works 201 West Colfax Dept #611 Denver, CO 80202	SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS. AUTHORIZED REPRESENTATIVE
--	---

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Department of Public Works
Engineering Department

201 W. Colfax Avenue
Denver, CO 80202
www.denvergov.org/PublicWorks

NOTICE OF APPARENT LOW BIDDER
(SAMPLE)

Date

To:

Gentlemen:

The MANAGER OF PUBLIC WORKS has considered the Bids submitted on July 20, 2012 for work to be done and materials to be furnished in and for:

PROJECT No. 201206603 DENVER TRAFFIC IMPROVEMENT PROJECT 2012

as set forth in detail in the Contract Documents for the City and County of Denver, Colorado. It appears that your Bid is fair, equitable, and to the best interest of the City and County; therefore, said Bid is hereby accepted at the bid price contained herein, subject to execution of the Contract Documents and your furnishing the items specified below, the total cost thereof (Contract Amount Written), (Contract Amount Numeric).

It will be necessary for you to appear forthwith at the office of the Department of Public Works, Engineering Division, Project Management Office, 201 W. Colfax Ave., Dept 506, Denver, Colorado 80202, to receive the said Contract Documents, execute the same and return them to the Department of Public Works, Engineering Division, Project Management Office within the time limit set forth in the Bid Proposal.

In accordance with the requirements set forth in the Contract Documents, you are required to furnish the following documents:

- a. One original plus four copies of the Power of Attorney relative to Performance and/or Payment Bond; and,
- b. One copy of listing of subcontractors showing items of work each sub-contractor will perform and the percent of total work.
- c. Accurate ACORD Certificate of Insurance

All construction Contracts made and entered into by the City and County of Denver are subject to Affirmative Action and Equal Opportunity Rules and Regulations, as adopted by the Manager of Public Works, and each contract requiring payment by the City of one-half million dollars (\$500,000.00) or more shall first be approved by the City Council acting by ordinance and in accordance with Section 3.2.6 of the Charter of the City and County of Denver.

Prior to issuance of Notice to Proceed, all Equal Opportunity requirements must be completed. Additional information may be obtained by contacting the Director of Contract Compliance at (720-913-1700).



NOTICE OF APPARENT LOW BIDDER
(SAMPLE)

PROJECT NO. 201206603
Page 2

The Bid Security submitted with your Bid, will be returned upon execution of the Contract and furnishing of the Performance Bond. In the event you should fail to execute the Contract and to furnish the performance Bond within the time limit specified, said Bid Security will be retained by the City and County of Denver as liquidated damages, and not as a penalty for the delay and extra work caused thereby.

Dated at Denver, Colorado this _____ day of _____ 20____.

CITY AND COUNTY OF DENVER

By _____
Manager of Public Works



Department of Public Works
Engineering Department

201 W. Colfax Avenue
Denver, CO 80202
www.denvergov.org/PublicWorks

Current Date

(S A M P L E)

Name
Company
Street
City/State/Zip

**FEDERAL AID PROJECT NO. AQC M320-075
CITY OF DENVER CONTRACT NO. 201206603, DENVER TRAFFIC IMPROVEMENT PROJECT
2012**

NOTICE TO PROCEED

In accordance with General Contract Condition 302 of the Standard Specifications for Construction, General Contract Conditions, 1999 Edition, you are hereby authorized and directed to proceed on **201206603 DENVER TRAFFIC IMPROVEMENT PROJECT 2012** with the work of constructing contract number, as set forth in detail in the contract documents for the City and County of Denver.

With a contract time of 180 (One Hundred Eighty Days) calendar days, the project must be complete on or before

If you have not already done so, you must submit your construction schedule, in accordance with General Contract Condition 306.2.B, to the Project Manager within 10 days. Additionally, you must submit your tax exempt certificate, and copies of your subcontractors' certificates, in accordance with General Contract Condition 322.5, to the Project Manager as soon as possible. Failure to submit these certificates will delay processing of payment applications.

Very truly yours,

Lesley B. Thomas
City Engineer

By:



**FINAL/PARTIAL RELEASE AND CERTIFICATE OF PAYMENT
(SUBCONTRACTOR/SUPPLIER)**

(CITY PROJECT NAME AND NUMBER)

Date: _____, 20____.

(NAME OF CONTRACTOR)

Subcontract #: _____

(NAME OF SUBCONTRACTOR/SUPPLIER)

Subcontract Value: \$_____.

Last Progress Payment: \$_____.

Date: _____

Total Paid to Date: \$_____.

Date of Last Work: _____.

Check Applicable Box:

[] DBE

The Undersigned hereby certifies that all costs, charges or expenses incurred by the undersigned or on behalf of the undersigned for any work, labor or services performed and for any materials, supplies or equipment provided on the above referenced Project or used in connection with the above referenced Subcontract (the "Work Effort") have been duly paid in full.

The Undersigned further certifies that each of the undersigned's subcontractors and suppliers that incurred or caused to be incurred, on their behalf, costs, charges or expenses in connection with the undersigned's Work Effort on the above referenced Project have been duly paid in full.

In consideration of \$_____ representing the Last Progress Payment referenced above and in further consideration of the Total Paid to Date, also referenced above, and other good and valuable consideration received and accepted by the undersigned this _____ day of _____, 20____, the Undersigned hereby releases and discharges the City and County of Denver (the "City"), the above referenced City Project, the City's premises and property and the above referenced Contractor from all claims, liens, rights, liabilities, demands and obligations, whether known or unknown, of every nature arising out of or in connection with the performance of the work effort.

As additional consideration for the payments referenced above, the undersigned agrees to defend, indemnify and hold harmless the City, its officers, employees, agents and assigns and the above-referenced Contractor from and against all costs, losses, damages, causes of action, judgments under the subcontract and expenses arising out of or in connection with any claim or claims against the City or the Contractor which arise out of the Undersigned's performance of the Work Effort and which may be asserted by the Undersigned or any of its suppliers or subcontractors of any tier or any of their representatives, officers, agents, or employees.

It is acknowledged that this release is for the benefit of and may be relied upon by the City and the referenced Contractor.

The foregoing shall not relieve the undersigned of any obligation under the provisions of the Undersigned's subcontract, as the subcontract may have been amended, which by their nature survive completion of the Undersigned's work effort including, without limitation, warranties, guarantees, insurance requirements and indemnities.

STATE OF COLORADO) s.
CITY OF _____)

(Name of Subcontractor)

Signed and sworn before me this
day of _____, 20____.

By: _____

Notary Public/Commissioner of Oaths
My Commission Expires

Title: _____



Instructions for Completing the Contractor/Consultant Certification of Payment Form

Office of Economic Development
Division of Small Business Opportunity
Compliance Unit
201 W. Colfax Ave., Dept. 907
Denver, CO 80202
Phone: 720-913-1999
Fax: 720-913-1803
dsbo@denvergov.org

Note: The attached Contractor/Consultant Certification of Payment form must be completed by the Contractor/Subconsultant and all subcontractors/subconsultant or suppliers used on the project at any tier and submitted with each pay application. The Contractor/Consultant is responsible for the accuracy of all information provided and is required to have each subcontractor/subconsultant or supplier fill out the appropriate forms. Please be sure to complete all information requested at the top of the form, including the name of the person who prepared this form.

If you reproduce this form, you must continue to list each of the originally listed firms, as well as any additional firms used during the performance period of the contract.

If you have any questions, please call the Compliance Unit of DSBO at 720.913.1999.

Instructions for Completing the Contractor/Consultant Certification of Payment Form, per Column

Contractor/Subcontractor or Subconsultant/Supplier Name: In the space provided, list all subcontractors/subconsultants and suppliers used on the project. For all M/W/S/DBEs use the exact name listed in the DSBO Directory.

M/W/S/DBE/NON: For each name listed, indicate whether the entity is a certified M/W/S/DBE.

Column A: Provide the contract amount, as listed at bid time, for the Contractor/Consultant and each subcontractor/subconsultant or supplier.

Column B: Provide the percentage portion of each listed subcontractor/subconsultant or supplier contract amount (Column A) compared to the total original contract amount in (I).

Column C: Provide the original contract amount (Column A) for each subcontractor/subconsultant or supplier plus any awarded alternate and/or change order amounts applicable. If an alternate/change order does not apply to the listed firm, re-enter the original contract amount (Column A).

Column D: Provide the percent portion of each listed subcontractor/subconsultant or supplier contract amount (Column C) compare to the current total contract amount in (II).

Column E: Provide the amount requested for work performed or materials supplied by each listed subcontractor/subconsultant or supplier for this pay application. The sum of the items in this column should equal the estimated amount requested for this pay application.

Column F: Provide the amount paid to each subcontractor/subconsultant or supplier on the previous pay application. Enter the previous pay application number in the column heading. The sum of the items listed in this column should equal the warrant amount paid to the Contractor/Consultant on the previous pay application. The amounts paid to the subcontractor/subcontractor or suppliers should be the actual amount of each check issued.

Column G: Provide the net paid to date for the Contractor/Subconsultant and each listed subcontractor/subconsultant or supplier.

Column H: Provide the percent portion of the net paid to date (Column G) for the Contractor/Subconsultant and each listed subcontractor/subconsultant or supplier of the current total contract amount in (II).

COMP-REF-031

Rev 031211 JG



DENVER
THE MILE HIGH CITY

Department of Public Works
Engineering Department

201 W. Colfax Avenue
Denver, CO 80202
www.denvergov.org/PublicWorks

Date

Name

Company

Street

City/State/Zip

(SAMPLE)

RE: Certificate of Contract Release for

FEDERAL AID PROJECT NO. AQC M320-075

CITY OF DENVER CONTRACT NO. 201206603, DENVER TRAFFIC IMPROVEMENT PROJECT 2012

Certificate of Contract Release

Received this date of the City and County of Denver, as full and final payment of the cost of the improvements provided for in the foregoing contract, _____ dollars and cents (\$ _____), in cash, being the remainder of the full amount accruing to the undersigned by virtue of said contract; said cash also covering and including full payment for the cost of all extra work and material furnished by the undersigned in the construction of said improvements, and all incidentals thereto, and the undersigned hereby releases said City and County of Denver from any and all claims or demands whatsoever, regardless of how denominated, growing out of said contract.

And these presents are to certify that all persons performing work upon or furnishing materials for said improvements under the foregoing contract have been paid in full and this payment to be made is the last or final payment.

Contractor's Signature

Date Signed

If there are any questions, please contact me by telephone at (720) 913-XXXX. Please return this document via facsimile at (720) 913-1805 and mail to original to the above address.



for City Services
Denver gets it done!

Project No. 201206603
Denver TIP 2012

BDP -62

June 20, 2012

Required Contract Provisions Federal-Aid Construction Contracts

General

- II. Nondiscrimination
- III. Nonsegregated Facilities
- IV. Payment of Predetermined Minimum Wage
- V. Statements and Payrolls
- VI. Record of Materials, Supplies, and Labor
- VII. Subletting or Assigning the Contract
- VIII. Safety: Accident Prevention
- IX. False Statements Concerning Highway Projects
- X. Implementation of Clean Air Act and Federal Water Pollution Control Act
- XI. Certification Regarding Debarment, Suspension Ineligibility, and Voluntary Exclusion
- XII. Certification Regarding Use of Contract Funds for Lobbying

Attachments

A. Employment Preference for Appalachian Contracts (included in Appalachian contracts only)

I. GENERAL

1. These contract provisions shall apply to all work performed on the contract by the contractor's own organization and with the assistance of workers under the contractor's immediate superintendence and to all work performed on the contract by piecework, station work, or by subcontract.
2. Except as otherwise provided for in each section, the contractor shall insert in each subcontract all of the stipulations contained in these Required Contract Provisions, and further require their inclusion in any lower tier subcontract or purchase order that may in turn be made. The Required Contract Provisions shall not be incorporated by reference in any case. The prime contractor shall be responsible for compliance by any subcontractor or lower tier subcontractor with these Required Contract Provisions.
3. A breach of any of the stipulations contained in these Required Contract Provisions shall be sufficient grounds for termination of the contract.
4. A breach of the following clauses of the Required Contract Provisions may also be grounds for debarment as provided in 29 CFR 5.12:
 - Section I, paragraph 2;
 - Section IV, paragraphs 1, 2, 3, 4, and 7;
 - Section V, paragraphs 1 and 2a through 2g.
5. Disputes arising out of the labor standards provisions of Section IV (except paragraph 5) and Section V of these Required Contract Provisions shall not be subject to the general disputes clause of this contract. Such disputes shall be resolved in accordance with the procedures of the U.S. Department of Labor (DOL) as set forth in 29 CFR 5, 6, and 7. Disputes within the meaning of this clause include disputes between the contractor (or any of its subcontractors) and the contracting agency, the DOL, or the contractor's employees or their representatives.
6. **Selection of Labor:** During the performance of this contract, the contractor shall not:
 - a. discriminate against labor from any other State, possession, or territory of the United States (except for employment preference for Appalachian contracts, when applicable, as specified in Attachment A), or
 - b. employ convict labor for any purpose within the limits of the project unless it is labor performed by convicts who are on parole, supervised release, or probation.

II. **NONDISCRIMINATION**

(Applicable to all Federal-aid construction contracts and to all related subcontracts of \$10,000 or more.)

1. **Equal Employment Opportunity:** Equal employment opportunity (EEO) requirements not to discriminate and to take affirmative action to assure equal opportunity as set forth under laws, executive orders, rules, regulations (28 CFR 35, 29 CFR 1630 and 41 CFR 60) and orders of the Secretary of Labor as modified by the provisions prescribed herein, and imposed pursuant to 23 U.S.C. 140 shall constitute the EEO and specific affirmative action standards for the contractor's project activities under this contract. The Equal Opportunity Construction Contract Specifications set forth under 41 CFR 60-4.3 and the provisions of the American Disabilities Act of 1990 (42 U.S.C. 12101 et seq.) set forth under 28 CFR 35 and 29 CFR 1630 are incorporated by reference in this contract. In the execution of this contract, the contractor agrees to comply with the following minimum specific requirement activities of EEO:
 - a. The contractor will work with the State highway agency (SHA) and the Federal Government in carrying out EEO obligations and in their review of his/her activities under the contract.
 - b. The contractor will accept as his operating policy the following statement:

"It is the policy of this Company to assure that applicants are employed, and that employees are treated during employment, without regard to their race, religion, sex, color, national origin, age or disability. Such action shall include: employment, upgrading, demotion, or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship, preapprenticeship, and/or on-the-job training."
2. **EEO Officer:** The contractor will designate and make known to the SHA contracting officers an EEO Officer who will have the responsibility for and must be capable of effectively administering and promoting an active contractor program of EEO and who must be assigned adequate authority and responsibility to do so.
3. **Dissemination of Policy:** All members of the contractor's staff who are authorized to hire, supervise, promote, and discharge employees, or who recommend such action, or who are substantially involved in such action, will be made fully cognizant of, and will implement, the contractor's EEO policy and contractual responsibilities to provide EEO in each grade and classification of employment. To ensure that the above agreement will be met, the following actions will be taken as a minimum:
 - a. Periodic meetings of supervisory and personnel office employees will be conducted before the start of work and then not less often than once every six months, at which time the contractor's EEO policy and its implementation will be reviewed and explained. The meetings will be conducted by the EEO Officer.
 - b. All new supervisory or personnel office employees will be given a thorough indoctrination by the EEO Officer, covering all major aspects of the contractor's EEO obligations within thirty days following their reporting for duty with the contractor.
 - c. All personnel who are engaged in direct recruitment for the project will be instructed by the EEO Officer in the contractor's procedures for locating and hiring minority group employees.
 - d. Notices and posters setting forth the contractor's EEO policy will be placed in areas readily accessible to employees, applicants for employment and potential employees.
 - e. The contractor's EEO policy and the procedures to implement such policy will be brought to the attention of employees by means of meetings, employee handbooks, or other appropriate means.
4. **Recruitment:** When advertising for employees, the contractor will include in all advertisements for employees the notation: "An Equal Opportunity Employer." All such

advertisements will be placed in publications having a large circulation among minority groups in the area from which the project work force would normally be derived.

- a. The contractor will, unless precluded by a valid bargaining agreement, conduct systematic and direct recruitment through public and private employee referral sources likely to yield qualified minority group applicants. To meet this requirement, the contractor will identify sources of potential minority group employees, and establish with such identified sources procedures whereby minority group applicants may be referred to the contractor for employment consideration.
 - b. In the event the contractor has a valid bargaining agreement providing for exclusive hiring hall referrals, he is expected to observe the provisions of that agreement to the extent that the system permits the contractor's compliance with EEO contract provisions. (The DOL has held that where implementation of such agreements have the effect of discriminating against minorities or women, or obligates the contractor to do the same, such implementation violates Executive Order 11246, as amended.)
 - c. The contractor will encourage his present employees to refer minority group applicants for employment. Information and procedures with regard to referring minority group applicants will be discussed with employees.
5. **Personnel Actions:** Wages, working conditions, and employee benefits shall be established and administered, and personnel actions of every type, including hiring, upgrading, promotion, transfer, demotion, layoff, and termination, shall be taken without regard to race, color, religion, sex, national origin, age or disability. The following procedures shall be followed:
 - a. The contractor will conduct periodic inspections of project sites to insure that working conditions and employee facilities do not indicate discriminatory treatment of project site personnel.
 - b. The contractor will periodically evaluate the spread of wages paid within each classification to determine any evidence of discriminatory wage practices.
 - c. The contractor will periodically review selected personnel actions in depth to determine whether there is evidence of discrimination. Where evidence is found, the contractor will promptly take corrective action. If the review indicates that the discrimination may extend beyond the actions reviewed, such corrective action shall include all affected persons.
 - d. The contractor will promptly investigate all complaints of alleged discrimination made to the contractor in connection with his obligations under this contract, will attempt to resolve such complaints, and will take appropriate corrective action within a reasonable time. If the investigation indicates that the discrimination may affect persons other than the complainant, such corrective action shall include such other persons. Upon completion of each investigation, the contractor will inform every complainant of all of his avenues of appeal.
6. **Training and Promotion:**
 - a. The contractor will assist in locating, qualifying, and increasing the skills of minority group and women employees, and applicants for employment.
 - b. Consistent with the contractor's work force requirements and as permissible under Federal and State regulations, the contractor shall make full use of training programs, i.e., apprenticeship, and on-the-job training programs for the geographical area of contract performance. Where feasible, 25 percent of apprentices or trainees in each occupation shall be in their first year of apprenticeship or training. In the event a special provision for training is provided under this contract, this subparagraph will be superseded as indicated in the special provision.

- c. The contractor will advise employees and applicants for employment of available training programs and entrance requirements for each.
 - d. The contractor will periodically review the training and promotion potential of minority group and women employees and will encourage eligible employees to apply for such training and promotion.
- 7. Unions:** If the contractor relies in whole or in part upon unions as a source of employees, the contractor will use his/her best efforts to obtain the cooperation of such unions to increase opportunities for minority groups and women within the unions, and to effect referrals by such unions of minority and female employees. Actions by the contractor either directly or through a contractor's association acting as agent will include the procedures set forth below:
- a. The contractor will use best efforts to develop, in cooperation with the unions, joint training programs aimed toward qualifying more minority group members and women for membership in the unions and increasing the skills of minority group employees and women so that they may qualify for higher paying employment.
 - b. The contractor will use best efforts to incorporate an EEO clause into each union agreement to the end that such union will be contractually bound to refer applicants without regard to their race, color, religion, sex, national origin, age or disability.
 - c. The contractor is to obtain information as to the referral practices and policies of the labor union except that to the extent such information is within the exclusive possession of the labor union and such labor union refuses to furnish such information to the contractor, the contractor shall so certify to the SHA and shall set forth what efforts have been made to obtain such information.
 - d. In the event the union is unable to provide the contractor with a reasonable flow of minority and women referrals within the time limit set forth in the collective bargaining agreement, the contractor will, through independent recruitment efforts, fill the employment vacancies without regard to race, color, religion, sex, national origin, age or disability; making full efforts to obtain qualified and/or qualifiable minority group persons and women. (The DOL has held that it shall be no excuse that the union with which the contractor has a collective bargaining agreement providing for exclusive referral failed to refer minority employees.) In the event the union referral practice prevents the contractor from meeting the obligations pursuant to Executive Order 11246, as amended, and these special provisions, such contractor shall immediately notify the SHA.
- 8. Selection of Subcontractors, Procurement of Materials and Leasing of Equipment:** The contractor shall not discriminate on the grounds of race, color, religion, sex, national origin, age or disability in the selection and retention of subcontractors, including procurement of materials and leases of equipment.
- a. The contractor shall notify all potential subcontractors and suppliers of his/her EEO obligations under this contract.
 - b. Disadvantaged business enterprises (DBE), as defined in 49 CFR 23, shall have equal opportunity to compete for and perform subcontracts which the contractor enters into pursuant to this contract. The contractor will use his best efforts to solicit bids from and to utilize DBE subcontractors or subcontractors with meaningful minority group and female representation among their employees. Contractors shall obtain lists of DBE construction firms from SHA personnel.
 - c. The contractor will use his best efforts to ensure subcontractor compliance with their EEO obligations.
- 9. Records and Reports:** The contractor shall keep such records as necessary to document compliance with the EEO requirements. Such records shall be retained for a period of three

years following completion of the contract work and shall be available at reasonable times and places for inspection by authorized representatives of the SHA and the FHWA.

- a. The records kept by the contractor shall document the following:
 1. The number of minority and non-minority group members and women employed in each work classification on the project;
 2. The progress and efforts being made in cooperation with unions, when applicable, to increase employment opportunities for minorities and women;
 3. The progress and efforts being made in locating, hiring, training, qualifying, and upgrading minority and female employees; and
 4. The progress and efforts being made in securing the services of DBE subcontractors or subcontractors with meaningful minority and female representation among their employees.
- b. The contractors will submit an annual report to the SHA each July for the duration of the project, indicating the number of minority, women, and non-minority group employees currently engaged in each work classification required by the contract work. This information is to be reported on Form FHWA-1391. If on-the-job training is being required by special provision, the contractor will be required to collect and report training data.

III. NONSEGREGATED FACILITIES

(Applicable to all Federal-aid construction contracts and to all related subcontracts of \$10,000 or more.)

- a. By submission of this bid, the execution of this contract or subcontract, or the consummation of this material supply agreement or purchase order, as appropriate, the bidder, Federal-aid construction contractor, subcontractor, material supplier, or vendor, as appropriate, certifies that the firm does not maintain or provide for its employees any segregated facilities at any of its establishments, and that the firm does not permit its employees to perform their services at any location, under its control, where segregated facilities are maintained. The firm agrees that a breach of this certification is a violation of the EEO provisions of this contract. The firm further certifies that no employee will be denied access to adequate facilities on the basis of sex or disability
- b. As used in this certification, the term "segregated facilities" means any waiting rooms, work areas, restrooms and washrooms, restaurants and other eating areas, timeclocks, locker rooms, and other storage or dressing areas, parking lots, drinking fountains, recreation or entertainment areas, transportation, and housing facilities provided for employees which are segregated by explicit directive, or are, in fact, segregated on the basis of race, color, religion, national origin, age or disability, because of habit, local custom, or otherwise. The only exception will be for the disabled when the demands for accessibility override (e.g. disabled parking).
- c. The contractor agrees that it has obtained or will obtain identical certification from proposed subcontractors or material suppliers prior to award of subcontracts or consummation of material supply agreements of \$10,000 or more and that it will retain such certifications in its files.

IV. PAYMENT OF PREDETERMINED MINIMUM WAGE

(Applicable to all Federal-aid construction contracts exceeding \$2,000 and to all related subcontracts, except for projects located on roadways classified as local roads or rural minor collectors, which are exempt.)

1. General:

- a. All mechanics and laborers employed or working upon the site of the work will be paid unconditionally and not less often than once a week and without subsequent deduction or rebate on any account [except such payroll deductions as are permitted by regulations (29 CFR 3) issued by the Secretary of Labor under the Copeland Act (40 U.S.C. 276c)] the full amounts of wages and bona fide fringe benefits (or cash equivalents thereof) due at time of payment. The payment shall be computed at wage rates not less than those contained in the wage determination of the Secretary of Labor (hereinafter "the wage determination") which is attached hereto and made a part hereof, regardless of any contractual relationship which may be alleged to exist between the contractor or its subcontractors and such laborers and mechanics. The wage determination (including any additional classifications and wage rates conformed under paragraph 2 of this Section IV and the DOL poster (WH-1321) or Form FHWA-1495) shall be posted at all times by the contractor and its subcontractors at the site of the work in a prominent and accessible place where it can be easily seen by the workers. For the purpose of this Section, contributions made or costs reasonably anticipated for bona fide fringe benefits under Section 1(b)(2) of the Davis-Bacon Act (40 U.S.C. 276a) on behalf of laborers or mechanics are considered wages paid to such laborers or mechanics, subject to the provisions of Section IV, paragraph 3b, hereof. Also, for the purpose of this Section, regular contributions made or costs incurred for more than a weekly period (but not less often than quarterly) under plans, funds, or programs, which cover the particular weekly period, are deemed to be constructively made or incurred during such weekly period. Such laborers and mechanics shall be paid the appropriate wage rate and fringe benefits on the wage determination for the classification of work actually performed, without regard to skill, except as provided in paragraphs 4 and 5 of this Section IV.
- b. Laborers or mechanics performing work in more than one classification may be compensated at the rate specified for each classification for the time actually worked therein, provided, that the employer's payroll records accurately set forth the time spent in each classification in which work is performed.
- c. All rulings and interpretations of the Davis-Bacon Act and related acts contained in 29 CFR 1, 3, and 5 are herein incorporated by reference in this contract.

2. Classification:

- a. The SHA contracting officer shall require that any class of laborers or mechanics employed under the contract, which is not listed in the wage determination, shall be classified in conformance with the wage determination.
- b. The contracting officer shall approve an additional classification, wage rate and fringe benefits only when the following criteria have been met:
 1. the work to be performed by the additional classification requested is not performed by a classification in the wage determination;
 2. the additional classification is utilized in the area by the construction industry;
 3. the proposed wage rate, including any bona fide fringe benefits, bears a reasonable relationship to the wage rates contained in the wage determination; and
 4. with respect to helpers, when such a classification prevails in the area in which the work is performed.
- c. If the contractor or subcontractors, as appropriate, the laborers and mechanics (if known) to be employed in the additional classification or their representatives, and the contracting officer agree on the classification and wage rate (including the amount designated for fringe benefits where appropriate), a report of the action taken shall be sent by the contracting officer to the DOL, Administrator of the Wage and

Hour Division, Employment Standards Administration, Washington, D.C. 20210. The Wage and Hour Administrator, or an authorized representative, will approve, modify, or disapprove every additional classification action within 30 days of receipt and so advise the contracting officer or will notify the contracting officer within the 30-day period that additional time is necessary.

- d. In the event the contractor or subcontractors, as appropriate, the laborers or mechanics to be employed in the additional classification or their representatives, and the contracting officer do not agree on the proposed classification and wage rate (including the amount designated for fringe benefits, where appropriate), the contracting officer shall refer the questions, including the views of all interested parties and the recommendation of the contracting officer, to the Wage and Hour Administrator for determination. Said Administrator, or an authorized representative, will issue a determination within 30 days of receipt and so advise the contracting officer or will notify the contracting officer within the 30-day period that additional time is necessary
- e. The wage rate (including fringe benefits where appropriate) determined pursuant to paragraph 2c or 2d of this Section IV shall be paid to all workers performing work in the additional classification from the first day on which work is performed in the classification.

3. Payment of Fringe Benefits:

- a. Whenever the minimum wage rate prescribed in the contract for a class of laborers or mechanics includes a fringe benefit which is not expressed as an hourly rate, the contractor or subcontractors, as appropriate, shall either pay the benefit as stated in the wage determination or shall pay another bona fide fringe benefit or an hourly case equivalent thereof.
- b. If the contractor or subcontractor, as appropriate, does not make payments to a trustee or other third person, he/she may consider as a part of the wages of any laborer or mechanic the amount of any costs reasonably anticipated in providing bona fide fringe benefits under a plan or program, provided, that the Secretary of Labor has found, upon the written request of the contractor, that the applicable standards of the Davis-Bacon Act have been met. The Secretary of Labor may require the contractor to set aside in a separate account assets for the meeting of obligations under the plan or program.

4. Apprentices and Trainees (Programs of the U.S. DOL) and Helpers:

- a. Apprentices:
 - 1. Apprentices will be permitted to work at less than the predetermined rate for the work they performed when they are employed pursuant to and individually registered in a bona fide apprenticeship program registered with the DOL, Employment and Training Administration, Bureau of Apprenticeship and Training, or with a State apprenticeship agency recognized by the Bureau, or if a person is employed in his/her first 90 days of probationary employment as an apprentice in such an apprenticeship program, who is not individually registered in the program, but who has been certified by the Bureau of Apprenticeship and Training or a State apprenticeship agency (where appropriate) to be eligible for probationary employment as an apprentice.
 - 2. The allowable ratio of apprentices to journeyman-level employees on the job site in any craft classification shall not be greater than the ratio permitted to the contractor as to the entire work force under the registered program. Any employee listed on a payroll at an apprentice wage rate, who is not registered or otherwise employed as stated above, shall be paid not less than the applicable wage rate listed in the wage determination for the

classification of work actually performed. In addition, any apprentice performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed. Where a contractor or subcontractor is performing construction on a project in a locality other than that in which its program is registered, the ratios and wage rates (expressed in percentages of the journeyman-level hourly rate) specified in the contractor's or subcontractor's registered program shall be observed.

3. Every apprentice must be paid at not less than the rate specified in the registered program for the apprentice's level of progress, expressed as a percentage of the journeyman-level hourly rate specified in the applicable wage determination. Apprentices shall be paid fringe benefits in accordance with the provisions of the apprenticeship program. If the apprenticeship program does not specify fringe benefits, apprentices must be paid the full amount of fringe benefits listed on the wage determination for the applicable classification. If the Administrator for the Wage and Hour Division determines that a different practice prevails for the applicable apprentice classification, fringes shall be paid in accordance with that determination.
4. In the event the Bureau of Apprenticeship and Training, or a State apprenticeship agency recognized by the Bureau, withdraws approval of an apprenticeship program, the contractor or subcontractor will no longer be permitted to utilize apprentices at less than the applicable predetermined rate for the comparable work performed by regular employees until an acceptable program is approved.

b. Trainees:

1. Except as provided in 29 CFR 5.16, trainees will not be permitted to work at less than the predetermined rate for the work performed unless they are employed pursuant to and individually registered in a program which has received prior approval, evidenced by formal certification by the DOL, Employment and Training Administration.
2. The ratio of trainees to journeyman-level employees on the job site shall not be greater than permitted under the plan approved by the Employment and Training Administration. Any employee listed on the payroll at a trainee rate who is not registered and participating in a training plan approved by the Employment and Training Administration shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed. In addition, any trainee performing work on the job site in excess of the ratio permitted under the registered program shall be paid not less than the applicable wage rate on the wage determination for the work actually performed.
3. Every trainee must be paid at not less than the rate specified in the approved program for his/her level of progress, expressed as a percentage of the journeyman-level hourly rate specified in the applicable wage determination. Trainees shall be paid fringe benefits in accordance with the provisions of the trainee program. If the trainee program does not mention fringe benefits, trainees shall be paid the full amount of fringe benefits listed on the wage determination unless the Administrator of the Wage and Hour Division determines that there is an apprenticeship program associated with the corresponding journeyman-level wage rate on the wage determination which provides for less than full fringe benefits for apprentices, in which case such trainees shall receive the same fringe benefits as apprentices.
4. In the event the Employment and Training Administration withdraws approval of a training program, the contractor or subcontractor will no longer be

permitted to utilize trainees at less than the applicable predetermined rate for the work performed until an acceptable program is approved.

c. **Helpers:**

1. Helpers will be permitted to work on a project if the helper classification is specified and defined on the applicable wage determination or is approved pursuant to the conformance procedure set forth in Section IV.2. Any worker listed on a payroll at a helper wage rate, who is not a helper under a approved definition, shall be paid not less than the applicable wage rate on the wage determination for the classification of work actually performed.

5. Apprentices and Trainees (Programs of the U.S. DOT):

Apprentices and trainees working under apprenticeship and skill training programs which have been certified by the Secretary of Transportation as promoting EEO in connection with Federal-aid highway construction programs are not subject to the requirements of paragraph 4 of this Section IV. The straight time hourly wage rates for apprentices and trainees under such programs will be established by the particular programs. The ratio of apprentices and trainees to journeymen shall not be greater than permitted by the terms of the particular program.

6. Withholding:

The SHA shall upon its own action or upon written request of an authorized representative of the DOL withhold, or cause to be withheld, from the contractor or subcontractor under this contract or any other Federal contract with the same prime contractor, or any other Federally-assisted contract subject to Davis-Bacon prevailing wage requirements which is held by the same prime contractor, as much of the accrued payments or advances as may be considered necessary to pay laborers and mechanics, including apprentices, trainees, and helpers, employed by the contractor or any subcontractor the full amount of wages required by the contract. In the event of failure to pay any laborer or mechanic, including any apprentice, trainee, or helper, employed or working on the site of the work, all or part of the wages required by the contract, the SHA contracting officer may, after written notice to the contractor, take such action as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds until such violations have ceased.

7. Overtime Requirements:

No contractor or subcontractor contracting for any part of the contract work which may require or involve the employment of laborers, mechanics, watchmen, or guards (including apprentices, trainees, and helpers described in paragraphs 4 and 5 above) shall require or permit any laborer, mechanic, watchman, or guard in any workweek in which he/she is employed on such work, to work in excess of 40 hours in such workweek unless such laborer, mechanic, watchman, or guard receives compensation at a rate not less than one-and-one-half times his/her basic rate of pay for all hours worked in excess of 40 hours in such workweek.

8. Violation:

Liability for Unpaid Wages; Liquidated Damages: In the event of any violation of the clause set forth in paragraph 7 above, the contractor and any subcontractor responsible thereof shall be liable to the affected employee for his/her unpaid wages. In addition, such contractor and subcontractor shall be liable to the United States (in the case of work done under contract for the District of Columbia or a territory, to such District or to such territory) for liquidated damages. Such liquidated damages shall be computed with respect to each individual laborer, mechanic, watchman, or guard employed in violation of the clause set forth in paragraph 7, in the sum of \$10 for each calendar day on which such employee was required or permitted to work in excess of the standard work week of 40 hours without payment of the overtime wages required by the clause set forth in paragraph 7.

9. Withholding for Unpaid Wages and Liquidated Damages:

The SHA shall upon its own action or upon written request of any authorized representative of the DOL withhold, or cause to be withheld, from any monies payable on

account of work performed by the contractor or subcontractor under any such contract or any other Federal contract with the same prime contractor, or any other Federally-assisted contract subject to the Contract Work Hours and Safety Standards Act, which is held by the same prime contractor, such sums as may be determined to be necessary to satisfy any liabilities of such contractor or subcontractor for unpaid wages and liquidated damages as provided in the clause set forth in paragraph 8 above.

V. STATEMENTS AND PAYROLLS

(Applicable to all Federal-aid construction contracts exceeding \$2,000 and to all related subcontracts, except for projects located on roadways classified as local roads or rural collectors, which are exempt.)

1. Compliance with Copeland Regulations (29 CFR 3):

The contractor shall comply with the Copeland Regulations of the Secretary of Labor which are herein incorporated by reference.

2. Payrolls and Payroll Records:

- a. Payrolls and basic records relating thereto shall be maintained by the contractor and each subcontractor during the course of the work and preserved for a period of 3 years from the date of completion of the contract for all laborers, mechanics, apprentices, trainees, watchmen, helpers, and guards working at the site of the work.
- b. The payroll records shall contain the name, social security number, and address of each such employee; his or her correct classification; hourly rates of wages paid (including rates of contributions or costs anticipated for bona fide fringe benefits or cash equivalent thereof the types described in Section 1(b)(2)(B) of the Davis Bacon Act); daily and weekly number of hours worked; deductions made; and actual wages paid. In addition, for Appalachian contracts, the payroll records shall contain a notation indicating whether the employee does, or does not, normally reside in the labor area as defined in Attachment A, paragraph 1. Whenever the Secretary of Labor, pursuant to Section IV, paragraph 3b, has found that the wages of any laborer or mechanic include the amount of any costs reasonably anticipated in providing benefits under a plan or program described in Section 1(b)(2)(B) of the Davis Bacon Act, the contractor and each subcontractor shall maintain records which show that the commitment to provide such benefits is enforceable, that the plan or program is financially responsible, that the plan or program has been communicated in writing to the laborers or mechanics affected, and show the cost anticipated or the actual cost incurred in providing benefits. Contractors or subcontractors employing apprentices or trainees under approved programs shall maintain written evidence of the registration of apprentices and trainees, and ratios and wage rates prescribed in the applicable programs.
- c. Each contractor and subcontractor shall furnish, each week in which any contract work is performed, to the SHA resident engineer a payroll of wages paid each of its employees (including apprentices, trainees, and helpers, described in Section IV, paragraphs 4 and 5, and watchmen and guards engaged on work during the preceding weekly payroll period). The payroll submitted shall set out accurately and completely all of the information required to be maintained under paragraph 2b of this Section V. This information may be submitted in any form desired. Optional Form WH-347 is available for this purpose and may be purchased from the Superintendent of Documents (Federal stock number 029-005-0014-1), U.S. Government Printing Office, Washington, D.C. 20402. The prime contractor is responsible for the submission of copies of payrolls by all subcontractors.
- d. Each payroll submitted shall be accompanied by a "Statement of Compliance," signed by the contractor or subcontractor or his/her agent who pays or supervises the payment of the persons employed under the contract and shall certify the following:

1. that the payroll for the payroll period contains the information required to be maintained under paragraph 2b of this Section V and that such information is correct and complete;
 2. that such laborer or mechanic (including each helper, apprentice, and trainee) employed on the contract during the payroll period has been paid the full weekly wages earned, without rebate, either directly or indirectly, and that no deductions have been made either directly or indirectly from the full wages earned, other than permissible deductions as set forth in the Regulations, 29 CFR 3;
 3. that each laborer or mechanic has been paid not less than the applicable wage rate and fringe benefits or cash equivalent for the classification of work performed, as specified in the applicable wage determination incorporated into the contract.
- e. The weekly submission of a properly executed certification set forth on the reverse side of Optional Form WH-347 shall satisfy the requirement for submission of the "Statement of Compliance" required by paragraph 2d of this Section V.
 - f. The falsification of any of the above certifications may subject the contractor to civil or criminal prosecution under 18 U.S.C. 1001 and 31 U.S.C. 231.
 - g. The contractor or subcontractor shall make the records required under paragraph 2b of this Section V available for inspection, copying, or transcription by authorized representatives of the SHA, the FHWA, or the DOL, and shall permit such representatives to interview employees during working hours on the job. If the contractor or subcontractor fails to submit the required records or to make them available, the SHA, the FHWA, the DOL, or all may, after written notice to the contractor, sponsor, applicant, or owner, take such actions as may be necessary to cause the suspension of any further payment, advance, or guarantee of funds. Furthermore, failure to submit the required records upon request or to make such records available may be grounds for debarment action pursuant to 29 CFR 5.12.

VI. RECORD OF MATERIALS, SUPPLIES, AND LABOR

1. On all Federal-aid contracts on the National Highway System, except those which provide solely for the installation of protective devices at railroad grade crossings, those which are constructed on a force account or direct labor basis, highway beautification contracts, and contracts for which the total final construction cost for roadway and bridge is less than \$1,000,000 (23 CFR 635) the contractor shall:
 - a. Become familiar with the list of specific materials and supplies contained in Form FHWA-47, "Statement of Materials and Labor Used by Contractor of Highway Construction Involving Federal Funds," prior to the commencement of work under this contract.
 - b. Maintain a record of the total cost of all materials and supplies purchased for and incorporated in the work, and also of the quantities of those specific materials and supplies listed on Form FHWA-47, and in the units shown on Form FHWA-47.
 - c. Furnish, upon the completion of the contract, to the SHA resident engineer on Form FHWA-47 together with the data required in paragraph 1b relative to materials and supplies, a final labor summary of all contract work indicating the total hours worked and the total amount earned.
2. At the prime contractor's option, either a single report covering all contract work or separate reports for the contractor and for each subcontract shall be submitted.

VII. SUBLETTING OR ASSIGNING THE CONTRACT

1. The contractor shall perform with its own organization contract work amounting to not less than 30 percent (or a greater percentage if specified elsewhere in the contract) of the total original contract price, excluding any specialty items designated by the State. Specialty items may be performed by subcontract and the amount of any such specialty items performed may be deducted from the total original contract price before computing the amount of work required to be performed by the contractor's own organization (23 CFR 635).
 - a. "Its own organization" shall be construed to include only workers employed and paid directly by the prime contractor and equipment owned or rented by the prime contractor, with or without operators. Such term does not include employees or equipment of a subcontractor, assignee, or agent of the prime contractor.
 - b. "Specialty Items" shall be construed to be limited to work that requires highly specialized knowledge, abilities, or equipment not ordinarily available in the type of contracting organizations qualified and expected to bid on the contract as a whole and in general are to be limited to minor components of the overall contract.
2. The contract amount upon which the requirements set forth in paragraph 1 of Section VII is computed includes the cost of material and manufactured products which are to be purchased or produced by the contractor under the contract provisions.
3. The contractor shall furnish (a) a competent superintendent or supervisor who is employed by the firm, has full authority to direct performance of the work in accordance with the contract requirements, and is in charge of all construction operations (regardless of who performs the work) and (b) such other of its own organizational resources (supervision, management, and engineering services) as the SHA contracting officer determines is necessary to assure the performance of the contract.
4. No portion of the contract shall be sublet, assigned or otherwise disposed of except with the written consent of the SHA contracting officer, or authorized representative, and such consent when given shall not be construed to relieve the contractor of any responsibility for the fulfillment of the contract. Written consent will be given only after the SHA has assured that each subcontract is evidenced in writing and that it contains all pertinent provisions and requirements of the prime contract.

VIII. SAFETY: ACCIDENT PREVENTION

1. In the performance of this contract the contractor shall comply with all applicable Federal, State, and local laws governing safety, health, and sanitation (23 CFR 635). The contractor shall provide all safeguards, safety devices and protective equipment and take any other needed actions as it determines, or as the SHA contracting officer may determine, to be reasonably necessary to protect the life and health of employees on the job and the safety of the public and to protect property in connection with the performance of the work covered by the contract.
2. It is a condition of this contract, and shall be made a condition of each subcontract, which the contractor enters into pursuant to this contract, that the contractor and any subcontractor shall not permit any employee, in performance of the contract, to work in surroundings or under conditions which are unsanitary, hazardous or dangerous to his/her health or safety, as determined under construction safety and health standards (29 CFR 1926) promulgated by the Secretary of Labor, in accordance with Section 107 of the Contract Work Hours and Safety Standards Act (40 U.S.C. 333).
3. Pursuant to 29 CFR 1926.3, it is a condition of this contract that the Secretary of Labor or authorized representative thereof, shall have right of entry to any site of contract performance to inspect or investigate the matter of compliance with the construction safety and health standards and to carry out the duties of the Secretary under Section 107 of the Contract Work Hours and Safety Standards Act (40 U.S.C. 333).

IX. FALSE STATEMENTS CONCERNING HIGHWAY PROJECTS

In order to assure high quality and durable construction in conformity with approved plans and specifications and a high degree of reliability on statements and representations made by engineers, contractors, suppliers, and workers on Federal-aid highway projects, it is essential that all persons concerned with the project perform their functions as carefully, thoroughly, and honestly as possible. Willful falsification, distortion, or misrepresentation with respect to any facts related to the project is a violation of Federal law. To prevent any misunderstanding regarding the seriousness of these and similar acts, the following notice shall be posted on each Federal-aid highway project (23 CFR 635) in one or more places where it is readily available to all persons concerned with the project:

NOTICE TO ALL PERSONNEL ENGAGED ON FEDERAL-AID HIGHWAY PROJECTS

18 U.S.C. 1020 reads as follows:

"Whoever, being an officer, agent, or employee of the United States, or of any State or Territory, or whoever, whether a person, association, firm, or corporation, knowingly makes any false statement, false representation, or false report as to the character, quality, quantity, or cost of the material used or to be used, or the quantity or quality of the work performed or to be performed, or the cost thereof in connection with the submission of plans, maps, specifications, contracts, or costs of construction on any highway or related project submitted for approval to the Secretary of Transportation; or

Whoever knowingly makes any false statement, false representation, false report or false claim with respect to the character, quality, quantity, or cost of any work performed or to be performed, or materials furnished or to be furnished, in connection with the construction of any highway or related project approved by the Secretary of Transportation; or

Whoever knowingly makes any false statement or false representation as to material fact in any statement, certificate, or report submitted pursuant to provisions of the Federal-aid Roads Act approved July 1, 1916, (39 Stat. 355), as amended and supplemented;

Shall be fined not more than \$10,000 or imprisoned not more than 5 years or both."

X. IMPLEMENTATION OF CLEAN AIR ACT AND FEDERAL WATER POLLUTION CONTROL ACT

(Applicable to all Federal-aid construction contracts and to all related subcontracts of \$100,000 or more.)

By submission of this bid or the execution of this contract, or subcontract, as appropriate, the bidder, Federal-aid construction contractor, or subcontractor, as appropriate, will be deemed to have stipulated as follows:

1. That any facility that is or will be utilized in the performance of this contract, unless such contract is exempt under the Clean Air Act, as amended (42 U.S.C. 1857 et seq., as amended by Pub.L. 91-604), and under the Federal Water Pollution Control Act, as amended (33 U.S.C. 1251 et seq., as amended by Pub.L. 92-500), Executive Order 11738, and regulations in implementation thereof (40 CFR 15) is not listed, on the date of contract award, on the U.S. Environmental Protection Agency (EPA) List of Violating Facilities pursuant to 40 CFR 15.20.
2. That the firm agrees to comply and remain in compliance with all the requirements of Section 114 of the Clean Air Act and Section 308 of the Federal Water Pollution Control Act and all regulations and guidelines listed thereunder.
3. That the firm shall promptly notify the SHA of the receipt of any communication from the Director, Office of Federal Activities, EPA, indicating that a facility that is or will be utilized for the contract is under consideration to be listed on the EPA List of Violating Facilities.
4. That the firm agrees to include or cause to be included the requirements of paragraph 1 through 4 of this Section X in every nonexempt subcontract, and further agrees to take such action as the government may direct as a means of enforcing such requirements.

XI. CERTIFICATION REGARDING DEBARMENT, SUSPENSION, INELIGIBILITY AND VOLUNTARY EXCLUSION

1. Instructions for Certification - Primary Covered Transactions:

(Applicable to all Federal-aid contracts - 49 CFR 29)

- a. By signing and submitting this proposal, the prospective primary participant is providing the certification set out below.
- b. The inability of a person to provide the certification set out below will not necessarily result in denial of participation in this covered transaction. The prospective participant shall submit an explanation of why it cannot provide the certification set out below. The certification or explanation will be considered in connection with the department or agency's determination whether to enter into this transaction. However, failure of the prospective primary participant to furnish a certification or an explanation shall disqualify such a person from participation in this transaction.
- c. The certification in this clause is a material representation of fact upon which reliance was placed when the department or agency determined to enter into this transaction. If it is later determined that the prospective primary participant knowingly rendered an erroneous certification, in addition to other remedies available to the Federal Government, the department or agency may terminate this transaction for cause of default.
- d. The prospective primary participant shall provide immediate written notice to the department or agency to whom this proposal is submitted if any time the prospective primary participant learns that its certification was erroneous when submitted or has become erroneous by reason of changed circumstances.
- e. The terms "covered transaction," "debarred," "suspended," "ineligible," "lower tier covered transaction," "participant," "person," "primary covered transaction," "principal," "proposal," and "voluntarily excluded," as used in this clause, have the meanings set out in the Definitions and Coverage sections of rules implementing Executive Order 12549. You may contact the department or agency to which this proposal is submitted for assistance in obtaining a copy of those regulations.
- f. The prospective primary participant agrees by submitting this proposal that, should the proposed covered transaction be entered into, it shall not knowingly enter into any lower tier covered transaction with a person who is debarred, suspended, declared ineligible, or voluntarily excluded from participation in this covered transaction, unless authorized by the department or agency entering into this transaction.
- g. The prospective primary participant further agrees by submitting this proposal that it will include the clause titled "Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion-Lower Tier Covered Transaction," provided by the department or agency entering into this covered transaction, without modification, in all lower tier covered transactions and in all solicitations for lower tier covered transactions.
- h. A participant in a covered transaction may rely upon a certification of a prospective participant in a lower tier covered transaction that is not debarred, suspended, ineligible, or voluntarily excluded from the covered transaction, unless it knows that the certification is erroneous. A participant may decide the method and frequency by which it determines the eligibility of its principals. Each participant may, but is not required to, check the nonprocurement portion of the "Lists of Parties Excluded From Federal Procurement or Nonprocurement Programs" (Nonprocurement List) which is compiled by the General Services Administration.
- i. Nothing contained in the foregoing shall be construed to require establishment of a system of records in order to render in good faith the certification required by this

clause. The knowledge and information of participant is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.

- j. Except for transactions authorized under paragraph f of these instructions, if a participant in a covered transaction knowingly enters into a lower tier covered transaction with a person who is suspended, debarred, ineligible, or voluntarily excluded from participation in this transaction, in addition to other remedies available to the Federal Government, the department or agency may terminate this transaction for cause or default.

* * * * *

**Certification Regarding Debarment, Suspension, Ineligibility
and Voluntary Exclusion—Primary Covered Transactions**

1. The prospective primary participant certifies to the best of its knowledge and belief, that it and its principals:
 - a. Are not presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from covered transactions by any Federal department or agency;
 - b. Have not within a 3-year period preceding this proposal been convicted of or had a civil judgement rendered against them for commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a public (Federal, State or local) transaction or contract under a public transaction; violation of Federal or State antitrust statutes or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, or receiving stolen property;
 - c. Are not presently indicted for or otherwise criminally or civilly charged by a governmental entity (Federal, State or local) with commission of any of the offenses enumerated in paragraph 1b of this certification; and
 - d. Have not within a 3-year period preceding this application/proposal had one or more public transactions (Federal, State or local) terminated for cause or default.
2. Where the prospective primary participant is unable to certify to any of the statements in this certification, such prospective participant shall attach an explanation to this proposal.

* * * * *

2. Instructions for Certification - Lower Tier Covered Transactions:

(Applicable to all subcontracts, purchase orders and other lower tier transactions of \$25,000 or more - 49 CFR 29)

- a. By signing and submitting this proposal, the prospective lower tier is providing the certification set out below.
- b. The certification in this clause is a material representation of fact upon which reliance was placed when this transaction was entered into. If it is later determined that the prospective lower tier participant knowingly rendered an erroneous certification, in addition to other remedies available to the Federal Government, the department, or agency with which this transaction originated may pursue available remedies, including suspension and/or debarment.
- c. The prospective lower tier participant shall provide immediate written notice to the person to which this proposal is submitted if at any time the prospective lower tier participant learns that its certification was erroneous by reason of changed circumstances.

- d. The terms "covered transaction," "debarred," "suspended," "ineligible," "primary covered transaction," "participant," "person," "principal," "proposal," and "voluntarily excluded," as used in this clause, have the meanings set out in the Definitions and Coverage sections of rules implementing Executive Order 12549. You may contact the person to which this proposal is submitted for assistance in obtaining a copy of those regulations.
- e. The prospective lower tier participant agrees by submitting this proposal that, should the proposed covered transaction be entered into, it shall not knowingly enter into any lower tier covered transaction with a person who is debarred, suspended, declared ineligible, or voluntarily excluded from participation in this covered transaction, unless authorized by the department or agency with which this transaction originated.
- f. The prospective lower tier participant further agrees by submitting this proposal that it will include this clause titled "Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion-Lower Tier Covered Transaction," without modification, in all lower tier covered transactions and in all solicitations for lower tier covered transactions.
- g. A participant in a covered transaction may rely upon a certification of a prospective participant in a lower tier covered transaction that is not debarred, suspended, ineligible, or voluntarily excluded from the covered transaction, unless it knows that the certification is erroneous. A participant may decide the method and frequency by which it determines the eligibility of its principals. Each participant may, but is not required to, check the Nonprocurement List.
- h. Nothing contained in the foregoing shall be construed to require establishment of a system of records in order to render in good faith the certification required by this clause. The knowledge and information of participant is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.
- i. Except for transactions authorized under paragraph e of these instructions, if a participant in a covered transaction knowingly enters into a lower tier covered transaction with a person who is suspended, debarred, ineligible, or voluntarily excluded from participation in this transaction, in addition to other remedies available to the Federal Government, the department or agency with which this transaction originated may pursue available remedies, including suspension and/or debarment.

* * * * *

**Certification Regarding Debarment, Suspension, Ineligibility
and Voluntary Exclusion--Lower Tier Covered Transactions:**

- 1. The prospective lower tier participant certifies, by submission of this proposal, that neither it nor its principals is presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participation in this transaction by any Federal department or agency.
- 2. Where the prospective lower tier participant is unable to certify to any of the statements in this certification, such prospective participant shall attach an explanation to this proposal.

* * * * *

XII. CERTIFICATION REGARDING USE OF CONTRACT FUNDS FOR LOBBYING

(Applicable to all Federal-aid construction contracts and to all related subcontracts which exceed \$100,000 - 49 CFR 20)

- 1. The prospective participant certifies, by signing and submitting this bid or proposal, to the best of his or her knowledge and belief, that:

- a. No Federal appropriated funds have been paid or will be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of any Federal agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement.
 - b. If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any Federal agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal contract, grant, loan, or cooperative agreement, the undersigned shall complete and submit Standard Form-LLL, "Disclosure Form to Report Lobbying," in accordance with its instructions.
2. This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by 31 U.S.C. 1352. Any person who fails to file the required certification shall be subject to a civil penalty of not less than \$10,000 and not more than \$100,000 for each such failure.
3. The prospective participant also agrees by submitting his or her bid or proposal that he or she shall require that the language of this certification be included in all lower tier subcontracts, which exceed \$100,000 and that all such recipients shall certify and disclose accordingly.

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United States Department of Transportation - Federal Highway Administration – Infrastructure

CITY AND COUNTY OF DENVER

STATE OF COLORADO



PREVAILING WAGE RATES

Contract No. 201206603

DENVER TRAFFIC IMPROVEMENT PROJECT 2012

June 20, 2012



DENVER
THE MILE HIGH CITY

Career Service Authority
Denver's Human Resource Agency

201 W. Colfax, Department 412
Denver, CO 80202
p: 720.913.5751
f: 720.913.5720
www.denvergov.org/csa

TO: All Users of the City of Denver Prevailing Wage Schedules
FROM: Meredith Creme, Associate Human Resource Professional
DATE: Friday January 13, 2012
SUBJECT: Latest Change to Prevailing Wage Schedules

Please be advised, prevailing wage rates for some building, heavy, and highway construction trades have not been updated by the United States Department of Labor (DOL) since March 1, 2002. The Career Service Authority Board, in their meeting held on April 21, 2011, approved the use of the attached supplemental wage rates until prevailing wage rates for these classifications of work are again published by the United States Department of Labor in accordance with the Davis-Bacon Act. The rates will be provided as a supplemental to the Davis-Bacon Highway rates issued by CSA.

The effective date for this publication is **Friday January 13, 2012** and applies to the City and County of Denver for **HIGHWAY CONSTRUCTION PROJECTS** in accordance with the Denver Revised Municipal Code, Section 20-76(c).

General Wage Decision No. CO120019
Superseded General Decision No. CO20100021
Modification No. 0
Publication Date: 01-06-2012
(11 pages)

Unless otherwise specified in this document, apprentices shall be permitted only if they are employed pursuant to, and individually registered in, a bona fide apprenticeship program registered with the U.S. Department of Labor (DOL). The employer and the individual apprentice must be registered in a program, which has received prior approval, by the DOL. Any employer, who employs an apprentice and is found to be in violation of this provision, shall be required to pay said apprentice the full journeyman scale.

For questions call (720) 913-5009

Attachments as listed above.

General Decision Number: CO120019 01/06/2012 CO19

Superseded General Decision Number: CO20100021

State: Colorado

Construction Type: Highway

Counties: Denver and Douglas Counties in Colorado.

HIGHWAY CONSTRUCTION PROJECTS

Modification Number	Publication Date
0	01/06/2012

CARP9901-008 10/01/2010

	Rates	Fringes
CARPENTER (Form Work Only).....	\$ 24.00	11.28

ELEC0068-016 03/01/2011

	Rates	Fringes
TRAFFIC SIGNALIZATION:		
Traffic Signal Installation		
Zone 1.....	\$ 26.42	4.75%+8.68
Zone 2.....	\$ 29.42	4.75%+8.68

TRAFFIC SIGNAL INSTALLER ZONE DEFINITIONS

Zone 1 shall be a 35 mile radius, measured from the following addresses in each of the following cities:

Colorado Springs - Nevada & Bijou
Denver - Ellsworth Avenue & Broadway
Ft. Collins - Prospect & College
Grand Junction - 12th & North Avenue
Pueblo - I-25 & Highway 50

All work outside of these areas shall be paid Zone 2 rates.

ENGI0009-008 05/01/2011

	Rates	Fringes
POWER EQUIPMENT OPERATOR:		
(3)-Hydraulic Backhoe (Wheel Mounted, under 3/4 yds), Hydraulic Backhoe (Backhoe/Loader combination), Drill Rig Caisson (smaller than Watson 2500 and similar), Loader (up to and including 6 cu. yd.).....	\$ 23.67	9.22
(3)-Loader (under 6 cu. yd.)		
Denver County.....	\$ 23.67	9.22
(3)-Motor Grader (blade- rough)		
Douglas County.....	\$ 23.67	9.22

(4)-Crane (50 tons and under), Scraper (single bowl, under 40 cu. yd).....\$ 23.82	9.22
(4)-Loader (over 6 cu. yd) Denver County.....\$ 23.82	9.22
(5)-Drill Rig Caisson (Watson 2500 similar or larger), Crane (51-90 tons), Scraper (40 cu.yd and over),.....\$ 23.97	9.22
(5)-Motor Grader (blade-finish) Douglas County.....\$ 23.97	9.22
(6)-Crane (91-140 tons).....\$ 24.12	9.22

SUCO2011-004 09/15/2011

	Rates	Fringes
CARPENTER (Excludes Form Work)....\$ 19.27		5.08
CEMENT MASON/CONCRETE FINISHER		
Denver.....\$ 20.18		5.75
Douglas.....\$ 18.75		3.00
ELECTRICIAN (Excludes Traffic Signal Installation).....\$ 35.13		6.83
FENCE ERECTOR (Excludes Link/Cyclone Fence Erection).....\$ 13.02		3.20
GUARDRAIL INSTALLER.....\$ 12.89		3.20
HIGHWAY/PARKING LOT STRIPING:Painter		
Denver.....\$ 12.62		3.21
Douglas.....\$ 13.89		3.21
IRONWORKER, REINFORCING (Excludes Guardrail Installation).....\$ 16.69		5.45
IRONWORKER, STRUCTURAL (Includes Link/Cyclone Fence Erection, Excludes Guardrail Installation).....\$ 18.22		6.01
LABORER		
Asphalt Raker.....\$ 16.29		4.25
Asphalt Shoveler.....\$ 21.21		4.25
Asphalt Spreader.....\$ 18.58		4.65
Common or General		
Denver.....\$ 16.76		6.77
Douglas.....\$ 16.29		4.25
Concrete Saw (Hand Held)....\$ 16.29		6.14
Landscape and Irrigation....\$ 12.26		3.16
Mason Tender-Cement/Concrete		
Denver.....\$ 16.96		4.04
Douglas.....\$ 16.29		4.25
Pipelayer		

Denver.....	\$ 13.55	2.41
Douglas.....	\$ 16.30	2.18
Traffic Control (Flagger)...	\$ 9.55	3.05
Traffic Control (Sets Up/Moves Barrels, Cones, Install Signs, Arrow Boards and Place Stationary Flags) (Excludes Flaggers).....	\$ 12.43	3.22
PAINTER (Spray Only).....	\$ 16.99	2.87
POWER EQUIPMENT OPERATOR:		
Asphalt Laydown		
Denver.....	\$ 22.67	8.72
Douglas.....	\$ 23.67	8.47
Asphalt Paver		
Denver.....	\$ 24.97	6.13
Douglas.....	\$ 25.44	3.50
Asphalt Roller		
Denver.....	\$ 23.13	7.55
Douglas.....	\$ 23.63	6.43
Asphalt Spreader.....	\$ 22.67	8.72
Backhoe/Trackhoe		
Douglas.....	\$ 23.82	6.00
Bobcat/Skid Loader.....	\$ 15.37	4.28
Boom.....	\$ 22.67	8.72
Broom/Sweeper		
Denver.....	\$ 22.47	8.72
Douglas.....	\$ 22.96	8.22
Bulldozer.....	\$ 26.90	5.59
Concrete Pump.....	\$ 21.60	5.21
Drill		
Denver.....	\$ 20.48	4.71
Douglas.....	\$ 20.71	2.66
Forklift.....	\$ 15.91	4.68
Grader/Blade		
Denver.....	\$ 22.67	8.72
Guardrail/Post Driver.....	\$ 16.07	4.41
Loader (Front End)		
Douglas.....	\$ 21.67	8.22
Mechanic		
Denver.....	\$ 22.89	8.72
Douglas.....	\$ 23.88	8.22
Oiler		
Denver.....	\$ 23.73	8.41
Douglas.....	\$ 24.90	7.67
Roller/Compactor (Dirt and Grade Compaction)		
Denver.....	\$ 20.30	5.51
Douglas.....	\$ 22.78	4.86
Rotomill.....	\$ 16.22	4.41
Screed		
Denver.....	\$ 22.67	8.38
Douglas.....	\$ 29.99	1.40
Tractor.....	\$ 13.13	2.95
TRAFFIC SIGNALIZATION:		
Groundsman		
Denver.....	\$ 17.90	3.41
Douglas.....	\$ 18.67	7.17

TRUCK DRIVER

Distributor		
Denver.....	\$ 17.81	5.82
Douglas.....	\$ 16.98	5.27
Dump Truck		
Denver.....	\$ 15.27	5.27
Douglas.....	\$ 16.39	5.27
Lowboy Truck.....	\$ 17.25	5.27
Mechanic.....	\$ 26.48	3.50
Multi-Purpose Specialty & Hoisting Truck		
Denver.....	\$ 17.49	3.17
Douglas.....	\$ 20.05	2.88
Pickup and Pilot Car		
Denver.....	\$ 14.24	3.77
Douglas.....	\$ 16.43	3.68
Semi/Trailer Truck.....	\$ 18.39	4.13
Truck Mounted Attenuator....	\$ 12.43	3.22
Water Truck		
Denver.....	\$ 26.27	5.27
Douglas.....	\$ 19.46	2.58

WELDERS - Receive rate prescribed for craft performing
operation to which welding is incidental.

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Unlisted classifications needed for work not included within
the scope of the classifications listed may be added after
award only as provided in the labor standards contract clauses
(29CFR 5.5 (a) (1) (ii)).

The body of each wage determination lists the classification
and wage rates that have been found to be prevailing for the
cited type(s) of construction in the area covered by the wage
determination. The classifications are listed in alphabetical
order of "identifiers" that indicate whether the particular
rate is union or non-union.

Union Identifiers

An identifier enclosed in dotted lines beginning with
characters other than "SU" denotes that the union
classification and rate have found to be prevailing for that
classification. Example: PLUM0198-005 07/01/2011. The
first four letters , PLUM, indicate the international union and
the four-digit number, 0198, that follows indicates the local
union number or district council number where applicable ,
i.e., Plumbers Local 0198. The next number, 005 in the
example, is an internal number used in processing the wage
determination. The date, 07/01/2011, following these
characters is the effective date of the most current
negotiated rate/collective bargaining agreement which would be
July 1, 2011 in the above example.

Union prevailing wage rates will be updated to reflect any changes in the collective bargaining agreements governing the rate.

Non-Union Identifiers

Classifications listed under an "SU" identifier were derived from survey data by computing average rates and are not union rates; however, the data used in computing these rates may include both union and non-union data. Example: SULA2004-007 5/13/2010. SU indicates the rates are not union rates, LA indicates the State of Louisiana; 2004 is the year of the survey; and 007 is an internal number used in producing the wage determination. A 1993 or later date, 5/13/2010, indicates the classifications and rates under that identifier were issued as a General Wage Determination on that date.

Survey wage rates will remain in effect and will not change until a new survey is conducted.

WAGE DETERMINATION APPEALS PROCESS

1.) Has there been an initial decision in the matter? This can be:

- * an existing published wage determination
- * a survey underlying a wage determination
- * a Wage and Hour Division letter setting forth a position on a wage determination matter
- * a conformance (additional classification and rate) ruling

On survey related matters, initial contact, including requests for summaries of surveys, should be with the Wage and Hour Regional Office for the area in which the survey was conducted because those Regional Offices have responsibility for the Davis-Bacon survey program. If the response from this initial contact is not satisfactory, then the process described in 2.) and 3.) should be followed.

With regard to any other matter not yet ripe for the formal process described here, initial contact should be with the Branch of Construction Wage Determinations. Write to:

Branch of Construction Wage Determinations
Wage and Hour Division
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

2.) If the answer to the question in 1.) is yes, then an interested party (those affected by the action) can request review and reconsideration from the Wage and Hour Administrator (See 29 CFR Part 1.8 and 29 CFR Part 7). Write to:

Wage and Hour Administrator
U.S. Department of Labor
200 Constitution Avenue, N.W.

Washington, DC 20210

The request should be accompanied by a full statement of the interested party's position and by any information (wage payment data, project description, area practice material, etc.) that the requestor considers relevant to the issue.

3.) If the decision of the Administrator is not favorable, an interested party may appeal directly to the Administrative Review Board (formerly the Wage Appeals Board). Write to:

Administrative Review Board
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

4.) All decisions by the Administrative Review Board are final.

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END OF GENERAL DECISION

Career Service Authority
Supplemental to the Davis-Bacon *HIGHWAY* Construction Projects rates
(Specific to the Denver Projects)
(Supp 35, Date: 01-13-2012)

Classification		Base	Fringe
Millwrights		\$28.00	\$10.00
Line Construction:			
	Lineman, Gas Fitter/Welder	\$36.88	\$9.55
	Line Eq Operator/Line Truck Crew	\$25.74	\$8.09
Power Equipment Operators (Tunnels Above and Below Ground, shafts and raises):			
	GROUP 1	\$25.12	\$10.81
	GROUP 2	\$25.47	\$10.85
	GROUP 3	\$25.57	\$10.86
	GROUP 4	\$25.82	\$10.88
	GROUP 5	\$25.97	\$10.90
	GROUP 6	\$26.12	\$10.91
	GROUP 7	\$26.37	\$10.94
Power Equipment Operators:			
	GROUP 1	\$22.97	\$10.60
	GROUP 2	\$23.32	\$10.63
	GROUP 3	\$23.67	\$10.67
	GROUP 4	\$23.82	\$10.68
	GROUP 5	\$23.97	\$10.70
	GROUP 6	\$24.12	\$10.71
	GROUP 7	\$24.88	\$10.79
Ironworkers (Ornamental)		\$24.80	\$10.03
Laborers (Removal of Asbestos)		\$21.03	\$8.55
Plumbers		\$30.19	\$13.55
Pipefitters		\$30.45	\$12.85
Truck Drivers:			
	GROUP 1	\$18.42	\$10.00
	GROUP 2	\$19.14	\$10.07
	GROUP 3	\$19.48	\$10.11
	GROUP 4	\$20.01	\$10.16
	GROUP 5	\$20.66	\$10.23
	GROUP 6	\$21.46	\$10.31

POWER EQUIPMENT OPERATOR CLASSIFICATIONS
(TUNNELS ABOVE AND BELOW GROUND, SHAFTS, AND RAISES):

GROUP 1 - Brakeman

GROUP 2 - Motorman

GROUP 3 - Compressor

GROUP 4 - Air Tractors; Grout Machine; Gunnite Machine; Jumbo Form

GROUP 5 - Concrete Placement Pumps; Mucking Machines and Front End Loaders, Underground, Slusher; Mine Hoist Operator; Mechanic

GROUP 6 - Mechanic Welder

GROUP 7 - Mole

NOTE: Any equipment listed below being used in tunnel work, below or above ground shall be paid not less than \$2.00 per hour above the listed wage rates.

POWER EQUIPMENT OPERATOR CLASSIFICATIONS:

GROUP 1 - Air compressor, brakeman, drill operator -smaller than Watson 2500 and similar, operators of 5 or more light plants, welding machines, generators, single unit conveyor, pumps, vacuum well point system, tractor, under 70 hp with or without attachments compressors, 360 C.F.M. or less

GROUP 2 - Conveyor, handling building materials, ditch witch and similar trenching machine, forklift, haulage motor man, pugmill, portable screening plant with or without a spray bar, screening plants, with classifier, self-propelled roller, rubber-tires under 5 tons.

GROUP 3 - asphalt plant, backfiller; cableway signalman; C.M.I. and similar, concrete batching plants, concrete finish machine, concrete gang saw on concrete paving, concrete mixer, less than 1 yd., under 8 inches, distributors, bituminous surfaces dozer, drill, diamond or core, elevating graders, elevator operator, lubricating and service engineer, grout machine, gunnite machine, hoist, 1 drum, horizontal directional drill operator, hydraulic backhoes; road stabilization machine, sandblasting Machine, single unit portable crusher, with or without washer, Tie tamper, wheel mounted, trenching machine operator, winch on truck.

GROUP 4 - Cable operated power shovels, draglines, clamshells, 5 cubic yards and under, concrete mixer over 1 Cubic yard, concrete pavers 34E or similar, grade Checker, hoist, 2 drums, mechanic, mixer mobile, Portable crusher, with or without washer; tractor with sideboom, roto-M ill and similar, welder.

GROUP 5 - Cable operated power shovels, draglines, clamshells and Backhoes over 5 cubic yards, caisson drill Watson 2500 similar or larger, motor grader blade-finish, hoist 3 drum or more.

GROUP 6 - Cableway, derrick, quad nine push unit, wheel excavator, belt or elevating loader.

GROUP 7 - tower cranes all types.

TRUCK DRIVER CLASSIFICATIONS:

GROUP 1 - Greasemen, Servicemen and Ambulance Drivers, Battery Men, Shuttle Truck or Bus, Flat Rack Tandem Axle.

GROUP 2 - Fork Lift Driver, Straddle Truck Driver, Lumber Carrier, Liquid and Bulk Tankers Single Axle, Combination, Euclid Electric or Similar, Specialty and Hoisting, Truck Drivers Fuel Truck, Grease Truck, Combination Fuel and Grease.

GROUP 3 - Truck Driver Snow Plow, Truck Driver Dump or Type Jumbo and similar type equipment.

GROUP 4 - Cement Mixer Agitator Truck over 10 cubic yards to and including 15 cubic yards, Tire Man, Cab Operated Distributor Truck Driver.

GROUP 5 - Heavy Duty Diesel Mechanic, Body Man, Welders or Combination Men.

WELDERS - Receive rate prescribed for craft performing operation to which welding is incidental.

CITY AND COUNTY OF DENVER

STATE OF COLORADO



TECHNICAL SPECIFICATIONS

Contract No. 201206603

DENVER TRAFFIC IMPROVEMENT PROJECT 2012

June 20, 2012

CITY & COUNTY OF DENVER, COLORADO
TRAFFIC IMPROVEMENT PROJECT (TIP) - 2012

The 2011 Colorado Department of Transportation Standard Specifications for Road and Bridge Construction controls construction of this project. The following special provisions supplement or modify the Standard Specifications and take precedence over the Standard Specifications and plans.

PROJECT SPECIAL PROVISIONS

	<u>Date</u>	<u>Page</u>
Index Pages	AD Date, 2012	1-2
Notice To Bidders	AD Date, 2012	3
Prosecution and Progress	AD Date, 2012	4
Contract Goal (Combined)	AD Date, 2012	5
On The Job Training Goal	AD Date, 2012	6
Revision of Section 102 - Project Plans and Other Data	AD Date, 2012	7
Revision of Section 105 - Control of Work	AD Date, 2012	8
Revision of Section 107 - Protection of Existing Vegetation	AD Date, 2012	9-11
Revision of Section 202 - Removal of Traffic Signal Controller and Cabinet	AD Date, 2012	12
Revision of Section 202 - Removal of Traffic Signal Cabinet Base	AD Date, 2012	13
Revision of Section 203 - Potholing	AD Date, 2012	14
Revision of Section 250 - Environmental, Health and Safety Management	AD Date, 2012	15
Revision of Section 608 - Concrete Sidewalk	AD Date, 2012	16-19
Revision of Section 613 - Electrical Conduit - General	AD Date, 2012	20-22
Revision of Section 613 - Pull Box – General	AD Date, 2012	23-24
Revision of Section 613 – Conduit and Fiber Repair	AD Date, 2012	25
Revision of Section 614 - Traffic Signal Cabinet Base (Concrete)	AD Date, 2012	26
Revision of Section 614 - Traffic Signal Cabinet Base (Install Only)	AD Date, 2012	27
Revision of Section 614 - Traffic Signal Controller and Cabinet (Install Only)	AD Date, 2012	28-29
Revision of Section 614 - Spread Spectrum / Ethernet Radio (Install Only)	AD Date, 2012	30
Revision of Section 614 - Telemetry (Field)	AD Date, 2012	31-32
Revision of Section 614 - Test Fiber Optic Cable	AD Date, 2012	33-40
Revision of Section 630 - Uniformed Traffic Control	AD Date, 2012	41
Revision of Section 630 - Construction Zone Traffic Control	AD Date, 2012	42-45
Traffic Control Plan - General	AD Date, 2012	46-47
Force Account Items	AD Date, 2012	48
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CITY & COUNTY OF DENVER, COLORADO
TRAFFIC IMPROVEMENT PROJECT (TIP) - 2012

STANDARD SPECIAL PROVISIONS

	<u>Date</u>	<u>No. of Pages</u>
Revision of Section 105 – Violation of Working Time Limitation	(February 03, 2011)	1
Revision of Section 106 – Certificates of Compliance and Certified Test Reports	(February 03, 2011)	1
Revision of Section 107 – Responsibility for Damage Claims, Insurance Types and Coverage Limits	(February 03, 2011)	1
Revision of Sections 107 and 208 – Water Quality Control, Under One Acre of Disturbance	(February 03, 2011)	3
Revision of Section 108 – Critical Path Method	(August 19, 2011)	1
Revision of Section 109 – Compensation for Compensable Delays	(May 5, 2011)	1
Revision of Section 109 – Fuel Cost Adjustment	(February 03, 2011)	2
Revision of Section 109 – Measurement of Quantities	(February 03, 2011)	1
Revision of Sections 412, 601 and 711 – Liquid Membrane-Forming Compounds for Curing Concrete	(May 5, 2011)	1
Revision of Section 601 – Concrete Batching	(February 3, 2011)	1
Revision of Section 601 – Concrete Finishing	(February 03, 2011)	1
Revision of Section 601 – Concrete Form and Falsework Removal	(July 29, 2011)	2
Revision of Section 601 – Concrete Slump Acceptance	(July 29, 2011)	1
Revision of Section 630 – Construction Zone Traffic Control	(February 03, 2011)	1
Revision of Section 630 – Retroreflective Sheeting	(February 03, 2011)	1
Revision of Section 630 – Retroreflective Sign Sheeting	(February 03, 2011)	1
Revision of Section 703 – Concrete Aggregate	(July 29, 2011)	1
Revisions of Section 712 – Water for Mixing or Curing Concrete	(February 03, 2011)	1
Affirmative Action Requirements – Equal Employment Opportunity	(February 03, 2011)	10
Disadvantaged Business Enterprise – Definitions and Requirements	(February 03, 2011)	14
Minimum Wages Colorado, U.S. Department of Labor General Decision Numbers CO100016 and CO100024, MOD 2, Highway Construction, Statewide	(January 06, 2012)	56
On the Job Training	(July 29, 2011)	3
Partnering Program	(February 03, 2011)	1
Required Contract Provisions – Federal-Aid Construction Contracts	(February 03, 2011)	10

NOTICE TO BIDDERS

The proposal guaranty shall be a certified check, cashier's check, or bid bond in the amount of 5 percent of the Contractor's total bid.

Pursuant to subsections 102.04 and 102.05, it is recommended that bidders on this project review the work site and plan details with an authorized City representative. Prospective bidders shall contact one of the following listed authorized City representatives at least 12 hours in advance of the time they wish to go over the project.

Project Engineer/Manager: Mr. Tam Nguyen, P.E.
City & County of Denver
Department of Public Works – Engineering Division
201 West Colfax Avenue, Dept. 508
Denver, CO 80202
Office Phone: 720-865-3156
Tam.nguyen@denvergov.org

The above referenced individual(s) are the only representative(s) of the City with authority to provide any information, clarification, or interpretation regarding the plans, specifications, and any other contract documents or requirements.

PROSECUTION AND PROGRESS

Section 108 of the Standard Specifications is hereby revised for this project as follows:

The Contractor shall select the date that work begins for this project, subsequent to the "Notice to Proceed". The Contractor shall notify the Project Engineer, in writing, at least 20 days before the proposed beginning date. The Contractor shall complete all work within 180 calendar days in accordance with the "Notice to Proceed".

Stockpiling of materials before the beginning date is subject to the Project Engineer's approval. If such approval is given, stockpiled material will be paid for in accordance with sections 109 and 626.

Subsection 108.03 shall include the following:

The Contractor's progress schedule may be a Bar Chart Schedule. Salient features to be shown on the Contractor's progress schedule are:

1. Controller Cabinet Replacement/Upgrades
2. Pull Box/Conduit Replacement
3. Fiber Cable Testing
4. Fiber/Conduit Repair
5. Erosion/Sediment Control
6. Construction Traffic Control

Revisions to the salient features may be made with the approval of the Project Engineer. All paperwork required by the City shall be submitted prior to beginning the work.

CONTRACT GOAL (COMBINED)

The Department has determined that Underutilized Disadvantaged Business Enterprises (UDBEs) will participate by contracting for a part of the work of this Contract. The contract goal for participation in this Contract by certified DBEs who have been determined to be underutilized has been established as follows:

UDBE * 0%

The percentage will be calculated from proposals received for this project according to the following formula:

$$\text{Percentage} = 100 \times \frac{\text{**Dollar amount of work to be contracted to underutilized DBEs (UDBEs)}}{\text{Total dollar amount of the original Contract}}$$

* All DBEs will be considered to be UDBEs.

** Based on DBE contract unit prices rather than prime contract unit prices.

NOTE: Specific Good Faith Efforts required to meet the Contract Goal specified above are defined in the Standard Special Provisions. In addition, the Transportation Commission has determined an overall 12.69 percent annual goal for the participation of all DBEs.

ON THE JOB TRAINING GOAL

The Department has determined that On the Job Training shall be provided to trainees with the goal of developing full journey workers in the types of trade or classification involved. The contract goal for On the Job Trainees working in an approved training plan in this Contract has been established as follows:

Minimum number of total On the Job Training required: 0 hours

**REVISION OF SECTION 102
PROJECT PLANS AND OTHER DATA**

Section 102 of the Standard Specifications is hereby revised for this project as follows:

Subsection 102.05 shall include the following:

The following information will be available for review at the City & County of Denver, Department of Public Works – Engineering Division, 201 West Colfax Avenue, Dept. 508, Denver, CO 80202, until the date set for the opening of bids:

1. Construction Plans: Denver Traffic Improvement Project (TIP) 2012; prepared by Felsburg Holt & Ullevig.
2. Construction Project Special and Standard Provisions: Denver Traffic Improvement Project (TIP) 2012.

**REVISION OF SECTION 105
CONTROL OF WORK**

Subsection 105.11 shall include the following:

The Contractor shall coordinate with the City and County of Denver and the Colorado Department of Transportation to identify any ongoing or proposed construction activity in the vicinity of the project. The Contractor shall coordinate and cooperate fully with any and all other contractors doing construction work within the limits of the project.

The Contractor shall coordinate construction activities, detours, traffic control and lane closures so as to not adversely impact that contractor's operations or the traveling public.

REVISION OF SECTION 107 PROTECTION OF EXISTING VEGETATION

Section 107 of the Standard Specifications is hereby revised for this project as follows:

Subsection 107.12 shall include the following:

The Contractor shall save all existing vegetation (including trees, shrubs, ground covers, grasses, wetlands & riparian) in this area, except for that vegetation, which must be removed to accommodate construction of the project, per the plans. Specific areas of vegetation to be protected shall be as directed by the Project Engineer and shall be protected by using orange construction fencing, wire fencing with metal posts or silt fence. Fencing for trees shall be installed at the drip line of the tree or as approved by the Project Engineer. Equipment shall not be installed or stockpile material within 15 feet of existing trees to remain.

The City of Denver Parks & Recreation requires compliance with the following when work is required around trees in the public right of way. Trenching techniques shall comply with: **(1)** Trenching shall be no closer to the tree than the drip line (the area under the tree branches); **(2)** Adjust the route to avoid roots as much as possible; **(3)** Store soil opposite the tree side of the trench; **(4)** Backfill quickly and cleanly, and water roots deeply; **(5)** Tunneling/boring shall be at least 4 feet below ground; **(6)** No excavation or equipment storage shall occur in the critical root zone (see Standard Tree Detail for Tree Protection Area to calculate critical root zone area); **(7)** All pit locations shall be staked and approved prior to an excavation; **(8)** No root 2 inches or larger shall be cut; **(9)** Minimize the work pit to no wider than the trench; **(10)** Where equipment is working near trees, protective fencing shall be erected at or just outside the drip line (see Standard Tree Detail for Tree Protection Area); **(11)** Prevent soil compaction by adding six to twelve inches of wood chips; **(12)** A licensed tree company shall be retained to prune broken branches as well as compensatory pruning if necessary to help the tree recover from root loss; **(13)** The City & County of Denver *Tree Retention and Protection Specifications* must be followed. For a copy of the Tree Protection Specifications, please contact the Forestry Office of Denver Parks and Recreation at 720-913-0651.

The following list indicates intersections in which one or more trees may be impacted by proposed work (work within dripline). The Contractor shall coordinate closely with the Project Manager and City Forestry (Eric Huetig, 720-913-0752) regarding these sites:

- | | | |
|----|--------------|----------------------|
| 1. | Sheridan | Yale and |
| 2. | and Sheridan | Warren |
| 3. | and Sheridan | Louisiana |
| 4. | and Federal | Dartmouth |
| 5. | Federal | Evans and |
| 6. | and Federal | Arkansas |
| 7. | and Federal | Louisiana |
| 8. | Federal | 35 th and |
| 9. | | I-70 EB |

On-Ramp and Federal

The Contractor shall perform all the work in such a manner that the least environmental damage will result. All questionable areas or items shall be brought to the attention of the Project Engineer for approval prior to removal or any damaging activity.

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**REVISION OF SECTION 107
PROTECTION OF EXISTING VEGETATION**

The Contractor shall promptly report any vegetation damaged or scarred during construction to the Project Engineer for assessment of damages. Damaged or destroyed fenced vegetation, shall be replaced at the expense of the Contractor. Vegetation of replaceable size shall be replaced at the Contractor's expense. When trees, shrubs beyond replaceable size or wetlands have been damaged or destroyed, the Contractor shall be liable for the appraised value based upon the official current publications. For trees and shrubs use the International Society of Arboriculture, Guide for Plant Appraisals. The Contractor shall pay any fines or jail time should a wetland be damaged, at no cost to the project. The value of disturbed vegetation shall be calculated according to the following formula:

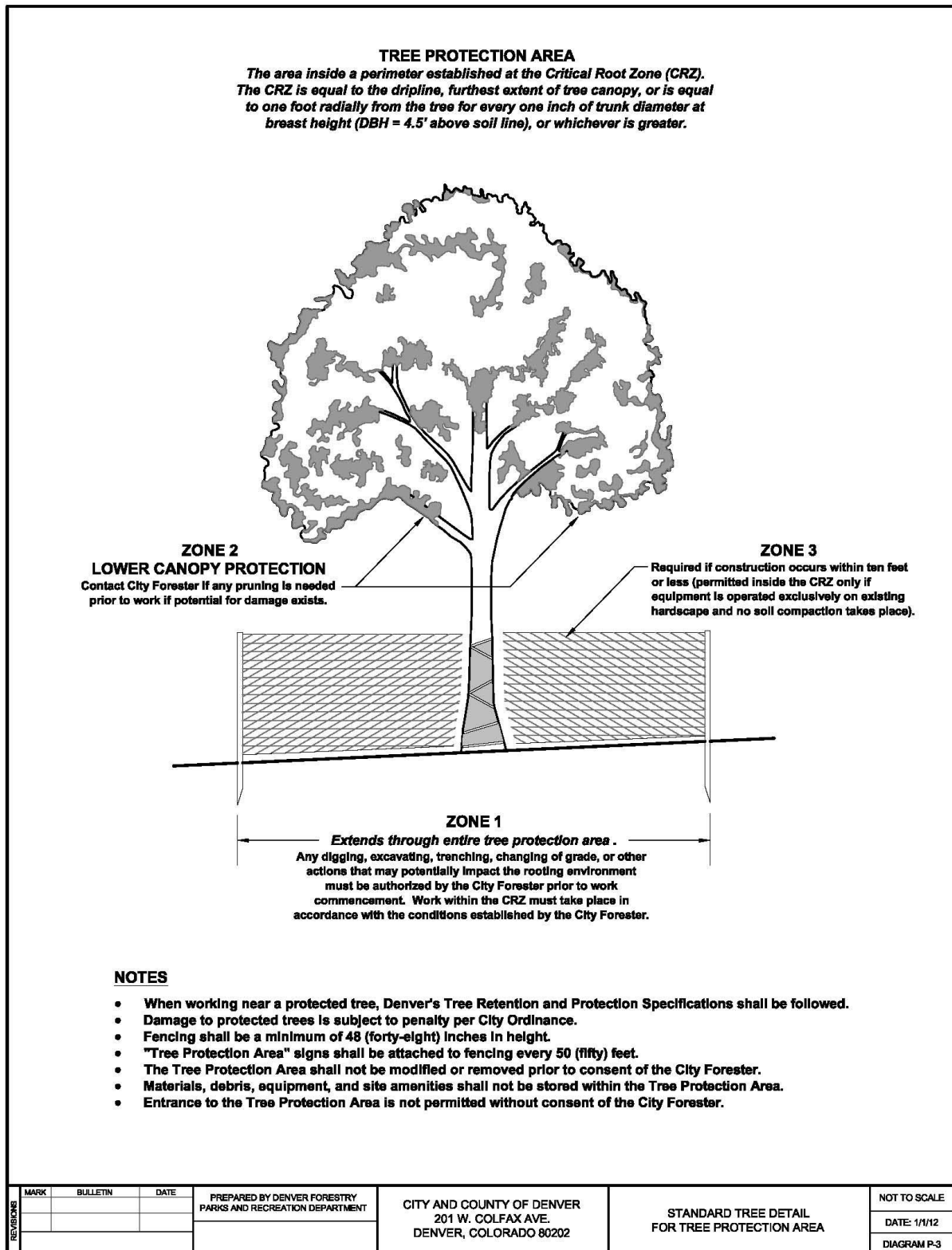
$$\text{Vegetation value} = (\text{Vegetation size}) \times (\text{Species}) \times (\text{Location}) \times (\text{Condition}) \times (\text{Arborist or Wetland Specialist})$$

A consulting Arborist retained by the City will determine the value of the trees and shrubs. A consulting Wetland Specialist shall determine the value of the wetland or wetland species. This value will be deducted from any money due to the Contractor.

The determination as to whether a plant is of replacement size or beyond will be made by the City's Landscape Architect or Wetland Specialist.

If the fence is knocked down or destroyed by the Contractor, the Project Engineer will suspend the work, wholly or in part, until the fence is repaired to the Project Engineer's satisfaction at the Contractor's expense. Time lost due to such suspension will not be considered a basis for adjustment of time charges, but will be charged as contract time.

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**REVISION OF SECTION 107
PROTECTION OF EXISTING VEGETATION**



**REVISION OF SECTION 202
REMOVAL OF TRAFFIC SIGNAL CONTROLLER AND CABINET**

Section 202 of the Standard Specifications is hereby revised for this project as follows:

DESCRIPTION

Subsection 202.01 shall include the following:

This work consists of the removal of existing traffic signal controllers, cabinets and all cabinet appurtenances as described herein.

CONSTRUCTION REQUIREMENTS

Subsection 202.02 shall include the following:

The removed traffic signal cabinets and all appurtenances, including controller(s) and all other equipment internal to the cabinet shall be salvaged and returned to the City & County of Denver maintenance yard at 5440 Roslyn Street. Existing traffic signal controller cabinets that require removal are identified in the plans.

It is anticipated that existing concrete (M1 type) cabinet foundations can remain in place, and the new preformed polymer concrete cabinet foundations will be installed over them. In the event that this is not feasible, the existing concrete foundations shall be removed and paid for as Removal of Traffic Signal Cabinet Base.

Care shall be taken to not damage existing signal conductors, fiber cable or other wiring to ensure that they can be reused upon installation of the new controller cabinet. Conduits and any existing wiring shall be preserved for future use as described in the plans. If a new cabinet is not to be placed immediately on the foundation, the Contractor is to take appropriate measures to protect existing conduits, conductor cables and other signal wiring from damage or tampering.

Times for delivery of removed items to the City & County of Denver Traffic Maintenance yard shall be coordinated with Denver Traffic Operations. Contact Chris Lillie at (720) 865-3156.

METHOD OF MEASUREMENT

Subsection 202.11 shall include the following:

Removal of Traffic Signal Controller and Cabinet shall be measured by the number of locations and shall include physical removal of the cabinet and interior equipment; and delivery of indicated items to the City and County of Denver traffic maintenance yard. Delivery to the maintenance yard shall be considered included in the unit price for this item and will not be paid separately.

BASIS OF PAYMENT

Subsection 202.12 shall include the following:

Payment will be made under:

Pay Item
Removal of Traffic Signal Controller and Cabinet

Pay Unit
Each

**REVISION OF SECTION 202
REMOVAL OF TRAFFIC SIGNAL CABINET BASE**

Section 202 of the Standard Specifications is hereby revised for this project as follows:

DESCRIPTION

Subsection 202.01 shall include the following:

This work consists of the removal of existing concrete or fiberglass traffic signal cabinet bases.

CONSTRUCTION REQUIREMENTS

Subsection 202.02 shall include the following:

Work shall include the removal of concrete or fiberglass foundations, surrounding surface material, and modification/adjustment or replacement of the existing conduit sweeps. All debris is to be disposed of in accordance with applicable laws and regulations. Care shall be taken to not damage existing signal conductors, fiber cable or other wiring to ensure that they can be reused upon installation of the new cabinet foundation.

At any location where the existing cabinet foundation needs to be removed and the new cabinet will be installed at a new location; the old foundation shall be replaced with a new traffic pull box and the existing conduit adjusted as necessary. All surface materials such as concrete sidewalks shall be repaired in accordance with Denver Public Works Rules and Regulations.

Conduits and any existing wiring shall be preserved for future use as described in the plans. If a new cabinet is not to be placed immediately on the foundation, the Contractor is to take appropriate measures to protect existing conduits, conductor cables and other signal wiring from damage or tampering.

METHOD OF MEASUREMENT

Subsection 202.11 shall include the following:

Removal of Traffic Signal Cabinet Base shall be measured by the number of locations that require the physical removal of a concrete or fiberglass foundation.

Work shall include physical removal and disposal of existing foundation and surface material, back-filling or repair of excavated foundation location, including any required conduit modifications, adjustments or replacement at the removal location.

BASIS OF PAYMENT

Subsection 202.12 shall include the following:

Payment will be made under:

Pay Item	Pay Unit
Removal of Traffic Signal Cabinet Base	Each

**REVISION OF SECTION 203
POTHOLING**

Section 203.05(g) of the Standard Specifications shall be modified to include the following:

All surface material disturbed by potholing shall be fully restored in kind, in accordance with the provisions of the *Standards and Details for the City and County of Denver* (April 2000).

METHOD OF MEASUREMENT

Subsection 203.13 shall include the following:

Potholing will be paid for by the number of locations that are potholed for the purpose of locating utilities or other underground obstructions that could be impacted by construction related activity. All associated work activity and labor, such as removal and replacement of existing pavement and/or sidewalks, excavation, backfilling and shoring, shall be considered incidental to the work.

BASIS OF PAYMENT

Subsection 203.14 shall include the following:

Payment will be made under:

Pay Item
Potholing

Pay Unit
Each

**REVISION OF SECTION 250
ENVIRONMENTAL, HEALTH AND SAFETY MANAGEMENT**

Section 250 of the Standard Specifications is hereby revised for this project as follows:

DESCRIPTION

Subsection 250.01 shall include the following:

There is potential for encountering hazardous materials in the Project area. Workers shall be alert during excavations for visual and olfactory signs of contamination. If soil and/or groundwater contamination is encountered during boring and excavation type activities, work will stop immediately and the procedures outlined in the Colorado Department of Transportation Specification 250 Environmental, Health and Safety Management shall be followed.

METHOD OF MEASUREMENT

Environmental Health and Safety Management shall include the Monitoring Technician hours, material sampling and handling of contaminated materials. Analytical work, transportation and material disposal will be paid using the Environmental Health and Safety Management Force Account.

BASIS OF PAYMENT

Payment will be made under:

Pay Item	Pay Unit
F/A Environmental Health and Safety Management	FA

REVISION OF SECTION 608 CONCRETE SIDEWALK

Section 608 of the Standard Specifications shall be deleted in its entirety and replaced with the following:

DESCRIPTION

608.01 This work shall consist of the removal and replacement of concrete sidewalks and curb ramps in accordance with these specifications and in conformity with locations shown on the plans or as specified by the Engineer or Engineer's designee in the field.

MATERIALS

608.02 Materials shall meet the requirements specified in the following subsections:

Joint Fillers 705.01

Concrete for sidewalks and curb ramps shall be Class P with an air entrainment of 5-8% to address freeze thaw expansion/contraction. Concrete sidewalks shall have a broom finish with natural color as specified in subsections 601.02 and 601.03, except that No. 67 coarse aggregate shall be used.

Any curb ramp concrete shall be integrally colored with pigment #1117 as manufactured by Davis Colors at the rate of 4 pounds per sack of cement, or of an equal color and intensity approved by the Engineer or Engineer's designee, and cured with a non-pigmented "clear" curing compound. The Engineer or Engineer's designee may adjust the color additive + or - one pound, if desired. The color and pattern of any concrete replacement shall match the adjacent existing concrete.

All concrete used for sidewalks, curb ramps, and driveways shall be reinforced with polypropylene fibers. Polypropylene fibers shall be FIBERMESH or FORTA FIBRE. Length of fibers shall be as recommended by the manufacturer. Add 1.5 pounds FIBERMESH or FORTA FIBRE per cubic yard of concrete. The fiber additive utilized in the concrete mix shall be that supplied by the Fibermesh Company, 4019 Industry Drive, Chattanooga, TN, 37416, (800) 635-2308, or approved equal. The contractor shall submit five (5) copies of fibrous concrete reinforcement product data for use by the Engineer.

Concrete will be subject to inspection and tests as required to assure compliance with quality requirements.

The use of calcium chloride is prohibited.

CONSTRUCTION REQUIREMENTS

608.03 Concrete Sidewalks

- (a) *Excavation.* Excavation shall be made to the required depth and to a width that will permit the installation and bracing of the forms. The foundation shall be shaped and compacted to a firm even surface conforming to the section shown on the plans or as staked in the field. Where excavation to the finished grade elevation results in sub-grade of unsuitable soil, the Engineer or Engineer's designee may designate the unsuitable material to be removed and replaced with approved material. The removal of unsuitable material and backfill with Class 6 Aggregate Base Course, or other material approved by the Engineer or Engineer's designee, shall not be measured or paid for separately but

included in the cost of sidewalk.

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**REVISION OF SECTION 608
CONCRETE SIDEWALK**

- (b) *Forms.* Forms shall be of wood, metal, or other suitable material, and shall extend for the full depth of the concrete. All forms shall be straight, free from warp and of sufficient strength to resist the pressure of the concrete without springing. Bracing and staking of forms shall be such that the forms remain in both horizontal and vertical alignment until their removal. A satisfactory slip-form method may be used.
- (c) *Placing Concrete.* The foundation shall be thoroughly moistened immediately prior to the placing of the concrete. The proportioning, mixing and placing of the concrete shall be in accordance with the requirements for the class of concrete specified.
- (d) *Finishing.* Finishing shall occur only after the disappearance of bleed water. The addition of superficial water to the surface of concrete to assist in finishing operations will not be permitted. Sprinkling of pigment onto the fresh surface will not be permitted.

All outside edges of the slab and all joints shall be edged with a 6 mm (¼ inch) radius edging tool.

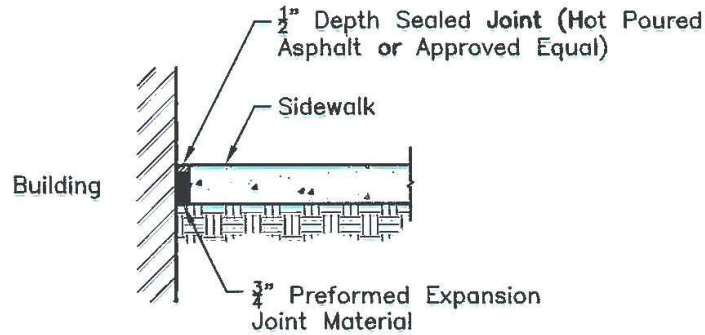
- (e) *Joints.* Expansion joints, at intervals of not more than 150 m (500 feet), shall be filled with 13 mm (½ inch) thick full depth, preformed expansion joint filler. The sidewalk shall be divided into sections by dummy joints formed by a jointing tool or other acceptable means as directed. These dummy joints shall extend into the concrete for at least ¼ of the depth and shall be approximately 3 mm (1/8 inch) wide. Dummy joints shall be spaced at intervals approximately equal to the width of the sidewalk. Construction joints shall be formed around all appurtenances such as manholes, utility poles, etc., extending into and through the sidewalk. Preformed expansion joint filler 13 mm (½ inch) thick shall be installed in these joints. Expansion joint filler 13 mm (½ inch) thick or the thickness indicated shall be installed between new concrete and any fixed structure such as a building or bridge. This expansion joint material shall extend for the full depth for the contact surface.
- (f) *Curing.* Immediately upon completion of the finishing, sidewalks shall be moistened and kept moist for three days, or they shall be cured by the use of membrane forming curing compound. The method and details of curing shall be subject to the approval of the Engineer or Engineer's designee.

During the curing period all traffic, both pedestrian and vehicular, will be excluded. Vehicular traffic will be excluded for such additional time as the Engineer or Engineer's designee may direct.

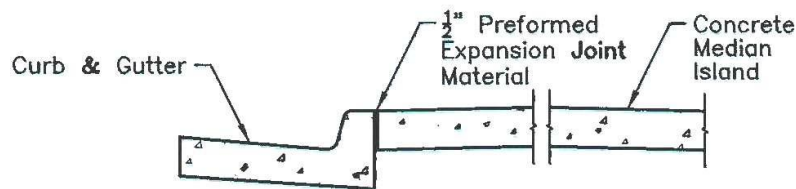
The contractor shall insure that new concrete items built under this contract drain properly and, as such, there are no areas of standing water on the new concrete items.

The Contractor shall protect all new concrete items built under this Contract against defacement, or other injury, from any cause. If said damage cannot be adequately repaired to the satisfaction of the Engineer or Engineer's designee, the Contractor shall remove and replace the unacceptable items at Contractor's expense.

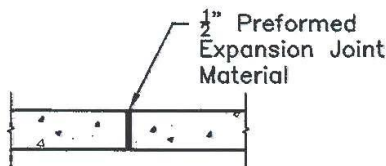
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REVISION OF SECTION 608
CONCRETE SIDEWALK



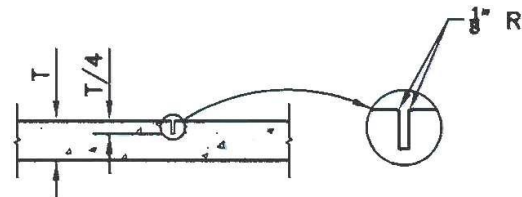
SIDEWALK EXPANSION JOINT AT BUILDINGS



CURB & GUTTER/CONCRETE MEDIAN ISLAND EXPANSION JOINT




SIDEWALK EXPANSION JOINT



② CURB & GUTTER/
SIDEWALK TOOLED JOINT

Notes:

1. Concrete sidewalk tooled joint spacing:
 - 10' – combination curb & gutter sidewalks
 - 10' – curb & gutter, curb head, or mountable curb
 - 5' – detached and attached sidewalks
2. For sidewalks, expansion joints shall be provided every 100' to 120' and shall extend the full depth of the concrete walk.
3. Expansion joint material shall be installed between new sidewalk and existing buildings (see detail above).
4. Expansion joint material shall be installed between new sidewalk and existing concrete slabs, inlets, fire hydrants, poles, and other fixed objects.
5. Expansion joint material between curb and sidewalk is required when sidewalk abuts back of curb on concrete streets.
6. These details and notes do not apply to bike paths – See Parks & Recreation Standards.

	City and County of Denver Department of Public Works	Date: 2/12
	Curb & Gutter and Sidewalk Joint Details	STD. DWG. NO. 5.4

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**REVISION OF SECTION 608
CONCRETE SIDEWALK**

METHOD OF MEASUREMENT

608.05 Concrete sidewalks and curb ramps will be measured by the square yard of finished surface.

Saw cutting & removal of existing sidewalk panels, curb ramps, excavation to the proposed sub-grade elevation and backfilling will not be measured or paid for separately but shall be included in the concrete installation.

BASIS OF PAYMENT

608.06 The accepted quantities will be paid for at the contract unit price for each of the pay items listed below that appear in the bid schedule. Sidewalk and Curb ramp replacement will both be paid for as Concrete Sidewalk.

Payment will be made under:

Pay Item	Pay Unit
Concrete Sidewalk	Square Yard

Note: For purposes of measurement, the average thickness of concrete replacement shall be assumed to be 8 inches. The actual thickness of concrete required shall match the depth of the adjacent existing concrete, but shall be no less than 6 inches.

REVISION OF SECTION 613 ELECTRICAL CONDUIT - GENERAL

Section 613 of the Standard Specifications is hereby revised for this project as follows:

DESCRIPTION

Subsection 613.01 shall include the following:

This work includes furnishing and installing electrical conduit for use with and without fiber optic or other signal cables. All materials furnished, assembled, fabricated, or installed under this item shall be new, corrosion resistant and in strict accordance with the details, and these Special Provisions.

CONSTRUCTION REQUIREMENTS

Subsection 613.07 shall include the following:

Directional boring is the preferred method of conduit installation. 2 Inch and 3 Inch Electrical Conduit (Plastic) applies to conduits that require installation by means of trenching (open excavation). 2 Inch and 3 Inch Electrical Conduit (Bored) applies to conduit installed using directional boring or jacking technology. Open trenching will not be allowed except as identified in the plans or as directed by the Project Engineer.

Any excavations that are required for the installation of conduit or cable shall be performed in such a manner as to avoid unnecessary damage to streets, sidewalks, landscaping, sprinkler systems and other improvements. Trenches shall not be excavated wider than necessary for the installation of the electrical appurtenances. Excavation shall not be performed until immediately before installation of conduits. The material from the excavation shall be placed in a position not to cause damage or obstruction to vehicular or pedestrian traffic or interfere with surface drainage.

Trenches shall be made with a rock-wheel or other machine capable of cutting a narrow trench (4") so as to allow traffic to pass over prior to back filling. The machine shall be equipped with shields to direct the spoil downward and away from passing vehicles, workmen and pedestrians.

Off-street trenches shall be back-filled with the same material that was removed and shall be compacted and shaped to match the surrounding surface. On-street trenches within ALL roadway areas shall be back-filled with CDOT approved Structure Backfill (Flow-Fill) and capped with 9" minimum of Hot Mix Asphalt Pavement (Patching) in accordance with Section 403 and City and County of Denver Street Cut Regulations if applicable. If surrounding pavement depth is greater than 9 inches, the HMA (Patching) depth shall match the existing pavement.

All surface materials including sprinkler systems, landscaping, shrubs, sod grass, and native growth vegetation which is disturbed by trenching and back-filling operation shall be restored in kind equal to or exceeding the original conditions.

All conduit runs that will not have a copper conductor installed shall have a #14 AWG stranded copper conductor placed inside for locating purposes. Locating conductor and tape will not be measured and paid separately, but shall be included in the unit price for conduit.

Conduit shall always enter a pull box, hand-hole, or any other type structure from the direction of the run only.

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REVISION OF SECTION 613
ELECTRICAL CONDUIT – GENERAL

All conduits shall be fully compatible with fiber optic cable. Plastic conduit shall be Schedule 80 in the diameters shown on the plans. Each conduit shall be equipped with a pull tape and each bore shall have a copper tracer wire of at least 14 gauge.

Each conduit shall be equipped with either a pull rope or pull tape, depending on the length of conduit between pull boxes.

Each conduit with a length greater than 400 feet between pull boxes, shall be equipped with a pull tape. The pull tape shall have a minimum tensile strength of 1250 lbs. and be of a design and manufacture that prevents cutting or burning into the conduit during cable installation.

Each conduit with a length of 400 feet or less between pull boxes shall be equipped with a pull rope or pull tape. The pull rope shall have a minimum tensile strength of 1250 lbs.

Plastic PVC conduit shall be certified by the manufacturer as meeting ANSI/UL 6 and 651. The manufacturer shall be ISO 9000 compliant.

If the contractor is unable to jack or bore the conduit at the lengths shown on the plans from pull box to pull box, all splice couplings and associated work to splice the conduit shall be included in the cost of this item. This shall include excavation down to the required depth of conduit at the splice location. Also included in the cost of this item are all landscape repairs, which will be required after excavation of conduit at all splice locations. All splice couplings shall be water and air tight and installed at a depth to match the remaining run of conduit. No elevation difference will be allowed. Splices shall be kept to a minimum and all locations shall be approved by the City. Additional pull boxes shall not be substituted for splices.

All conduit bends, including factory-installed bends, shall not have a bend radius less than six times the inside diameter of the conduit.

Conduit plugs for sealing conduit shall also be supplied and installed in all open conduit ends as soon as the conduit is installed. Plugs shall be durable, fabricated from no metallic parts, be of the split design to allow removal and reinstallation around in-place cables and be easily removable and reusable. Plugs shall be capable of being installed by hand without any tools and shall provide a water and air tight seal of at least 100 psi and shall cause no damage to the cable when installed.

At some locations (as illustrated on the Plans or in these specifications, or as directed by the Engineer), new conduits shall be installed in an existing pull box. At these locations, the Contractor shall carefully excavate around the pull box and install the new conduit in the pull box in a manner that meets the requirements of this Special Provision. The Contractor shall not damage the existing pull box. If the existing pull boxes or concrete collars are cracked or damaged during conduit installation, the Contractor shall be required to replace either or both conforming to the requirements of the contract at no additional cost.

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**REVISION OF SECTION 613
ELECTRICAL CONDUIT - GENERAL**

At locations that require conduit to be installed above ground, such as connections to surface mounted pull boxes, Liquid-tight Flexible Metal Conduit (LFMC) shall be provided with appropriate fittings and connection hardware. Such conduit shall have a galvanized, high-tensile strength, flexible steel strip inner core (helically wound with sealing cord), and the outer core shall be a UV resistant, liquid-tight smooth PVC sheath that is “keyed” into the inner steel core.

METHOD OF MEASUREMENT

Subsection 613.10 shall include the following:

Electrical Conduit will be measured by the Linear Feet of conduit, and shall be installed in accordance with the Plans, these Special Provisions, the Project Standards or as directed by the Engineer or Engineer’s designee. Electrical Conduit will include groundwork, sweeps, pull cord, copper tracer wire, adapters, fittings, splice couplings, conduit plugs (for conduits both with and without fiber optic cable), equipment, labor, and all other items necessary to complete the work. Potholing shall be paid for separately.

Replacement of irrigation systems and landscaping shall be considered incidental to the conduit installation and will not be paid for separately.

BASIS OF PAYMENT

Subsection 613.12 shall include the following:

Payment will be made under:

Pay Item	Pay Unit
2 Inch Electrical Conduit (Plastic)	Linear Feet
3 Inch Electrical Conduit (Plastic)	Linear Feet

REVISION OF SECTION 613 PULL BOX – GENERAL

Section 613 of the Standard Specifications is hereby revised for this project as follows:

DESCRIPTION

Subsection 613.01 shall include the following:

At locations shown in the plans, the Contractor shall install one or more pull boxes of the size and type indicated in the following section. This work shall also include the removal and replacement of existing pull boxes at locations specified in the plans.

MATERIALS

Subsection 613.02 shall include the following:

All traffic signal pull boxes, except surface mounted ones, shall be made of fiberglass reinforced polymer concrete and shall be designed to support a minimum service load of 15,000 pounds over a 10" x 10" square. Pull boxes shall be of the type specified in the plans. The pull box shall have a detachable cover that has a skid-resistant surface. Any boxes that are installed to house traffic signal cables shall have the words "TRAFFIC SIGNAL" physically impressed (not painted) on its top. The traffic pull boxes shall have minimum inside dimensions of 30.5" long by 17.5" wide by 24" deep. Electric pull boxes, or Pull Box (Type A), shall have the words "ELECTRIC" physically impressed on their top. The pull box shall have minimum inside dimensions of 23.25" long by 13.75" wide by 12" deep. Non-standard bolts shall not be used

All traffic communication pull boxes shall have the words "TRAFFIC COMM" physically impressed (not painted) on its top. The interconnect pull boxes or Pull Box (Special) shall have minimum inside dimensions of 30.5" long by 17.5" wide by 24" deep. The covers shall be attached to the pull box body by screw-in bolts and shall have two lift slots to aid in the removal of the lid.

Pull boxes that are to be in traveled ways shall be outfitted with traffic bearing lids rated for HS 20-44 loads. The pull boxes shall have a special concrete footing extending 8 inches around the outside and 6 inches around the inside of the pull box bottom, as shown in the plans. Pull boxes installed in dirt or landscape areas shall have a 12 inch wide by 6 inch thick concrete collar placed around the top in lieu of the concrete footing, as shown in the plans.

When the plans call for a fiber optic cable location marker to be installed at the pull box location, the concrete foundation support for the location marker shall be placed monolithically with the concrete collar.

All concrete collars, footings, and location marker supports shall be Portland Cement Concrete Class B and shall be in accordance with Section 601.

At some intersections, existing pull boxes and conduits may need to be modified to accommodate minimum bend requirements of interconnect cable and/or splice closures. At the direction of the Engineer or Engineer's designee, the Contractor shall remove existing pull boxes and replace with a pull box large enough to meet the interconnect manufacturer's recommended minimum bend radius or the splice closure requirements. Replacement of pull boxes to accommodate these requirements will be paid for as Pull Box (Special), Pull Box (Traffic) or Pull Box (Type A) as specified in the plans.

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**REVISION OF SECTION 613
PULL BOX – GENERAL**

Pull Box (Surface Mounted), if specified, shall be a watertight aluminum type enclosure with a hinged front door and have a least a NEMA 3R rating. Such enclosures are intended for above ground applications only, and the hinged door shall be provided with both a weather tight seal and a key lock mechanism. Surface mounted pull boxes shall be of the dimensions shown in the plans (or a minimum 20" long by 16" high by 8 inches deep), and shall be mounted on or embedded into hard surfaces such as bridge decks, concrete barriers, retaining walls, or buildings, as shown on the plans. Surface mounted pull boxes shall be attached using 3/8-inch epoxy anchors or other methods, as approved by the Engineer. Surface mounted pull boxes shall not be used for ground installations. Connection between surface mounted pull boxes and nearest communication pull boxes shall be by means of Liquid-tight Flexible Metal Conduit (LFMC).

METHOD OF MEASUREMENT

Subsection 613.11 shall include the following:

Pull Box (Special), Pull Box (Surface Mounted), Pull Box (Traffic) and Pull Box (Type A) shall include the removal of any existing pull box, installation of the new pull box, modification of conduit ends, restoration of disturbed surface materials, and all other work necessary to complete the installation. Pull Box – General shall be measured and paid on the basis of the number of pull boxes installed as specified in the plans.

BASIS OF PAYMENT

Subsection 613.12 shall include the following:

Payment will be made under:

Pay Item	Pay Unit
Pull Box (Special)	Each
Pull Box (Traffic)	Each
Pull Box (Type A)	Each

REVISION OF SECTION 613 CONDUIT AND FIBER REPAIR

Section 613 of the Standard Specifications is hereby revised for this project as follows:

DESCRIPTION

Subsection 613.01 shall include the following:

This work includes replacing damaged fiber optic cables and repairing underground communication conduit that are discovered to be damaged along the project corridor(s).

CONSTRUCTION REQUIREMENTS

Subsection 613.10 shall include the following:

The Contractor shall be responsible for proofing all existing fiber optic cables that are located between each of the traffic signal controller cabinets within the project limits. Proofing shall be conducted to establish the integrity of all used and unused fiber optic strands.

Any fiber optic cable strands that are discovered to be damaged shall be located in the field and repaired by means of replacing fiber optic cable between existing communication pull boxes. In addition to repairing/replacing the fiber optic cable, it is anticipated that damaged conduit will also be encountered at the location where the fiber cable was damaged. Any damage to existing communication conduit shall also be repaired before replacing the fiber optic cable.

Fiber repair work shall include testing of the fiber optic cable to verify the integrity of the fiber strands (refer to the testing project special provision herein).

METHOD OF MEASUREMENT

Subsection 613.11 shall include the following:

Fiber optic cable and conduit repair work shall include all labor and materials, including excavation and backfilling, required to restore the integrity of the fiber optic cable and associated communication conduit to a fully functional and protected state. This work shall also include isolating the exact location of the damaged fiber cable and conduit.

No separate payment will be made for fiber optic cable, communication conduit/fittings, fiber splicing, optical enclosures, or fiber optic cable testing.

BASIS OF PAYMENT

Subsection 613.12 shall include the following

Payment will be made under:

Pay Item
Conduit and Fiber Repair

Pay Unit
Each

**REVISION OF SECTION 614
TRAFFIC SIGNAL CABINET BASE (CONCRETE)**

Section 614 of the Standard Specifications is hereby revised for this project as follows:

DESCRIPTION

Subsection 614.01 shall include the following:

This work shall consist of the installation of a new concrete foundation for supporting an M1 and G-type (UPS) cabinet, or at some locations, just an expanded G-type concrete base immediately adjacent to an existing concrete, M1-type cabinet base.

CONSTRUCTION REQUIREMENTS

Subsection 614.10 shall include the following:

At locations specified in the plans where the existing concrete or fiberglass foundation will be removed, and a new M1 and G-type cabinet will be installed, a full concrete foundation shall be installed. The dimensions of the base shall be approximately 66" by 24" by 24" high.

At locations specified in the plans where an existing M1-type concrete base is to remain in place, and a new M1 and G type cabinet are to be installed, an expanded concrete base shall be installed. This expanded base will support a City furnished G-Type UPS Cabinet. The dimensions of the expanded base shall match the height and width of the existing M1 base, or approximately 24" by 24" by 24" high. The space between each of the concrete bases shall be fully sealed with a non-shrinkable type, concrete grout.

If the cabinet base needs to be relocated from its existing location, the Contractor shall ensure that a minimum 4' wide pedestrian path is maintained in the sidewalk (a 5' width is preferred by the City). A 4' X 4' landing zone (5' X 5" preferred) is also required to be maintained at the top of any curb ramp.

Prior to starting foundation construction, the Contractor shall obtain field verification of the cabinet location from the Engineer or Engineer's designee.

METHOD OF MEASUREMENT

Subsection 614.13 shall include the following:

The unit price for the installation of a full or expanded cabinet base shall include all labor and materials required to install the concrete foundation, mounting hardware, cabinet conduit connections/fittings, excavation/backfill and sidewalk modifications (surface preparation and repair).

BASIS OF PAYMENT

Subsection 614.14 shall include the following:

Payment will be made under:

Pay Item
Concrete Footing (Cabinet Base)

Pay Unit
Each

**REVISION OF SECTION 614
TRAFFIC SIGNAL CABINET BASE (INSTALL ONLY)**

Section 614 of the Standard Specifications is hereby revised for this project as follows:

DESCRIPTION

Subsection 614.01 shall include the following:

This work shall consist of installing a City furnished preformed polymer concrete traffic signal controller cabinet base as shown on the plans and in accordance with the City & County of Denver standards. The base will fit the City and County of Denver's P-Type Traffic Signal Controller Cabinet. Dimensions of the "P" Cabinet Base are shown on Standard Drawing 16.1.16 in the latest City & County of Denver's Traffic Engineering Services Traffic Signal Standards.

CONSTRUCTION REQUIREMENTS

Subsection 614.10 shall include the following:

If the cabinet base needs to be relocated from its existing location, the Contractor shall ensure that a minimum 4' wide pedestrian path is maintained in the sidewalk (a 5' width is preferred by the City). A 4' X 4' landing zone (5' X 5" preferred) is also required to be maintained at the top of any curb ramp.

Prior to starting cabinet base installation, the contractor shall obtain field verification of the location of the base from the Engineer or Engineer's designee.

Cabinet base installation shall include all labor and materials to completely install a new P-type cabinet base for the controller cabinet as specified in the plans. This is to include all conduit installation and modification work, back-filling, and repair to all surrounding surface/area.

METHOD OF MEASUREMENT

Subsection 614.13 shall include the following:

The traffic signal cabinet base and installation will not be measured and paid for separately, but shall be incidental to the Traffic Signal Controller and Cabinet installation.

BASIS OF PAYMENT

Subsection 614.14 shall include the following:

Traffic signal cabinet base and installation will not be paid for separately, but shall be included in the cost of the Traffic Signal Controller and Cabinet installation.

**REVISION OF SECTION 614
TRAFFIC SIGNAL CONTROLLER AND CABINET (INSTALL ONLY)**

Section 614 of the Standard Specifications is hereby revised for this project as follows:

DESCRIPTION

Subsection 614.01 shall include the following:

This work shall consist of the complete replacement of existing M1-Type Cabinets and Controller assemblies. This replacement will include the installation of a city furnished M1 or P-Type Cabinet; an ASC/3 type traffic signal controller & cabinet assembly; a malfunction management unit (MMU); vehicle detector amplifiers; a G-type (UPS) Cabinet, an Uninterrupted Power Supply System, and other ancillary hardware. This work also includes the installation of a preformed polymer concrete base at any P-cabinet location. All work shall be in accordance to the City and County of Denver standards.

MATERIALS

Delete Subsection 614.08 (c) and replace with the following:

All existing cabinets will be replaced with M1 or P type cabinets per the City & County of Denver Traffic Standards. Each P cabinet shall be installed on a City furnished preformed polymer concrete base, and each M1 cabinet will be installed on a concrete base. Contact Chris Lillie at 720-865-0466 for cabinet assembly requirements and all other necessary auxiliary hardware.

The Contractor shall pick-up each of the traffic signal controllers, cabinet assemblies, preformed bases and UPS from the City and County of Denver Traffic Operations Center at 5440 Roslyn Street, Building E. The Contractor shall coordinate pick-up times with the Engineer or Engineer's designee.

Controller cabinet assemblies shall include an integrated uninterrupted power supply (UPS) unit that complies with the City and County of Denver standards (refer to UPS specification herein).

CONSTRUCTION REQUIREMENTS

Subsection 614.10 shall include the following:

The Contractor shall demonstrate successful traffic signal operations at all new controller and cabinet locations to the satisfaction of the Engineer or Engineer's designee prior to acceptance of this item. For new signal installations, the Contractor shall contact the Engineer or Engineer's designee 3 days before turning on signal. Work shall include all required programming of controllers and establishing or re-establishing all required wiring connections. Phasing and timing information at each location shall be furnished to the Contractor by the City & County of Denver.

All new wiring shall conform to City & County of Denver and International Municipal Signal Association (IMSA) specifications.

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**REVISION OF SECTION 614
TRAFFIC SIGNAL CONTROLLER AND CABINET (INSTALL ONLY)**

METHOD OF MEASUREMENT

Subsection 614.13 shall include the following:

The unit price for the installation of traffic signal controllers, cabinets, UPS and preformed bases shall include all labor, materials, ancillary hardware, wiring and wiring re-connection required to provide successful operation of the item. The contractor shall be responsible for reconnection of Xcel Energy power feed as part of the work. Removal and disposal of existing cabinets shall be in accordance with the Project Special Provision for the referenced item.

Installation of City furnished, preformed polymer concrete bases for P-type cabinets shall be included in the work. Installation of M1 concrete cabinet bases shall be paid for separately.

BASIS OF PAYMENT

Subsection 614.14 shall include the following:

Pay Item	Pay Unit
Traffic Signal Controller and Cabinet (Install Only)	Each

**REVISION OF SECTION 614
SPREAD SPRECTRUM / ETHERNET RADIO (INSTALL ONLY)**

Section 614 of the Standard Specifications is hereby revised for this project as follows:

Subsection 614.01 shall include the following:

This work shall consist of installing spread spectrum / Ethernet radio assemblies to be furnished by the City & County of Denver. The assemblies will consist of the following equipment:

1. Spread Spectrum / Ethernet Radio Transceiver
2. Antenna

Subsection 614.13 shall include the following:

Spread Spectrum / Ethernet Radio will be measured by the number of "Complete Systems" installed at each location identified in the plans. The work shall include all material, equipment and labor needed to provide a fully operational signal communication system, including but not limited to cables, surge suppressors, mounting hardware, etc. All hardware shall meet or exceed the radio manufacturer's specifications.

The Contractor shall pick-up each of the spread spectrum / Ethernet radio assemblies from the City and County of Denver Traffic Operations Center at 5440 Roslyn Street, Building E. The Contractor shall coordinate pick-up times with the Engineer or Engineer's designee.

Subsection 614.14 shall include the following:

Payment will be made under:

Pay Item	Pay Unit
Spread Spectrum Radio (Install Only)	Each

REVISION OF SECTION 614 TELEMETRY (FIELD)

Section 614 of the Standard Specifications is hereby revised for this project as follows.

DESCRIPTION

Subsection 614.01 shall include the following:

This work consists of fan-out and termination of fiber optic communication cable at each traffic signal controller cabinet location identified in the plans. The work also includes installing all necessary telemetry equipment, including but not limited to optical splice closures, field patch panels, splice organizers, cables, pigtails/jumpers and labels.

This work also includes installation of City furnished fiber optic transceivers and/or Ethernet fiber switches.

At every cabinet or optical closure, only the existing fiber strands that are spliced and/or connected to a patch panel or other internal device in the field, or as specified by Denver Traffic, are required to be landed. All cut and unconnected fibers shall be coiled neatly in a splice organizer.

The same color-coded pairs of fibers and/or wires shall be used throughout the entire project unless specified otherwise in the plans. Gel filling compound shall be removed using filled cable cleaner.

MATERIALS

Subsection 614.08 shall include the following:

Fiber Optic Patch Pigtail: Fiber optic pigtail cables shall consist of Multi-Mode (MM) fiber strands housed individually in protective jackets. Both ends of the cable shall be connected. Fiber optic patch cord cable shall be suitable for operation over a temperature range of -30 degrees to +60 degrees Celsius. The length of fiber optic patch cord cables shall be suitably long to be connected between the interconnect patch panel and the communication equipment (optical transceivers, ethernet switches, etc). Patch cord couplings shall be compatible with termination points. Appropriate strain relief in the cabinet (through cable Velcro wraps) shall be installed at a minimum of three locations. Sufficient slack shall be left to allow relocation of the equipment anywhere in the cabinet. The attenuation of a fiber optic patch cord cable after installation, not including the connector loss, shall not exceed 0.1 dB measured at 850 nm and 1300 nm.

Connectors: The ceramic ferrule connector shall be either LC or an AT&T ST style compatible field mounted connector. The connector shall be compatible with a physical contact (PC) finish. All connectors shall be polished to a PC finish such that the return loss per mated pair of connectors is less than -25 dB. The return loss when the connector is mated with previously installed connectors shall be less than -18 dB. The connector insertion loss shall not be greater than 0.20 dB (typical). The connector loss shall not vary more than 0.20 dB after 1000 repeated matings. Tensile strength shall withstand an axial load of 20 lb. with less than 0.20 dB change.

Index matching fluids or gels shall not be used. The connectors shall be compatible with the optical fiber surrounding jacket and shall be installed on one end of the optical fiber in accordance with the manufacturer's recommended materials, equipment and practices. The connector shall be suitable for the intended environment and shall meet the following environmental conditions:

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**REVISION OF SECTION 614
TELEMETRY (FIELD)**

Operating Temperature: -40° to +80° C
Storage Temperature: -40° to +85° C

The connector loss shall not vary more than 0.20 dB over the operating temperature range. Connectors shall be protected by a suitably installed waterproof protection cap.

Miscellaneous Cabling: Cable from fiber optic transceiver to Port 3 controller harness shall be 25-pin cable Model 44982G4 or approved equal. The Contractor shall deliver transceivers to the City's Traffic signal shop. Contact Joe Strauss (720) 865-3984 for coordination.

Optical Splice Closures: Coyote Runt, Coyote Pup and Coyote Express Type closures shall be provided for splicing lateral fiber optic cables to the main (backbone) fiber cable in all pull box locations that are identified in the plans. All closures shall include 1-inch future port kit (part no. 8003408, Pre-Formed Line Products). The Coyote Runt Closure shall be used at locations with 3 fiber optic cables. In locations requiring more than 3 cables, a Coyote Pup Closure shall be installed.

METHOD OF MEASUREMENT

Subsection 614.13 shall include the following:

Telemetry (Field) shall be measured by the total number of cabinets at which the interconnect cable is fanned out, terminated, connected, patch panels and fiber-optic interfaces installed. All labor and materials required to perform panel installations, provide in-cabinet strain relief, fan-out, cable termination and connection to the controller is considered included in the unit price for this item.

BASIS OF PAYMENT

Subsection 614.14 shall include the following:

Payment will be made under:

Pay Item	Pay Unit
Telemetry (Field)	Each

REVISION OF SECTION 614 TEST FIBER OPTIC CABLE

Section 614 of the Standard specifications is hereby revised for this project as follows:

DESCRIPTION

Subsection 614.01 shall include the following:

Testing of fiber optic cable shall be by means of an optical time-domain reflectometer (OTDR) for both an on-reel test of the fiber optic cable prior to installation and a final test after all cable splicing and termination is complete. All backbone strands and lateral strands shall be tested. This shall include bare fiber testing on backbone cables after installation. This bare fiber testing will be considered as a final OTDR test for those strands not terminated in the Traffic Operations Center. In addition, an optical power meter test shall be conducted on fiber strands which devices are to be connected. The power meter test shall be conducted from the Traffic Operations Center to the field cabinet.

Test Fiber Optic Cable shall consist of the testing of either multimode or Single Mode fiber optic cable as shown and tabulated in the plans.

TESTING

Subsection 614.10 shall include the following:

The guidelines for fiber optic cable testing include:

- (1) Test jumpers and patch cords must be of the same fiber core size and connector type as the cable system:

Multimode fiber	62.5/125 μm
Single Mode fiber	8.3/125 μm
- (2) The light source and OTDR must operate within the range of 850 ± 30 nm or 1300 ± 20 nm for multimode testing in accordance with ANSI/EIA/TIA-526-14.
- (3) The light source and OTDR must operate with the range of 1310 ± 10 nm or 1550 ± 20 nm for Single Mode testing in accordance with ANSI/EIA/TIA-526-7.
- (4) The power meter and the light source must be set to the same wavelength during testing.
- (5) The power meter must be calibrated and traceable to the National Institute of Standards and Technology (NIST).
- (6) All system connectors, adapters and jumpers must be cleaned as per manufacturer's instructions before measurements are taken.

A) Fiber Optic Cable Testing Equipment. The following is required to perform fiber optic cable tests:

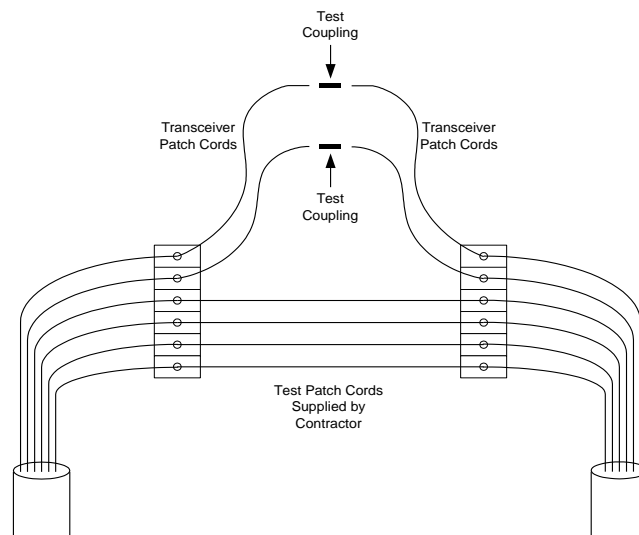
- (1) An OTDR
- (2) A test reel, if necessary
- (3) A light source at the appropriate wavelength
- (4) Optical Power Measurement Equipment
- (5) Test Jumpers as specified below

Multimode Fiber Testing

CPR Test Jumper-2 shall be 1-5 meters long with connectors compatible with the light source and power meter. Test Jumper-2 shall contain Class IV a single-mode fiber for tests on 1300 nm light sources and from which is single-moded at 850 μm for tests on 850 nm light sources.

CPR Test Jumper-1 and Test Jumper-2 shall be 1-5 meters long with connectors compatible with the light source and power meter and have the same fiber construction as the link segment being tested.

- All fiber testing shall be performed on all fibers in the completed end-to-end system. Testing shall consist of a bi-directional end-to-end OTDR trace performed per TIA/EIA-455-61. The system margin loss measurements shall be provided at 850 and 1300 nm for multimode fibers and 1310 and 1550 for Single Mode fibers. If the Plans require installation of a fiber optic patch panel, the Contractor shall supply patch cords to patch all terminated fibers through the panel for all fiber testing. If patch cords are specified in the Plans for final equipment installation, these patch cords shall be connected using a test coupling for the end-to-end test.



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REVISION OF SECTION 614
TEST FIBER OPTIC CABLE

OTDR readings will be used to ensure proper installation and to troubleshoot faults. OTDR signature traces will be used for documentation and maintenance. An OTDR provides an indirect estimate of the loss of the cable plant, generally, more accurate or reliable values will be obtained by using an Optical Power Meter. For fibers that are identified in the Plans to be left unterminated, an OTDR shall be used to test end-to-end attenuation.

Loss numbers for the installed link shall be calculated by taking the sum of the bi-directional measurements and dividing that sum by two.

The Contractor shall use an OTDR that is capable of storing traces electronically and shall save each final trace.

To ensure the traces identify the end points of the fiber under test and the fiber designation, the Contractor shall use a test reel, if required, to eliminate the “dead zone” at the start of the trace so that the start of the fiber under test can be identified on the trace. Indicate the length of the test reel for all test results.

If the fiber designation is not indicated on the trace itself, the Contractor shall provide a cross-reference table between the stored trace file name and the fiber designation.

In compliance with EIA/TIA-455-61 “Measurement of Fiber or Cable Attenuation Using an OTDR” the Contractor shall record the following information during the test procedure:

- (1) Names of personnel conducting the test.
- (2) Type of test equipment used (manufacturer, model, serial number, calibration date).
- (3) Date test is being performed.
- (4) Optical source wavelength and spectral width.
- (5) Fiber identification.
- (6) End point locations.
- (7) Launch conditions
- (8) Method of calculation for the attenuation or attenuation coefficient.
- (9) Acceptable link attenuation.

When entering the fiber information into the ODR, the Contractor shall distinguish each fiber by entering the actual fiber number of the cable.

- C) Optic Fiber Cable Testing with Optical Power Meter. The Contractor shall conduct an Optical Power Meter Test for each fiber installed. The results shall be compared to the optical budget of the device being connected. If the power meter test indicates a reading that is outside of the devices’ los budget, a replacement device shall be provided.

Multimode segments shall be tested in one direction at both the 850 nm and the 1300 nm wavelength.

Single Mode segments shall be tested in one direction at both the 1310 nm and 1550 nm wavelength.

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REVISION OF SECTION 614
TEST FIBER OPTIC CABLE

In compliance with TIA/EIA-526-14A “Optical Power Loss Measurements of Installed Multimode Fiber Cable Plant” and TIA/EIA-526-7 “Measurement of Optical Power Loss of Installed Single-Mode Fiber Cable Plant,” the following information shall be recorded during the test procedure:

- (1) Names of personnel conducting the test.
- (2) Type of test equipment used (manufacturer, model, serial number, calibration date).
- (3) Date test is being performed.
- (4) Optical source wavelength, spectral width, and for multimode, the coupled power ratio (CPR).
- (5) Fiber identification.
- (6) End point locations.
- (7) Test direction.
- (8) Reference power measurement (when not using a power meter with a Relative Power Measurement Mode).
- (9) Measured attenuation of the link segment.
- (10) Acceptable link attenuation.

The minor attenuation differences due to test direction are on par with the accuracy and repeatability of the test method. Lateral segments within a building are limited to 90 meters. Therefore, attenuation differences caused by wavelength are insignificant, and as a result, single wavelength testing is sufficient.

- D) Acceptable Attenuation Values. Acceptable attenuation values shall be calculated for each fiber tested. These values represent the maximum acceptable test values.

- 1) Multimode Fiber. The general attenuation equation for any multimode link segment is as follows:

$$\text{Acceptable Link Attn.} = \text{Cable Attn.} + \text{Connection Attn.} + \text{Splice Attn.} + \text{CPR Adj.}$$

62.5 μm Multi-mode Attenuation Coefficients:

Cable Attn.=Cable Length (km) x (3.40 dB/km@850 nm or 1.00 dB/km@1300 nm)

Connection Attn. (ST or SC connectors)=(No. of Connections x 0.39 dB)+0.42 dB.

Connection Attn. (LC connectors)=(No. of Connections x 0.14 dB)+0.24 dB.

Splice Attn. (Mechanical or Fusion)=Splices x 0.30 dB.

CPR Adj.=See table below.

A connection is defined as the joint made by mating two fibers terminated with re-mateable connectors (e.g. ST, SC, LC).

Multi-mode Light Source CPR Adjustment					
	Cat. 1 Overfilled	Cat. 2	Cat. 3	Cat. 4	Cat. 5 Underfilled
Links with ST or SC Connections	+0.50	0.00	-0.25	-0.50	-0.75
Links with LC Connections	+0.25	0.00	-0.10	-0.20	-0.30

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REVISION OF SECTION 614
TEST FIBER OPTIC CABLE

The Coupled Power Ratio of a light source is a measure of the modal power distribution launched into a multimode fiber. A light source that launches a higher percentage of its power into the higher order modes of a multimode fiber produces a more over-filled condition and is classified as a lower category than a light source that launches more of its power into just the lower order modes producing an under-filled condition. Under-filled conditions result in lower link attenuation, while over-filled conditions produce 5-higher attenuation. Therefore, adjusting the acceptable link attenuation equation to compensate for a light source's launch characteristics increases the accuracy of the test procedure.

- Singlemode Fiber. The general attenuation equation for any Single Mode link segment is as follows:

$$\text{Acceptable Link Attn.} = \text{Cable Attn.} + \text{Connector Attn.} + \text{Splice Attn.}$$

8.3 μm Single-mode Attenuation Coefficients:

Cable Attn.=Cable Length (km) x (0.34 dB/km@1310 nm or 0.25 dB/km@1550 nm)

Connection Attn. (ST or SC connectors)=(No. of Connections x 0.39 dB)+0.42 dB.

Connection Attn. (LC connectors)=(No. of Connections x 0.14 dB)+0.24 dB.

Splice Attn. (Mechanical or Fusion)=Splices x 0.30 dB.

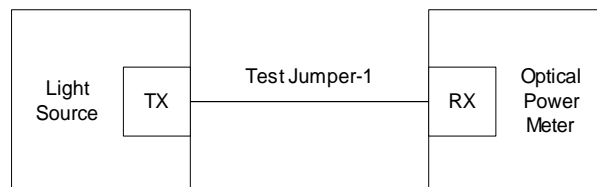
E) Test Procedures. All fiber testing shall be performed on all fibers in the completed end-to-end system.

- (1) Multimode Fiber. The multimode fiber cable test shall be conducted as follows:

Clean the test jumper connectors and the test coupling per manufacturer's instructions.

Follow the test equipment manufacturer's initial adjustment instructions.

Connect Test Jumper-1 between the light source and the power meter. Avoid placing bends in the jumper that are less than 100 mm (4 inches) in diameter.

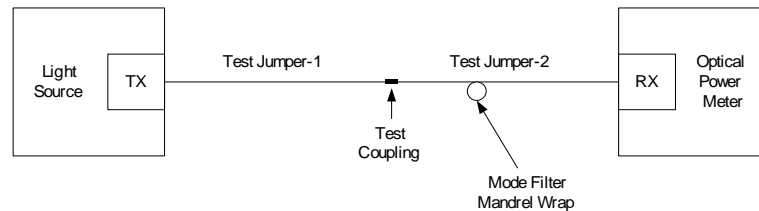


If the power meter has a Relative Power Measurement Mode, select it. If it does not, reduce the Reference Power Measurement (P_{ref}). If the meter can display power levels in dBm, select this unit of measurement to simplify subsequent calculations.

Disconnect Test Jumper-1 from the power meter. Do NOT disconnect the test jumper from the light source.

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REVISION OF SECTION 614
TEST FIBER OPTIC CABLE

Connect Test Jumper-2 between the power meter and Test Jumper-1 using the test coupling. Test Jumper-2 should include a high order mode filter. This can be accomplished by wrapping the jumper three times around a 30 mm (1.2 inches) diameter mandrel.



Record the Power Measurement (P_{sum}). If the power meter is in Relative Power Measurement Mode, the meter reading represents the CPR value. If the meter does not have a Relative Power Measurement Mode, perform the following calculation:

If P_{sum} and P_{ref} are in the same logarithmic units (dBm, dBu, etc.):

$$CPR (dB) = P_{sum} - P_{ref}$$

If P_{sum} and P_{ref} are in watts:

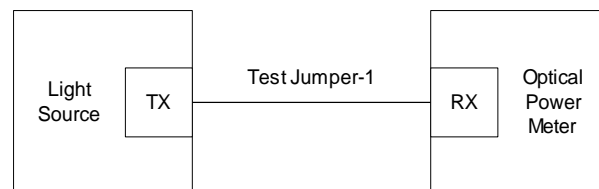
$$CPR (dB) = 10 \times \log_{10} [P_{sum}/P_{ref}]$$

(2) Single Mode Fiber. The Single Mode Optical Power Meter fiber test shall be conducted as follows:

Clean the test jumper connectors and the test coupling per manufacturer's instructions.

Follow the test equipment manufacturer's initial adjustment instructions.

Connect Test Jumper-1 between the light source and the power meter. Avoid placing bends in the jumper that are less than 100 mm (4 inches) in diameter.

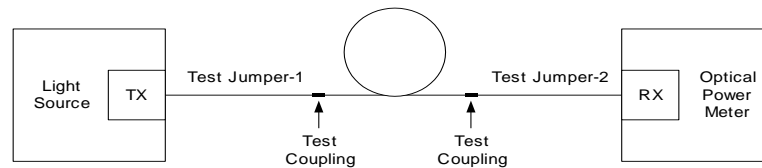


If the power meter has a Relative Power Measurement Mode, select it. If it does not, reduce the Reference Power Measurement (P_{ref}). If the meter can display power levels in dBm, select this unit of measurement to simplify subsequent calculations.

Disconnect Test Jumper-1 from the power meter. Do NOT disconnect the test jumper from the light source.

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REVISION OF SECTION 614
TEST FIBER OPTIC CABLE

Attach Test Jumper-1 to one end of the cable plant to be measured and Test Jumper-2 to the other end.



Record the Power Measurement (P_{sum}). If the power meter is in Relative Power Measurement Mode, the meter reading represents the true value. If the meter does not have a Relative Power Measurement Mode, perform the following calculation:

If P_{sum} and P_{ref} are in the same logarithmic units (dBm, dBu, etc.):

$$\text{CPR (dB)} = P_{\text{sum}} - P_{\text{ref}}$$

If P_{sum} and P_{ref} are in watts:

$$\text{CPR (dB)} = 10 \times \log_{10} [P_{\text{sum}}/P_{\text{ref}}]$$

- F) Test Acceptance. The Contractor shall demonstrate that each Optical Power Test results in acceptable attenuation values.

The Contractor, solely at the Contractor's cost, shall remake any fusion splices that have test results exceeding acceptable attenuation values.

The Contractor, solely at the Contractor's cost, shall retest any fiber links that have been re-spliced.

The Contractor, solely at the Contractor's cost, shall bring any link not meeting the requirements of this specification into compliance.

- G) Submittals. The Contractor shall submit test results documentation as both a hard copy and electronic copy.

After each reel test, the Contractor shall submit two (2) hard copies of the OTDR trace for every fiber on the reel. After installation, the Contractor shall submit two (2) hard copies of the OTDR trace for every spliced fiber. Hard copy traces shall be organized and bound in logical order in an 8 1/2" x 11" 3 ring hard cover binder in addition to other documentation listed in this Project Specification and other splicing documentation listed in the Project Specification package.

An index shall be supplied in each documentation submittal binder indicating the splice locations and OTDR test results. Index dividers shall be used throughout the documentation binder separating each individual OTDR trace location listed on the index.

The Contractor shall submit, after approval of the hard copy traces, electronic copies of all traces and appropriate software to allow reading the traces.

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**REVISION OF SECTION 614
TEST FIBER OPTIC CABLE**

The Contractor shall submit two (2) copies of all Optical Power Test results.

The Contractor shall submit two (2) copies of the complete contract Plans, including additional drawings issued as part of any change orders, revisions to the project plans during fiber optic work with any deviations clearly marked in color. Deviations to be noted and shall include but not be limited to the following:

- (1) Fiber Splice location
- (2) Fiber Splice configuration
- (3) Termination layout

METHOD OF MEASUREMENT

Subsection 614.13 shall include the following:

Test Fiber Optic Cable will not be measured and paid for separately, but shall be incidental to the Telemetry (Field) and any Conduit and Fiber Repair work.

**REVISION OF SECTION 630
UNIFORMED TRAFFIC CONTROL**

Section 630 of the Standard Specifications is hereby revised for this project as follows:

Subsection 630.09 shall include the following:

Uniformed Officers - The Contractor shall employ off-duty police officers to provide traffic control and traffic enforcement throughout the project as required by the Project Engineer. Authorization must be made by the Project Engineer in advance of working arrangements for Uniformed traffic Control. Arrangements for officers shall be made at least 2 weeks in advance by contacting the following police agency:

Denver Police Department (Special Events Unit)
Phone Number: 720-913-6034

METHOD OF MEASUREMENT

Subsection 630.15 shall include the following:

The quantity to be measured for Uniformed Traffic Control will be the total number of hours that Uniformed Traffic Control is actually used as authorized.

BASIS OF PAYMENT

Subsection 630.16 shall include the following:

The accepted number of hours of Uniformed Traffic Control will be paid for at the contract unit price per hour.

Payment will be made under:

Pay Item
Uniformed Traffic Control

Pay Unit
Hour

REVISION OF SECTION 630 CONSTRUCTION ZONE TRAFFIC CONTROL

Section 630 of the Standard Specifications is hereby revised as follows:

DESCRIPTION

Subsection 630.01 shall be revised to include the following:

As required by, in descending order of precedence, the construction plans and project special provisions, the Traffic Barricade Manual published by the City & County of Denver, CDOT Standard Specifications, as augmented by the Colorado Department of Transportation M & S Standards, and the Manual on Uniform Traffic Control Devices for Streets and Highways (MUTCD).

MATERIALS

Subsection 630.02 through 630.09 shall be as provided in the City & County of Denver *Traffic Barricade Manual*, latest edition. Modifications to said manual are as follows:

Section III of the manual shall include:

Equipment:

The Contractor shall not have construction equipment or materials in the lanes open to traffic at any time, unless approved by the Project Engineer.

The Contractor and subcontractors shall equip their construction vehicles with flashing amber lights. Flashing amber lights on vehicles and equipment shall be visible from all directions.

All personal/employee vehicle and construction equipment parking is prohibited when it conflicts with safety, access, or the flow of traffic.

Devices:

The Contractor shall install construction traffic control devices in locations where they do not block or impede other existing traffic control devices, or sidewalks for pedestrians, disabled persons, or bicyclists.

Steel drum channelizing devices shall not be used for traffic control.

Non-metallic drums or tubular markers may be substituted for vertical panel channelizing devices.

Traffic Control:

Traffic control through the construction area is the responsibility of the Contractor. Before starting construction, the Contractor shall submit, in writing, the proposed Method of Handling Traffic (MHT) for the initial phase of construction. When a different MHT is required for a subsequent construction phase, it must be **submitted two (2) weeks prior** to starting that phase. All proposed MHTs shall be approved, in writing, by the Engineer or Engineer's designee. No phase of construction shall start until an acceptable MHT has been **received and approved by the Engineer or Engineer's designee**. The proposed methods shall include, as a minimum, the following:

A detailed diagram that shows the location of all sign placements, including advance construction signs (if not previously approved) and speed limit signs; method, length and time duration for lane closures; purpose and location of flag persons.

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**REVISION OF SECTION 630
CONSTRUCTION ZONE TRAFFIC CONTROL**

A tabulation of all traffic control devices shown in the detailed diagram including, but not limited to: construction signs, vertical panel; vertical panel with light; barricades; cones, drum channelizing devices; concrete barrier (temporary); advance warning flashing or sequencing arrow panel. Certain traffic control devices may be used for more than one operation or phase. However, all devices required for any particular phase must be detailed and tabulated for each phase. Certain traffic control devices may be used for more than one phase of construction.

Number of flaggers and hours required.

Number of days a Traffic Control Supervisor is required.

Number of hours for Uniformed Traffic Control

Approval of the proposed MHT is intended to indicate those devices for which payment is to be made. Such approval does not relieve the Contractor of liability specifically assigned to him under the contract. The Contractor shall erect and maintain warning lights, signs, barricades, and sufficient safeguards around all excavations, embankments and obstructions.

Section VI.F of the manual shall include:

The Contractor shall, at the preconstruction conference, designate one of his employees, other than the Superintendent, to be responsible for traffic control management. This responsibility shall include management of the Contractor's signing and all other details covered by the Specifications which contribute to the convenience, safety, and orderly movement of traffic and to the comfort of the traveling public. The designated employee will have the Certification of the Traffic Control Supervisor as a Worksite Traffic Supervisor by the American Traffic Safety Services Association (ATSSA) in lieu of completion of the CDOT minimum training requirements.

Traffic control management shall be maintained and inspected on a 24-hour per day basis at no additional cost to the project. The Contractor shall make arrangements so that the Traffic Control Manager or his approved representative will be available on every working day, "on-call" at all times and available upon the Engineer or Engineer designee's request at other than normal working hours. The Traffic Control Manager shall have an up-to-date copy of part VI of the MUTCD, pertaining to traffic controls for street and highway construction, as well as the City and County of Denver Traffic Barricade manual, available at all times.

Section VI.F.2 of the manual, the third item shall read:

The flagger's STOP/SLOW sign paddle shall be 18 inches with letters 6 inches high.

CONSTRUCTION REQUIREMENTS

Subsections 630.10 through 630.14 of the Standard Specifications shall apply, except as otherwise provided herein.

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REVISION OF SECTION 630
CONSTRUCTION ZONE TRAFFIC CONTROL

Subsection 630.10(a), second paragraph is hereby deleted and replaced with the following:

Traffic Control shall be provided as required by, in descending order of precedence, the construction plans and project special provisions, CDOT Standard Specifications, CDOT Standard Plans (M & S Standards) and the MUTCD.

When a different MHT is required for a subsequent construction phase, it must be submitted at least two weeks prior to starting that phase. All proposed methods of handling traffic shall be approved, in writing, by the Project Engineer following approval of the Traffic Engineering Services Department.

Approval of the proposed MHT does not relieve the Contractor of liability specifically assigned to him under the contract. The Contractor shall erect and maintain warning lights, signs, barricades, and sufficient safeguards around all excavations, embankments, and obstructions.

Subsection 630.10(a) (5) shall be revised to include the following:

Access to private driveways and businesses shall be maintained at all times during construction. The Contractor shall coordinate any driveway work with the property owner. Appropriate signage shall be provided alerting all motorists leaving driveways that enter a work zone as to which direction the through lane is traveling and what access restrictions exist, if any.

Subsection 630.10(a) (10) shall be added as follows:

General Work Restrictions:

The Contractor shall perform all the work on the roadway between the hours of 8:30 A.M. and 3:30 P.M. or as approved by the Project Engineer. Weekend and nighttime work will be allowed with the prior written approval of the Project Engineer.

Work will not be permitted that directly or indirectly interferes with the flow of traffic between the hours of 5:30 AM and 8:30 AM Monday through Friday; between the hours of 3:00 PM to 6:30 PM Monday through Thursday; and after 2:00 PM on Fridays unless otherwise authorized by the Project Engineer.

Work that interferes with traffic, 1) on any day of a 3 or 4 day holiday weekend; or 2) after 12:00 noon on the day preceding such holiday weekend, will only be permitted following review of a Contractor submitted request and approval by the Project Engineer and the City of Denver Traffic Engineering Services Department:

The Contractor shall coordinate all of the work on the roadway during any special event with the City & County of Denver.

Subsection 630.10 (11) shall be added as follows:

Access:

Full traffic operations shall be maintained in each direction on all streets at all times, and on all surrounding streets at all times, via flagging if necessary for closures of less than one day, unless authorized by the Project Engineer and the Traffic Engineering Services Department.

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REVISION OF SECTION 630 CONSTRUCTION ZONE TRAFFIC CONTROL

Contractor shall obtain all required access and construction permits from the City & County of Denver prior to initiating work along City right of way.

The Contractor shall maintain access to all roadways, side streets, walkways, alleyways, driveways, and hike/bike paths at all times unless otherwise approved by the Project Engineer. The sole exception to this requirement is that the City will permit full closures of access to all alleyways, walkways, driveways, and hike/ bike paths **DIRECTLY ADJACENT** to an active work Phase for a maximum period of one (1) week. Should the Contractor wish to exercise this exception, a request for same shall be submitted to the Project Engineer for review and approval including proposed method for Public notice per Section 632. If access restrictions are approved by the Project Engineer, the Contractor shall coordinate with all tenants affected by alley and/or access closures two weeks prior to closure.

All proposed lane closures shall be subject to the approval of the Project Engineer and Traffic Engineering Services Department. Requests for such lane closures shall be submitted with a Method of Handling Traffic at least 24 hours in advance of the time the lane closure is to be implemented. Lane closures will not be allowed to remain unless utilized in continuum for the duration of each working period. Contractor shall make all efforts to fashion his lane closure proposal to close no more than one lane at a given time.

METHOD OF MEASUREMENT

Subsection 630.15 shall be revised to include the following:

When the contract includes Traffic Control pay items by the week:

Traffic channeling devices consisting of vertical panel or traffic cones will be measured by the unit/week. Concrete barriers will be measured by the linear foot/week. Advance warning flashing or sequencing arrow panels will be measured to the unit/week according to size. The flashing beacon (portable) will be measured as a unit/week complete in place. Sign panels will be paid for under the appropriate item unit/week.

A day shall be defined as the time from 12:00 midnight to 12:00 midnight. A week shall be defined as the time from Sunday at 12:00 midnight to the following Sunday at 12:00 midnight. The Traffic Control Manager shall keep a daily log of traffic control devices and personnel. The log shall list all devices and personnel deployed within the limits of construction for each day and shall be available for review by the Engineer or Engineer's designee by noon the following Monday to be eligible for payment for the previous week's work.

Construction traffic control devices, as determined by the approved MHT, will be paid for based upon the Traffic Control Manager's weekly submittal of daily logs. The number of traffic control devices paid per week shall be the maximum number of approved devices deployed on any one day during that week.

When the contract includes Traffic Control Management paid by the Day:

Traffic Control Management will include: Traffic Control Supervisor, all flagging, set-up and take-down of all traffic control devices and inspection of all traffic control devices.

TRAFFIC CONTROL PLAN - GENERAL

The key elements of the Contractor's method of handling traffic (MHT) are outlined in subsection 630.10(a).

The components of the TCP for this project are included in the following:

- (1) Subsection 104.04 and Section 630 of the Standard Specifications
- (2) Standard Plan S-630-1, Traffic Controls for Highway Construction
- (3) Manual on Uniform Traffic Control Devices (MUTCD)
- (4) Denver Barricade Manual.

Traffic Control shall be provided as required by, in descending order of precedence, MUTCD, the plans and special provisions for this project, Denver Barricade Manual, Colorado Department of Transportation Standard Specifications, and Colorado Department of Transportation M & S Standards.

Special Traffic Control Plan requirements for this project are as follows:

During the construction of this project, traffic shall use the present traveled roadway at all times in each direction unless otherwise directed by the Engineer or Engineer's designee.

The Contractor shall not have construction equipment or materials in the lanes open to traffic at any time, unless approved by the Engineer or Engineer's designee.

All personal/employee vehicle and construction equipment parking is prohibited when it conflicts with safety, access or the flow of traffic.

The Contractor shall install construction traffic control devices in locations where they do not block or impede other existing traffic control devices, or sidewalks for pedestrians, disabled persons, or bicyclists.

The Contractor shall provide traffic control devices that are in good working order and clean condition.

The Contractor and subcontractors shall equip their construction vehicles with flashing amber lights. Flashing amber lights on vehicles and equipment shall be visible from all directions.

The Contractor shall maintain access to all roadways, side streets, walkways, alleyways, driveways, and pedestrian bike paths/hiking trails at all times unless otherwise approved by the Engineer or Engineer's designee.

During non-construction periods (evenings, weekends, holidays, etc.), all work shall be adequately protected to insure the safety of vehicular and pedestrian traffic, as detailed in the Contractor's MHT. Excavations or holes shall be filled in or fenced when unattended.

The Contractor shall perform all the work on the roadway between the hours of 8:30 am and 3:00 pm, or as approved by the Engineer or Engineer's designee. Weekend and nighttime work will only be allowed with the prior written approval of the Engineer or Engineer's designee.

Work that interferes with traffic will not be permitted during any of the following times: 1.) on any day of a 3 or 4 day holiday weekend; or 2.) after 12:00 noon on the day preceding such holiday weekend.

The Contractor shall coordinate all of the work on the roadway during any special event with the Engineer or Engineer's designee.

All costs incidental to foregoing requirements shall be included in the original contract prices for the project and will not be measured and paid for separately.

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TRAFFIC CONTROL PLAN - GENERAL

Work will not be permitted that directly or indirectly interferes with the flow of traffic between the hours of 5:30 am and 8:30 am Monday through Friday; between the hours of 3:00 pm to 6:30 pm Monday through Thursday; and after 2:00 PM on Fridays unless otherwise authorized by the Engineer or Engineer's designee.

Working within the right-of-way of an arterial road may be restricted to either night-only or weekend work times. The Contractor shall contact the Project Engineer with a traffic control plan to begin a review of the proposed work scope, schedule and location.

Contractor shall obtain all required access and construction permits from the City & County of Denver prior to initiating work along City & County of Denver's right of way. The contractor shall coordinate all street occupancy, street cut or construction permits with the City of Denver at least two weeks prior to the scheduled start of work. The closures of collector/arterial roads or intersections will require site-specific traffic control plans. All traffic control plans and construction schedules must be approved by the City Project Engineer prior to permit application.

All lane closures shall be subject to the approval of the Engineer or Engineer's designee. Requests for such lane closures shall be made at least 2 weeks in advance of the time the lane closure is to be implemented. Lane closures will not be allowed to remain unless utilized in continuum for the duration of each working period.

Contractor shall coordinate with all tenants affected by alley and/or access closures two weeks prior to closure.

Contractor may close no more than one lane at a given time.

Two-way traffic shall be maintained on all streets at all times, via flagging if necessary for closures of less than one day.

All construction vehicles shall remain on paved surfaces at all times.

The Contractor shall avoid impacting any Bus Stop locations. The Contractor shall contact the Project Engineer and RTD regarding any unavoidable work that will impact pedestrian or vehicular access to a bus stop location at least 48 hours in advance of such work.

The Contractor shall coordinate and cooperate fully with the CDOT, the City and County of Denver, RTD, utility owners, and other contractors, to assure adequate and proper traffic control is provided.

The Contractor shall coordinate and cooperate fully with any others providing traffic control for other operations to assure that work or traffic control devices do not interfere with the free flow of traffic except as allowed by the City.

FORCE ACCOUNT ITEMS

DESCRIPTION

This special provision contains the estimate for force account items included in the Contract. Such estimated amounts will be included in the total bid to determine the project commitment amount and the amount of performance and payment bonds. Force Account work shall be performed as directed by the Engineer or Engineer's designee.

BASIS OF PAYMENT

Payment will be made in accordance with General Contract Condition Title 1104. Payment will constitute full compensation for all work necessary to complete the item.

Force account work valued at \$5,000 or less, that must be performed by a licensed journeyman in order to comply with federal, state, or local codes, may be paid for after receipt of an itemized statement endorsed by the Contractor.

<u>Force Account Item</u>	<u>Estimated Quantity</u>	<u>Amount</u>
F/A 01 Minor Contract Revisions	F/A	\$ 25,000.00
F/A 02 Partnering	F/A	\$ 1000.00
F/A 03 OJT Colorado Training Program	F/A	\$ 1000.00
F/A 04 Erosion Control	F/A	\$ 2,000.00
F/A 05 Environmental Health & Safety Management	F/A	\$ 3,000.00

Force Account Descriptions:

- F/A 01 Minor Contract Revisions consists of minor work authorized and approved by the Project Engineer, which is not included in the Contract drawings or specifications and is necessary to accomplish the scope of work of the Contract. The work requires restoring the integrity of the fiber optic cable and associated communication conduit to a fully functional and protected state. It will also include isolating the exact location of the damaged fiber cable and conduit and implementing procedures outlined in Section 613 of the CDOT *Standard Specifications for Road and Bridge Construction*.
- F/A 02 Partnering consists of a voluntary partnering agreement between the Department and the Contractor and suppliers to foster cooperation throughout the project to meet budget and schedule goals.
- F/A 03 OJT Colorado Training Program is to provide on-the-job trainees in compliance with the provisions of "On-The-Job Training" in the Standard Special Provisions.
- F/A 04 Erosion Control pays for any other erosion control items the ECS will need during the duration of this project. All items will be pre-approved by the Project Engineer prior to installation and will be accordance with the procedures outlined in Sections 107 and 208 of the CDOT *Standard Specifications for Road and Bridge Construction*.
- F/A 05 Environmental Health and Safety Management pays for implementing procedures outlined in Section 250 of the CDOT *Standard Specifications for Road and Bridge Construction*, in the event that contaminated or suspect material is encountered during construction.

UTILITIES

The known utilities within the limits of this project include:

UTILITY	CONTACT	PHONE
Denver Traffic 5440 Roslyn Street, Bldg. E Denver, CO 80216	Chris Lillie chris.lillie@ci.denver.co.us	720-865-4066 720-865-3156
Denver Public Works Chief Inspector	Rene Padilla Rene.padilla@denver.org	303-446-3665
Denver Water Department 1600 West 12 th Avenue Denver, CO 80254	DonWyman don.wyman@denverwater.org Vince Gaiter Vincent.Gaiter@denverwater.org Lou Vullo Lou.Vullo@denverwater.org	303-628-6628 720-628-6527 303-628-6671
Denver Wastewater City & County of Denver 201 West Colfax Avenue, Dept 507 Denver, CO 80202	Zhixu Yuan, P.E. zhixu.yuan@denvergov.org Joseph Cordts joseph.cordts@denvergov.org	720-865-3140 720-865-3028
Denver Parks and Recreation 4495 Jason Street Denver, CO 80211	Eugene R. Roybal eugene.roybal@denvergov.org	303-964-1046
CDOT Region 6 Traffic 2000 South Holly Street Denver, CO 80222	Jeff Lancaster jeffrey.lancaster@dot.state.co.us	303-757-9950
CDOT CTMC – ITS 425C Corporate Circle Golden, CO 80401	Jill Scott jill.k.scott@dot.state.co.us	303-512-5805
CenturyLink (formally Qwest) 5325 Zuni Street Suite 728 Denver, CO 80221	Jodie Farnsworth (Northwest) Jodie.Farnsworth@CenturyLink.com Brandon Lundeen (West/Central) Brandon.Lundeen@CenturyLink.com Bill Howeth (Southwest) Bill.Howeth@CenturyLink.com	303-451-2379 303-451-2582 303-451-4644
Comcast Cable 1617 S. Acoma Street Denver, CO 80223	Eric Carroll Eric_Carroll@cable.comcast.com	303-603-5253
Comcast Cable Engineering Request Support (Utility Mapping)	Artjahmel Davis Artjahmel_Davis@cable.comcast.com	303-603-1646
Ericsson Services (Sprint) 9800 E. Easter Avenue, Unit 160 Centennial, CO 80112	Nick Muller nick.j.muller@ericsson.com	800-949-3540 720-318-9428 (cell)
Metro Wastewater Reclamation Dist. 6450 York Denver, CO 80229	Bob Cwetna, PLS rcwetna@mwrd.dst.co.us	303-286-3372 303-229-9839 (cell)

UTILITY	CONTACT	PHONE
Xcel Energy – Electric 1123 W. 3 rd Avenue Denver, CO 80223	Ron Johnson Ron.H.Johnson@xcelenergy.com	303-571-3169
Xcel Energy – Gas Operations 1123 West 3 rd Avenue Denver, CO 80223	Michele McKnight Michelle.T.McKnight@xcelenergy.com	303-571-3169
Xcel Energy (Mapping Hotline)	Ken M. Salas Ken.M.Salas@xcelenergy.com	303-571-6636
OTHER UTILITIES:	Outside City & County of Denver (West of Sheridan Blvd.)	
Lakewood Water and Sewer Utility Dept. of Planning & Public Works 480 South Allison Parkway Lakewood, CO 80226	engineering@lakewood.org	303-987-7900 303-987-7500
City of Lakewood Utilities (Water, Sewer, Stormwater, Irrigation)	http://www.ci.lakewood.co.us/ PPW/Engineering/EngineeringUtilities EnvironServices	
Alameda Water & Sanitation District 359 S. Harlan Street Lakewood, CO 80226		303-936-5313
Bancroft-Clover Water & Sanitation 900 S. Wadsworth Blvd. Lakewood, CO 80226	www.bancroft-clover.com	303-922-1113
City of Edgewater Water Department 2401 Sheridan Blvd. Edgewater, CO 80214		303-238-7803
Consolidate Mutual Water Company 12700 W. 27 th Avenue Lakewood, CO 80215	www.cmwc.net	303-238-0451
Lochmoor Water & Sanitation 7270 Radcliff Avenue Littleton, CO 80123		303-7952142
South Sheridan Water & Sanitation 3855 N. Lewiston Street, Suite 140 Aurora, CO 80011		303-381-4960
Wheat Ridge Stormwater Mgmt. 7500 W. 29 th Avenue, 2 nd Floor Wheat Ridge, CO 80033	Bill LaRow	303-235-2871
Wheat Ridge Water District 6827 W. 38 th Avenue Wheat Ridge, CO 80033		303-424-2844

Wheat Ridge Sanitation District 7100 W. 44 th Avenue, Suite 104 Wheat Ridge, CO 80033		303-424-7252
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**-3-
UTILITIES**

The work described in these plans and specifications requires full cooperation between the Contractor and the utility owners in accordance with Subsection 105.11 in conducting their respective operations, to complete the utility work with minimum delay to the project.

PART 1 - CONTRACTOR SHALL PERFORM THE WORK LISTED BELOW:

Coordinate project construction with the performance by the utility owner of each utility work element listed in Part 2 below. Perform preparatory work specified in Part 2 for each utility work element. Provide an accurate construction schedule that includes all utility work elements to the owner of each impacted utility. Provide each utility owner with periodic updates to the schedule. Conduct necessary utility coordination meetings, and provide other necessary accommodations as directed by the Project Engineer. Notify each utility owner in writing, with a copy to the Project Engineer, prior to the time each utility work element is to be performed by the utility owner. Provide the notice the number of days specified in Part 2 immediately prior to the time the utility work must be begun to meet the project schedule.

Provide traffic control, as directed by the Project Engineer, for any utility work by the utility owner expected to be coordinated with construction. However, traffic control for utility work outside of typical project work hours shall be the responsibility of the utility owner.

Perform each utility work element for every utility owner listed here in Part 1. Notify each utility owner in advance of any work being done by the Contractor to its facility, so that the utility owner can coordinate its inspections for final acceptance of the work with the Project Engineer.

Project Limits – All Utility Owners:

Prior to excavating, the Contractor shall positively locate all potential conflicts with existing underground utilities and proposed construction, as determined by the Contractor according to proposed methods and schedule of construction. The Contractor shall modify construction plans to avoid existing underground facilities as needed, and as approved by the Project Engineer. Please note that UNCC marks only its members' facilities – Other facilities, such as ditches and drainage pipes may exist, and it is the Contractor's responsibility to investigate, locate and avoid such facilities.

PART 2 - UTILITY OWNERS SHALL PERFORM THE WORK LISTED BELOW:

Although the Contractor shall provide traffic control for utility work expected to be coordinated with construction, traffic control for utility work outside of typical project work hours shall be the responsibility of the utility owner. The utility owner shall prepare and submit to the Project Engineer a Method of Handling Traffic for utility work to be performed outside typical project work hours. The utility owner shall obtain acceptance of the Method of Handling traffic from the Project Engineer prior to beginning the utility work to be performed outside typical project work hours.

NO UTILITY WORK EXPECTED.

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UTILITIES

GENERAL:

The Contractor shall comply with Article 1.5 of Title 9, CRS ("Excavation Requirements") when excavating or grading is planned in the area of underground utility facilities. The Contractor shall notify all affected utilities at least two (2) business days, not including the actual day of notice, prior to commencing such operations. The Contractor shall contact the Utility Notification Center of Colorado (UNCC) at phone no. **811 or 1-800-922-1987**, to have locations of UNCC registered lines marked by member companies. All other underground facilities shall be located by contacting the respective owner. Utility service laterals shall also be located prior to beginning excavation or grading.

The locations of utility facilities, as shown on the plan sheets and herein described, were obtained from the best available information.

All costs incidental to the foregoing requirements will not be paid for separately but shall be included in the work.

CITY AND COUNTY OF DENVER

STATE OF COLORADO



DEPARTMENT OF PUBLIC WORKS / ENGINEERING DIVISION

Drawings

Contract No. 201206603

**DENVER TRAFFIC IMPROVEMENT PROJECT
2012**

June 20, 2012

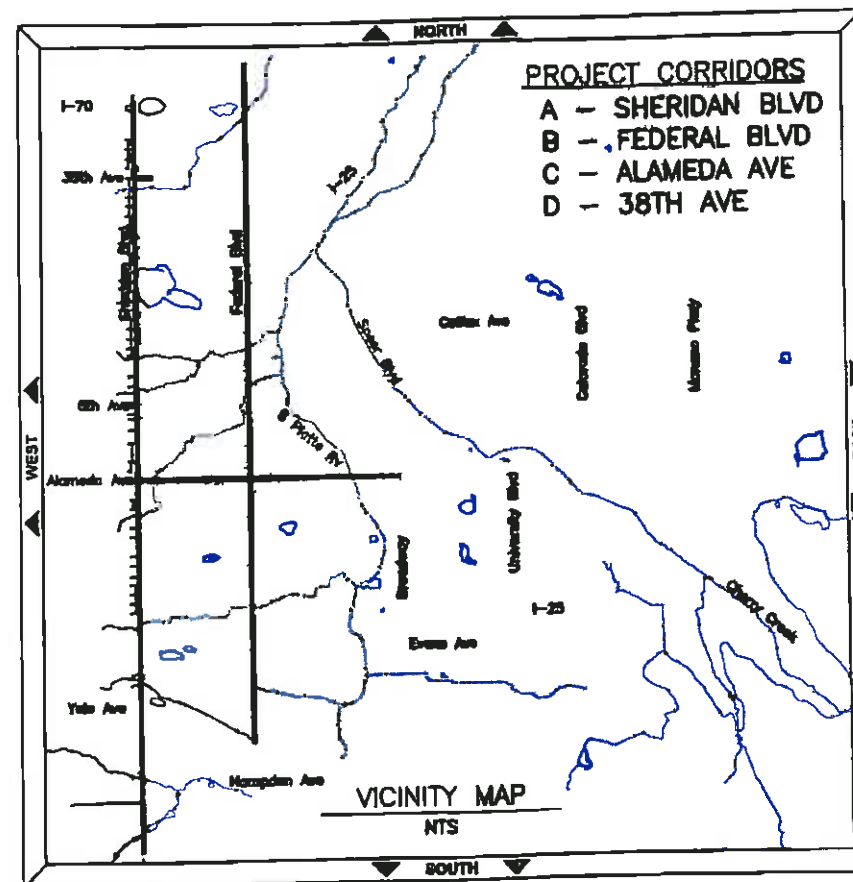
CITY & COUNTY OF DENVER
DEPARTMENT OF PUBLIC WORKS - ENGINEERING DIVISION

PLANS OF PROPOSED
FEDERAL AID PROJECT NO. AQC M320-075
CDOT SUBACCOUNT NO. SA 18536
DENVER PCO NO. PWC2012-6016; PILAR NO. 2012-0064-01

DENVER TRAFFIC IMPROVEMENT PROJECT 2012

SCALE OF ORIGINAL DRAWINGS
ON PLAN 1" = 400'

SUMMARY OF PROJECT CORRIDORS		
LOCATIONS		Modified Signal Controllers
A) SHERIDAN BLVD - (Quincy Ave to I-70)		29
B) FEDERAL BLVD - (Dartmouth Ave to 52nd Ave)		35
C) ALAMEDA AVENUE (Sheridan Blvd to Broadway)		12
D) 38TH AVENUE (East of Sheridan)		1
TOTAL		77



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7 SW-1	STORMWATER MANAGEMENT PLAN
8-10 OV-1 to 3	PROJECT OVERVIEW PLAN AND MAP KEY
11 D-1	TYPICAL TRAFFIC SIGNAL CONDUIT CONNECTION DETAILS
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54 T-43	38TH AVENUE - SIGNAL SYSTEM MODIFICATION PLANS
55 CTC-1	SCHEDULE OF TRAFFIC CONTROL DEVICES

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56 16.1.6	CONDUIT DETAILS
57 16.1.7	PULL BOXES
58 16.1.18	"P" CABINET BASE
59 16.1.17	"P" CABINET BASE
60 16.1.18	"M" CABINET BASE

Signature Block

<i>[Signature]</i>	4-23-12
Manager of Public Works	
<i>[Signature]</i>	4-23-12
City Engineer	
<i>[Signature]</i>	4/23/12
Director of Engineering	
<i>[Signature]</i>	4-17-12
City Traffic Engineer	
<i>[Signature]</i>	4-23-12
Small Business Opportunity Division	

Print Date: 3/9/2012 8:02:57 AM

File Name: A09038-17 TTL01.dwg

Horizontal Scale: NA Vertical Scale: NA



6300 South Syracuse Way, Suite 600
Centennial, CO 80111
tel 303.721.1440
fax 303.721.0832



Sheet Revisions

Date	Comments	Initials



DENVER
THE MILE HIGH CITY

Department of Public Works
Traffic Engineering Services Dept. 308
201 West Colfax Avenue
Denver, CO 80202
(720) 865-3176

As Constructed

No Revisions:

Revised:

Void:

DENVER TIP 2012
PROJECT TITLE
SHEET

Designer:	LCL	Structure	-
Detailer:	LCL	Numbers	-
Subset:	Title	Sheets:	TS-1 of 1

Project No./Code

AQC M320-075

SA 18536

Sheet Number

1

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THE STANDARD PLAN SHEETS INDICATED HEREON BY A MARKED BOX ARE TO BE USED TO CONSTRUCT THIS PROJECT.

ALL OF THE M&S STANDARD PLANS, AS SUPPLEMENTED AND REVISED, APPLY TO THIS PROJECT WHEN USED BY DESIGNATED PAY ITEM OR SUBSIDIARY ITEM.

COLORADO
DEPARTMENT OF TRANSPORTATION
STANDARD PLANS LIST
M&S STANDARDS
July 04, 2006
Revised on February 16, 2012

Print Date: 2/16/2012 1:42:33 PM		Sheet Revisions		 DENVER THE MILE HIGH CITY	Department of Public Works Traffic Engineering Services, Dept. 508 201 West Colfax Avenue Denver, CO 80202 (720) 865-3176	As Constructed		DENVER TIP 2012 STANDARD PLANS		Project No./Code	
File Name: M09038-17 SPL01.dwg						No Revisions:				AQC M320-075	
Horizontal Scale: NA Vertical Scale: NA		<input checked="" type="checkbox"/> R-X <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	Date	Comments	Initials	Revised:	Designer:	LCL	Structure	-	SA 18536
 6300 South Syracuse Way, Suite 600 Centennial, CO 80111 tel 303.721.1440 fax 303.721.0832						Void:	Detailer:	LCL	Numbers	-	Sheet Number
							Subset:	Traffic	Sheets:	SP-1 of 1	2

I:\09038-17\CAD\Sheets\ Scott Dankenbring

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			202-99999	REMOVAL OF TRAFFIC SIGNAL CABINET BASE	EACH	20														20									
			203-01597	POTHOLING	EACH	150														150									
			208-00002	EROSION LOG (12 INCH)	LF	500														500									
			208-00034	GRAVEL BAG	LF	200														200									
			208-00045	CONCRETE WASHOUT STRUCTURE	EACH	1														1									
			208-00051	STORM DRAIN INLET PROTECTION (TYPE 1)	LF	115														115									
			208-00052	STORM DRAIN INLET PROTECTION (TYPE 2)	LF	300														300									
			208-00103	REMOVAL AND DISPOSAL OF SEDIMENT (LABOR)	HOURL	80														80									
			208-00105	REMOVAL AND DISPOSAL OF SEDIMENT (EQUIPMENT)	HOURL	40														40									
			208-00205	EROSION CONTROL SUPERVISOR	HOURL	120														120									
			607-11525	FENCE (PLASTIC)	LF	200														200									
			608-00000	CONCRETE SIDEWALK	SY	110														110									
			613-01200	2 INCH ELECTRICAL CONDUIT (PLASTIC)	LF	750														750									
			613-01300	3 INCH ELECTRICAL CONDUIT (PLASTIC)	LF	2900														2900									
			613-07000	PULL BOX (SPECIAL)	EACH	77														77									
			613-07101	PULL BOX (TYPE A)	EACH	77														77									
			613-07104	PULL BOX (TRAFFIC)	EACH	77														77									
			613-60500	CONDUIT AND FIBER REPAIR	EACH	25														25									
			614-03102	CONCRETE FOOTING (CABINET BASE)	EACH	17														17									
			614-75848	TRAFFIC SIGNAL CONTROLLER AND CABINET (INSTALL ONLY)	EACH	77														77									
			614-86004	SPREAD SPECTRUM RADIO (INSTALL ONLY)	EACH	4														4									
			614-86105	TELEMETRY (FIELD)	EACH	75														75									
			626-00000	MOBILIZATION	LS	1														1									
			630-00000	FLAGGING	HOURL	258														258									
			630-00003	UNIFORMED TRAFFIC CONTROL	HOURL	308														308									
			630-00012	TRAFFIC CONTROL MANAGEMENT	DAY	129														129									
			630-80341	CONSTRUCTION TRAFFIC SIGN (PANEL SIZE A)	EACH	6														6									
			630-80342	CONSTRUCTION TRAFFIC SIGN (PANEL SIZE B)	EACH	26														26									
Print Date: 3/13/2012 8:01:10 AM			File Name: M09038-17 SAQ01.dwg			Horizontal Scale:			Vertical Scale:			FELSBERG HOLT & ULLEVIG			6300 South Syracuse Way, Suite 600 Centennial, CO 80111 tel 303.721.1440 fax 303.721.0832			Sheet Revisions			As Constructed			DENVER TIP 2012 SUMMARY OF APPROXIMATE QUANTITIES			Project No./Code		
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GENERAL NOTES

1. THESE GENERAL NOTES PERTAIN TO THE CONSTRUCTION OF THE DENVER TRAFFIC IMPROVEMENT PROJECT (TIP) 2012. FOR SPECIFIC DETAILS OF THE PROPOSED WORK, REFER TO THE CORRESPONDING SECTIONS OF THESE PLANS AND THE PROJECT SPECIAL PROVISIONS.
2. ALL WORK SHALL BE IN ACCORDANCE WITH THE COLORADO DEPARTMENT OF TRANSPORTATION (CDOT) "STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION" (2011 EDITION); CDOT "STANDARD PLANS" (JULY 2006); DENVER TRAFFIC STANDARD DRAWINGS (2003); AND DENVER PUBLIC WORKS TRANSPORTATION STANDARDS AND DETAILS FOR THE ENGINEERING DIVISION (JUNE 2010). ALL WORK SHALL ALSO BE IN ACCORDANCE WITH LATEST EDITION OF "THE NATIONAL ELECTRICAL SAFETY CODE"; "THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" (2009 EDITION); AND ANY OTHER LOCAL ORDINANCES AND REGULATIONS WHICH APPLY.
3. THE CONTRACTOR SHALL NOT DISTURB EXISTING STREET PAVEMENT, CURBS, GUTTERS OR SIDEWALKS UNLESS AUTHORIZED TO DO SO BY THE DESIGNATED PROJECT ENGINEER. ANY PAVEMENT, CURB, GUTTER OR SIDEWALK THAT IS TO REMAIN IN PLACE AND IS DAMAGED BY THE CONTRACTOR SHALL BE REPAIRED OR REPLACED AT THE CONTRACTOR'S EXPENSE. ANY SUCH WORK SHALL BE REPAIRED/RECONSTRUCTED TO THE MOST RECENT CITY STANDARDS, AND SHALL MEET THE CITY & COUNTY OF DENVER PUBLIC WORKS "RULES AND REGULATIONS FOR THE CONSTRUCTION OF CURBS, GUTTERS, SIDEWALKS, DRIVEWAYS, STREET PAVING AND OTHER PUBLIC RIGHT-OF-WAY IMPROVEMENTS" (REFER TO THE PROJECT SPECIAL PROVISIONS "REVISION OF SECTION 613 ELECTRICAL CONDUIT-GENERAL"). WHERE WORK IS TO BE DONE ALONG PARKS OR UNDER DRIPLINE OF PARKWAY TREES, CITY OF DENVER FORESTRY SHALL BE NOTIFIED AT 303-698-5510 (CONTACT STEVE TRAYLOR FOR AREAS NORTH OF 6TH AVENUE AND JIM MYERS FOR AREAS SOUTH OF 6TH AVENUE). CITY FORESTERS SHALL ALSO BE NOTIFIED OF ANY MODIFICATIONS, INSTALLATIONS OR CHANGES TO CURB RAMPS AS THEY ARE UPDATED TO CODE.
4. THE LOCATION AND EXTENT OF ANY PAVEMENT OR CONCRETE REMOVAL SHALL BE PRE-APPROVED BY THE CITY & COUNTY OF DENVER PROJECT ENGINEER. TRENCHING OF CONDUIT ACROSS ANY SIDEWALKS, CURBS, GUTTERS, CURB RAMPS OR STREETS WILL NOT BE ALLOWED (SEE GENERAL NOTE 6).
5. THE LOCATION OF ALL PULL BOXES AND CONDUIT SHALL BE FIELD VERIFIED AND APPROVED BY THE ENGINEER, PRIOR TO INSTALLATION. IN GENERAL, THE LOCATION OF PULL BOXES SHALL BE CHOSEN TO MINIMIZE OR AVOID ANY UNNECESSARY SIDEWALK REPLACEMENT. PULL BOXES SHALL NOT BE INSTALLED WITHIN CURB RAMPS. RELOCATION OF BOXES WITHIN DRIPLINE OF RIGHT OF WAY OF TRESS NEEDS PRIOR APPROVAL FROM CITY FORESTRY (CONTACT ERIC HUETIG FOR ROW LOCATIONS, AND/OR CONTACTS FROM NOTE 3 ABOVE FOR PARKS AND PARKWAY LOCATIONS).
6. ANY SIDEWALK OR CURB RAMP AREAS THAT ARE DISTURBED BY CONSTRUCTION ACTIVITY (OR THAT ARE DAMAGED IN ANY MANNER) WILL REQUIRE THE ASSOCIATED PANEL(S) OR RAMP TO BE COMPLETELY REPLACED, REGARDLESS OF THE AGE OF THE EXISTING CONCRETE. SIDEWALK OR RAMP AREAS IMPACTED BY CONSTRUCTION SHALL BE SAWCUT ALONG EXISTING JOINT LINES ONLY, AND THE ENTIRE AREA REMOVED, HAULED AWAY AND REPLACED WITH NEW CONCRETE TO CURRENT CCD AND ADA STANDARDS. SAWCUT AND REMOVAL OF CONCRETE WILL NOT BE MEASURED AND PAID FOR SEPARATELY, BUT SHALL BE INCIDENTAL TO THE COST OF THE NEW SIDEWALK/RAMP INSTALLATION. CONCRETE SIDEWALK SHALL BE REPLACED TO MATCH THE EXISTING SIDEWALK DEPTH, BUT SHALL BE NO LESS THAN 6 INCHES DEEP. SIDEWALK AND RAMP REPLACEMENT WILL BE MEASURED IN SQUARE YARDS AND SHALL ONLY BE PAID FOR AS ITEM 608 "CONCRETE SIDEWALK". IT IS ESTIMATED THAT UP TO 110 SQUARE YARDS OF CONCRETE REPLACEMENT WILL BE REQUIRED FOR THE PROJECT.
7. TO PROVIDE ADEQUATE SULFATE RESISTANCE IN ALL CONCRETE SUPPLIED, SEVERITY OF POTENTIAL EXPOSURE SHALL BE CLASS 2 FOR THIS PROJECT. THE CONTRACTOR MAY, AT THEIR OWN EXPENSE, HAVE A CERTIFIED LABORATORY TEST THE SUBGRADE AS PER THE 2009 FIELD MATERIALS MANUAL. TESTING SHALL BE AT THE SAME SCHEDULE AND FREQUENCY AS REQUIRED FOR A PRELIMINARY SOIL SURVEY. THE CONTRACTOR MAY THEN PROPOSE A DIFFERENT CLASS OF EXPOSURE FOR THE PROJECT BASED ON THOSE TEST RESULTS.
8. THE CONTRACTOR SHALL USE A FABRICATED WASHOUT STRUCTURE FOR CONTAINING WASHOUT FROM CONCRETE PLACEMENT AND ASSOCIATED CONSTRUCTION CLEANING OPERATIONS. SUCH STRUCTURES WILL BE PRE-MANUFACTURED WATERTIGHT CONTAINERS AS LISTED ON CDOT'S APPROVED PRODUCT LIST.
9. BACKFILL AND COMPACTION OF ANY EXCAVATED AREAS WILL NOT BE MEASURED AND PAID FOR SEPARATELY, BUT SHALL BE INCIDENTAL TO THE ASSOCIATED WORK. THE CONTRACTOR SHALL COMPACT BACKFILL BELOW SIDEWALKS, CURB AND GUTTER, CURB RAMPS, MEDIANS OR STREETS PER CITY REQUIREMENTS. THE CONTRACTOR SHALL COMPACT BACKFILL FOR PLANTED AREAS OR AROUND CONTROLLER FOUNDATIONS TO A FIRM, NON-YIELDING OR BETTER THAN EXISTING CONDITION IN MAXIMUM 12 INCH COMPACTED LAYERS BEFORE PROCEEDING TO THE NEXT LAYER.
10. DENVER ENVIRONMENTAL QUALITY (DEQ) DOES NOT ANTICIPATE ANY CONTAMINATED SOIL OR GROUNDWATER TO BE ENCOUNTERED ON THIS PROJECT. HOWEVER, IF SOIL STAINING, CONSTRUCTION DEBRIS, ODORS, LANDFILL GAS AND/OR CONTAMINATED GROUNDWATER ARE ENCOUNTERED DURING CONSTRUCTION ACTIVITIES, ALL WORK SHALL STOP UNTIL DEQ IS CONTACTED TO DETERMINE THE BEST MEANS TO PROCEED. LISA FARRELL OF DENVER ENVIRONMENTAL QUALITY SHALL BE CONTACTED AT 303-865-5439. (SEE NOTE 11).
11. THE PROCEDURES IN SECTION 250, "ENVIRONMENTAL HEALTH AND SAFETY MANAGEMENT" OF THE CDOT "STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION", 2011 EDITION, SHALL BE FOLLOWED.
12. THE CONTRACTOR SHALL FURNISH THE PROJECT ENGINEER WITH A DIGITAL PHOTO LOG OF ALL PLANNED AREAS OF DISTURBANCE BEFORE BEGINNING CONSTRUCTION WORK, AND THIS WORK SHALL BE INCIDENTAL TO THE PROJECT. THE CONTRACTOR SHALL REPLACE ANY DAMAGED LANDSCAPED AREAS TO THEIR ORIGINAL CONDITION, INCLUDING TOPSOIL, GRASS, IRRIGATION COMPONENTS, TREES, SHRUBS, GROUND COVERS AND MULCH. ANY SOD REPLACEMENT SHALL MATCH EXISTING. NATIVE SEEDING, PER SECTION 212 OF THE CDOT "STANDARD SPECIFICATIONS" SHALL ALSO BE APPLIED AS APPLICABLE TO THE LOCATION. THE COST FOR LANDSCAPE REPAIR OR REPLACEMENT WILL NOT BE PAID FOR SEPARATELY, BUT SHALL BE INCIDENTAL TO THE PROJECT.
13. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PRESERVING ANY LANDSCAPE IRRIGATION SYSTEMS AND ASSOCIATED COMPONENTS THAT ARE LOCATED NEAR ANY CONSTRUCTION ACTIVITY. THE CONTRACTOR SHALL ALLOW AT LEAST 5 WORKING DAYS IN ADVANCE OF STARTING WORK IN ANY SUCH AREAS, TO COORDINATE WITH THE IRRIGATION SYSTEM OWNER AND ALLOW THEM TO MARK THE LOCATION OF THEIR SYSTEM COMPONENTS. LANDSCAPED AREAS SHALL NOT BE WITHOUT IRRIGATION SERVICE DURING THE GROWING SEASONS. IF ANY IRRIGATION SERVICE IS INTERRUPTED FOR MORE THAN 3 DAYS DURING THE GROWING SEASONS, THE CONTRACTOR SHALL BE REQUIRED TO WATER AFFECTED AREAS AND MAY BE HELD RESPONSIBLE FOR REPLACING LANDSCAPING IN THE AFFECTED AREA AT NO ADDITIONAL COST TO THE PROJECT. LANDSCAPE RESTORATION SHALL BE CONSIDERED COMPLETE WHENEVER THE LANDSCAPING AND IRRIGATION SYSTEMS ARE RESTORED TO THEIR ORIGINAL CONDITION, AND THEY HAVE BEEN INSPECTED AND APPROVED BY THE APPROPRIATE OWNER OR OWNER'S REPRESENTATIVE. REPLACEMENT OF ANY IRRIGATION AND/OR LANDSCAPING IS INCIDENTAL TO THE CONDUIT INSTALLATION AS STATED IN THE PROJECT SPECIAL PROVISIONS FOR ELECTRICAL CONDUIT - GENERAL.
14. NO CONSTRUCTION RELATED VEHICLES SHALL BE PARKED IN THE TRAVEL LANES OF ANY STREET WITHOUT APPROPRIATE CONSTRUCTION TRAFFIC CONTROL DEVICES.
15. FOR ANY WORK IMPACTING DENVER STREETS, THE CONTRACTOR SHALL OBTAIN A CITY OF DENVER STREET OCCUPANCY PERMIT THROUGH THE DEPARTMENT OF PUBLIC WORKS RIGHT OF WAY SERVICES - CONSTRUCTION ENGINEERING. FOR EACH PHASE OF CONSTRUCTION, AND PRIOR TO ANY PROPOSED STREET OR LANE CLOSURES, THE CONTRACTOR SHALL SUBMIT AN APPLICABLE METHOD OF HANDLING TRAFFIC PLAN TO THE CITY AND COUNTY OF DENVER, PERMIT DESK, 2000 W. 3RD AVENUE, 303-446-3759. FOR TRAFFIC MANAGEMENT REQUIREMENTS OUTLINED IN SECTION 630, THIS PROJECT WILL BE CLASSIFIED AS NON-SIGNIFICANT.
16. THE CONTRACTOR SHALL NOTIFY RTD OF ANY CONSTRUCTION ACTIVITY THAT WILL IMPACT BUS STOP ACCESSIBILITY A MINIMUM OF 48 HOURS IN ADVANCE OF SUCH WORK.
17. THE CONTRACTOR SHALL OBTAIN A CITY OF DENVER DEPARTMENT OF PARKS AND RECREATION PERMIT FOR ANY WORK ADJACENT TO A CITY DESIGNATED PARK. EUGENE ROYBAL SHALL BE CONTACTED AT 720-865-0364.
18. EXISTING VEGETATION PROTECTION SPECIFICATIONS HAVE BEEN INCLUDED WITH THIS PROJECT. WHERE WORK MUST BE DONE WITHIN DRIPLINES OF PRW TREES, OR WHERE EXISTING CONDITIONS MAY INVOLVE DAMAGING PRW TREE ROOTS, DENVER FORESTRY SHALL BE CONTACTED PRIOR TO WORK BEGINNING AT SUCH LOCATIONS FOR A PRE-CONSTRUCTION DISCUSSION.
19. ANY PERMIT FEES SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR AND ARE INCIDENTAL TO THE PROJECT.
20. ALL CONDUIT SHALL BE INSTALLED A MINIMUM OF 30 INCHES BELOW GRADE. NO BORING OF CONDUIT IS ANTICIPATED FOR THIS PROJECT. HOWEVER, FOR ANY SUCH WORK WHERE BORE PITS REQUIRE SHORING, THE CONTRACTOR WILL BE RESPONSIBLE FOR THE DESIGN AND SAFETY OF THE SHORING. THE LOCATION OF ANY BORING PITS SHALL ALSO BE PRE-APPROVED BY THE CITY PRIOR TO CONSTRUCTION.
21. THE CONTRACTOR'S ATTENTION IS DIRECTED TO THE PROJECT SPECIAL PROVISIONS CONCERNING UTILITIES.
22. THE CONTRACTOR SHALL COMPLY WITH ARTICLE 1.5 OF TITLE 9, CRS ("EXCAVATION REQUIREMENTS") WHEN EXCAVATING, BORING OR GRADING IS PLANNED IN THE AREA OF UNDERGROUND UTILITY FACILITIES. THE CONTRACTOR SHALL NOTIFY ALL AFFECTED UTILITIES AT LEAST TWO (2) BUSINESS DAYS, NOT INCLUDING THE ACTUAL DAY OF NOTICE, PRIOR TO COMMENCING SUCH OPERATIONS. THE CONTRACTOR SHALL CONTACT THE UTILITY NOTIFICATION CENTER OF COLORADO (UNCC) AT PHONE NO. 811 OR 1-800-922-1987, TO HAVE LOCATIONS OF UNCC REGISTERED LINES MARKED BY MEMBER COMPANIES. ALL OTHER UNDERGROUND FACILITIES SHALL BE LOCATED BY CONTACTING THE RESPECTIVE OWNER. UTILITY SERVICE LATERALS SHALL ALSO BE LOCATED PRIOR TO BEGINNING EXCAVATION, BORING OR GRADING.
23. THE CONTRACTOR SHALL BE RESPONSIBLE, AT NO ADDITIONAL COST TO THE PROJECT, FOR REPAIRING OR REPLACING ANY DAMAGED UTILITIES AS A RESULT OF THEIR CONSTRUCTION ACTIVITY. ANY DAMAGE TO STORM OR SANITARY SEWER SYSTEMS WILL REQUIRE REPAIR AND UPGRADING TO CURRENT CITY & COUNTY OF DENVER STANDARDS.
24. IT IS SUGGESTED THAT THE CONTRACTOR INITIATE A REQUEST TO XCEL ENERGY FOR ANY CONSTRUCTION RELATED TEMPORARY ELECTRICAL POWER SOURCES AT THE BEGINNING OF THE PROJECT CONSTRUCTION (AFTER NOTICE TO PROCEED). THE REQUEST IS TO BE PROCESSED THROUGH XCEL ENERGY-BUILDER'S CALL LINE AT 1-800-628-2121.
25. POTHOLING SHALL BE CONDUCTED AS NECESSARY TO FACILITATE CONDUIT INSTALLATION OR REPAIR. IT IS ESTIMATED THAT 150 POTHOLES WILL BE REQUIRED FOR THE PROJECT.
26. THE CONTRACTOR SHALL ENSURE THAT NO MATERIALS, EQUIPMENT OR VEHICLES ARE STAGED OR PARKED NEAR ANY WETLANDS, DRAINAGE AREAS OR WATERWAYS; NOR WITHIN PARK LANDS OR PARKWAYS. THE CONTRACTOR SHALL ALSO NOT ALLOW DEBRIS OR CONSTRUCTION MATERIAL TO FALL WITHIN THESE AREAS.
27. ACCESS TO ALL BICYCLE AND PEDESTRIAN TRAILS SHALL BE MAINTAINED AT ALL TIMES, OR AN APPROVED DETOUR ROUTE SHALL BE ESTABLISHED WITH APPROPRIATE SIGNING.
28. IF ANY BURIED CULTURAL RESOURCES ARE ENCOUNTERED DURING EXCAVATIONS ON THIS PROJECT, WORK SHALL STOP AND DAN JEPSON, CDOT ARCHAEOLOGIST, SHALL BE CONTACTED AT 303-757-9631.
29. IF ANY BURIED PALEONTOLOGICAL RESOURCES ARE ENCOUNTERED DURING EXCAVATIONS ON THIS PROJECT, WORK SHALL STOP AND STEVE WALLACE, CDOT PALEONTOLOGIST, SHALL BE CONTACTED AT 303-757-9631.

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Vertical Scale:							Detailer:	LCL	Numbers	-		
<div><div><div></div><div>FELSBURG HOLT & ULLEVIG</div></div><div>6300 South Syracuse Way, Suite 600 Centennial, CO 80111 tel 303.721.1440 fax 303.721.0832</div></div>							Void:	Subset:	Notes	Sheets:	GN-1of 2	Sheet Number
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Department of Public Works
Traffic Engineering Services, Dept. 508
201 West Colfax Avenue
Denver, CO 80202
(720) 865-3176

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GENERAL NOTES (Continued from Plan GN-1)

- 30. ALL APPROPRIATE EROSION AND SEDIMENT CONTROLS SHALL BE IN PLACE PRIOR TO ANY CONSTRUCTION WORK. REFER TO THE STORMWATER MANAGEMENT PLAN, STANDARD SPECIFICATIONS AND PROJECT RELATED SPECIFICATIONS FOR ADDITIONAL INFORMATION REGARDING EROSION CONTROL REQUIREMENTS FOR THIS PROJECT, INCLUDING QUANTITIES.
- 31. ALL EROSION/SEDIMENT CONTROL AND STORMWATER RESPONSIBILITIES STATED IN THE STORMWATER MANAGEMENT PLAN AND PROJECT SPECIFICATIONS SHALL BE FOLLOWED OR AMENDED.
- 32. ALL EROSION/SEDIMENT BMPs SHALL BE PLACED AS NEEDED ACCORDING TO THE CONSTRUCTION PHASING, AND AS APPROVED BY THE ENGINEER.
- 33. EROSION AND SEDIMENT CONTROLS SHALL BE REMOVED ONCE THE DISTURBANCE IN THE AREA HAS BEEN COMPLETED AND THE AREA IS STABILIZED. REMOVAL OF SUCH CONTROLS SHALL BE INCIDENTAL TO THE PROJECT.
- 34. INLET PROTECTION SHALL BE MOBILE AND IS REQUIRED UNTIL ALL DISTURBANCES ADJACENT TO OR UPSTREAM OF INLETS HAVE BEEN COMPLETED AND STABILIZED. MOBILIZATION OF INLET PROTECTION SHALL BE INCLUDED IN THE COST OF THE BMP. BMP MUST REMAIN UNDAMAGED IN ORDER TO BE RE-USED.
- 35. ANY AND ALL CONSTRUCTION RELATED DIRT PILES SHALL BE REMOVED, PROTECTED OR PUT BACK IN PLACE AT THE END OF EACH WORK DAY.

EXISTING COMMUNICATION CONDUIT PROOFING AND REPAIR

- 1. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROOFING ALL EXISTING FIBER OPTIC CABLES THAT ARE LOCATED BETWEEN EACH OF THE TRAFFIC SIGNAL CONTROLLER CABINETS WITHIN THE PROJECT LIMITS. PROOFING SHALL BE CONDUCTED TO ESTABLISH THE INTEGRITY OF ALL USED AND UNUSED FIBER OPTIC STRANDS. THE CONTRACTOR SHALL COORDINATE WITH THE PROJECT ENGINEER TO ESTABLISH ANY KNOWN PROBLEM LOCATIONS.
- 2. ANY FIBER OPTIC CABLE STRANDS THAT ARE DISCOVERED TO BE DAMAGED SHALL BE LOCATED IN THE FIELD AND REPAIRED BY MEANS OF REPLACING THE FIBER OPTIC CABLE BETWEEN EXISTING COMMUNICATION PULL BOXES. IN ADDITION TO REPAIRING/REPLACING THE FIBER CABLE, IT IS ANTICIPATED THAT DAMAGED CONDUIT WILL ALSO BE ENCOUNTERED AT THE LOCATION WHERE THE FIBER CABLE WAS DAMAGED. ANY DAMAGE TO EXISTING COMMUNICATION CONDUIT SHALL ALSO BE REPAIRED. ALL SUCH REPAIR WORK SHALL BE PAID FOR AS CONDUIT AND FIBER REPAIR. IT IS ESTIMATED THAT UP 23 LOCATIONS WILL REQUIRE CONDUIT AND FIBER REPAIR. THE REPAIR WORK SHALL INCLUDE TESTING OF FIBER CABLE STRANDS, AND ALL LABOR AND MATERIALS REQUIRED TO RESTORE THE INTEGRITY OF THE FIBER OPTIC CABLE AND ASSOCIATED COMMUNICATION CONDUIT TO A FULLY FUNCTIONAL AND PROTECTED STATE.

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GENERAL NOTES

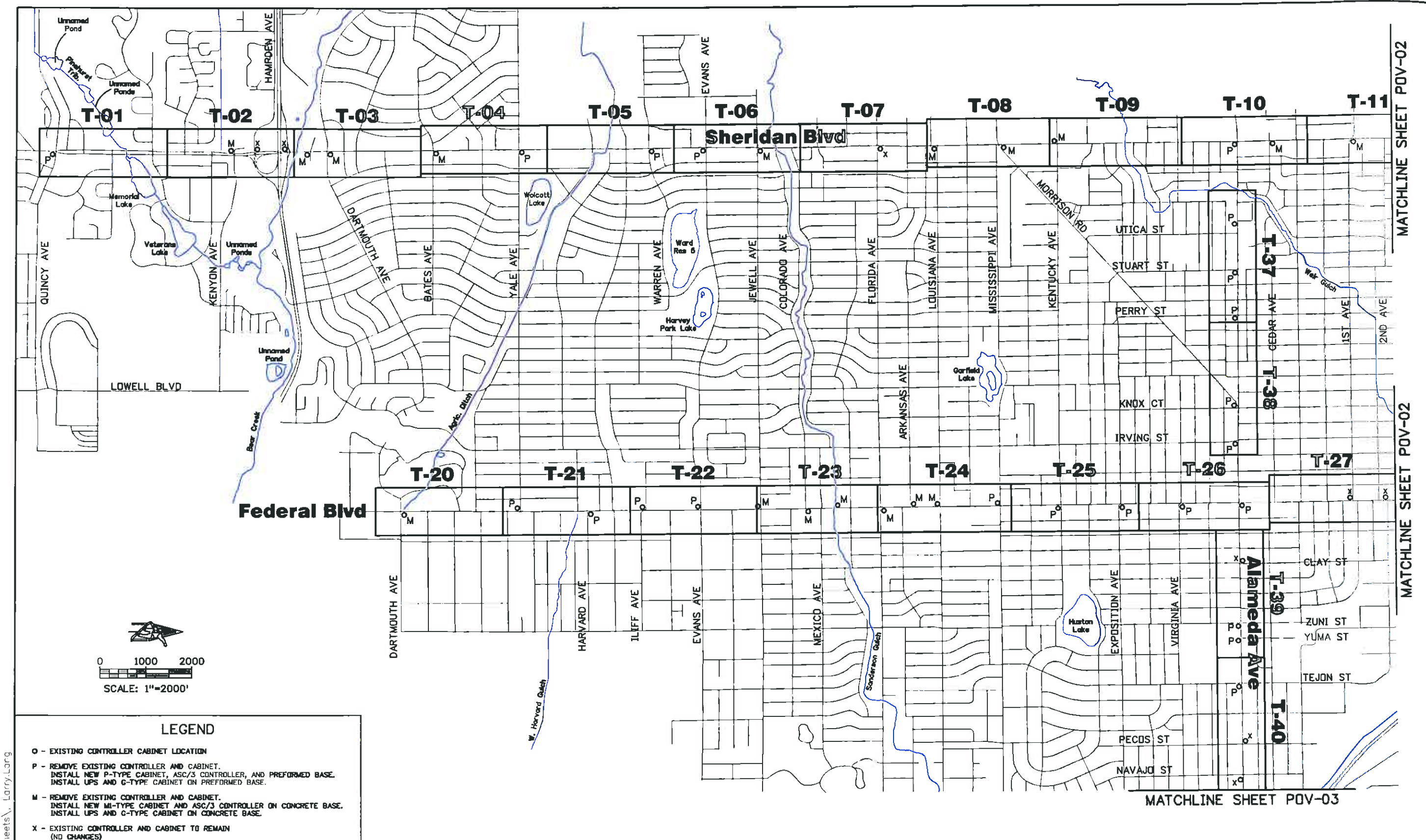
1. THESE GENERAL NOTES PERTAIN TO THE CONSTRUCTION OF THE DENVER TRAFFIC IMPROVEMENT PROJECT (TIP) 2012. FOR SPECIFIC DETAILS OF THE PROPOSED WORK, REFER TO THE CORRESPONDING SECTIONS OF THESE PLANS AND THE PROJECT SPECIAL PROVISIONS.
2. ALL WORK SHALL BE IN ACCORDANCE WITH THE COLORADO DEPARTMENT OF TRANSPORTATION (CDOT) "STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION" (2011 EDITION); CDOT "STANDARD PLANS" (JULY 2006); DENVER TRAFFIC STANDARD DRAWINGS (2003); AND DENVER PUBLIC WORKS TRANSPORTATION STANDARDS AND DETAILS FOR THE ENGINEERING DIVISION (JUNE 2010). ALL WORK SHALL ALSO BE IN ACCORDANCE WITH LATEST EDITION OF "THE NATIONAL ELECTRICAL SAFETY CODE"; "THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES" (2009 EDITION); AND ANY OTHER LOCAL ORDINANCES AND REGULATIONS WHICH APPLY.
3. THE CONTRACTOR SHALL NOT DISTURB EXISTING STREET PAVEMENT, CURBS, GUTTERS OR SIDEWALKS UNLESS AUTHORIZED TO DO SO BY THE DESIGNATED PROJECT ENGINEER. ANY PAVEMENT, CURB, GUTTER OR SIDEWALK THAT IS TO REMAIN IN PLACE AND IS DAMAGED BY THE CONTRACTOR SHALL BE REPAIRED OR REPLACED AT THE CONTRACTOR'S EXPENSE. ANY SUCH WORK SHALL BE REPAIRED/RECONSTRUCTED TO THE MOST RECENT CITY STANDARDS, AND SHALL MEET THE CITY & COUNTY OF DENVER PUBLIC WORKS "RULES AND REGULATIONS FOR THE CONSTRUCTION OF CURBS, GUTTERS, SIDEWALKS, DRIVEWAYS, STREET PAVING AND OTHER PUBLIC RIGHT-OF-WAY IMPROVEMENTS" (REFER TO THE PROJECT SPECIAL PROVISIONS "REVISION OF SECTION 613 ELECTRICAL CONDUIT-GENERAL"). WHERE WORK IS TO BE DONE ALONG PARKS OR UNDER DRIPLINE OF PARKWAY TREES, CITY OF DENVER FORESTRY SHALL BE NOTIFIED AT 303-698-5510 (CONTACT STEVE TRAYLOR FOR AREAS NORTH OF 6TH AVENUE AND JIM MYERS FOR AREAS SOUTH OF 6TH AVENUE). CITY FORESTERS SHALL ALSO BE NOTIFIED OF ANY MODIFICATIONS, INSTALLATIONS OR CHANGES TO CURB RAMPS AS THEY ARE UPDATED TO CODE.
4. THE LOCATION AND EXTENT OF ANY PAVEMENT OR CONCRETE REMOVAL SHALL BE PRE-APPROVED BY THE CITY & COUNTY OF DENVER PROJECT ENGINEER. TRENCHING OF CONDUIT ACROSS ANY SIDEWALKS, CURBS, GUTTERS, CURB RAMPS OR STREETS WILL NOT BE ALLOWED (SEE GENERAL NOTE 6).
5. THE LOCATION OF ALL PULL BOXES AND CONDUIT SHALL BE FIELD VERIFIED AND APPROVED BY THE ENGINEER, PRIOR TO INSTALLATION. IN GENERAL, THE LOCATION OF PULL BOXES SHALL BE CHOSEN TO MINIMIZE OR AVOID ANY UNNECESSARY SIDEWALK REPLACEMENT. PULL BOXES SHALL NOT BE INSTALLED WITHIN CURB RAMPS. RELOCATION OF BOXES WITHIN DRIPLINE OF RIGHT OF WAY OF TRESS NEEDS PRIOR APPROVAL FROM CITY FORESTRY (CONTACT ERIC HUETIG FOR ROW LOCATIONS, AND/OR CONTACTS FROM NOTE 3 ABOVE FOR PARKS AND PARKWAY LOCATIONS).
6. ANY SIDEWALK OR CURB RAMP AREAS THAT ARE DISTURBED BY CONSTRUCTION ACTIVITY (OR THAT ARE DAMAGED IN ANY MANNER) WILL REQUIRE THE ASSOCIATED PANEL(S) OR RAMP TO BE COMPLETELY REPLACED, REGARDLESS OF THE AGE OF THE EXISTING CONCRETE. SIDEWALK OR RAMP AREAS IMPACTED BY CONSTRUCTION SHALL BE SAWCUT ALONG EXISTING JOINT LINES ONLY, AND THE ENTIRE AREA REMOVED, HAULED AWAY AND REPLACED WITH NEW CONCRETE TO CURRENT CCD AND ADA STANDARDS. SAWCUT AND REMOVAL OF CONCRETE WILL NOT BE MEASURED AND PAID FOR SEPARATELY, BUT SHALL BE INCIDENTAL TO THE COST OF THE NEW SIDEWALK/RAMP INSTALLATION. CONCRETE SIDEWALK SHALL BE REPLACED TO MATCH THE EXISTING SIDEWALK DEPTH, BUT SHALL BE NO LESS THAN 6 INCHES DEEP. SIDEWALK AND RAMP REPLACEMENT WILL BE MEASURED IN SQUARE YARDS AND SHALL ONLY BE PAID FOR AS ITEM 608 "CONCRETE SIDEWALK". IT IS ESTIMATED THAT UP TO 110 SQUARE YARDS OF CONCRETE REPLACEMENT WILL BE REQUIRED FOR THE PROJECT.
7. TO PROVIDE ADEQUATE SULFATE RESISTANCE IN ALL CONCRETE SUPPLIED, SEVERITY OF POTENTIAL EXPOSURE SHALL BE CLASS 2 FOR THIS PROJECT. THE CONTRACTOR MAY, AT THEIR OWN EXPENSE, HAVE A CERTIFIED LABORATORY TEST THE SUBGRADE AS PER THE 2009 FIELD MATERIALS MANUAL. TESTING SHALL BE AT THE SAME SCHEDULE AND FREQUENCY AS REQUIRED FOR A PRELIMINARY SOIL SURVEY. THE CONTRACTOR MAY THEN PROPOSE A DIFFERENT CLASS OF EXPOSURE FOR THE PROJECT BASED ON THOSE TEST RESULTS.
8. THE CONTRACTOR SHALL USE A FABRICATED WASHOUT STRUCTURE FOR CONTAINING WASHOUT FROM CONCRETE PLACEMENT AND ASSOCIATED CONSTRUCTION CLEANING OPERATIONS. SUCH STRUCTURES WILL BE PRE-MANUFACTURED WATERTIGHT CONTAINERS AS LISTED ON CDOT'S APPROVED PRODUCT LIST.
9. BACKFILL AND COMPACTION OF ANY EXCAVATED AREAS WILL NOT BE MEASURED AND PAID FOR SEPARATELY, BUT SHALL BE INCIDENTAL TO THE ASSOCIATED WORK. THE CONTRACTOR SHALL COMPACT BACKFILL BELOW SIDEWALKS, CURB AND GUTTER, CURB RAMPS, MEDIANS OR STREETS PER CITY REQUIREMENTS. THE CONTRACTOR SHALL COMPACT BACKFILL FOR PLANTED AREAS OR AROUND CONTROLLER FOUNDATIONS TO A FIRM, NON-YIELDING OR BETTER THAN EXISTING CONDITION IN MAXIMUM 12 INCH COMPACTED LAYERS BEFORE PROCEEDING TO THE NEXT LAYER.
10. DENVER ENVIRONMENTAL QUALITY (DEQ) DOES NOT ANTICIPATE ANY CONTAMINATED SOIL OR GROUNDWATER TO BE ENCOUNTERED ON THIS PROJECT. HOWEVER, IF SOIL STAINING, CONSTRUCTION DEBRIS, ODORS, LANDFILL GAS AND/OR CONTAMINATED GROUNDWATER ARE ENCOUNTERED DURING CONSTRUCTION ACTIVITIES, ALL WORK SHALL STOP UNTIL DEQ IS CONTACTED TO DETERMINE THE BEST MEANS TO PROCEED. LISA FARRELL OF DENVER ENVIRONMENTAL QUALITY SHALL BE CONTACTED AT 303-865-5439. (SEE NOTE 11).
11. THE PROCEDURES IN SECTION 250, "ENVIRONMENTAL HEALTH AND SAFETY MANAGEMENT" OF THE CDOT "STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION", 2011 EDITION, SHALL BE FOLLOWED.
12. THE CONTRACTOR SHALL FURNISH THE PROJECT ENGINEER WITH A DIGITAL PHOTO LOG OF ALL PLANNED AREAS OF DISTURBANCE BEFORE BEGINNING CONSTRUCTION WORK, AND THIS WORK SHALL BE INCIDENTAL TO THE PROJECT. THE CONTRACTOR SHALL REPLACE ANY DAMAGED LANDSCAPED AREAS TO THEIR ORIGINAL CONDITION, INCLUDING TOPSOIL, GRASS, IRRIGATION COMPONENTS, TREES, SHRUBS, GROUND COVERS AND MULCH. ANY SOD REPLACEMENT SHALL MATCH EXISTING. NATIVE SEEDING, PER SECTION 212 OF THE CDOT "STANDARD SPECIFICATIONS" SHALL ALSO BE APPLIED AS APPLICABLE TO THE LOCATION. THE COST FOR LANDSCAPE REPAIR OR REPLACEMENT WILL NOT BE PAID FOR SEPARATELY, BUT SHALL BE INCIDENTAL TO THE PROJECT.
13. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PRESERVING ANY LANDSCAPE IRRIGATION SYSTEMS AND ASSOCIATED COMPONENTS THAT ARE LOCATED NEAR ANY CONSTRUCTION ACTIVITY. THE CONTRACTOR SHALL ALLOW AT LEAST 5 WORKING DAYS IN ADVANCE OF STARTING WORK IN ANY SUCH AREAS, TO COORDINATE WITH THE IRRIGATION SYSTEM OWNER AND ALLOW THEM TO MARK THE LOCATION OF THEIR SYSTEM COMPONENTS. LANDSCAPED AREAS SHALL NOT BE WITHOUT IRRIGATION SERVICE DURING THE GROWING SEASONS. IF ANY IRRIGATION SERVICE IS INTERRUPTED FOR MORE THAN 3 DAYS DURING THE GROWING SEASONS, THE CONTRACTOR SHALL BE REQUIRED TO WATER AFFECTED AREAS AND MAY BE HELD RESPONSIBLE FOR REPLACING LANDSCAPING IN THE AFFECTED AREA AT NO ADDITIONAL COST TO THE PROJECT. LANDSCAPE RESTORATION SHALL BE CONSIDERED COMPLETE WHENEVER THE LANDSCAPING AND IRRIGATION SYSTEMS ARE RESTORED TO THEIR ORIGINAL CONDITION, AND THEY HAVE BEEN INSPECTED AND APPROVED BY THE APPROPRIATE OWNER OR OWNER'S REPRESENTATIVE. REPLACEMENT OF ANY IRRIGATION AND/OR LANDSCAPING IS INCIDENTAL TO THE CONDUIT INSTALLATION AS STATED IN THE PROJECT SPECIAL PROVISIONS FOR ELECTRICAL CONDUIT - GENERAL.
14. NO CONSTRUCTION RELATED VEHICLES SHALL BE PARKED IN THE TRAVEL LANES OF ANY STREET WITHOUT APPROPRIATE CONSTRUCTION TRAFFIC CONTROL DEVICES.
15. FOR ANY WORK IMPACTING DENVER STREETS, THE CONTRACTOR SHALL OBTAIN A CITY OF DENVER STREET OCCUPANCY PERMIT THROUGH THE DEPARTMENT OF PUBLIC WORKS RIGHT OF WAY SERVICES - CONSTRUCTION ENGINEERING. FOR EACH PHASE OF CONSTRUCTION, AND PRIOR TO ANY PROPOSED STREET OR LANE CLOSURES, THE CONTRACTOR SHALL SUBMIT AN APPLICABLE METHOD OF HANDLING TRAFFIC PLAN TO THE CITY AND COUNTY OF DENVER, PERMIT DESK, 2000 W. 3RD AVENUE, 303-446-3759. FOR TRAFFIC MANAGEMENT REQUIREMENTS OUTLINED IN SECTION 630, THIS PROJECT WILL BE CLASSIFIED AS NON-SIGNIFICANT.
16. THE CONTRACTOR SHALL NOTIFY RTD OF ANY CONSTRUCTION ACTIVITY THAT WILL IMPACT BUS STOP ACCESSIBILITY A MINIMUM OF 48 HOURS IN ADVANCE OF SUCH WORK.
17. THE CONTRACTOR SHALL OBTAIN A CITY OF DENVER DEPARTMENT OF PARKS AND RECREATION PERMIT FOR ANY WORK ADJACENT TO A CITY DESIGNATED PARK. EUGENE ROYBAL SHALL BE CONTACTED AT 720-865-0364.
18. EXISTING VEGETATION PROTECTION SPECIFICATIONS HAVE BEEN INCLUDED WITH THIS PROJECT. WHERE WORK MUST BE DONE WITHIN DRIPLINES OF PRW TREES, OR WHERE EXISTING CONDITIONS MAY INVOLVE DAMAGING PRW TREE ROOTS, DENVER FORESTRY SHALL BE CONTACTED PRIOR TO WORK BEGINNING AT SUCH LOCATIONS FOR A PRE-CONSTRUCTION DISCUSSION.
19. ANY PERMIT FEES SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR AND ARE INCIDENTAL TO THE PROJECT.
20. ALL CONDUIT SHALL BE INSTALLED A MINIMUM OF 30 INCHES BELOW GRADE. NO BORING OF CONDUIT IS ANTICIPATED FOR THIS PROJECT. HOWEVER, FOR ANY SUCH WORK WHERE BORE PITS REQUIRE SHORING, THE CONTRACTOR WILL BE RESPONSIBLE FOR THE DESIGN AND SAFETY OF THE SHORING. THE LOCATION OF ANY BORING PITS SHALL ALSO BE PRE-APPROVED BY THE CITY PRIOR TO CONSTRUCTION. ALL DISTURBED AREAS DUE TO CONDUIT INSTALLATION SHALL BE RESTORED TO THEIR ORIGINAL CONDITION.
21. THE CONTRACTOR'S ATTENTION IS DIRECTED TO THE PROJECT SPECIAL PROVISIONS CONCERNING UTILITIES.
22. THE CONTRACTOR SHALL COMPLY WITH ARTICLE 1.5 OF TITLE 9, CRS ("EXCAVATION REQUIREMENTS") WHEN EXCAVATING, BORING OR GRADING IS PLANNED IN THE AREA OF UNDERGROUND UTILITY FACILITIES. THE CONTRACTOR SHALL NOTIFY ALL AFFECTED UTILITIES AT LEAST TWO (2) BUSINESS DAYS, NOT INCLUDING THE ACTUAL DAY OF NOTICE, PRIOR TO COMMENCING SUCH OPERATIONS. THE CONTRACTOR SHALL CONTACT THE UTILITY NOTIFICATION CENTER OF COLORADO (UNCC) AT PHONE NO. 811 OR 1-800-922-1987, TO HAVE LOCATIONS OF UNCC REGISTERED LINES MARKED BY MEMBER COMPANIES. ALL OTHER UNDERGROUND FACILITIES SHALL BE LOCATED BY CONTACTING THE RESPECTIVE OWNER. UTILITY SERVICE LATERALS SHALL ALSO BE LOCATED PRIOR TO BEGINNING EXCAVATION, BORING OR GRADING.
23. THE CONTRACTOR SHALL BE RESPONSIBLE, AT NO ADDITIONAL COST TO THE PROJECT, FOR REPAIRING OR REPLACING ANY DAMAGED UTILITIES AS A RESULT OF THEIR CONSTRUCTION ACTIVITY. ANY DAMAGE TO STORM OR SANITARY SEWER SYSTEMS WILL REQUIRE REPAIR AND UPGRADING TO CURRENT CITY & COUNTY OF DENVER STANDARDS.
24. IT IS SUGGESTED THAT THE CONTRACTOR INITIATE A REQUEST TO XCEL ENERGY FOR ANY CONSTRUCTION RELATED TEMPORARY ELECTRICAL POWER SOURCES AT THE BEGINNING OF THE PROJECT CONSTRUCTION (AFTER NOTICE TO PROCEED). THE REQUEST IS TO BE PROCESSED THROUGH XCEL ENERGY-BUILDER'S CALL LINE AT 1-800-628-2121.
25. POTHOLING SHALL BE CONDUCTED AS NECESSARY TO FACILITATE CONDUIT INSTALLATION OR REPAIR. IT IS ESTIMATED THAT 150 POTHOLES WILL BE REQUIRED FOR THE PROJECT.
26. THE CONTRACTOR SHALL ENSURE THAT NO MATERIALS, EQUIPMENT OR VEHICLES ARE STAGED OR PARKED NEAR ANY WETLANDS, DRAINAGE AREAS OR WATERWAYS; NOR WITHIN PARK LANDS OR PARKWAYS. THE CONTRACTOR SHALL ALSO NOT ALLOW DEBRIS OR CONSTRUCTION MATERIAL TO FALL WITHIN THESE AREAS.
27. ACCESS TO ALL BICYCLE AND PEDESTRIAN TRAILS SHALL BE MAINTAINED AT ALL TIMES, OR AN APPROVED DETOUR ROUTE SHALL BE ESTABLISHED WITH APPROPRIATE SIGNING.
28. IF ANY BURIED CULTURAL RESOURCES ARE ENCOUNTERED DURING EXCAVATIONS ON THIS PROJECT, WORK SHALL STOP AND DAN JEPSON, CDOT ARCHAEOLOGIST, SHALL BE CONTACTED AT 303-757-9631.
29. IF ANY BURIED PALEONTOLOGICAL RESOURCES ARE ENCOUNTERED DURING EXCAVATIONS ON THIS PROJECT, WORK SHALL STOP AND STEVE WALLACE, CDOT PALEONTOLOGIST, SHALL BE CONTACTED AT 303-757-9631.

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File Name: M09038-17 GNR01.dwg														
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(720) 465-3176

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LEGEND

- O - EXISTING CONTROLLER CABINET LOCATION
- P - REMOVE EXISTING CONTROLLER AND CABINET. INSTALL NEW P-TYPE CABINET, ASC/3 CONTROLLER, AND PREFORMED BASE. INSTALL UPS AND G-TYPE CABINET ON PREFORMED BASE.
- M - REMOVE EXISTING CONTROLLER AND CABINET. INSTALL NEW MI-TYPE CABINET AND ASC/3 CONTROLLER ON CONCRETE BASE. INSTALL UPS AND G-TYPE CABINET ON CONCRETE BASE.
- X - EXISTING CONTROLLER AND CABINET TO REMAIN (NO CHANGES)

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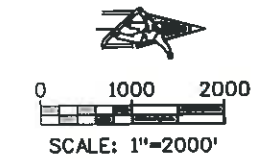
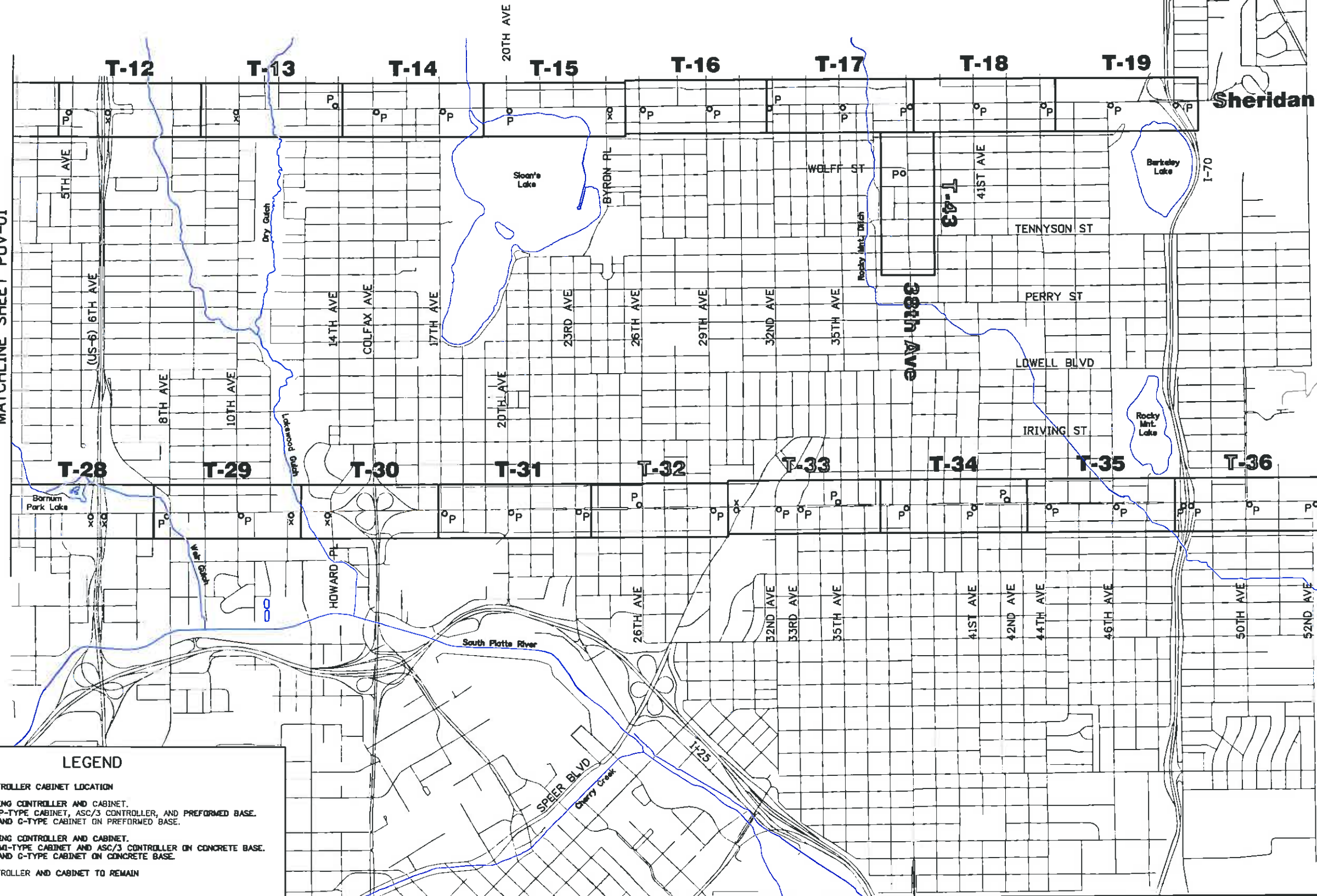
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Revised:		Detailer:	LCL	SA 18536	
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MATCHLINE SHEET POV-01



LEGEND

- O - EXISTING CONTROLLER CABINET LOCATION
- P - REMOVE EXISTING CONTROLLER AND CABINET. INSTALL NEW P-TYPE CABINET, ASC/3 CONTROLLER, AND PREFORMED BASE. INSTALL UPS AND G-TYPE CABINET ON PREFORMED BASE.
- M - REMOVE EXISTING CONTROLLER AND CABINET. INSTALL NEW M-TYPE CABINET AND ASC/3 CONTROLLER ON CONCRETE BASE. INSTALL UPS AND G-TYPE CABINET ON CONCRETE BASE.
- X - EXISTING CONTROLLER AND CABINET TO REMAIN (NO CHANGES)

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DENVER TIP 2012 PROJECT OVERVIEW PLAN AND MAP KEY

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Detailer: LCL
Subset: Overview Map

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Numbers
Sheets: OV-2 of 3

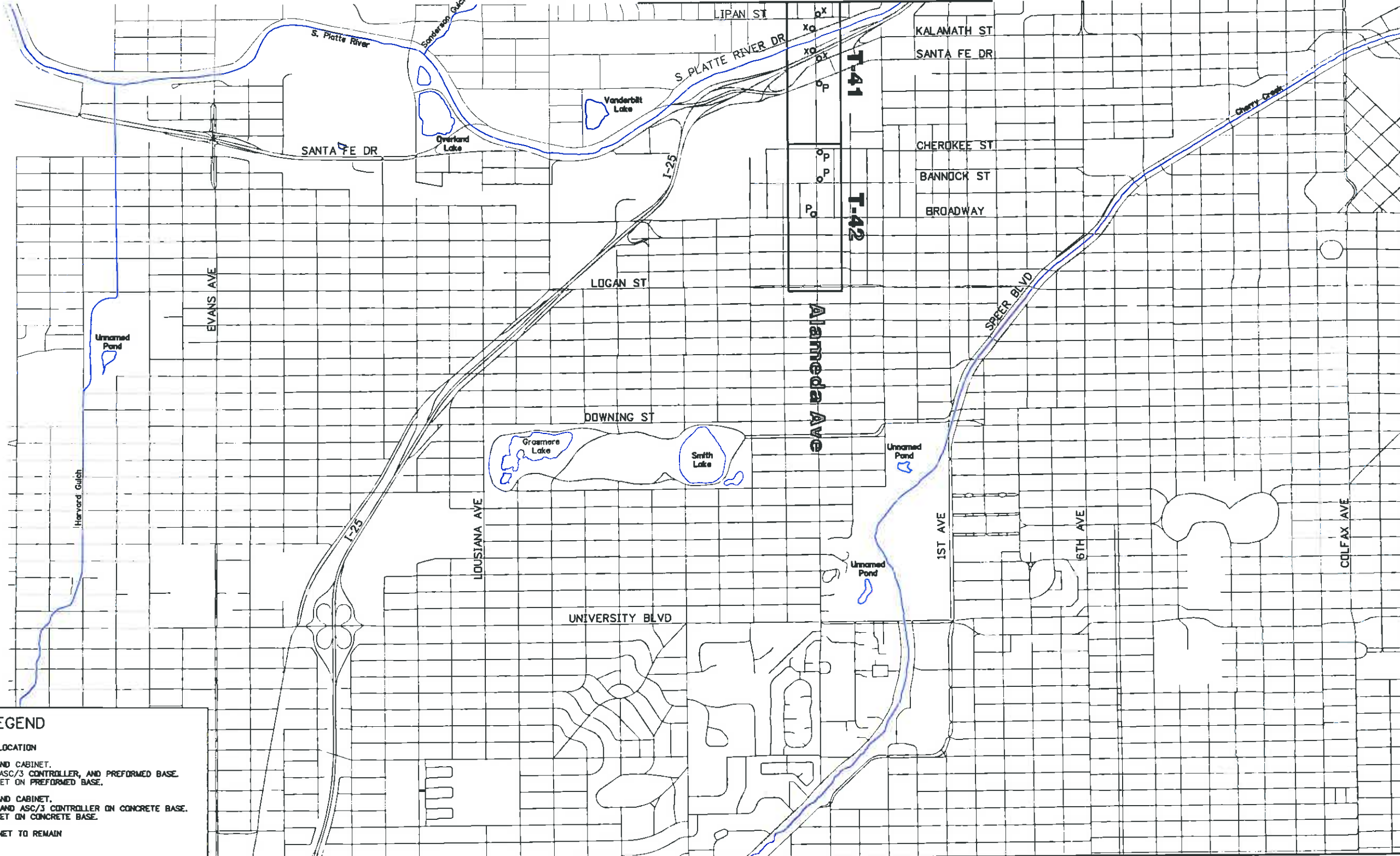
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AQC M320-075

SA 18536

Sheet Number 9

MATCHLINE SHEET POV-01



LEGEND

- O - EXISTING CONTROLLER CABINET LOCATION
- P - REMOVE EXISTING CONTROLLER AND CABINET. INSTALL NEW P-TYPE CABINET, ASC/3 CONTROLLER, AND PREFORMED BASE. INSTALL UPS AND G-TYPE CABINET ON PREFORMED BASE.
- M - REMOVE EXISTING CONTROLLER AND CABINET. INSTALL NEW M-TYPE CABINET AND ASC/3 CONTROLLER ON CONCRETE BASE. INSTALL UPS AND G-TYPE CABINET ON CONCRETE BASE.
- X - EXISTING CONTROLLER AND CABINET TO REMAIN (NO CHANGES)

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Subset:	Overview Map	Sheets:	OV-3 of 3

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Know what's below.
Call before you dig.

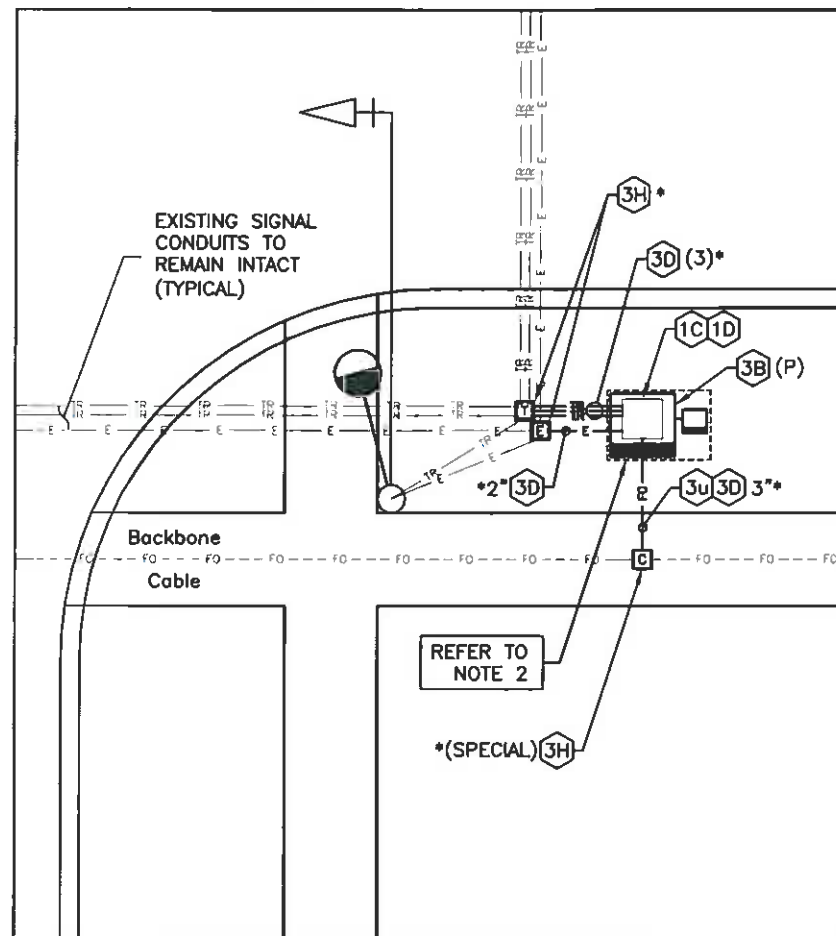
NOTES:

1. THE INTERSECTION DETAILS SHOWN BELOW ARE TYPICAL REPRESENTATIONS ONLY. ACTUAL PULL BOX, CONDUIT AND CABINET LOCATIONS WILL VARY AT EACH INTERSECTION.
2. CITY FURNISHED PREFORMED POLYMER CONCRETE TYPE BASES MAY BE INSTALLED OVER EXISTING M1 CONCRETE BASES. EXISTING FIBERGLASS BASES SHALL BE REMOVED FIRST BEFORE INSTALLING ANY NEW BASES.
- * 3. EXISTING TRAFFIC SIGNAL CONTROLLER CABINET CONDUITS AND ASSOCIATED PULL BOXES SHALL BE INSPECTED IN THE FIELD AND REPLACED IF FOUND TO BE UNDERSIZED, DAMAGED OR IN POOR CONDITION. ANY SUCH REPLACEMENTS SHALL BE APPROVED BY THE ENGINEER.
4. THE CONTRACTOR MAY OFFSET THE NEW CABINET BASE FROM THE OLD LOCATION, IF FIELD CONDITIONS JUSTIFY THE NEED. ANY AND ALL CABINET RELOCATIONS SHALL BE APPROVED BY THE ENGINEER PRIOR TO CONSTRUCTION. THE OLD CABINET LOCATION SHALL BE REPLACED WITH A TRAFFIC PULL BOX.
5. ALL NEW CABINETS, PULL BOXES AND CONDUIT SHALL BE PLACED WITHIN EXISTING CITY RIGHT OF WAY.
6. INSTALLATION OF A COMPLETE (CITY FURNISHED) UPS SYSTEM AT EACH LOCATION SPECIFIED IN THE PLANS, INCLUDING A G-TYPE CABINET, SHALL BE PAID FOR AS UNINTERRUPTED POWER SUPPLY (INSTALL ONLY).
7. M1 CABINETS SHALL BE INSTALLED ON EXISTING OR NEW CONCRETE BASES, AS SPECIFIED IN THE PLANS. CONCRETE BASES SHALL ALSO SUPPORT A G-TYPE UPS CABINET. EXISTING M1-TYPE CONCRETE BASES THAT REMAIN IN PLACE WILL NEED TO BE EXPANDED.

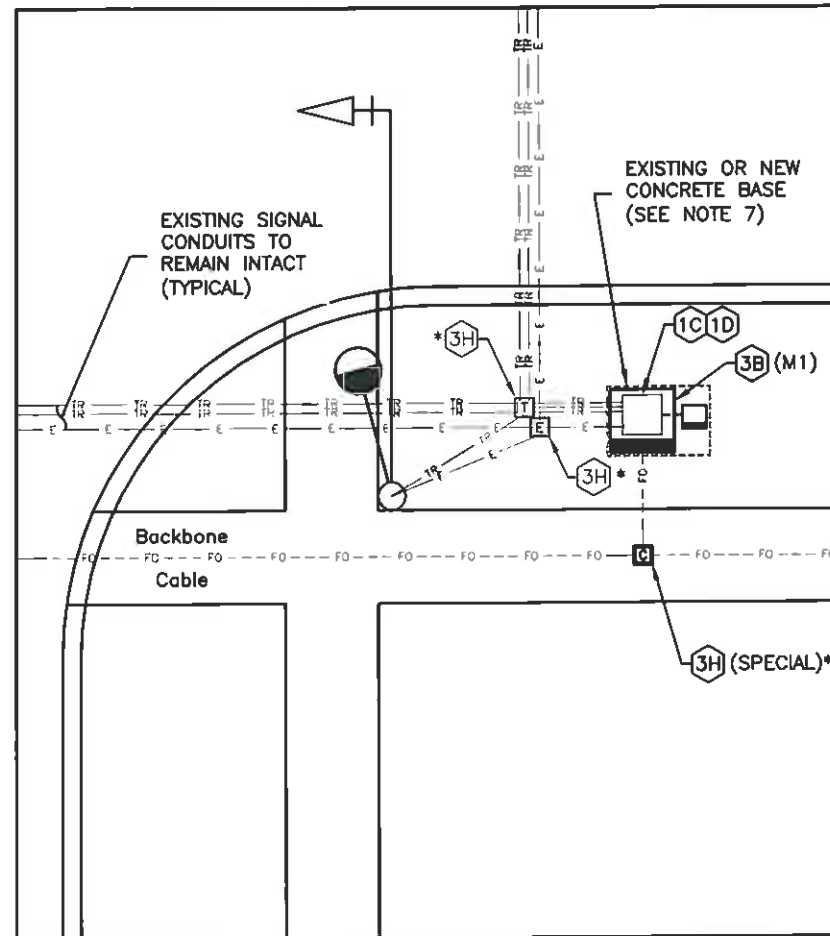
LEGEND

- 1C REMOVE EXISTING CABINET BASE AS NECESSARY (SEE NOTE 2)
- 1D REMOVE EXISTING TRAFFIC SIGNAL CONTROLLER AND CABINET
- 3B (P) INSTALL CITY FURNISHED ASC3 TYPE TRAFFIC SIGNAL CONTROLLER, P-TYPE CABINET, UPS & G-TYPE CABINET, AND PREFORMED BASE
- 3B (M1) INSTALL CITY FURNISHED ASC3 TYPE TRAFFIC SIGNAL CONTROLLER, M1-TYPE CABINET, UPS & G-TYPE CABINET ON CONCRETE BASE
- 3D INSTALL SPECIFIED SIZE OF PVC CONDUIT
- 3D (3) INSTALL 3 PVC CONDUITS (2-3" AND 1-2")
- 3H INSTALL NEW PULL BOX OR REPLACE EXISTING, AS NECESSARY
- 3u DISCONNECT LATERAL FIBER OPTIC CABLE FROM EXISTING TRANSCEIVER AND RE-CONNECT TO NEW CITY FURNISHED FIBER SWITCH

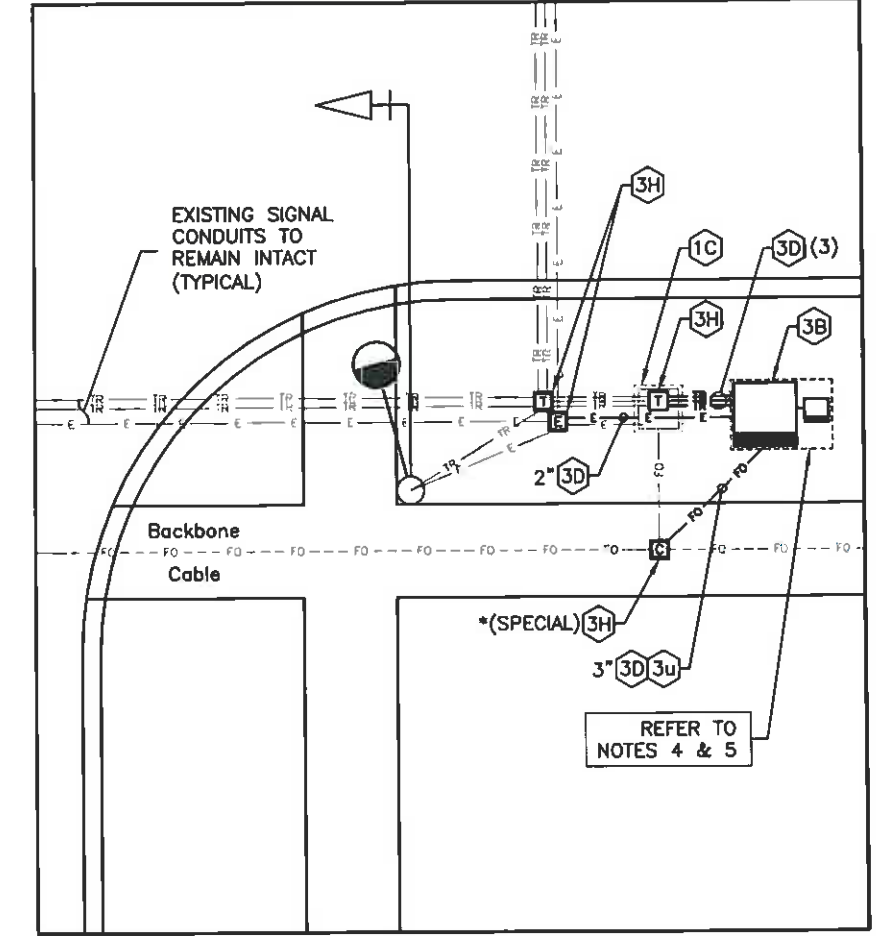
P-TYPE CABINET REPLACEMENT



M1-TYPE CABINET REPLACEMENT



M1 OR P-TYPE CABINET REPLACEMENT (NEW LOCATION)



TYPICAL INTERSECTION DETAIL 1

REMOVE EXISTING CONTROLLER AND P-TYPE CABINET.
REPLACE EXISTING CABINET BASE WITH CITY FURNISHED PREFORMED BASE (SEE NOTE 2).
INSTALL CITY FURNISHED ASC/3 CONTROLLER, UPS AND P & G TYPE CABINETS.
REPLACE EXISTING CONDUIT AND/OR PULL BOXES IF NECESSARY (SEE NOTE 3).

TYPICAL INTERSECTION DETAIL 2

REMOVE EXISTING CONTROLLER AND M1 CABINET (CONCRETE BASE MAY REMAIN).
INSTALL CITY FURNISHED ASC/3 CONTROLLER, UPS AND M1 & G-TYPE CABINETS.
MOUNT CABINETS ON NEW OR EXPANDED CONCRETE BASE
REPLACE EXISTING PULL BOXES (SEE NOTE 3).

ALTERNATE CABINET LOCATION DETAIL

REMOVE EXISTING TRAFFIC SIGNAL CONTROLLER, CABINET AND BASE.
INSTALL CABINET BASE IN NEW LOCATION (SEE NOTE 4).
INSTALL CITY FURNISHED ASC/3 CONTROLLER, UPS AND M1 OR P TYPE CABINETS.
REPLACE EXISTING CONDUIT AND/OR PULL BOXES IF NECESSARY (SEE NOTE 3).

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Revised:

Void:

DENVER TIP 2012 TYPICAL TRAFFIC SIGNAL CONDUIT CONNECTION DETAILS

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Detailer:	LCL	Numbers	—
Subset:	TRAFFIC	Sheets:	D-1 of 1

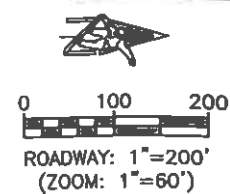
Project No./Code

AQC M320-075

SA 18536

Sheet Number 11

KEY	ITEM	DESCRIPTION	UNIT	QTY	DETAILS
1D	202	REMOVAL OF TRAFFIC SIGNAL CONTROLLER AND CABINET	EACH	1	--
1C	202	REMOVAL OF TRAFFIC SIGNAL CABINET BASE	EACH	1	--
3D	613	2 INCH ELECTRICAL CONDUIT (PLASTIC)	LF	10	TRENCHED
3D	613	3 INCH ELECTRICAL CONDUIT (PLASTIC)	LF	40	TRENCHED
3H	613	PULL BOX (SPECIAL)	EACH	1	REPLACE COMM BOX
3H	613	PULL BOX (TYPE A)	EACH	1	REPLACE ELECTRICAL BOX
3H	613	PULL BOX (TRAFFIC)	EACH	1	REPLACE TRAFFIC BOX
3B	614	TRAFFIC SIGNAL CONTROLLER AND CABINET (INSTALL ONLY)	EACH	1	--
--	614	SPREAD SPECTRUM RADIO (INSTALL ONLY)	EACH	1	RADIO AND ANTENNA

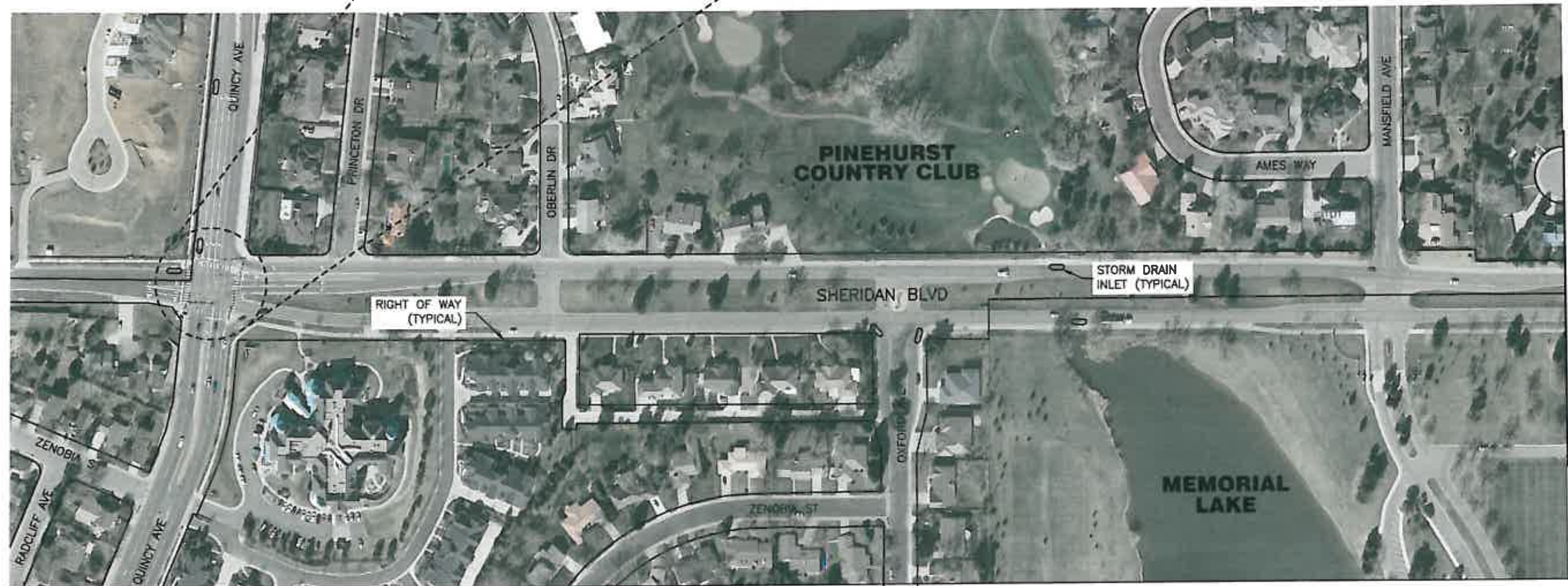


XX ITEM REFERENCE KEY
(REFER TO CITY OF DENVER STANDARD SIGNAL PLANS)

INSTALL CITY FURNISHED
SPREAD SPECTRUM
ETHERNET RADIO (SLAVE)
AND ANTENNA

REMOVE EXISTING
FIBERGLASS BASE

SEE TYPICAL
INTERSECTION
DETAIL 1
(PLAN SHEET 11)



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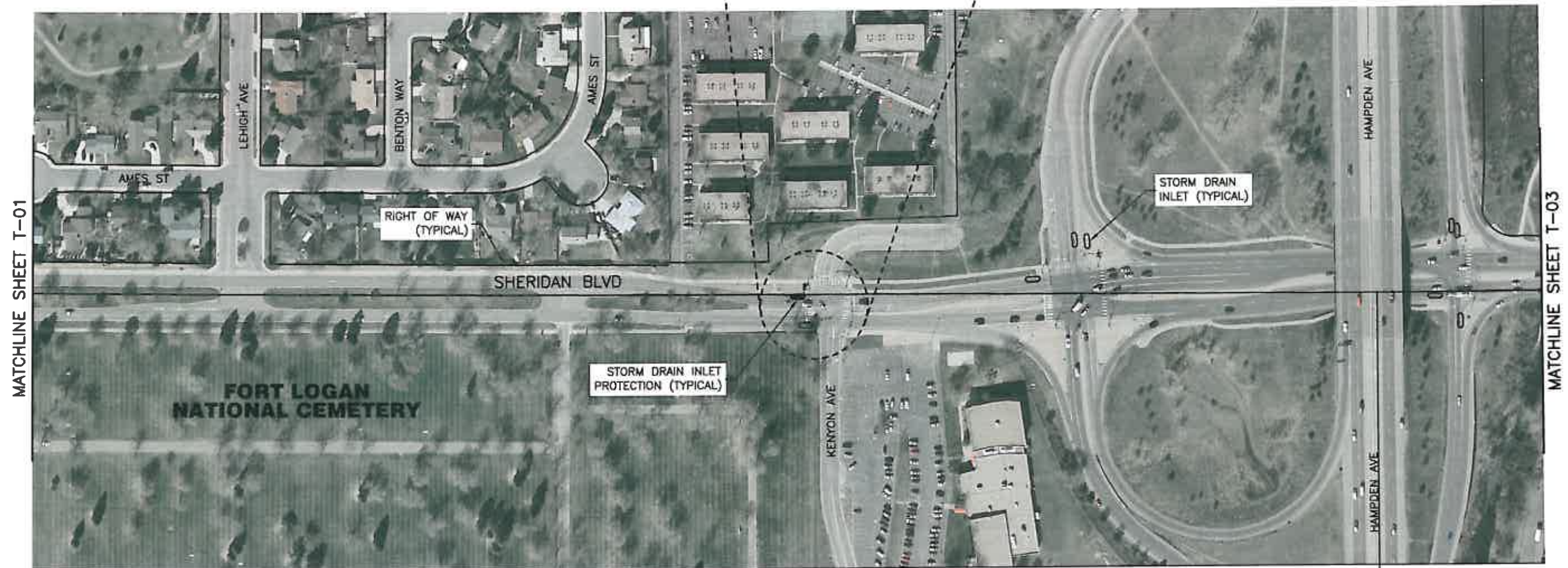
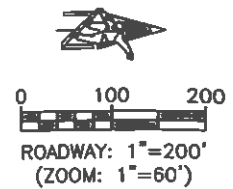
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	No Revisions:	Designer:	Structure	AQC M320-075
Revised:		LCL	—	SA 18536
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		Subset: TRAFFIC	Sheets: T-01 of 43	

KEY	ITEM	DESCRIPTION	UNIT	QTY	DETAILS
1D	202	REMOVAL OF TRAFFIC SIGNAL CONTROLLER AND CABINET	EACH	1	-
3H	613	PULL BOX (SPECIAL)	EACH	1	REPLACE COMM BOX
3H	613	PULL BOX (TYPE A)	EACH	1	REPLACE ELECTRICAL BOX
3H	613	PULL BOX (TRAFFIC)	EACH	1	REPLACE TRAFFIC BOX
-	614	CONCRETE FOOTING (CABINET BASE)	EACH	1	G-TYPE CABINET BASE
3B	614	TRAFFIC SIGNAL CONTROLLER AND CABINET (INSTALL ONLY)	EACH	1	-
-	614	UNINTERRUPTED POWER SUPPLY (INSTALL ONLY)	EACH	1	-
-	614	SPREAD SPECTRUM RADIO (INSTALL ONLY)	EACH	1	RADIO AND ANTENNA

XX ITEM REFERENCE KEY
(REFER TO CITY OF DENVER STANDARD SIGNAL PLANS)

INSTALL CITY FURNISHED
SPREAD SPECTRUM
ETHERNET RADIO (MASTER)
AND ANTENNA

SEE TYPICAL
INTERSECTION
DETAIL 2
(PLAN SHEET 11)



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	Void:		Subset: TRAFFIC	Sheets: T-02 of 43	Sheet Number 13

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T-02

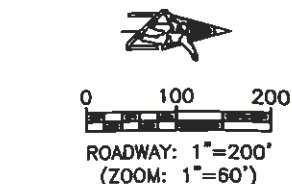
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1D	202	REMOVAL OF TRAFFIC SIGNAL CONTROLLER AND CABINET	EACH	2	-
1C	202	REMOVAL OF TRAFFIC SIGNAL CABINET BASE	EACH	2	-
3H	613	PULL BOX (SPECIAL)	EACH	2	REPLACE COMM BOX
3H	613	PULL BOX (TYPE A)	EACH	2	REPLACE ELECTRICAL BOX
3H	613	PULL BOX (TRAFFIC)	EACH	2	REPLACE TRAFFIC BOX
-	614	CONCRETE FOOTING (CABINET BASE)	EACH	2	M1+G CABINET BASE
3B	614	TRAFFIC SIGNAL CONTROLLER AND CABINET (INSTALL ONLY)	EACH	2	-
-	614	TELEMETRY (FIELD)	EACH	2	-

XX ITEM REFERENCE KEY
(REFER TO CITY OF DENVER STANDARD SIGNAL PLANS)

CONSTRUCTION NOTE:
THE CONTRACTOR SHALL ENSURE THAT NO MATERIALS, EQUIPMENT OR VEHICLES ARE STAGED OR PARKED NEAR ANY WETLANDS, DRAINAGE AREAS, OR WATERWAYS; NOR WITHIN PARKLANDS OR PARKWAYS. THE CONTRACTOR SHALL ALSO NOT ALLOW DEBRIS OR CONSTRUCTION MATERIAL TO FALL WITHIN THESE AREAS.

REMOVE EXISTING
FIBERGLASS BASE

SEE TYPICAL
INTERSECTION
DETAIL 2
(PLAN SHEET 11)



SEE TYPICAL
INTERSECTION
DETAIL 2
(PLAN SHEET 11)


REMOVE EXISTING
FIBERGLASS BASE

MATCHLINE SHEET T-02



MATCHLINE SHEET T-04



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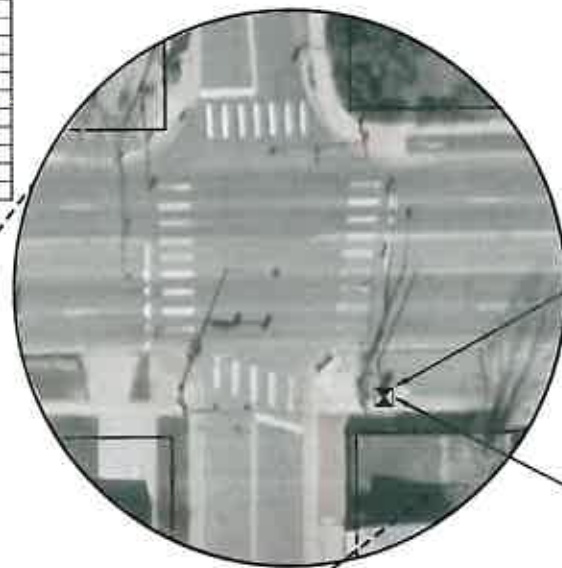
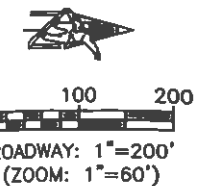
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As Constructed		DENVER TIP 2012 SHERIDAN BOULEVARD SIGNAL SYSTEM MODIFICATIONS				Project No./Code	
No Revisions:						AQC M320-075	
Revised:		Designer:	LCL	Structure	-	SA 18536	
Void:		Detailer:	SYS	Numbers	-	Sheet Number 14	
		Subset:	TRAFFIC	Sheets:	T-03 of 43		

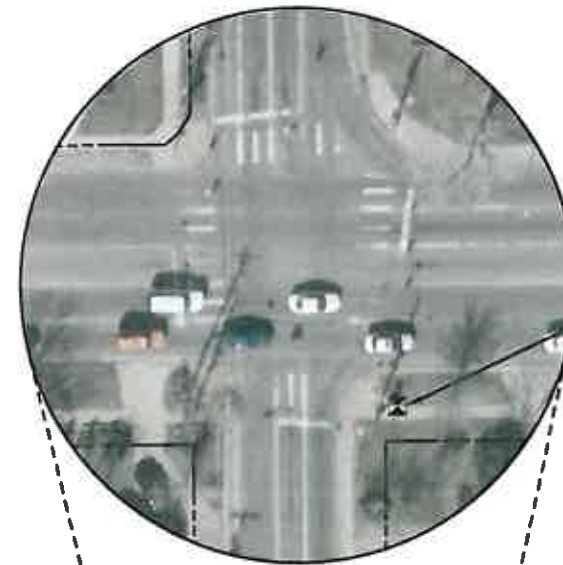
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1D	202	REMOVAL OF TRAFFIC SIGNAL CONTROLLER AND CABINET	EACH	1	—
1C	202	REMOVAL OF TRAFFIC SIGNAL CABINET BASE	EACH	1	—
3D	613	2 INCH ELECTRICAL CONDUIT (PLASTIC)	LF	10	TRENCHED
3D	613	3 INCH ELECTRICAL CONDUIT (PLASTIC)	LF	40	TRENCHED
3H	613	PULL BOX (SPECIAL)	EACH	2	REPLACE COMM BOX
3H	613	PULL BOX (TYPE A)	EACH	2	REPLACE ELECTRICAL BOX
3H	613	PULL BOX (TRAFFIC)	EACH	2	REPLACE TRAFFIC BOX
—	614	CONCRETE FOOTING (CABINET BASE)	EACH	1	M1+G CABINET BASE
3B	614	TRAFFIC SIGNAL CONTROLLER AND CABINET (INSTALL ONLY)	EACH	2	—
—	614	TELEMETRY (FIELD)	EACH	2	—

XX ITEM REFERENCE KEY
(REFER TO CITY OF DENVER STANDARD SIGNAL PLANS)



REMOVE EXISTING
FIBERGLASS BASE

SEE TYPICAL
INTERSECTION
DETAIL 2
(PLAN SHEET 11)



SEE TYPICAL
INTERSECTION
DETAIL 1
(PLAN SHEET 11)



Print Date: 2/27/2012 1:37:10 PM	
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Horizontal Scale: 1:200	Vertical Scale: NA
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(R-X)	Sheet Revisions		
	Date	Comments	Initials



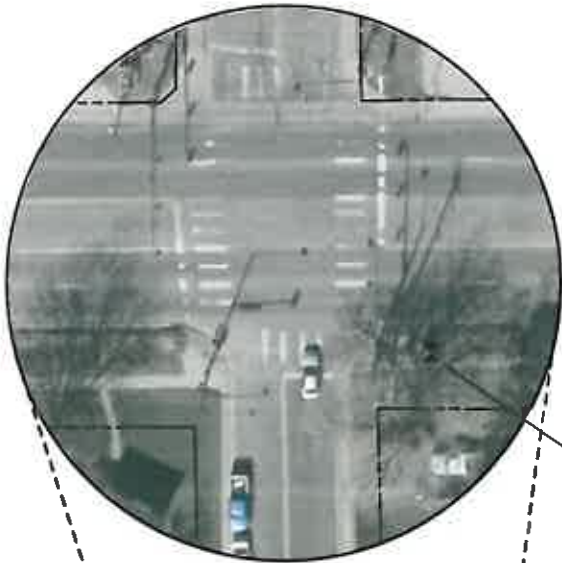
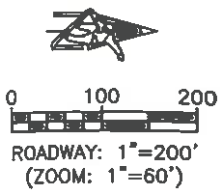
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THE MILE HIGH CITY

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Traffic Engineering Services, Dept. 508
201 West Colfax Avenue
Denver, CO 80202
(720) 865-3176

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No Revisions:		Designer: LCL	Structure: —	AQC M320-075
Revised:		Detailer: SYS	Numbers: —	SA 18536
Void:		Subset: TRAFFIC	Sheets: T-04 of 43	Sheet Number 15

KEY	ITEM	DESCRIPTION	UNIT	QTY	DETAILS
1D	202	REMOVAL OF TRAFFIC SIGNAL CONTROLLER AND CABINET	EACH	1	—
3D	613	2 INCH ELECTRICAL CONDUIT (PLASTIC)	LF	10	TRENCHED
3D	613	3 INCH ELECTRICAL CONDUIT (PLASTIC)	LF	40	TRENCHED
3H	613	PULL BOX (SPECIAL)	EACH	1	REPLACE COMM BOX
3H	613	PULL BOX (TYPE A)	EACH	1	REPLACE ELECTRICAL BOX
3H	613	PULL BOX (TRAFFIC)	EACH	1	REPLACE TRAFFIC BOX
3B	614	TRAFFIC SIGNAL CONTROLLER AND CABINET (INSTALL ONLY)	EACH	1	—
—	614	TELEMETRY (FIELD)	EACH	1	—

XX ITEM REFERENCE KEY
(REFER TO CITY OF DENVER STANDARD SIGNAL PLANS)



SEE TYPICAL
INTERSECTION
DETAIL 1
(PLAN SHEET 11)



T-05



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	Date	Comments	Initials



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Revised:		Detailer: SYS	Numbers: —	SA 18536
Void:		Subset: TRAFFIC	Sheets: T-05 of 43	Sheet Number 16

KEY	ITEM	DESCRIPTION	UNIT	QTY	DETAILS
1D	202	REMOVAL OF TRAFFIC SIGNAL CONTROLLER AND CABINET	EACH	2	-
1C	202	REMOVAL OF TRAFFIC SIGNAL CABINET BASE	EACH	1	-
3D	613	2 INCH ELECTRICAL CONDUIT (PLASTIC)	LF	10	TRENCHED
3D	613	3 INCH ELECTRICAL CONDUIT (PLASTIC)	LF	40	TRENCHED
3H	613	PULL BOX (SPECIAL)	EACH	2	REPLACE COMM BOX
3H	613	PULL BOX (TYPE A)	EACH	2	REPLACE ELECTRICAL BOX
3H	613	PULL BOX (TRAFFIC)	EACH	2	REPLACE TRAFFIC BOX
-	614	CONCRETE FOOTING (CABINET BASE)	EACH	1	G-TYPE CABINET BASE
3B	614	TRAFFIC SIGNAL CONTROLLER AND CABINET (INSTALL ONLY)	EACH	2	INCLUDES QUARTZITE BASE
-	614	TELEMETRY (FIELD)	EACH	2	-

XX ITEM REFERENCE KEY
(REFER TO CITY OF DENVER STANDARD SIGNAL PLANS)

CONSTRUCTION NOTE:
1. THE CONTRACTOR SHALL ENSURE THAT NO MATERIALS, EQUIPMENT OR VEHICLES ARE STAGED OR PARKED NEAR ANY WETLANDS, DRAINAGE AREAS, OR WATERWAYS; NOR WITHIN PARKLANDS OR PARKWAYS. THE CONTRACTOR SHALL ALSO NOT ALLOW DEBRIS OR CONSTRUCTION MATERIAL TO FALL WITHIN THESE AREAS.
2. THE CONTRACTOR SHALL COORDINATE WITH THE CITY PROJECT MANAGER TO ENSURE THAT THE NEW CONTROLLER CABINET AND PULL BOXES ARE ALL PLACED WITHIN EXISTING RIGHT OF WAY.

SEE TYPICAL
INTERSECTION
DETAIL 1
(PLAN SHEET 11)

REMOVE EXISTING
FIBERGLASS BASE

RELOCATE CABINET
WITHIN EXISTING ROW
(SEE NOTE 2)

SEE TYPICAL
INTERSECTION
DETAIL 2
(PLAN SHEET 11)



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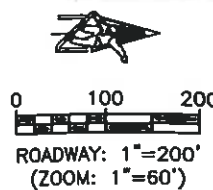


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No Revisions:		Designer: LCL	Structure: -	AQC M320-075
Revised:		Detailer: SYS	Numbers: -	SA 18536
Void:		Subset: TRAFFIC	Sheets: T-06 of 43	Sheet Number 17

T-06



PLACEHOLDER SHEET ONLY
NO CONSTRUCTION WORK
(Except Storm Inlet Protection)



MATCHLINE SHEET T-06

MATCHLINE SHEET T-08



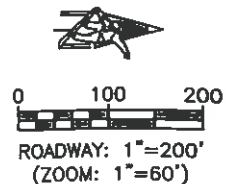
T-07

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KEY	ITEM	DESCRIPTION	UNIT	QTY	DETAILS
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3H	613	PULL BOX (SPECIAL)	EACH	2	REPLACE COMM BOX
3H	613	PULL BOX (TYPE A)	EACH	2	REPLACE ELECTRICAL BOX
3H	613	PULL BOX (TRAFFIC)	EACH	2	REPLACE TRAFFIC BOX
—	614	CONCRETE FOOTING (CABINET BASE)	EACH	2	G-TYPE CABINET BASE
3B	614	TRAFFIC SIGNAL CONTROLLER AND CABINET (INSTALL ONLY)	EACH	2	—
—	614	TELEMETRY (FIELD)	EACH	2	—


XX ITEM REFERENCE KEY
(REFER TO CITY OF DENVER STANDARD SIGNAL PLANS)



SEE TYPICAL
INTERSECTION
DETAIL 2
(PLAN SHEET 11)

SEE TYPICAL
INTERSECTION
DETAIL 2
(PLAN SHEET 11)



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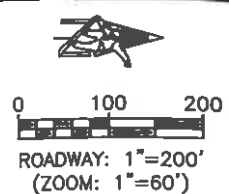


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	No Revisions:	Designer:	Structure	AQC M320-075
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Void:		SYN	—	Sheet Number 19
		Subset: TRAFFIC	Sheets: T-08 of 43	

KEY	ITEM	DESCRIPTION	UNIT	QTY	DETAILS
10	292	REMOVAL OF TRAFFIC SIGNAL CONTROLLER AND CABINET	EACH	1	
3H	613	PULL BOX (SPECIAL)	EACH	1	REPLACE COMM BOX
3H	613	PULL BOX (TYPE A)	EACH	1	REPLACE ELECTRICAL BOX
3H	613	PULL BOX (TRAFFIC)	EACH	1	REPLACE TRAFFIC BOX
-	614	CONCRETE FOOTING (CABINET BASE)	EACH	1	G-TYPE CABINET BASE
3H	614	TRAFFIC SIGNAL CONTROLLER AND CABINET (INSTALL ONLY)	EACH	1	
-	614	TELEMETRY (FIELD)	EACH	1	



XX ITEM REFERENCE KEY
(REFER TO CITY OF DENVER STANDARD SIGNAL PLANS)

SEE TYPICAL
INTERSECTION
DETAIL 2
(PLAN SHEET 11)



CONSTRUCTION NOTE:
1. THE CONTRACTOR SHALL ENSURE THAT NO MATERIALS, EQUIPMENT OR VEHICLES ARE STAGED OR PARKED NEAR ANY WETLANDS, DRAINAGE AREAS, OR WATERWAYS; NOR WITHIN PARKLANDS OR PARKWAYS. THE CONTRACTOR SHALL ALSO NOT ALLOW DEBRIS OR CONSTRUCTION MATERIAL TO FALL WITHIN THESE AREAS.



T-09

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Date	Comments			Initials																			
File Name: T09038-17 TRAF09.dwg		No Revisions:				AQC M320-075																	
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				Subset: TRAFFIC Sheets: T-09 of 43		Sheet Number 20																	

Department of Public Works

Traffic Engineering Services, Dept. 504

201 West Colfax Avenue

Denver, CO 80202

(720) 865-3176

KEY	ITEM	DESCRIPTION	UNIT	QTY	DETAILS
1D	202	REMOVAL OF TRAFFIC SIGNAL CONTROLLER AND CABINET	EACH	2	
3D	613	2 INCH ELECTRICAL CONDUIT (PLASTIC)	LF	10	TRENCHED
3D	613	3 INCH ELECTRICAL CONDUIT (PLASTIC)	LF	40	TRENCHED
3H	613	PULL BOX (SPECIAL)	EACH	2	REPLACE COMM BOX
3H	613	PULL BOX (TYPE A)	EACH	2	REPLACE ELECTRICAL BOX
3H	613	PULL BOX (TRAFFIC)	EACH	2	REPLACE TRAFFIC BOX
-	614	CONCRETE FOOTING (CABINET BASE)	EACH	1	G-TYPE CABINET BASE
3B	614	TRAFFIC SIGNAL CONTROLLER AND CABINET (INSTALL ONLY)	EACH	2	
-	614	TELEMETRY (FIELD)	EACH	2	

XX ITEM REFERENCE KEY
(REFER TO CITY OF DENVER STANDARD SIGNAL PLANS)

CONSTRUCTION NOTE:
1. THE CONTRACTOR SHALL ENSURE THAT NO MATERIALS, EQUIPMENT OR VEHICLES ARE STAGED OR PARKED NEAR ANY WETLANDS, DRAINAGE AREAS, OR WATERWAYS; NOR WITHIN PARKLANDS OR PARKWAYS. THE CONTRACTOR SHALL ALSO NOT ALLOW DEBRIS OR CONSTRUCTION MATERIAL TO FALL WITHIN THESE AREAS.

SEE TYPICAL
INTERSECTION
DETAIL 1
(PLAN SHEET 11)

SEE TYPICAL
INTERSECTION
DETAIL 2
(PLAN SHEET 11)



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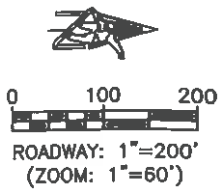
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Revised:		LCL	--	SA 18536
Void:		SYS	--	
		Subset: TRAFFIC	Sheets: T-10 of 43	Sheet Number 21

KEY	ITEM	DESCRIPTION	UNIT	QTY	DETAILS
1D	202	REMOVAL OF TRAFFIC SIGNAL CONTROLLER AND CABINET	EACH	1	--
1C	202	REMOVAL OF TRAFFIC SIGNAL CABINET BASE	EACH	1	--
3H	613	PULL BOX (SPECIAL)	EACH	1	REPLACE COMM BOX
3H	613	PULL BOX (TYPE A)	EACH	1	REPLACE ELECTRICAL BOX
3H	613	PULL BOX (TRAFFIC)	EACH	1	REPLACE TRAFFIC BOX
--	614	CONCRETE FOOTING (CABINET BASE)	EACH	1	M1+G CABINET BASE
3B	614	TRAFFIC SIGNAL CONTROLLER AND CABINET (INSTALL ONLY)	EACH	1	NEW ASC/3 CONTROLLER
--	614	TELEMETRY (FIELD)	EACH	1	--

XX ITEM REFERENCE KEY
(REFER TO CITY OF DENVER STANDARD SIGNAL PLANS)



SEE TYPICAL
INTERSECTION
DETAIL 2
(PLAN SHEET 11)

REMOVE EXISTING
FIBERGLASS BASE



T-11

Print Date: 2/27/2012 2:22:56 PM
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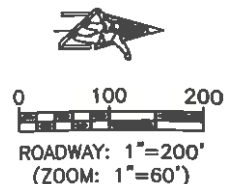
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Void:		Subset: TRAFFIC	Sheets: T-11 of 43	Sheet Number 22

KEY	ITEM	DESCRIPTION	UNIT	QTY	DETAILS
1D	202	REMOVAL OF TRAFFIC SIGNAL CONTROLLER AND CABINET	EACH	1	—
3D	613	2 INCH ELECTRICAL CONDUIT (PLASTIC)	LF	10	TRENCHED
3D	613	3 INCH ELECTRICAL CONDUIT (PLASTIC)	LF	40	TRENCHED
3H	613	PULL BOX (SPECIAL)	EACH	1	REPLACE COMM BOX
3H	613	PULL BOX (TYPE A)	EACH	1	REPLACE ELECTRICAL BOX
3H	613	PULL BOX (TRAFFIC)	EACH	1	REPLACE TRAFFIC BOX
3B	614	TRAFFIC SIGNAL CONTROLLER AND CABINET (INSTALL ONLY)	EACH	1	—
—	614	TELEMETRY (FIELD)	EACH	1	—

XX ITEM REFERENCE KEY
(REFER TO CITY OF DENVER STANDARD SIGNAL PLANS)



SEE TYPICAL
INTERSECTION
DETAIL 1
(PLAN SHEET 11)

CONSTRUCTION NOTE:
1. THE CONTRACTOR SHALL ENSURE THAT NO MATERIALS, EQUIPMENT OR VEHICLES ARE STAGED OR PARKED NEAR ANY WETLANDS, DRAINAGE AREAS, OR WATERWAYS; NOR WITHIN PARKLANDS OR PARKWAYS. THE CONTRACTOR SHALL ALSO NOT ALLOW DEBRIS OR CONSTRUCTION MATERIAL TO FALL WITHIN THESE AREAS.



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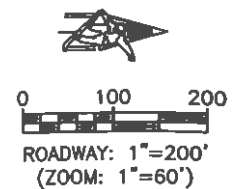
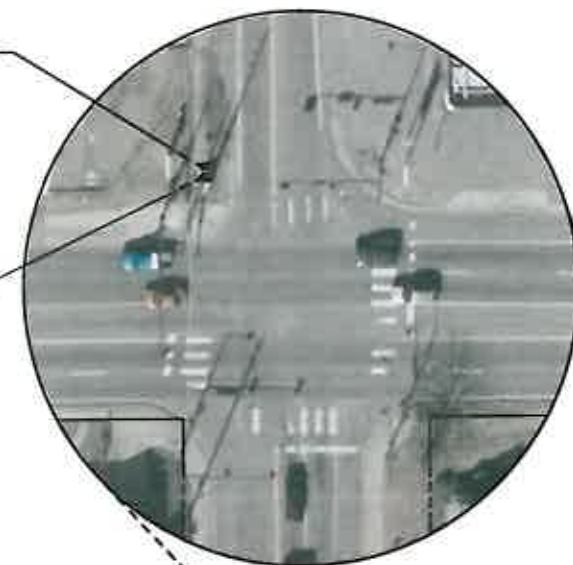
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1D	202	REMOVAL OF TRAFFIC SIGNAL CONTROLLER AND CABINET	EACH	1	--
1D	202	REMOVAL OF TRAFFIC SIGNAL CABINET BASE	EACH	1	--
3D	613	2 INCH ELECTRICAL CONDUIT (PLASTIC)	LF	10	TRENCHED
3D	613	3 INCH ELECTRICAL CONDUIT (PLASTIC)	LF	40	TRENCHED
3H	613	PULL BOX (SPECIAL)	EACH	1	REPLACE COMM BOX
3H	613	PULL BOX (TYPE A)	EACH	1	REPLACE ELECTRICAL BOX
3H	613	PULL BOX (TRAFFIC)	EACH	1	REPLACE TRAFFIC BOX
3B	614	TRAFFIC SIGNAL CONTROLLER AND CABINET (INSTALL ONLY)	EACH	1	--
--	614	TELEMETRY (FIELD)	EACH	1	--

XX ITEM REFERENCE KEY
(REFER TO CITY OF DENVER STANDARD SIGNAL PLANS)

CONSTRUCTION NOTE:
1. THE CONTRACTOR SHALL ENSURE THAT NO MATERIALS, EQUIPMENT OR VEHICLES ARE STAGED OR PARKED NEAR ANY WETLANDS, DRAINAGE AREAS, OR WATERWAYS; NOR WITHIN PARKLANDS OR PARKWAYS. THE CONTRACTOR SHALL ALSO NOT ALLOW DEBRIS OR CONSTRUCTION MATERIAL TO FALL WITHIN THESE AREAS.

SEE TYPICAL
INTERSECTION
DETAIL 1
(PLAN SHEET 11)

REMOVE EXISTING
FIBERGLASS BASE



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	No Revisions:		Designer: LCL	Structure: --	AQC M320-075
	Revised:		Detailer: SYS	Numbers: --	SA 18536
	Void:		Subset: TRAFFIC	Sheets: T-13 of 43	Sheet Number 24

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Denver, CO 80202
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KEY	ITEM	DESCRIPTION	UNIT	QTY	DETAILS
1D	202	REMOVAL OF TRAFFIC SIGNAL CONTROLLER AND CABINET	EACH	2	--
1C	202	REMOVAL OF TRAFFIC SIGNAL CABINET BASE	EACH	2	--
3D	613	2 INCH ELECTRICAL CONDUIT (PLASTIC)	LF	20	TRENCHED
3D	613	3 INCH ELECTRICAL CONDUIT (PLASTIC)	LF	80	TRENCHED
3H	613	PULL BOX (SPECIAL)	EACH	2	REPLACE COMM BOX
3H	613	PULL BOX (TYPE A)	EACH	2	REPLACE ELECTRICAL BOX
3H	613	PULL BOX (TRAFFIC)	EACH	2	REPLACE TRAFFIC BOX
3B	614	TRAFFIC SIGNAL CONTROLLER AND CABINET (INSTALL ONLY)	EACH	2	--
--	614	TELEMETRY (FIELD)	EACH	2	--

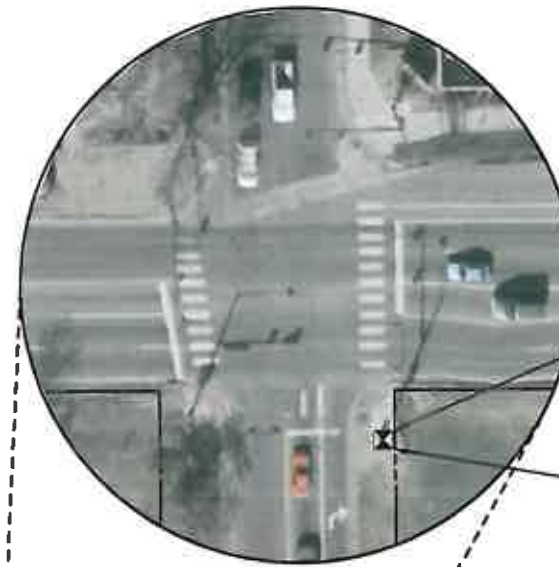
XX ITEM REFERENCE KEY
(REFER TO CITY OF DENVER STANDARD SIGNAL PLANS)

CONSTRUCTION NOTE:
1. THE CONTRACTOR SHALL ENSURE THAT NO MATERIALS, EQUIPMENT OR VEHICLES ARE STAGED OR PARKED NEAR ANY WETLANDS, DRAINAGE AREAS, OR WATERWAYS; NOR WITHIN PARKLANDS OR PARKWAYS. THE CONTRACTOR SHALL ALSO NOT ALLOW DEBRIS OR CONSTRUCTION MATERIAL TO FALL WITHIN THESE AREAS.



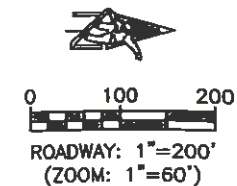
REMOVE EXISTING
FIBERGLASS BASE

SEE TYPICAL
INTERSECTION
DETAIL 1
(PLAN SHEET 11)



REMOVE EXISTING
CONCRETE BASE

SEE TYPICAL
INTERSECTION
DETAIL 1
(PLAN SHEET 11)




ROADWAY: 1"=200'
(ZOOM: 1"=60')



I:\09038-17\CAD\Sheets\ Larry Lang



Print Date: 3/5/2012 9:06:13 AM	
File Name: T09038-17 TRAF14.dwg	
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DENVER
THE MILE HIGH CITY

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Traffic Engineering Services, Dept. 408
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(720) 865-3176

As Constructed	DENVER TIP 2012 SHERIDAN BOULEVARD SIGNAL SYSTEM MODIFICATIONS			Project No./Code
	No Revisions:	Designer:	Structure	
Revised:		LCL	--	AQC M320-075
Void:		Detailer:	Numbers	SA 18536
		SYS	--	Sheet Number 25
		Subset:	TRAFFIC	
		Sheets:	T-14 of 43	

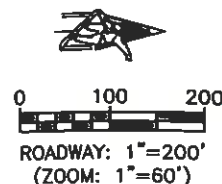
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3D	613	2 INCH ELECTRICAL CONDUIT (PLASTIC)	LF	10	TRENCHED
3D	613	3 INCH ELECTRICAL CONDUIT (PLASTIC)	LF	40	TRENCHED
3H	613	PULL BOX (SPECIAL)	EACH	1	REPLACE COMM BOX
3H	613	PULL BOX (TYPE A)	EACH	1	REPLACE ELECTRICAL BOX
3H	613	PULL BOX (TRAFFIC)	EACH	1	REPLACE TRAFFIC BOX
3B	614	TRAFFIC SIGNAL CONTROLLER AND CABINET (INSTALL ONLY)	EACH	1	—
—	614	SPREAD SPECTRUM RADIO (INSTALL ONLY)	EACH	2	RADIOS AND ANTENNAS
—	614	TELEMETRY (FIELD)	EACH	1	—

XX ITEM REFERENCE KEY
(REFER TO CITY OF DENVER STANDARD SIGNAL PLANS)

CONSTRUCTION NOTE:
THE CONTRACTOR SHALL ENSURE THAT NO MATERIALS, EQUIPMENT OR VEHICLES ARE STAGED OR PARKED NEAR ANY WETLANDS, DRAINAGE AREAS, OR WATERWAYS; NOR WITHIN PARKLANDS OR PARKWAYS. THE CONTRACTOR SHALL ALSO NOT ALLOW DEBRIS OR CONSTRUCTION MATERIAL TO FALL WITHIN THESE AREAS.

INSTALL CITY FURNISHED
SPREAD SPECTRUM
ETHERNET RADIO (SLAVE)
AND ANTENNA

SEE TYPICAL
INTERSECTION
DETAIL 1
(PLAN SHEET 11)



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	Date	Comments	Initials
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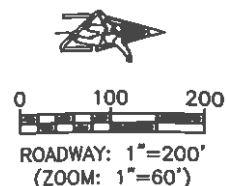
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201 West Colfax Avenue
Denver, CO 80202
(720) 865-3176

As Constructed	DENVER TIP 2012 SHERIDAN BOULEVARD SIGNAL SYSTEM MODIFICATIONS			Project No./Code
	No Revisions:	Designer:	Structure	AQC M320-075
Revised:		LCL	—	SA 18536
Void:		Detailer:	SYS	—
		Subset:	TRAFFIC	Sheets: T-15 of 43
				Sheet Number 26

KEY	ITEM	DESCRIPTION	UNIT	QTY	DETAILS
1D	202	REMOVAL OF TRAFFIC SIGNAL CONTROLLER AND CABINET	EACH	2	—
3D	613	2 INCH ELECTRICAL CONDUIT (PLASTIC)	LF	20	TRENCHED
3D	613	3 INCH ELECTRICAL CONDUIT (PLASTIC)	LF	80	TRENCHED
3H	613	PULL BOX (SPECIAL)	EACH	2	REPLACE COMM BOX
3H	613	PULL BOX (TYPE A)	EACH	2	REPLACE ELECTRICAL BOX
3H	613	PULL BOX (TRAFFIC)	EACH	2	REPLACE TRAFFIC BOX
3B	614	TRAFFIC SIGNAL CONTROLLER AND CABINET (INSTALL ONLY)	EACH	2	—
—	614	TELEMETRY (FIELD)	EACH	2	—

XX ITEM REFERENCE KEY
(REFER TO CITY OF DENVER STANDARD SIGNAL PLANS)



SEE TYPICAL
INTERSECTION
DETAIL 1
(PLAN SHEET 11)



SEE TYPICAL
INTERSECTION
DETAIL 1
(PLAN SHEET 11)



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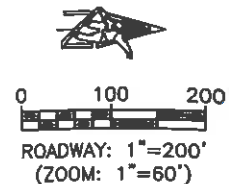
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	No Revisions:	Designer:	Structure	AQC M320-075
Revised:		LCL	—	SA 18536
Void:		Detailer:	SYS	
		Subset:	TRAFFIC	
		Sheets:	T-16 of 43	Sheet Number 27

KEY	ITEM	DESCRIPTION	UNIT	QTY	DETAILS
10	202	REMOVAL OF TRAFFIC SIGNAL CONTROLLER AND CABINET	EACH	3	-
30	613	2 INCH ELECTRICAL CONDUIT (PLASTIC)	LF	30	TRENCHED
30	613	3 INCH ELECTRICAL CONDUIT (PLASTIC)	LF	120	TRENCHED
3H	613	PULL BOX (SPECIAL)	EACH	3	REPLACE COMM BOX
3H	613	PULL BOX (TYPE A)	EACH	3	REPLACE ELECTRICAL BOX
3H	613	PULL BOX (TRAFFIC)	EACH	3	REPLACE TRAFFIC BOX
3B	614	TRAFFIC SIGNAL CONTROLLER AND CABINET (INSTALL ONLY)	EACH	3	-
-	614	TELEMETRY (FIELD)	EACH	3	-

XX ITEM REFERENCE KEY
(REFER TO CITY OF DENVER STANDARD SIGNAL PLANS)



SEE TYPICAL
INTERSECTION
DETAIL 1
(PLAN SHEET 11)

SEE TYPICAL
INTERSECTION
DETAIL 1
(PLAN SHEET 11)

SEE TYPICAL
INTERSECTION
DETAIL 1
(PLAN SHEET 11)



CONSTRUCTION NOTE:
1. THE CONTRACTOR SHALL ENSURE THAT NO MATERIALS, EQUIPMENT OR VEHICLES ARE STAGED OR PARKED NEAR ANY WETLANDS, DRAINAGE AREAS, OR WATERWAYS; NOR WITHIN PARKLANDS OR PARKWAYS. THE CONTRACTOR SHALL ALSO NOT ALLOW DEBRIS OR CONSTRUCTION MATERIAL TO FALL WITHIN THESE AREAS.

T-17

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

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Sheet Revisions			
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No Revisions:						AQC M320-075	
Revised:		Designer:	LCL	Structure	-	SA 18536	
Void:		Detailer:	SYS	Numbers	-	Sheet Number 28	
		Subset:	TRAFFIC	Sheets:	T-17 of 43		

KEY	ITEM	DESCRIPTION	UNIT	QTY	DETAILS
1D	202	REMOVAL OF TRAFFIC SIGNAL CONTROLLER AND CABINET	EACH	2	-
3D	613	2 INCH ELECTRICAL CONDUIT (PLASTIC)	LF	20	TRENCHED
3D	613	3 INCH ELECTRICAL CONDUIT (PLASTIC)	LF	80	TRENCHED
3H	613	PULL BOX (SPECIAL)	EACH	2	REPLACE COMM BOX
3H	613	PULL BOX (TYPE A)	EACH	2	REPLACE ELECTRICAL BOX
3H	613	PULL BOX (TRAFFIC)	EACH	2	REPLACE TRAFFIC BOX
3B	614	TRAFFIC SIGNAL CONTROLLER AND CABINET (INSTALL ONLY)	EACH	2	-
-	614	TELEMETRY (FIELD)	EACH	2	-

XX ITEM REFERENCE KEY
(REFER TO CITY OF DENVER STANDARD SIGNAL PLANS)

CONSTRUCTION NOTE:
THE CONTRACTOR SHALL COORDINATE WITH THE CITY PROJECT
MANAGER TO ENSURE THAT THE NEW CONTROLLER CABINET AND
PULL BOXES ARE ALL PLACED WITHIN EXISTING RIGHT OF WAY.

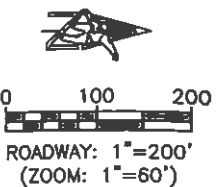



SEE TYPICAL
INTERSECTION
DETAIL 1
(PLAN SHEET 11)



SEE TYPICAL
INTERSECTION
DETAIL 1
(PLAN SHEET 11)

RELOCATE NEW
CONTROLLER CABINET
(SEE PLAN NOTE)



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Designer:	LCL	Structure	-
Detailer:	SYS	Numbers	-
Subset:	TRAFFIC	Sheets:	T-18 of 43

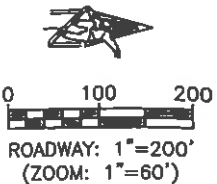
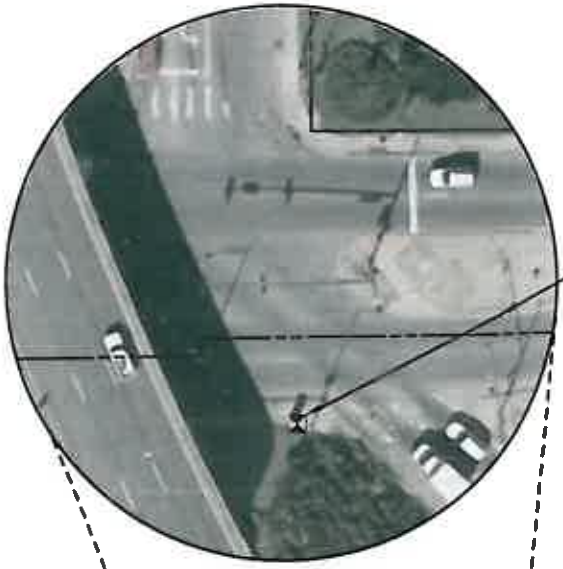
Project No./Code
AQC M320-075
SA 18536
Sheet Number 29

T-18

KEY	ITEM	DESCRIPTION	UNIT	QTY	DETAILS
1D	202	REMOVAL OF TRAFFIC SIGNAL CONTROLLER AND CABINET	EACH	2	-
3D	613	2 INCH ELECTRICAL CONDUIT (PLASTIC)	LF	20	TRENCHED
3D	613	3 INCH ELECTRICAL CONDUIT (PLASTIC)	LF	80	TRENCHED
3H	613	PULL BOX (SPECIAL)	EACH	2	REPLACE COMM BOX
3H	613	PULL BOX (TYPE A)	EACH	2	REPLACE ELECTRICAL BOX
3H	613	PULL BOX (TRAFFIC)	EACH	2	REPLACE TRAFFIC BOX
3B	614	TRAFFIC SIGNAL CONTROLLER AND CABINET (INSTALL ONLY)	EACH	2	-
-	614	TELEMETRY (FIELD)	EACH	2	-

XX ITEM REFERENCE KEY
(REFER TO CITY OF DENVER STANDARD SIGNAL PLANS)

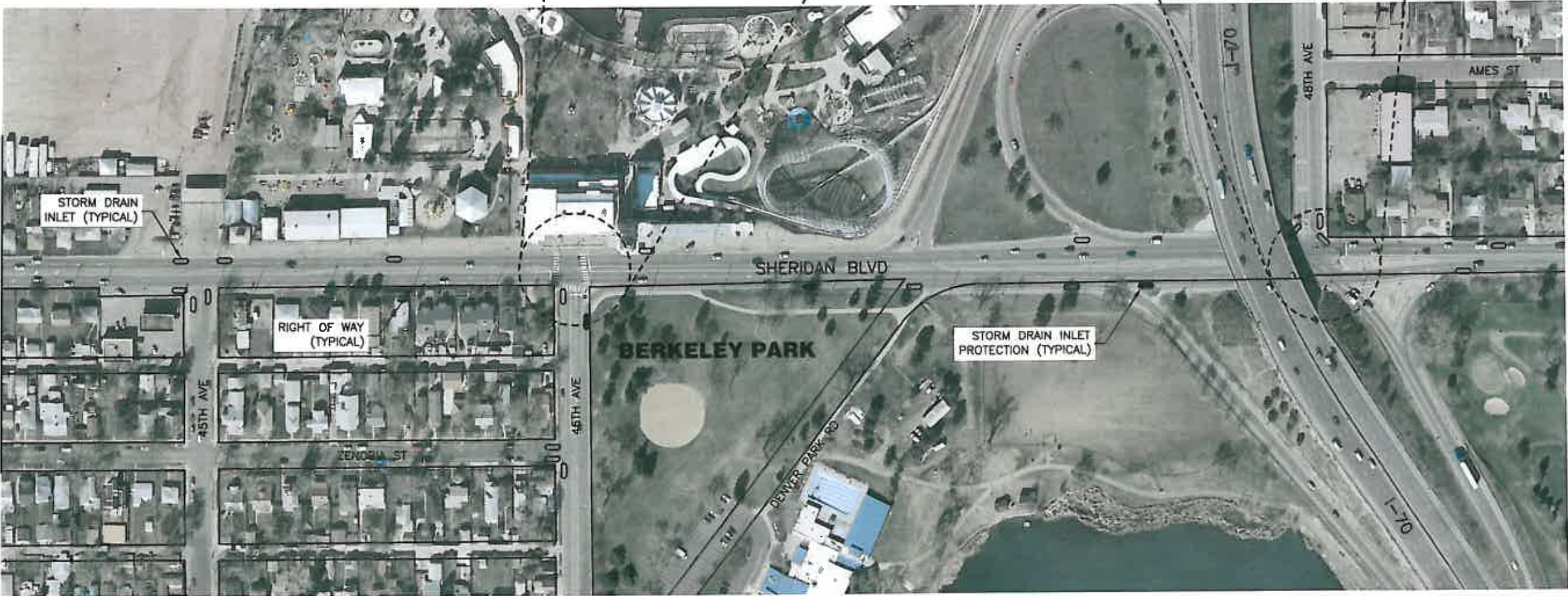
CONSTRUCTION NOTE:
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SEE TYPICAL
INTERSECTION
DETAIL 1
(PLAN SHEET 11)

SEE TYPICAL
INTERSECTION
DETAIL 1
(PLAN SHEET 11)

MATCHLINE SHEET T-18



T-19



Print Date: 2/28/2012 7:58:02 AM	
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As Constructed		DENVER TIP 2012 SHERIDAN BOULEVARD SIGNAL SYSTEM MODIFICATIONS		Project No./Code
No Revisions:		Designer: LCL	Structure: -	AQC M320-075
Revised:		Detailer: SYS	Numbers: -	SA 18536
Void:		Subset: TRAFFIC	Sheets: T-19 of 43	Sheet Number 30

KEY	ITEM	DESCRIPTION	UNIT	QTY	DETAILS
1D	202	REMOVAL OF TRAFFIC SIGNAL CONTROLLER AND CABINET	EACH	1	
3H	613	PULL BOX (SPECIAL)	EACH	1	REPLACE COMM BOX
3H	613	PULL BOX (TYPE A)	EACH	1	REPLACE ELECTRICAL BOX
3H	613	PULL BOX (TRAFFIC)	EACH	1	REPLACE TRAFFIC BOX
-	614	CONCRETE FOOTING (CABINET BASE)	EACH	1	M1+G CABINET BASE
3B	614	TRAFFIC SIGNAL CONTROLLER AND CABINET (INSTALL ONLY)	EACH	1	NEW ASC/3 CONTROLLER
-	614	TELEMETRY (FIELD)	EACH	1	

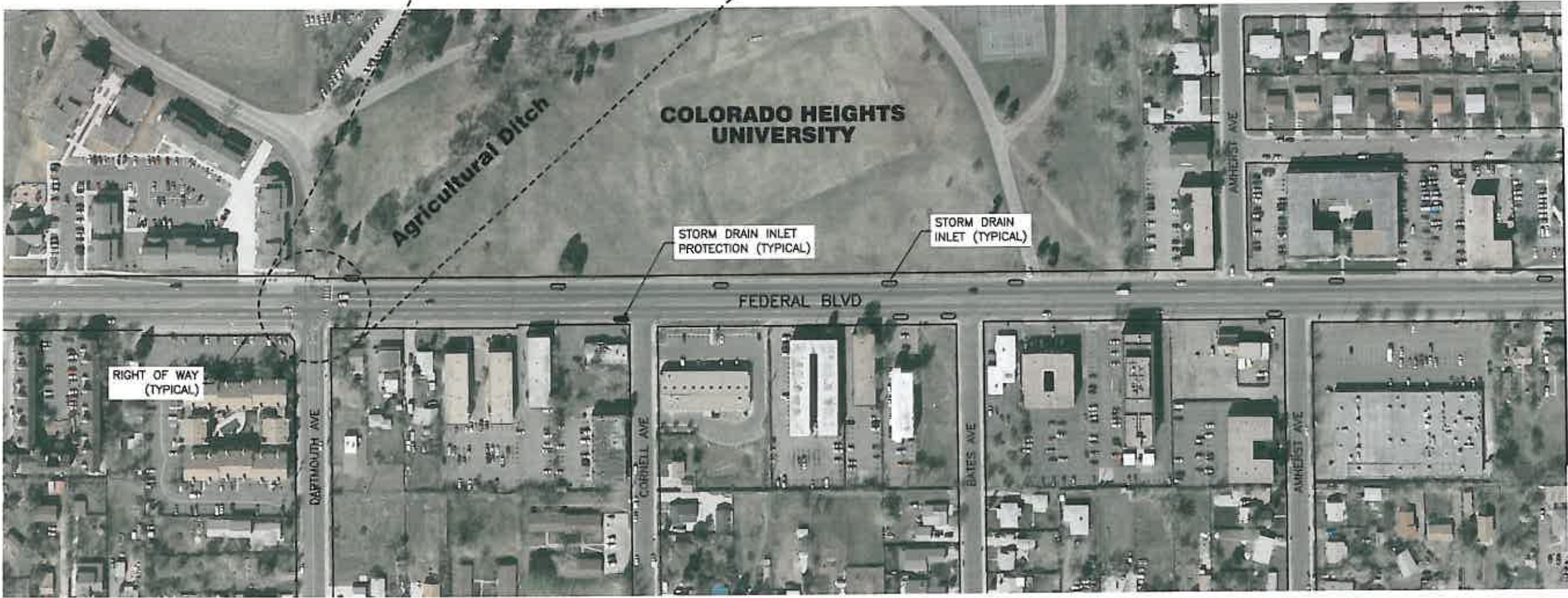
XX ITEM REFERENCE KEY
(REFER TO CITY OF DENVER STANDARD SIGNAL PLANS)

CONSTRUCTION NOTE:
THE CONTRACTOR SHALL ENSURE THAT NO MATERIALS, EQUIPMENT OR VEHICLES ARE STAGED OR PARKED NEAR ANY WETLANDS, DRAINAGE AREAS, OR WATERWAYS; NOR WITHIN PARKLANDS OR PARKWAYS. THE CONTRACTOR SHALL ALSO NOT ALLOW DEBRIS OR CONSTRUCTION MATERIAL TO FALL WITHIN THESE AREAS.



SEE TYPICAL
INTERSECTION
DETAIL 2
(PLAN SHEET 11)

REMOVE EXISTING
FIBERGLASS BASE



T-20

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	Date	Comments	Initials



DENVER
THE MILE HIGH CITY

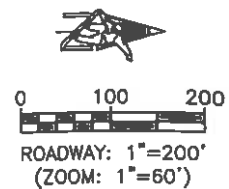
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Void:		Subset: TRAFFIC	Sheets: T-20 of 43	Sheet Number 31

KEY	ITEM	DESCRIPTION	UNIT	QTY	DETAILS
1D	202	REMOVAL OF TRAFFIC SIGNAL CONTROLLER AND CABINET	EACH	2	—
3D	613	2 INCH ELECTRICAL CONDUIT (PLASTIC)	LF	20	TRENCHED
3D	613	3 INCH ELECTRICAL CONDUIT (PLASTIC)	LF	80	TRENCHED
3H	613	PULL BOX (SPECIAL)	EACH	2	REPLACE COMM BOX
3H	613	PULL BOX (TYPE A)	EACH	2	REPLACE ELECTRICAL BOX
3H	613	PULL BOX (TRAFFIC)	EACH	2	REPLACE TRAFFIC BOX
3B	614	TRAFFIC SIGNAL CONTROLLER AND CABINET (INSTALL ONLY)	EACH	2	—
—	614	TELEMETRY (FIELD)	EACH	2	—

XX ITEM REFERENCE KEY
(REFER TO CITY OF DENVER STANDARD SIGNAL PLANS)

CONSTRUCTION NOTE:
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SEE TYPICAL
INTERSECTION
DETAIL 1
(PLAN SHEET 11)

SEE TYPICAL
INTERSECTION
DETAIL 1
(PLAN SHEET 11)



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Project No./Code
AQC M320-075
SA 18536
Sheet Number 32

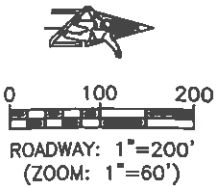
T-21

KEY	ITEM	DESCRIPTION	UNIT	QTY	DETAILS
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3D	613	2 INCH ELECTRICAL CONDUIT (PLASTIC)	LF	20	TRENCHED
3D	613	3 INCH ELECTRICAL CONDUIT (PLASTIC)	LF	80	TRENCHED
3H	613	PULL BOX (SPECIAL)	EACH	2	REPLACE COMM BOX
3H	613	PULL BOX (TYPE A)	EACH	2	REPLACE ELECTRICAL BOX
3H	613	PULL BOX (TRAFFIC)	EACH	2	REPLACE TRAFFIC BOX
3B	614	TRAFFIC SIGNAL CONTROLLER AND CABINET (INSTALL ONLY)	EACH	2	—
—	614	TELEMETRY (FIELD)	EACH	2	—

XX ITEM REFERENCE KEY
(REFER TO CITY OF DENVER STANDARD SIGNAL PLANS)

SEE TYPICAL
INTERSECTION
DETAIL 1
(PLAN SHEET 11)

SEE TYPICAL
INTERSECTION
DETAIL 1
(PLAN SHEET 11)



T-22

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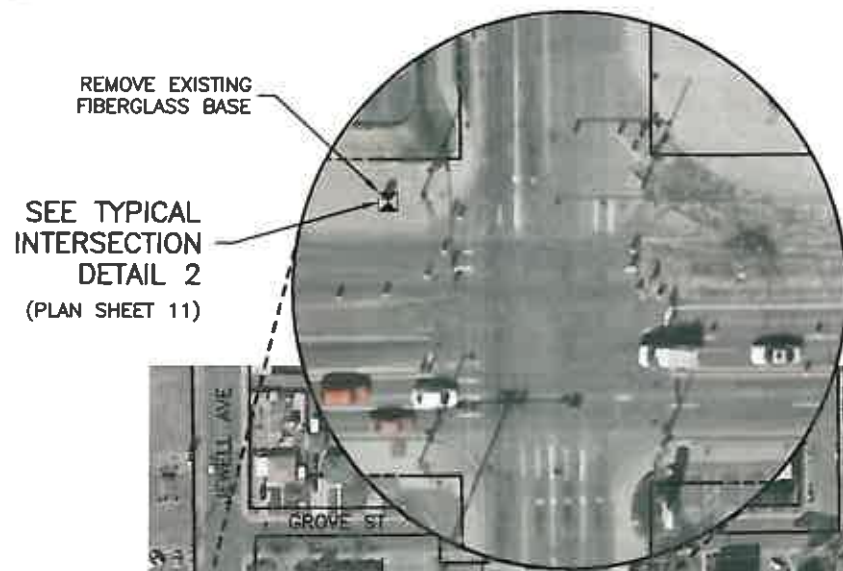
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Void:		SYS	—		
		Subset:	TRAFFIC	Sheets: T-22 of 43	Sheet Number 33

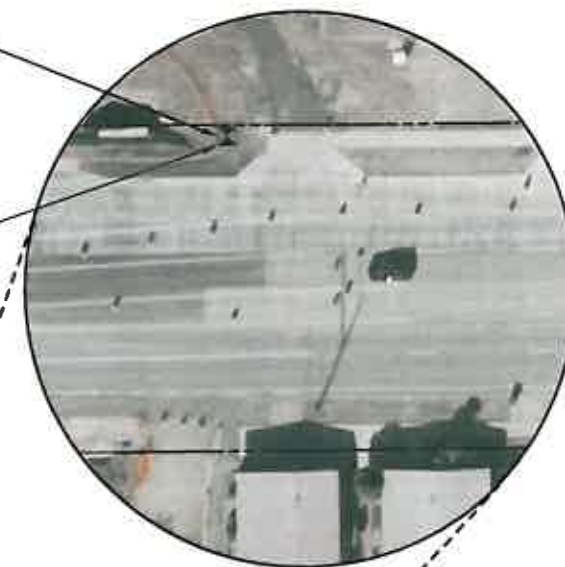
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1C	202	REMOVAL OF TRAFFIC SIGNAL CABINET BASE	EACH	3	—
3H	613	PULL BOX (SPECIAL)	EACH	3	REPLACE COMM BOX
3H	613	PULL BOX (TYPE A)	EACH	3	REPLACE ELECTRICAL BOX
3H	613	PULL BOX (TRAFFIC)	EACH	3	REPLACE TRAFFIC BOX
—	614	CONCRETE FOOTING (CABINET BASE)	EACH	3	M1+G CABINET BASE
3B	614	TRAFFIC SIGNAL CONTROLLER (INSTALL ONLY)	EACH	3	—
—	614	TELEMETRY (FIELD)	EACH	3	—

XX ITEM REFERENCE KEY
(REFER TO CITY OF DENVER STANDARD SIGNAL PLANS)



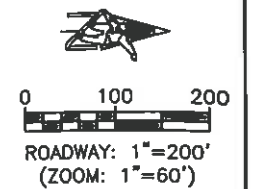
SEE TYPICAL
INTERSECTION
DETAIL 2
(PLAN SHEET 11)

REMOVE EXISTING
FIBERGLASS BASE



REMOVE EXISTING
FIBERGLASS BASE

SEE TYPICAL
INTERSECTION
DETAIL 2
(PLAN SHEET 11)



MATCHLINE SHEET T-22



MATCHLINE SHEET T-24

CONSTRUCTION NOTE:
THE CONTRACTOR SHALL ENSURE THAT NO MATERIALS, EQUIPMENT
OR VEHICLES ARE STAGED OR PARKED NEAR ANY WETLANDS,
DRAINAGE AREAS, OR WATERWAYS; NOR WITHIN PARKLANDS OR
PARKWAYS. THE CONTRACTOR SHALL ALSO NOT ALLOW DEBRIS OR
CONSTRUCTION MATERIAL TO FALL WITHIN THESE AREAS.

T-23

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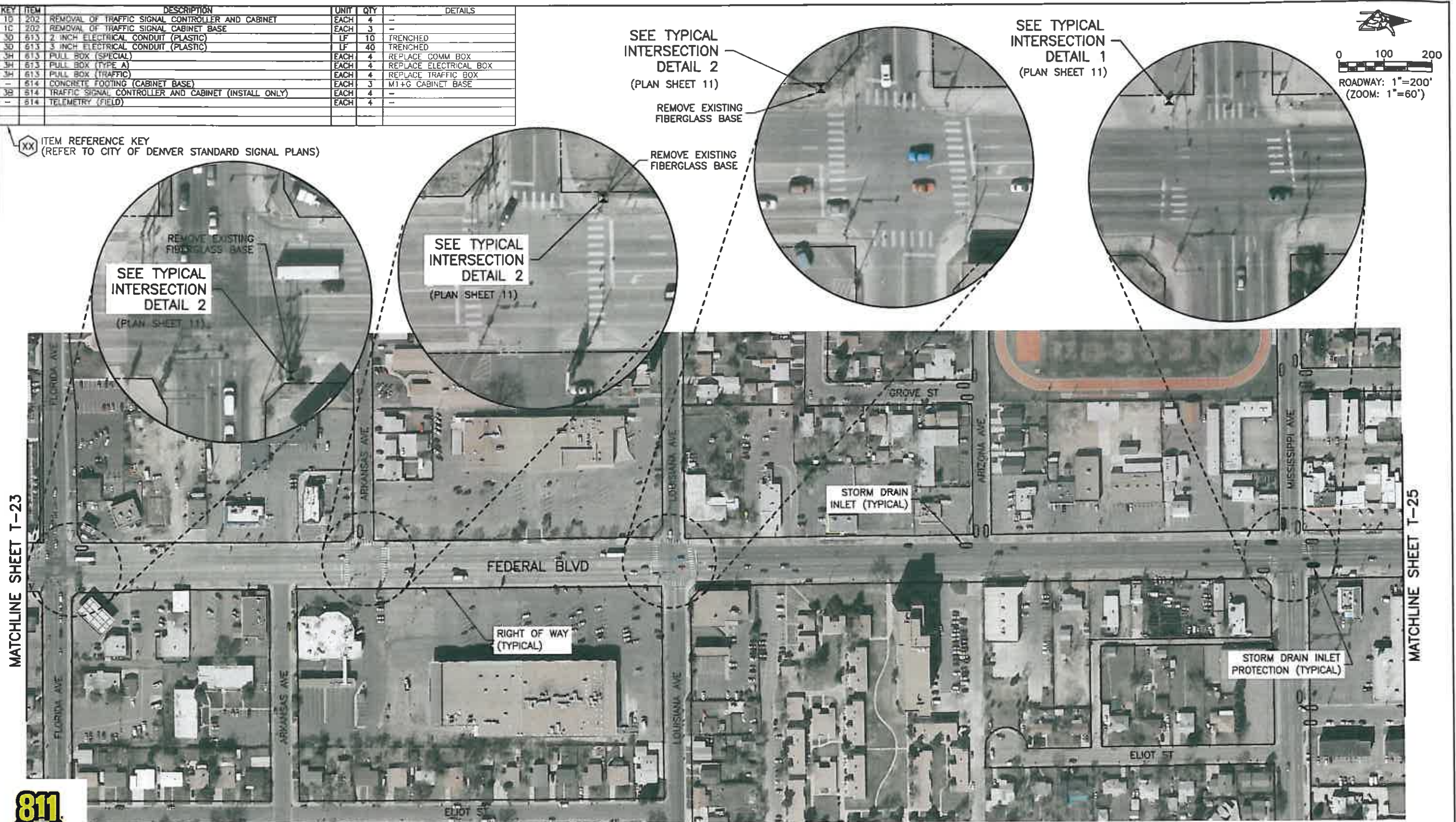
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	Date	Comments	Initials

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	Revised:		Detailer: SYS	Numbers	SA 18536
	Void:		Subset: TRAFFIC	Sheets: T-23 of 43	Sheet Number 34

Department of Public Works
Traffic Engineering Services, Dept. 508
201 West Colfax Avenue
Denver, CO 80202
(720) 865-1176

KEY	ITEM	DESCRIPTION	UNIT	QTY	DETAILS
1D	202	REMOVAL OF TRAFFIC SIGNAL CONTROLLER AND CABINET	EACH	4	
1C	202	REMOVAL OF TRAFFIC SIGNAL CABINET BASE	EACH	3	
3D	613	2 INCH ELECTRICAL CONDUIT (PLASTIC)	LF	10	TRENCHED
3D	613	3 INCH ELECTRICAL CONDUIT (PLASTIC)	LF	40	TRENCHED
3H	613	PULL BOX (SPECIAL)	EACH	4	REPLACE COMM BOX
3H	613	PULL BOX (TYPE A)	EACH	4	REPLACE ELECTRICAL BOX
3H	613	PULL BOX (TRAFFIC)	EACH	4	REPLACE TRAFFIC BOX
-	614	CONCRETE FOOTING (CABINET BASE)	EACH	3	M1+G CABINET BASE
3B	614	TRAFFIC SIGNAL CONTROLLER AND CABINET (INSTALL ONLY)	EACH	4	
-	614	TELEMETRY (FIELD)	EACH	4	

XX ITEM REFERENCE KEY
(REFER TO CITY OF DENVER STANDARD SIGNAL PLANS)



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Print Date: 2/28/2012 8:14:51 AM	
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(R-X)	Sheet Revisions		
	Date	Comments	Initials
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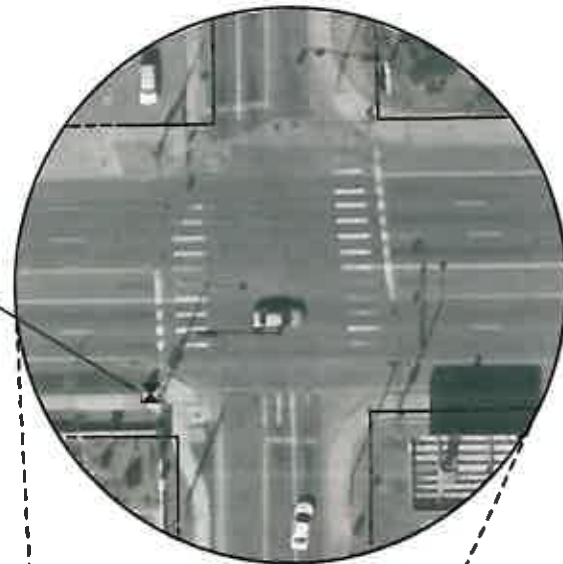
Department of Public Works
Traffic Engineering Services, Dept 508
201 West Colfax Avenue
Denver, CO 80202
(720) 865-3176

As Constructed	DENVER TIP 2012 FEDERAL BOULEVARD SIGNAL SYSTEM MODIFICATIONS				Project No./Code
	No Revisions:	Designer:	Structure Numbers		AQC M320-075
Revised:		LCL		-	SA 18536
Void:		SYS		-	
		Subset: TRAFFIC	Sheets:	T-24 of 43	Sheet Number 35

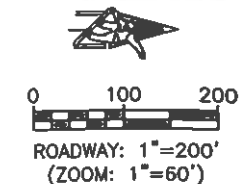
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1D	202	REMOVAL OF TRAFFIC SIGNAL CONTROLLER AND CABINET	EACH	2	—
3D	613	2 INCH ELECTRICAL CONDUIT (PLASTIC)	LF	20	TRENCHED
3D	613	3 INCH ELECTRICAL CONDUIT (PLASTIC)	LF	80	TRENCHED
3H	613	PULL BOX (SPECIAL)	EACH	2	REPLACE COMM BOX
3H	613	PULL BOX (TYPE A)	EACH	2	REPLACE ELECTRICAL BOX
3H	613	PULL BOX (TRAFFIC)	EACH	2	REPLACE TRAFFIC BOX
3B	614	TRAFFIC SIGNAL CONTROLLER AND CABINET (INSTALL ONLY)	EACH	2	—
—	614	TELEMETRY (FIELD)	EACH	2	—

XX ITEM REFERENCE KEY
(REFER TO CITY OF DENVER STANDARD SIGNAL PLANS)

SEE TYPICAL
INTERSECTION
DETAIL 1
(PLAN SHEET 11)



SEE TYPICAL
INTERSECTION
DETAIL 1
(PLAN SHEET 11)



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R-X	Sheet Revisions		
	Date	Comments	Initials
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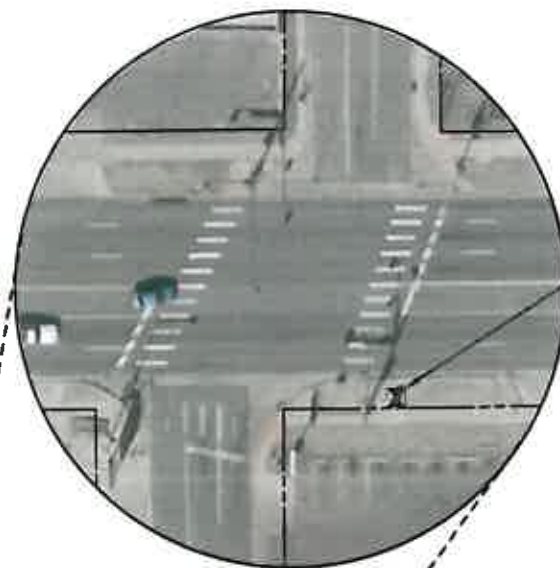
DENVER
THE MILE HIGH CITY

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Traffic Engineering Services, Dept. 504
201 West Colfax Avenue
Denver, CO 80202
(720) 965-3176

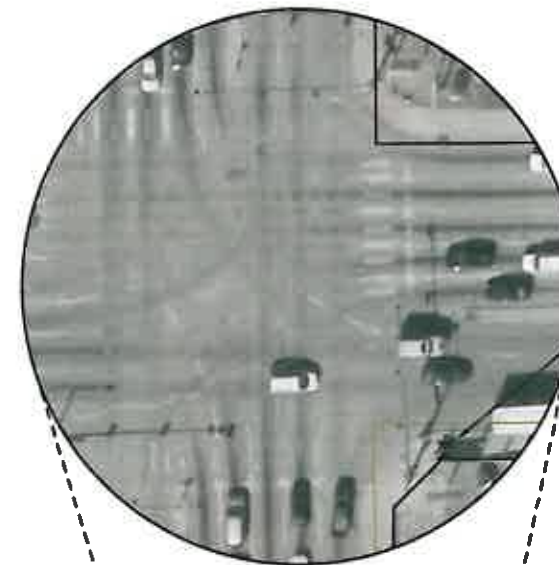
As Constructed	DENVER TIP 2012 FEDERAL BOULEVARD SIGNAL SYSTEM MODIFICATIONS			Project No./Code
	No Revisions:	Revised:	Void:	AQC M320-075
		Designer: LCL	Structure: —	SA 18536
		Detailer: SYS	Numbers: —	
		Subset: TRAFFIC	Sheets: T-25 of 43	Sheet Number 36

KEY	ITEM	DESCRIPTION	UNIT	QTY	DETAILS
1D	202	REMOVAL OF TRAFFIC SIGNAL CONTROLLER AND CABINET	EACH	2	-
3D	613	2 INCH ELECTRICAL CONDUIT (PLASTIC)	LF	20	TRENCHED
3D	613	3 INCH ELECTRICAL CONDUIT (PLASTIC)	LF	80	TRENCHED
3H	613	PULL BOX (SPECIAL)	EACH	2	REPLACE COMM BOX
3H	613	PULL BOX (TYPE A)	EACH	2	REPLACE ELECTRICAL BOX
3H	613	PULL BOX (TRAFFIC)	EACH	2	REPLACE TRAFFIC BOX
3B	614	TRAFFIC SIGNAL CONTROLLER AND CABINET (INSTALL ONLY)	EACH	2	-
-	614	TELEMETRY (FIELD)	EACH	2	-

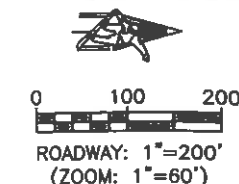
XX ITEM REFERENCE KEY
(REFER TO CITY OF DENVER STANDARD SIGNAL PLANS)



SEE TYPICAL
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DETAIL 1
(PLAN SHEET 11)



SEE TYPICAL
INTERSECTION
DETAIL 1
(PLAN SHEET 11)



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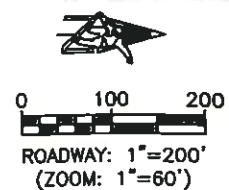
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					AQC M320-075 SA 18536 Sheet Number 37



PLACEHOLDER SHEET ONLY
NO CONSTRUCTION WORK



T-27

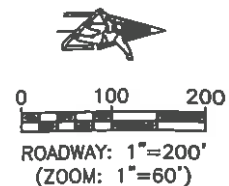
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Print Date: 2/28/2012 8:25:26 AM		<div><div>R-X</div><div></div><div></div><div></div><div></div></div>	Sheet Revisions			<div><div>DENVER THE MILE HIGH CITY</div></div> <div>Department of Public Works Traffic Engineering Services, Dept. 50K 201 West Colfax Avenue Denver, CO 80202 (720) 465-3176</div>	As Constructed		DENVER TIP 2012 FEDERAL BOULEVARD SIGNAL SYSTEM MODIFICATIONS				Project No./Code	
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Horizontal Scale: 1:200 Vertical Scale: NA							Revised:		Designer:	LCL	Structure Numbers	-	SA 18536	
<div> 6300 South Syracuse Way, Suite 600 Centennial, CO 80111 tel 303.721.1440 fax 303.721.0832</div>							Void:		Detailer:	SYS		-	Sheet Number 38	
									Subset:	TRAFFIC	Sheets:	T-27 of 43		

**DENVER**
THE MILE HIGH CITY

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NO CONSTRUCTION WORK



T-28



Print Date: 2/28/2012 8:29:41 AM	
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	No Revisions:			AQC M320-075
	Revised:	Designer: LCL	Structure Numbers: -	SA 18536
	Void:	Detailer: SYS	Sheets: T-28 of 43	Sheet Number 39

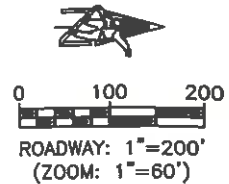
KEY	ITEM	DESCRIPTION	UNIT	QTY	DETAILS
1D	202	REMOVAL OF TRAFFIC SIGNAL CONTROLLER AND CABINET	EACH	2	—
3D	613	2 INCH ELECTRICAL CONDUIT (PLASTIC)	LF	20	TRENCHED
3D	613	3 INCH ELECTRICAL CONDUIT (PLASTIC)	LF	80	TRENCHED
3H	613	PULL BOX (SPECIAL)	EACH	2	REPLACE COMM BOX
3H	613	PULL BOX (TYPE A)	EACH	2	REPLACE ELECTRICAL BOX
3H	613	PULL BOX (TRAFFIC)	EACH	2	REPLACE TRAFFIC BOX
3B	614	TRAFFIC SIGNAL CONTROLLER AND CABINET (INSTALL ONLY)	EACH	2	—
—	614	TELEMETRY (FIELD)	EACH	2	—

XX ITEM REFERENCE KEY
(REFER TO CITY OF DENVER STANDARD SIGNAL PLANS)

CONSTRUCTION NOTE:
1. THE CONTRACTOR SHALL ENSURE THAT NO MATERIALS, EQUIPMENT OR VEHICLES ARE STAGED OR PARKED NEAR ANY WETLANDS, DRAINAGE AREAS, OR WATERWAYS; NOR WITHIN PARKLANDS OR PARKWAYS. THE CONTRACTOR SHALL ALSO NOT ALLOW DEBRIS OR CONSTRUCTION MATERIAL TO FALL WITHIN THESE AREAS.

SEE TYPICAL
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(PLAN SHEET 11)

SEE TYPICAL
INTERSECTION
DETAIL 1
(PLAN SHEET 11)



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	tel 303.721.1440 fax 303.721.0832

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	Date	Comments	Initials
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	Design:	Structure	Numbers	AQC M320-075
No Revisions:	Revised:	Void:	Subst:	SA 18536
				Sheet Number 40


T-29

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(Except Storm Inlet Protection)



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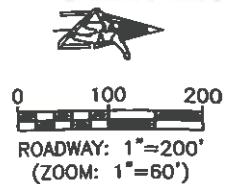
DENVER TIP 2012 FEDERAL BOULEVARD SIGNAL SYSTEM MODIFICATIONS			
Designer:	LCL	Structure	-
Detailer:	SYS	Numbers	-
Subset:	TRAFFIC	Sheets:	T-30 of 43

Project No./Code
AQC M320-075
SA 18536
Sheet Number 41

T-30

KEY	ITEM	DESCRIPTION	UNIT	QTY	DETAILS
1D	202	REMOVAL OF TRAFFIC SIGNAL CONTROLLER AND CABINET	EACH	3	
3D	613	2 INCH ELECTRICAL CONDUIT (PLASTIC)	LF	30	TRENCHED
3D	613	3 INCH ELECTRICAL CONDUIT (PLASTIC)	LF	120	TRENCHED
3H	613	PULL BOX (SPECIAL)	EACH	3	REPLACE COMM BOX
3H	613	PULL BOX (TYPE A)	EACH	3	REPLACE ELECTRICAL BOX
3H	613	PULL BOX (TRAFFIC)	EACH	3	REPLACE TRAFFIC BOX
3B	614	TRAFFIC SIGNAL CONTROLLER AND CABINET (INSTALL ONLY)	EACH	3	
-	614	TELEMETRY (FIELD)	EACH	3	

XX ITEM REFERENCE KEY
(REFER TO CITY OF DENVER STANDARD SIGNAL PLANS)




SEE TYPICAL
INTERSECTION
DETAIL 1
(PLAN SHEET 11)

SEE TYPICAL
INTERSECTION
DETAIL 1
(PLAN SHEET 11)

SEE TYPICAL
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DETAIL 1
(PLAN SHEET 11)



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No Revisions:		Designer: LCL	Structure Numbers: -	AQC M320-075
Revised:		Detailer: SYS	Numbers: -	SA 18536
Void:		Subset: TRAFFIC	Sheets: T-31 of 43	Sheet Number 42

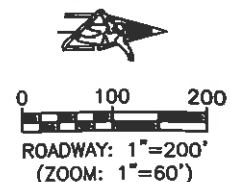
T-31

KEY	ITEM	DESCRIPTION	UNIT	QTY	DETAILS
1D	202	REMOVAL OF TRAFFIC SIGNAL CONTROLLER AND CABINET	EACH	2	-
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3D	613	3 INCH ELECTRICAL CONDUIT (PLASTIC)	LF	80	TRENCHED
3H	613	PULL BOX (SPECIAL)	EACH	2	REPLACE COMM BOX
3H	613	PULL BOX (TYPE A)	EACH	2	REPLACE ELECTRICAL BOX
3H	613	PULL BOX (TRAFFIC)	EACH	2	REPLACE TRAFFIC BOX
3B	614	TRAFFIC SIGNAL CONTROLLER AND CABINET (INSTALL ONLY)	EACH	2	-
-	614	TELEMETRY (FIELD)	EACH	2	-

XX ITEM REFERENCE KEY
(REFER TO CITY OF DENVER STANDARD SIGNAL PLANS)

SEE TYPICAL
INTERSECTION
DETAIL 1
(PLAN SHEET 11)

CONSTRUCTION NOTE:
THE CONTRACTOR SHALL ENSURE THAT NO MATERIALS, EQUIPMENT
OR VEHICLES ARE STAGED OR PARKED NEAR ANY WETLANDS,
DRAINAGE AREAS, OR WATERWAYS; NOR WITHIN PARKLANDS OR
PARKWAYS. THE CONTRACTOR SHALL ALSO NOT ALLOW DEBRIS OR
CONSTRUCTION MATERIAL TO FALL WITHIN THESE AREAS.



SEE TYPICAL
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DETAIL 1
(PLAN SHEET 11)



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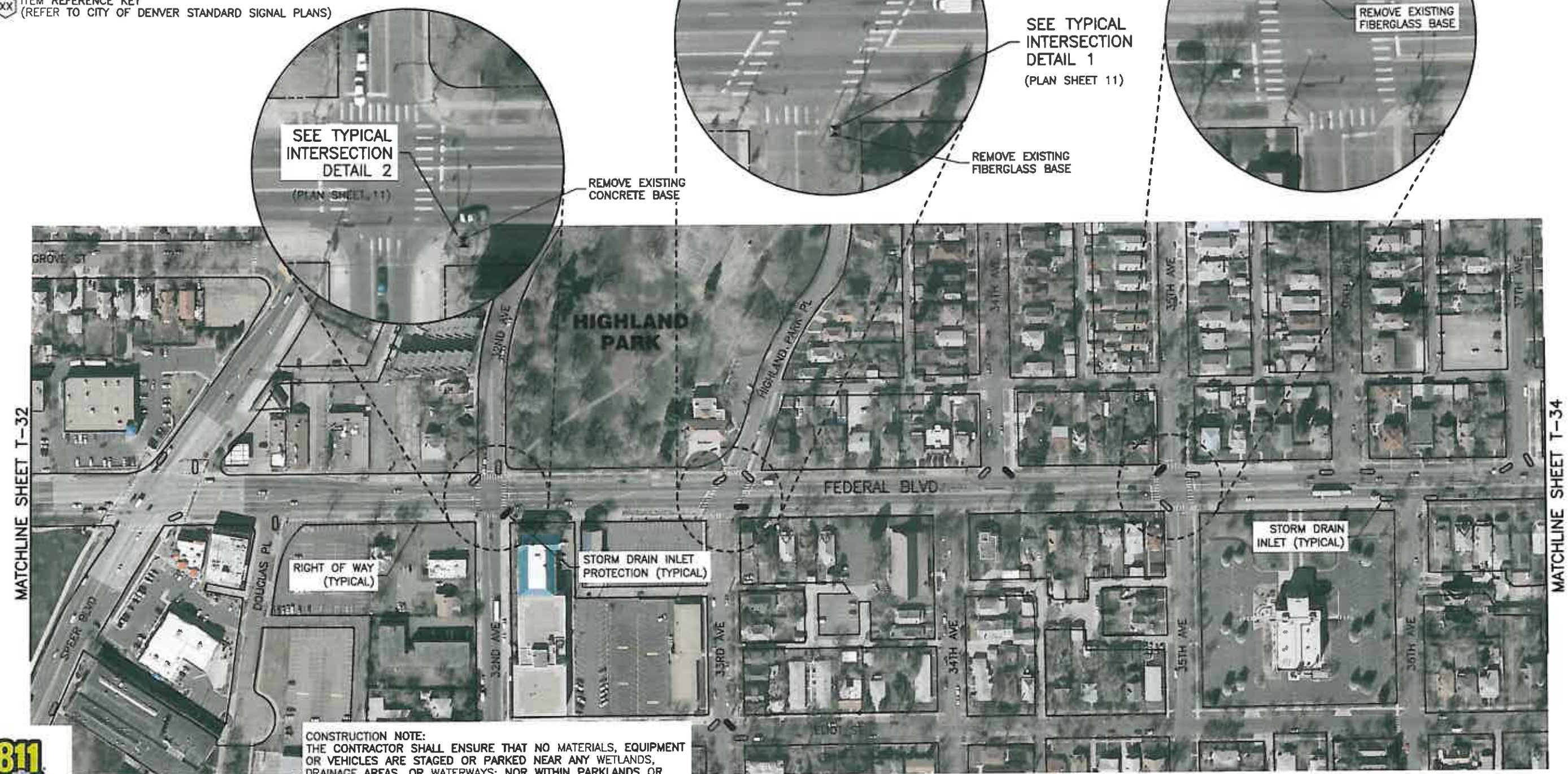
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(720) 865-3176

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Void:		Subset: TRAFFIC	Sheets: T-32 of 43		Sheet Number 43

KEY	ITEM	DESCRIPTION	UNIT	QTY	DETAILS
1D	202	REMOVAL OF TRAFFIC SIGNAL CONTROLLER AND CABINET	EACH	3	-
1C	202	REMOVAL OF TRAFFIC SIGNAL CABINET BASE	EACH	3	-
3D	613	2 INCH ELECTRICAL CONDUIT (PLASTIC)	LF	30	TRENCHED
3D	613	3 INCH ELECTRICAL CONDUIT (PLASTIC)	LF	120	TRENCHED
3H	613	PULL BOX (SPECIAL)	EACH	3	REPLACE COMM BOX
3H	613	PULL BOX (TYPE A)	EACH	3	REPLACE ELECTRICAL BOX
3H	613	PULL BOX (TRAFFIC)	EACH	3	REPLACE TRAFFIC BOX
3B	614	TRAFFIC SIGNAL CONTROLLER AND CABINET (INSTALL ONLY)	EACH	3	-
-	614	TELEMETRY (FIELD)	EACH	3	-

XX ITEM REFERENCE KEY
(REFER TO CITY OF DENVER STANDARD SIGNAL PLANS)



CONSTRUCTION NOTE:
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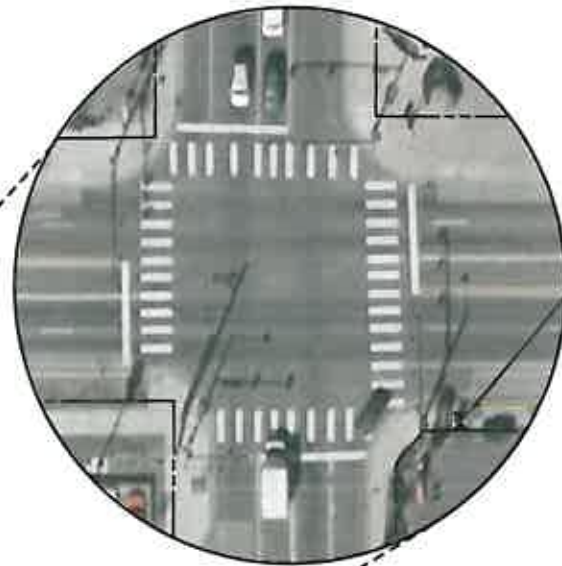
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201 West Colfax Avenue
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Revised:		Detailer: SYS	Numbers -	SA 18536
Void:		Subset: TRAFFIC	Sheets: T-33 of 43	Sheet Number 44

KEY	ITEM	DESCRIPTION	UNIT	QTY	DETAILS
1D	202	REMOVAL OF TRAFFIC SIGNAL CONTROLLER AND CABINET	EACH	2	
3D	613	2 INCH ELECTRICAL CONDUIT (PLASTIC)	LF	20	TRENCHED
3D	613	3 INCH ELECTRICAL CONDUIT (PLASTIC)	LF	80	TRENCHED
3H	613	PULL BOX (SPECIAL)	EACH	2	REPLACE COMM BOX
3H	613	PULL BOX (TYPE A)	EACH	2	REPLACE ELECTRICAL BOX
3H	613	PULL BOX (TRAFFIC)	EACH	2	REPLACE TRAFFIC BOX
3B	614	TRAFFIC SIGNAL CONTROLLER AND CABINET (INSTALL ONLY)	EACH	2	
-	614	TELEMETRY (FIELD)	EACH	2	

XX ITEM REFERENCE KEY
(REFER TO CITY OF DENVER STANDARD SIGNAL PLANS)

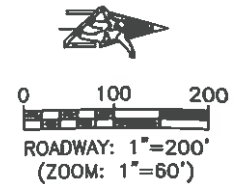
CONSTRUCTION NOTE:
1. THE CONTRACTOR SHALL ENSURE THAT NO MATERIALS, EQUIPMENT OR VEHICLES ARE STAGED OR PARKED NEAR ANY WETLANDS, DRAINAGE AREAS, OR WATERWAYS; NOR WITHIN PARKLANDS OR PARKWAYS. THE CONTRACTOR SHALL ALSO NOT ALLOW DEBRIS OR CONSTRUCTION MATERIAL TO FALL WITHIN THESE AREAS.



SEE TYPICAL
INTERSECTION
DETAIL 1
(PLAN SHEET 11)



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DETAIL 1
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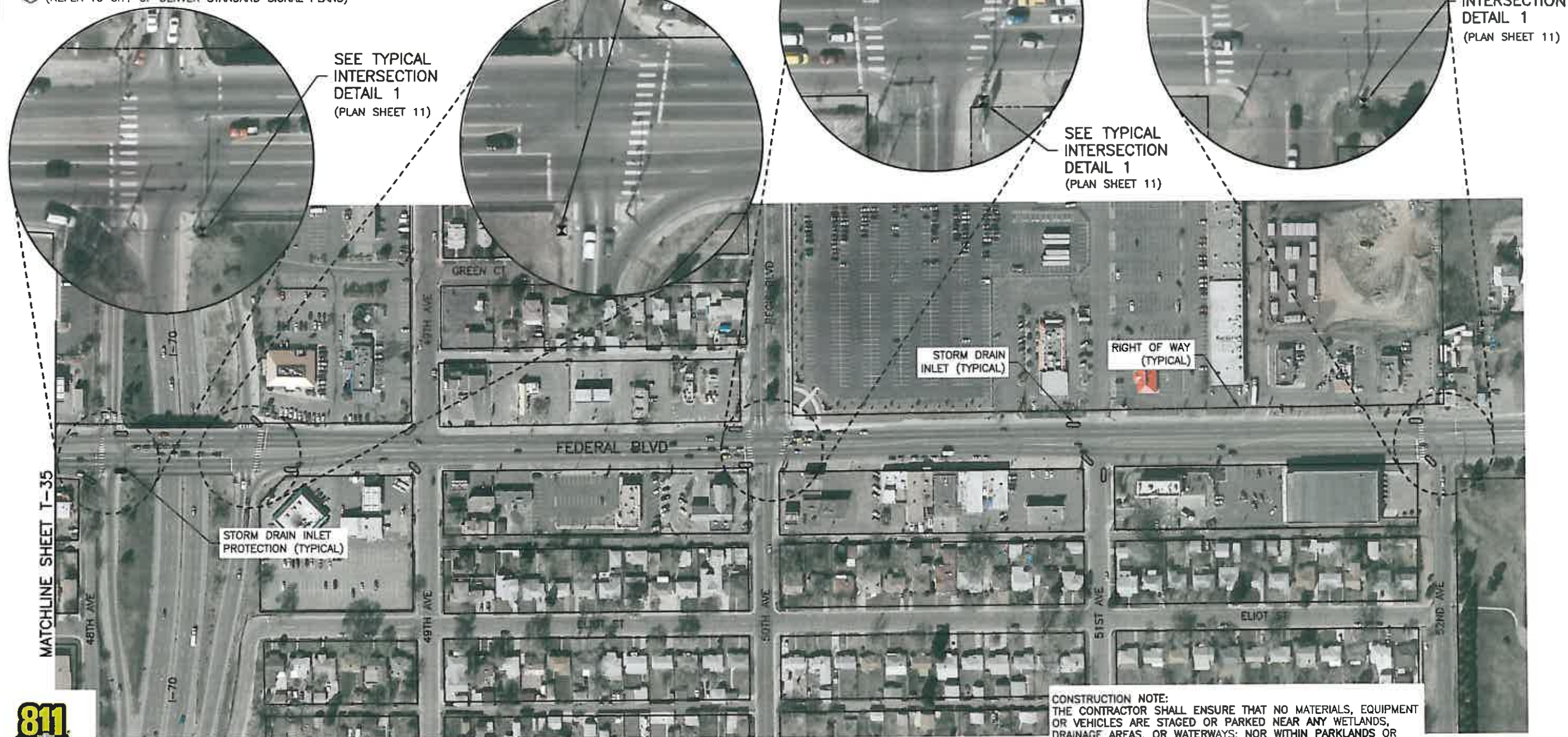
DENVER
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Void:		SY	Numbers	
		Subset: TRAFFIC	Sheets: T-35 of 43	Sheet Number 46

KEY	ITEM	DESCRIPTION	UNIT	QTY	DETAILS
1D	202	REMOVAL OF TRAFFIC SIGNAL CONTROLLER AND CABINET	EACH	4	
3D	613	2 INCH ELECTRICAL CONDUIT (PLASTIC)	LF	40	TRENCHED
3D	613	3 INCH ELECTRICAL CONDUIT (PLASTIC)	LF	160	TRENCHED
3H	613	PULL BOX (SPECIAL)	EACH	4	REPLACE COMM BOX
3H	613	PULL BOX (TYPE A)	EACH	4	REPLACE ELECTRICAL BOX
3H	613	PULL BOX (TRAFFIC)	EACH	4	REPLACE TRAFFIC BOX
3B	614	TRAFFIC SIGNAL CONTROLLER AND CABINET (INSTALL ONLY)	EACH	4	
-	614	TELEMETRY (FIELD)	EACH	4	

XX ITEM REFERENCE KEY
(REFER TO CITY OF DENVER STANDARD SIGNAL PLANS)



CONSTRUCTION NOTE:
THE CONTRACTOR SHALL ENSURE THAT NO MATERIALS, EQUIPMENT OR VEHICLES ARE STAGED OR PARKED NEAR ANY WETLANDS, DRAINAGE AREAS, OR WATERWAYS; NOR WITHIN PARKLANDS OR PARKWAYS. THE CONTRACTOR SHALL ALSO NOT ALLOW DEBRIS OR CONSTRUCTION MATERIAL TO FALL WITHIN THESE AREAS.

T-36

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	tel 303.721.1440
	fax 303.721.0832

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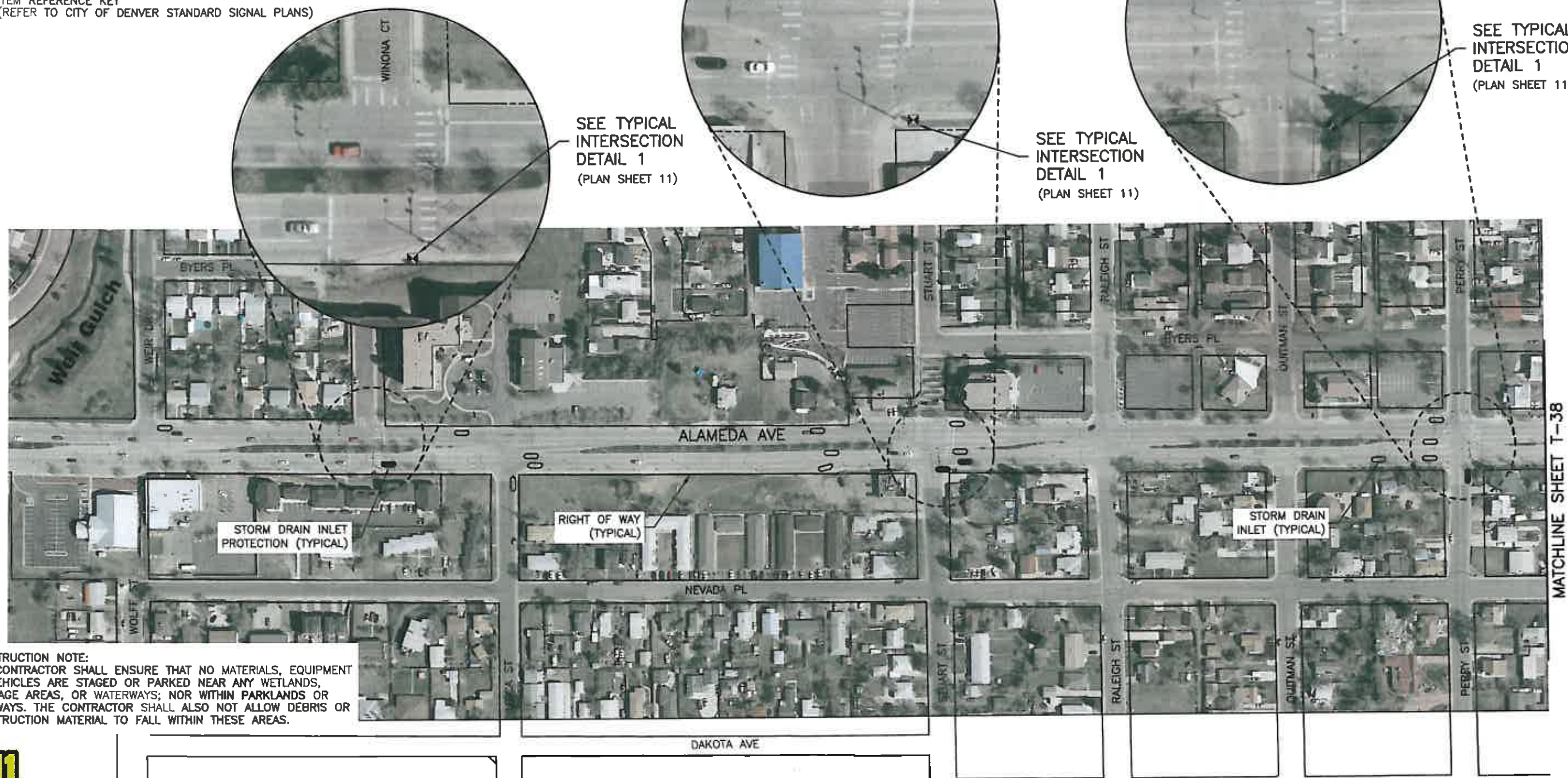
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Traffic Engineering Services, Dept. 504
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Denver, CO 80202
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	No Revisions:	Designer:	Structure	AQC M320-075
Revised:		LCL	-	SA 18536
Void:		SYN	Numbers	
		Subset: TRAFFIC	Sheets: T-36 of 43	Sheet Number 47

KEY	ITEM	DESCRIPTION	UNIT	QTY	DETAILS
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3D	613	2 INCH ELECTRICAL CONDUIT (PLASTIC)	LF	30	TRENCHED
3D	613	3 INCH ELECTRICAL CONDUIT (PLASTIC)	LF	120	TRENCHED
3H	613	PULL BOX (SPECIAL)	EACH	3	REPLACE COMM BOX
3H	613	PULL BOX (TYPE A)	EACH	3	REPLACE ELECTRICAL BOX
3H	613	PULL BOX (TRAFFIC)	EACH	3	REPLACE TRAFFIC BOX
3B	614	TRAFFIC SIGNAL CONTROLLER AND CABINET (INSTALL ONLY)	EACH	3	-
-	614	TELEMETRY (FIELD)	EACH	3	-

XX ITEM REFERENCE KEY
(REFER TO CITY OF DENVER STANDARD SIGNAL PLANS)



CONSTRUCTION NOTE:
THE CONTRACTOR SHALL ENSURE THAT NO MATERIALS, EQUIPMENT OR VEHICLES ARE STAGED OR PARKED NEAR ANY WETLANDS, DRAINAGE AREAS, OR WATERWAYS; NOR WITHIN PARKLANDS OR PARKWAYS. THE CONTRACTOR SHALL ALSO NOT ALLOW DEBRIS OR CONSTRUCTION MATERIAL TO FALL WITHIN THESE AREAS.



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<div> <div></div> <div>FELSBURG HOLT & ULLEVIG</div> </div> <div> <div>6300 South Syracuse Way, Suite 600</div> <div>Centennial, CO 80111</div> <div>tel 303.721.1440</div> <div>fax 303.721.0832</div> </div>				



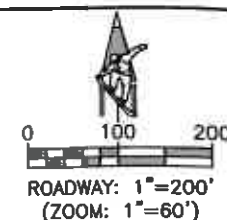
DENVER
THE MILE HIGH CITY

Department of Public Works
Traffic Engineering Services, Dept. 5108
201 West Colfax Avenue
Denver, CO 80202
(720) 865-3176

As Constructed	DENVER TIP 2012 ALAMEDA AVENUE SIGNAL SYSTEM MODIFICATIONS				Project No./Code
No Revisions:	Designer: LCL	Structure Numbers	-	-	AQC M320-075
Revised:	Detailer: SYS	Numbers	-	-	SA 18536
Void:	Subset: TRAFFIC	Sheets:	T-37 of 43		Sheet Number 48

T-37

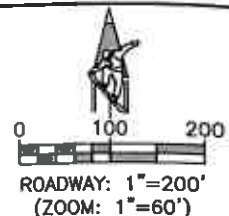
SEE TYPICAL
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DETAIL 1
(PLAN SHEET 11)



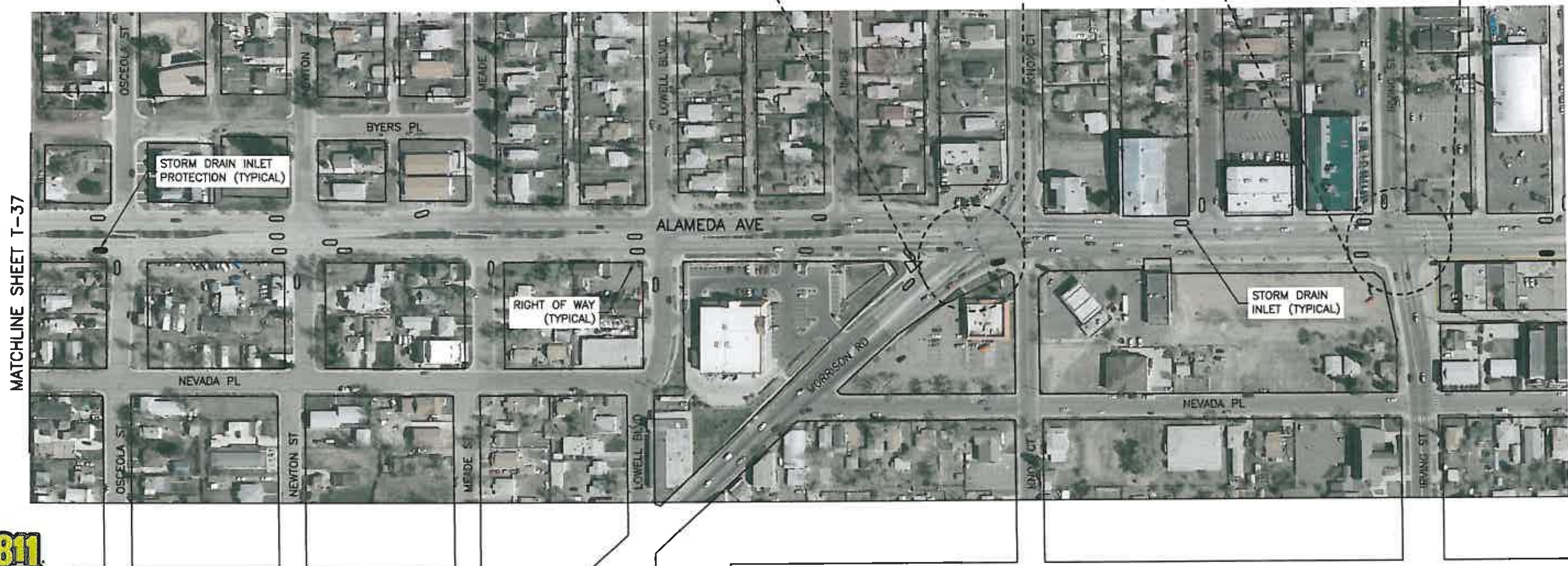
KEY	ITEM	DESCRIPTION	UNIT	QTY	DETAILS
1D	202	REMOVAL OF TRAFFIC SIGNAL CONTROLLER AND CABINET	EACH	2	-
3D	613	2 INCH ELECTRICAL CONDUIT (PLASTIC)	LF	20	TRENCHED
3D	613	3 INCH ELECTRICAL CONDUIT (PLASTIC)	LF	80	TRENCHED
3H	613	PULL BOX (SPECIAL)	EACH	2	REPLACE COMM BOX
3H	613	PULL BOX (TYPE A)	EACH	2	REPLACE ELECTRICAL BOX
3H	613	PULL BOX (TRAFFIC)	EACH	2	REPLACE TRAFFIC BOX
3B	614	TRAFFIC SIGNAL CONTROLLER AND CABINET (INSTALL ONLY)	EACH	2	-
-	614	TELEMETRY (FIELD)	EACH	2	-

XX ITEM REFERENCE KEY
(REFER TO CITY OF DENVER STANDARD SIGNAL PLANS)


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DETAIL 1
(PLAN SHEET 11)



SEE TYPICAL
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DETAIL 1
(PLAN SHEET 11)



T-38

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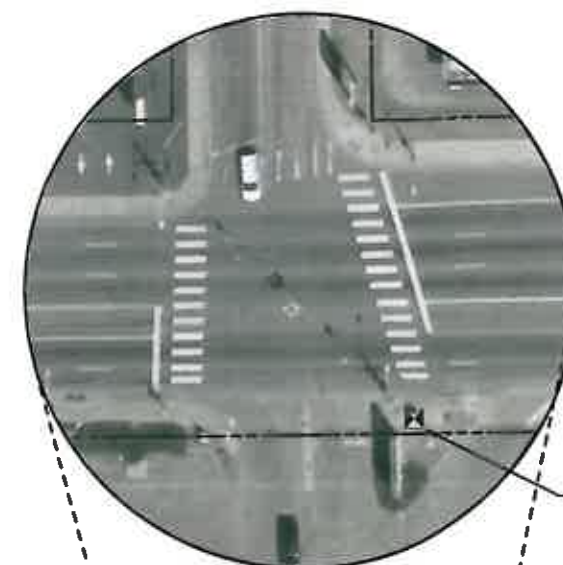
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Revised:				
Void:				
	Detailer: SYS	Numbers		SA 18536
	Subset: TRAFFIC	Sheets:	T-38 of 43	Sheet Number 49

KEY	ITEM	DESCRIPTION	UNIT	QTY	DETAILS
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3D	613	2 INCH ELECTRICAL CONDUIT (PLASTIC)	LF	20	TRENCHED
3D	613	3 INCH ELECTRICAL CONDUIT (PLASTIC)	LF	80	TRENCHED
3H	613	PULL BOX (SPECIAL)	EACH	2	REPLACE COMM BOX
3H	613	PULL BOX (TYPE A)	EACH	2	REPLACE ELECTRICAL BOX
3H	613	PULL BOX (TRAFFIC)	EACH	2	REPLACE TRAFFIC BOX
3B	614	TRAFFIC SIGNAL CONTROLLER AND CABINET (INSTALL ONLY)	EACH	2	-
-	614	TELEMETRY (FIELD)	EACH	2	-

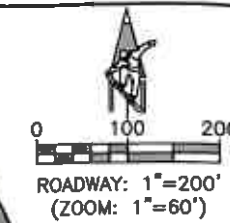
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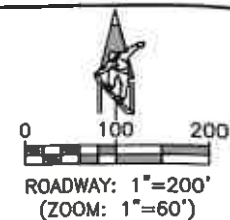
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No Revisions:		Designer: LCL	Structure Numbers: -	AQC M320-075
Revised:		Detailer: SYS		SA 18536
Void:		Subset: TRAFFIC	Sheets: T-39 of 43	Sheet Number 50

KEY	ITEM	DESCRIPTION	UNIT	QTY	DETAILS
10	202	REMOVAL OF TRAFFIC SIGNAL CONTROLLER AND CABINET	EACH	1	
30	613	2 INCH ELECTRICAL CONDUIT (PLASTIC)	LF	10	TRENCHED
30	613	3 INCH ELECTRICAL CONDUIT (PLASTIC)	LF	40	TRENCHED
3H	613	PULL BOX (SPECIAL)	EACH	1	REPLACE COMM BOX
3H	613	PULL BOX (TYPE A)	EACH	1	REPLACE ELECTRICAL BOX
3H	613	PULL BOX (TRAFFIC)	EACH	1	REPLACE TRAFFIC BOX
3B	614	TRAFFIC SIGNAL CONTROLLER AND CABINET (INSTALL ONLY)	EACH	1	
-	614	TELEMETRY (FIELD)	EACH	1	

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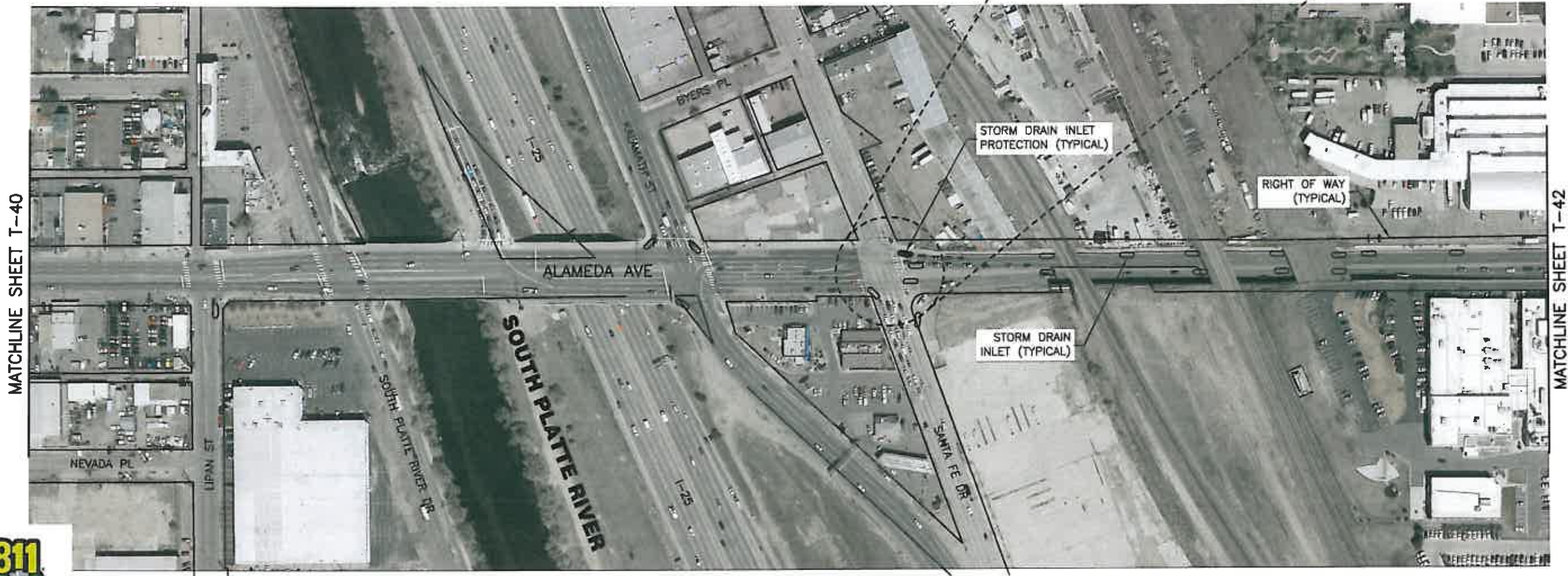
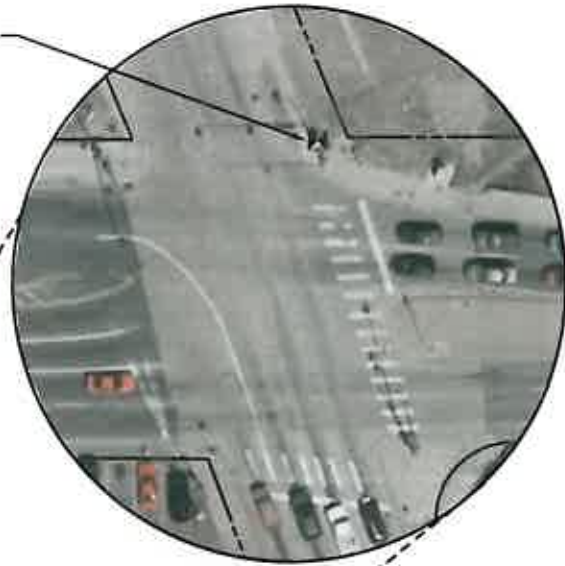
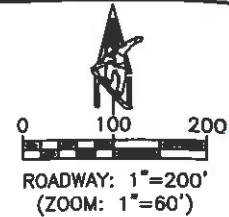
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Void:		SYS	-	Sheet Number 51
		Subset: TRAFFIC	Sheets: T-40 of 43	

KEY	ITEM	DESCRIPTION	UNIT	QTY	DETAILS
1D	202	REMOVAL OF TRAFFIC SIGNAL CONTROLLER AND CABINET	EACH	1	—
3D	613	2 INCH ELECTRICAL CONDUIT (PLASTIC)	LF	10	TRENCHED
3D	613	3 INCH ELECTRICAL CONDUIT (PLASTIC)	LF	40	TRENCHED
3H	613	PULL BOX (SPECIAL)	EACH	1	REPLACE COMM BOX
3H	613	PULL BOX (TYPE A)	EACH	1	REPLACE ELECTRICAL BOX
3H	613	PULL BOX (TRAFFIC)	EACH	1	REPLACE TRAFFIC BOX
3B	814	TRAFFIC SIGNAL CONTROLLER AND CABINET (INSTALL ONLY)	EACH	1	—
—	814	TELEMETRY (FIELD)	EACH	1	—


 ITEM REFERENCE KEY
 (REFER TO CITY OF DENVER STANDARD SIGNAL PLANS)

CONSTRUCTION NOTE:
 THE CONTRACTOR SHALL ENSURE THAT NO MATERIALS, EQUIPMENT OR VEHICLES ARE STAGED OR PARKED NEAR ANY WETLANDS, DRAINAGE AREAS, OR WATERWAYS; NOR WITHIN PARKLANDS OR PARKWAYS. THE CONTRACTOR SHALL ALSO NOT ALLOW DEBRIS OR CONSTRUCTION MATERIAL TO FALL WITHIN THESE AREAS.

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T-41

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No Revisions:		Designer: LCL	Structure: —	AQC M320-075
Revised:		Detailer: SYS	Numbers: —	SA 18536
Void:		Subset: TRAFFIC	Sheets: T-41 of 43	Sheet Number 52

KEY	ITEM	DESCRIPTION	UNIT	QTY	DETAILS
1D	202	REMOVAL OF TRAFFIC SIGNAL CONTROLLER AND CABINET	EACH	3	
3D	613	2 INCH ELECTRICAL CONDUIT (PLASTIC)	LF	30	TRENCHED
3D	613	3 INCH ELECTRICAL CONDUIT (PLASTIC)	LF	120	TRENCHED
3H	613	PULL BOX (SPECIAL)	EACH	3	REPLACE COMM BOX
3H	613	PULL BOX (TYPE A)	EACH	3	REPLACE ELECTRICAL BOX
3H	613	PULL BOX (TRAFFIC)	EACH	3	REPLACE TRAFFIC BOX
3B	614	TRAFFIC SIGNAL CONTROLLER AND CABINET (INSTALL ONLY)	EACH	3	
-	614	TELEMETRY (FIELD)	EACH	3	

XX ITEM REFERENCE KEY
(REFER TO CITY OF DENVER STANDARD SIGNAL PLANS)

SEE TYPICAL
INTERSECTION
DETAIL 1
(PLAN SHEET 11)

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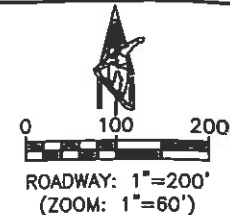
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Revised:		LCL	-	SA 18536
Void:		SYS	-	Sheet Number 53
		Subset: TRAFFIC	Sheets: T-42 of 43	

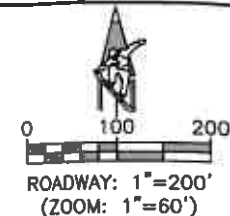


T-42

RIGHT OF WAY
(TYPICAL)

KEY	ITEM	DESCRIPTION	UNIT	QTY	DETAILS
1D	202	REMOVAL OF TRAFFIC SIGNAL CONTROLLER AND CABINET	EACH	1	—
1C	202	REMOVAL OF TRAFFIC SIGNAL CABINET BASE	EACH	1	—
3D	613	2 INCH ELECTRICAL CONDUIT (PLASTIC)	LF	10	TRENCHED
3D	613	3 INCH ELECTRICAL CONDUIT (PLASTIC)	LF	40	TRENCHED
3H	613	PULL BOX (SPECIAL)	EACH	1	REPLACE COMM BOX
3H	613	PULL BOX (TYPE A)	EACH	1	REPLACE ELECTRICAL BOX
3H	613	PULL BOX (TRAFFIC)	EACH	1	REPLACE TRAFFIC BOX
3B	614	TRAFFIC SIGNAL CONTROLLER AND CABINET (INSTALL ONLY)	EACH	1	—
—	614	TELEMETRY (FIELD)	EACH	1	—

XX ITEM REFERENCE KEY
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REMOVE EXISTING
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(R-X)	Date	Comments	Initials
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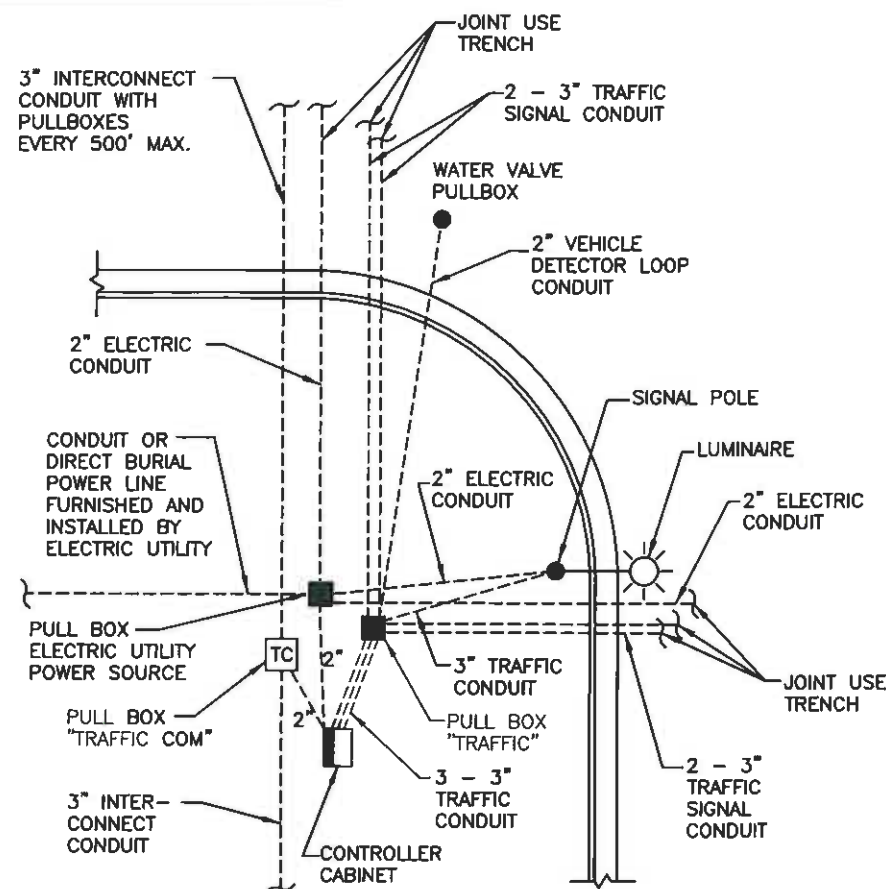
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Revised:		Detailed: SYS	Numbers: —	SA 18536
Void:		Subset: TRAFFIC	Sheets: T-43 of 43	Sheet Number 54

:\09038-17\CAD\Sheets\, Larry.Lang

[illegible]

1. THE INSTALLATION OF ALL CONSTRUCTION TRAFFIC CONTROL DEVICES AND ASSOCIATED MATERIALS SHALL COMPLY WITH ALL APPLICABLE PORTIONS OF THE COLORADO DEPARTMENT OF TRANSPORTATION STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION, 2011, CDOT STANDARD PLANS, JULY 2006, AND THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD), LATEST EDITION.
2. THE GENERAL NOTES PROVIDED ON CDOT STANDARD PLAN S-630-1 (SHEET 1), SHALL BE REFERENCED FOR ADDITIONAL INFORMATION AND GUIDANCE.
3. BASED UPON SIGHT DISTANCE AND OTHER SITE SPECIFIC CONDITIONS, THE FINAL LOCATION OF TRAFFIC CONTROL SIGNS AND OTHER DEVICES IS SUBJECT TO THE APPROVAL OF THE PROJECT ENGINEER.
4. THE CONTRACTOR SHALL REFER TO THE PROJECT SPECIAL PROVISIONS FOR SPECIFIC WORK TIME RESTRICTIONS.
5. ALL CONSTRUCTION TRAFFIC SIGN "SPECIALS" SHALL BE BLACK ON ORANGE, UNLESS SPECIFIED OTHERWISE.
6. ACCESS MUST BE MAINTAINED FOR ALL ADJACENT PROPERTIES AND OPEN SPACE TRAILS AT ALL TIMES DURING CONSTRUCTION.
7. WHEN CONSTRUCTION TRAFFIC CONTROL SIGNS ARE NOT IN USE, THEY SHALL EITHER BE MASKED, REMOVED OR TURNED AWAY FROM APPROACHING TRAFFIC.
8. THE CONTRACTOR SHALL ALSO ADHERE TO GENERAL NOTES 14, 15, 26 AND 27 (REFER TO SHEET 5 OF THESE PLANS).

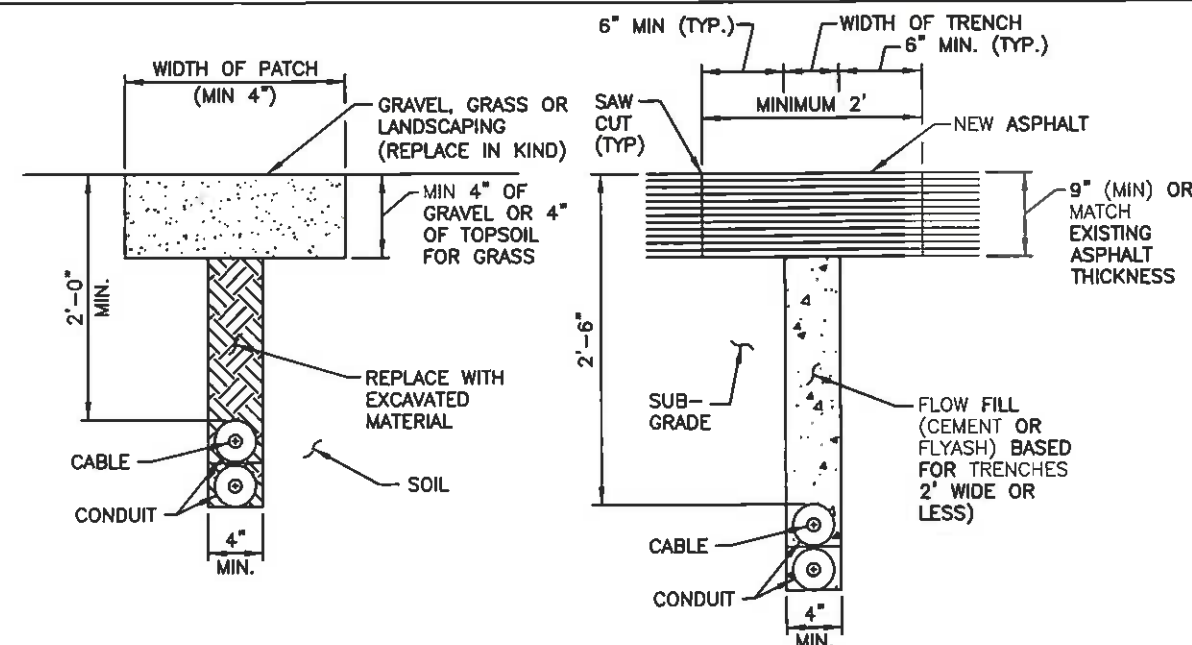
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File Name: T09038-17 CTC01.dwg						SCHEDULE OF CONSTRUCTION		AQC M320-075					
Horizontal Scale: NA Vertical Scale: NA		TRAFFIC CONTROL ITEMS				SA 18536							
 FELSBURG HOLT & ULLEVIG 6300 South Syracuse Way, Suite 600 Centennial, CO 80111 tel 303.721.1440 fax 303.721.0832	(R-X)	Date	Comments			Initials	No Revisions:	Designer:	LCL	Structure	-	Sheet Number	55
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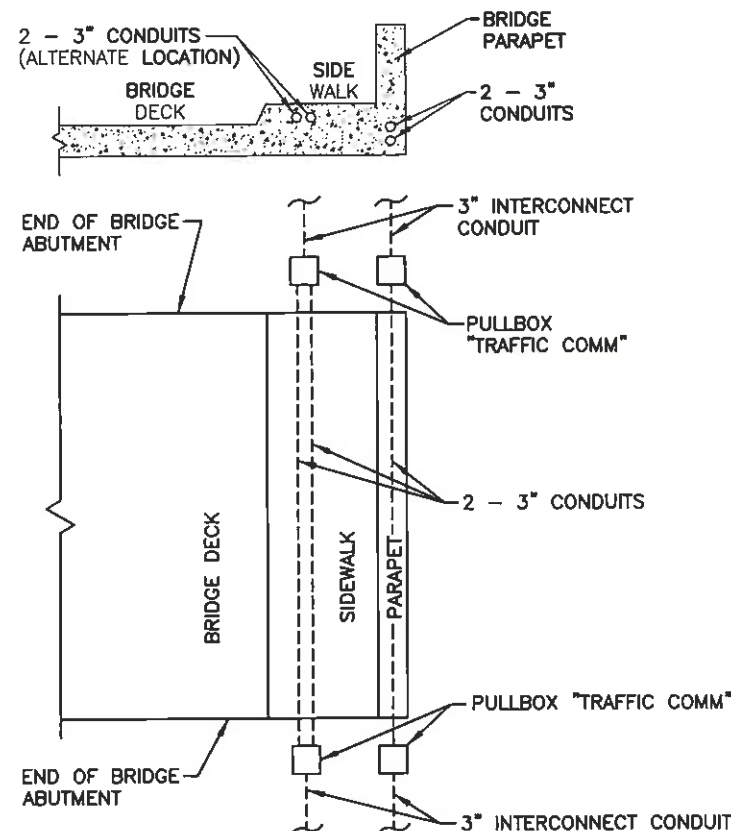
POWER SOURCE DETAILS

NOTES:

1. SEE CDOT STANDARDS M-613-1 AND S-614-10(C).
2. FOR STREET LIGHT LUMINAIRES ON SPAN WIRE INSTALLATIONS - TWO (2) NUMBER 12 AGW COPPER TW INSULATED BUILDING WIRES SHALL BE INSTALLED BY THE CONTRACTOR FROM THE END OF THE LUMINAIRE ARM, THROUGH THE POLE, ALONG THE SPAN WIRE CABLE TO THE SIGNAL POLE NEAREST THE CONTROLLER CABINET, THRU THE POLE WITH APPROXIMATELY 5 FEET OF EXTRA WIRING COILED IN THE PULL BOX AT THE BASE OF THE POLE.
3. FOR STREET LIGHT LUMINAIRES ON MAST ARM INSTALLATION - TWO (2) NUMBER 12 AGW COPPER TW INSULATED BUILDING WIRES SHALL BE INSTALLED BY THE CONTRACTOR FROM THE END OF THE LUMINAIRE ARM, THROUGH THE POLE WITH APPROXIMATELY 5 FEET OF EXTRA WIRING COILED IN THE PULL BOX AT THE BASE OF POLE. THE CONTRACTOR SHALL ALSO INSTALL #4 ALUMINUM TRIPLEX FROM THE PULL BOX AT THE BASE OF THE SIGNAL POLE NEAREST THE CONTROLLER CABINET THROUGH CONDUIT NETWORK TO THE PULL BOXES AT OTHER SIGNAL POLES WITH LUMINAIRES.
4. ALL WIRING FOR LUMINAIRES SHALL BE INCLUDED IN WORK AND NOT PAID FOR SEPARATELY.
5. SPLICES OF LUMINAIRE WIRING SHALL BE DONE BY ELECTRIC UTILITY AT THE POWER SOURCE.
6. WIRING FOR STREET LIGHT LUMINAIRES SHALL BE TAGGED PER STANDARD SPECIFICATIONS.
7. ALL POLES SHALL BE GROUNDED IN ACCORDANCE WITH NATIONAL ELECTRICAL CODE (NEC).
8. ALL HDPE CONDUITS SHALL BE JOINED WITH THE APPROPRIATE HDPE COUPLINGS.
9. ALL ELECTRICAL SYSTEMS SHALL BE PROPERLY GROUNDED IN ACCORDANCE WITH THE SPECIFICATIONS. A 3/8" X 8" COPPER GROUND ROD SHALL BE INSTALLED IN ALL PULL BOXES. CONTROLLER CABINETS SHALL BE GROUNDED TO NEAREST TRAFFIC SIGNAL PULL BOX.
10. ALL CONDUITS AND POLES SHALL BE ELECTRICALLY BONDED WITH #10 COPPER WIRE AND CONTAIN A PULL STRING LOCATE WIRE. INTERCONNECT CONDUITS SHALL HAVE INSTALLED A SINGLE #14 INSULATED CONDUCTOR AND MULE TAPE.



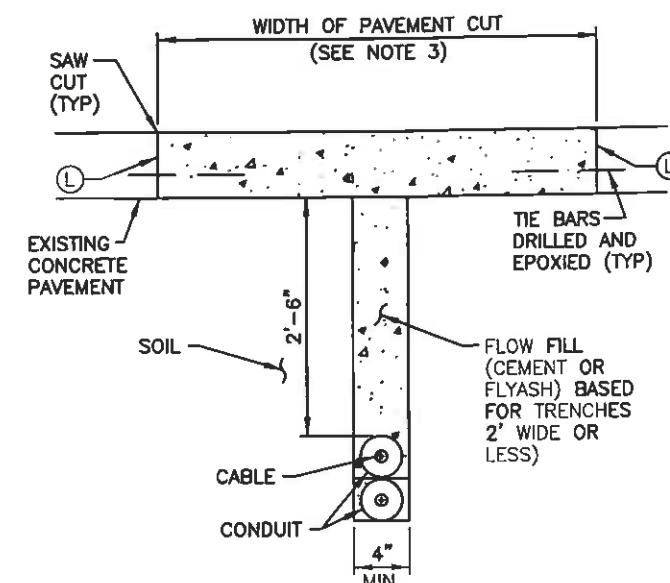
TRENCH PATCH (GRAVEL OR LANDSCAPED) TRENCH PATCH (ASPHALT/MISC MATERIALS)



INTERCONNECT CONDUIT PLACEMENT ON BRIDGE

NOTE:

PULLBOXES SHALL BE PLACED AS CLOSE AS PRACTICAL TO THE ENDS OF THE BRIDGE AND BE FLUSH WITH SIDEWALK OR FINISHED GRADE SURFACE.



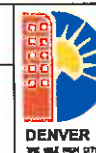
TRENCH PATCH (CONCRETE)

NOTES:

1. WHEREVER POSSIBLE CONDUIT OR CABLE SHALL BE INSTALLED BY BORING, DRIVING OR ANY OTHER ACCEPTABLE MEANS UNDER CONCRETE UNITS AND OPEN CUTTING SHALL BE USED ONLY UNDER SPECIAL CIRCUMSTANCES AND ONLY AFTER APPROVAL BY THE CITY.
2. THIS DETAIL APPLIES TO ALL CONCRETE STREETS, ALLEYS, SIDEWALKS, CURBS, GUTTERS AND DRIVEWAYS.
3. LIMITS OF CONCRETE PAVEMENT REMOVAL:
 - A. FOR CONCRETE PAVEMENT LESS THAN 3 YEARS OLD, ENTIRE PANEL SHALL BE REMOVED.
 - B. FOR PAVEMENT OLDER THAN 3 YEARS, THE FOLLOWING APPLIES:
 - ONE REMOVAL LIMIT SHALL FOLLOW AN EXISTING JOINT, WHEN POSSIBLE.
 - IF NEITHER LIMIT OF REMOVAL FOLLOWS AN EXISTING LINE, THE LIMITS OF REMOVAL SHALL BE 4' FROM AN EXISTING JOINT, OR THE REMOVAL SHALL BE EXTENDED TO THE EXISTING JOINT.
 - THE MINIMUM WIDTH OF PAVEMENT REMOVAL SHALL BE 4'.
4. A CONSTRUCTION JOINT SHALL BE USED TO TIE THE CONCRETE PATCH TO EXISTING CONCRETE ON ALL SIDES EXCEPT WHERE LIMITS MATCH AN EXISTING TRANSVERSE CONSTRUCTION JOINT. TIE BARS SHALL BE ELIMINATED AT TRANSVERSE CONTRACTION JOINTS.
5. THE LIMITS OF CONCRETE PATCHING SHALL BE PERPENDICULAR OR PARALLEL TO THE CENTERLINE OF THE STREET. SKEWED TRENCHES ARE NOT PERMITTED.

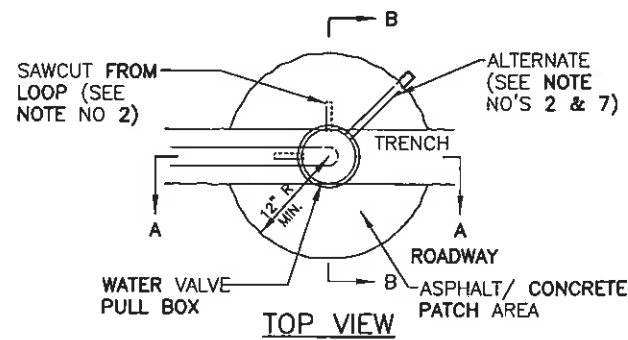
CITY & COUNTY OF DENVER

CONDUIT DETAILS



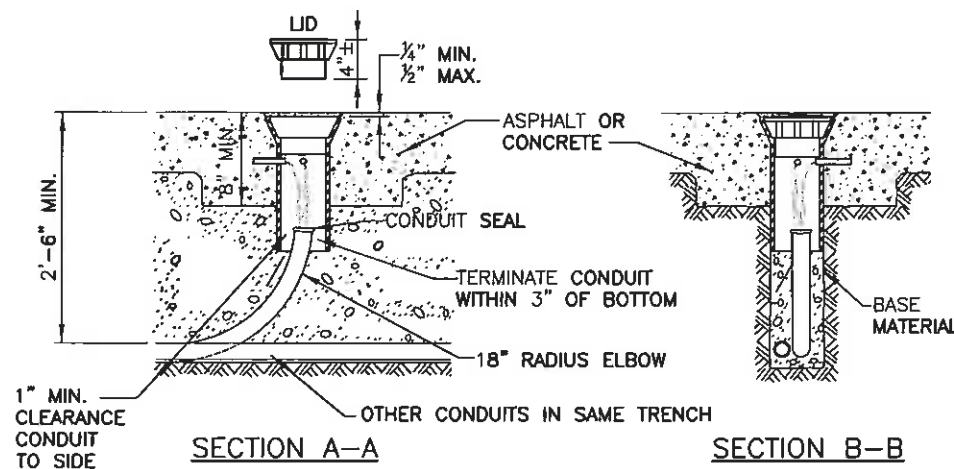
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16.1.6

DATE
1/12/12

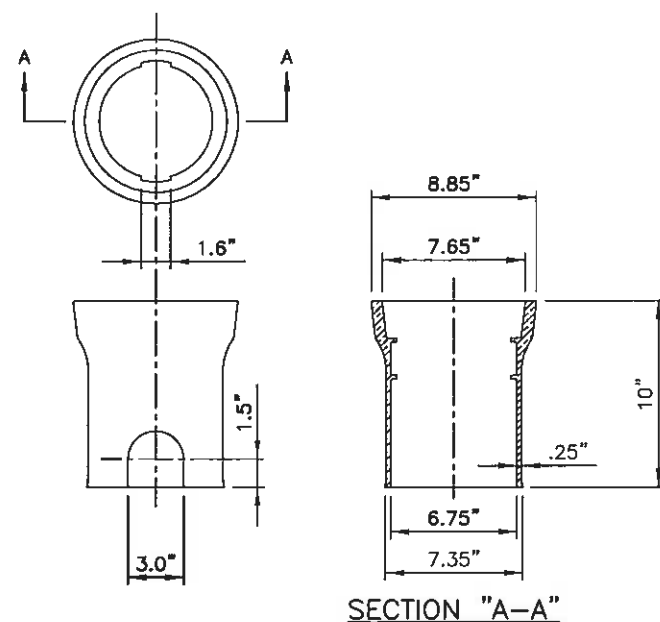


WATER VALVE PULL BOX NOTES:

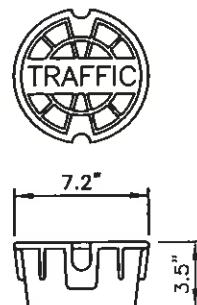
1. WATER VALVE PULL BOX SHALL BE A WATER VALVE STEM TYPE PULL BOX MADE OF CAST IRON. THE PULL BOX ITSELF SHALL HAVE CAPABILITY OF ACCEPTING RISER RINGS FOR FUTURE OVERLAYS. THE LID SHALL BE CAST IRON OR STEEL AND HAVE THE WORD "TRAFFIC" PRINTED ON IT.
2. PULL BOXES SHALL HAVE 3/4" TO 1" DIAMETER HOLES DRILLED OR TORCHED 3" FROM TOP TO ACCEPT A LOOP DETECTOR WIRE FLEXIBLE VINYL OR POLYETHYLENE TUBING. THE NUMBER OF HOLES SHALL BE AS PER PLANS OR AS DIRECTED BY THE ENGINEER.
3. CARE SHALL BE TAKEN DURING BACK FILL COMPACTION TO PREVENT COLLAPSE OF THE TUBES.
4. A MINIMUM 2 FEET OF SLACK IS TO BE PROVIDED ON BOTH FEED AND LOOP WIRES SO THAT ALL TESTING AND SPLICING CAN BE DONE OUTSIDE THE PULL BOX.
5. PULL BOX IS TO BE LOCATED IN AN AREA OF THE STREET NOT HEAVILY TRAVELED, IF POSSIBLE, AND A MINIMUM OF 12" FROM THE CONCRETE GUTTER PAN.
6. IF HOT ASPHALT IS NOT AVAILABLE, A CONCRETE RING (12" MINIMUM RADIUS AND 8" MINIMUM DEPTH) MAY BE USED AT THE DIRECTION OF THE ENGINEER.



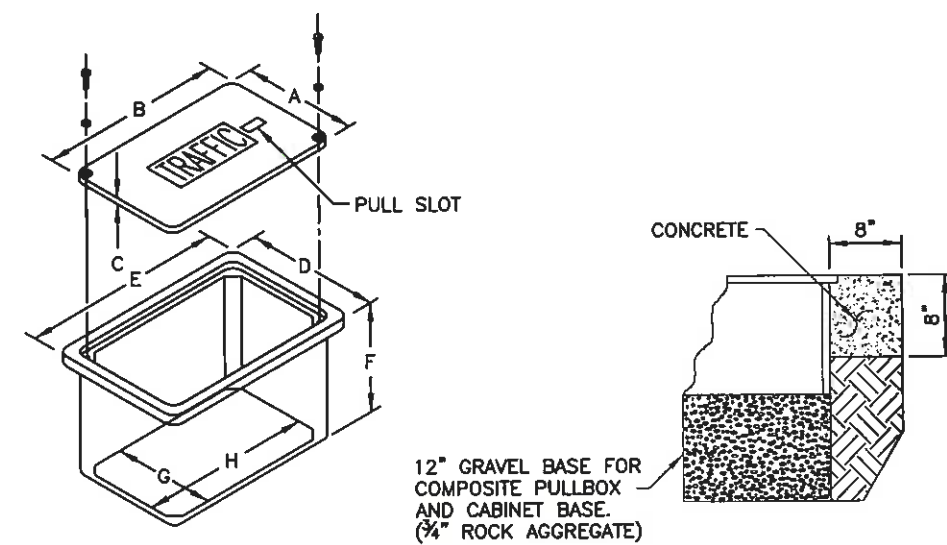
WATER VALVE PULL BOX
FOR LOOP DETECTOR WIRE



WATER VALVE PULL BOX



WATER VALVE PULL BOX LID



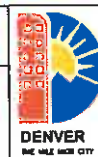
PULL BOXES AND COVERS SHALL BE COMPLETELY MADE OF FIBERGLASS REINFORCED POLYMER CONCRETE DESIGNED TO ANSI/SCTE 77 2007 TIER 22 "SPECIFICATIONS FOR UNDERGROUND ENCLOSURES INTEGRITY".

PRECAST PULL BOX

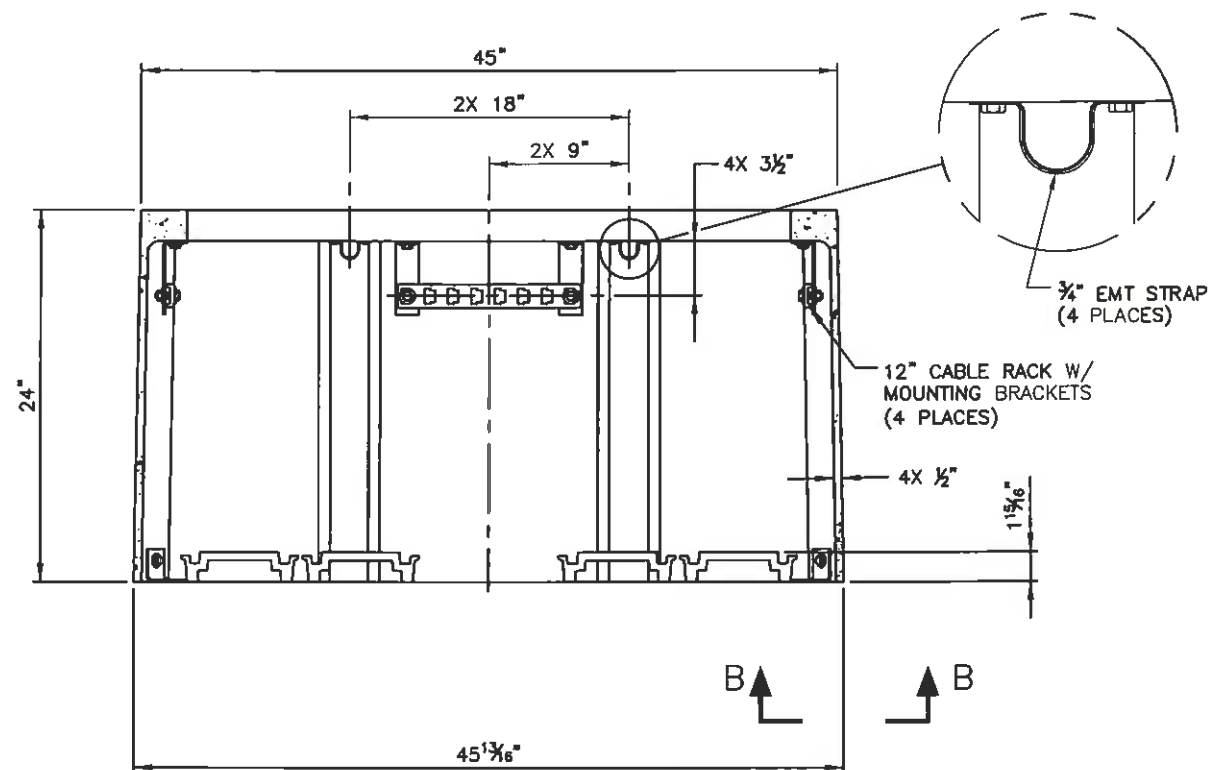
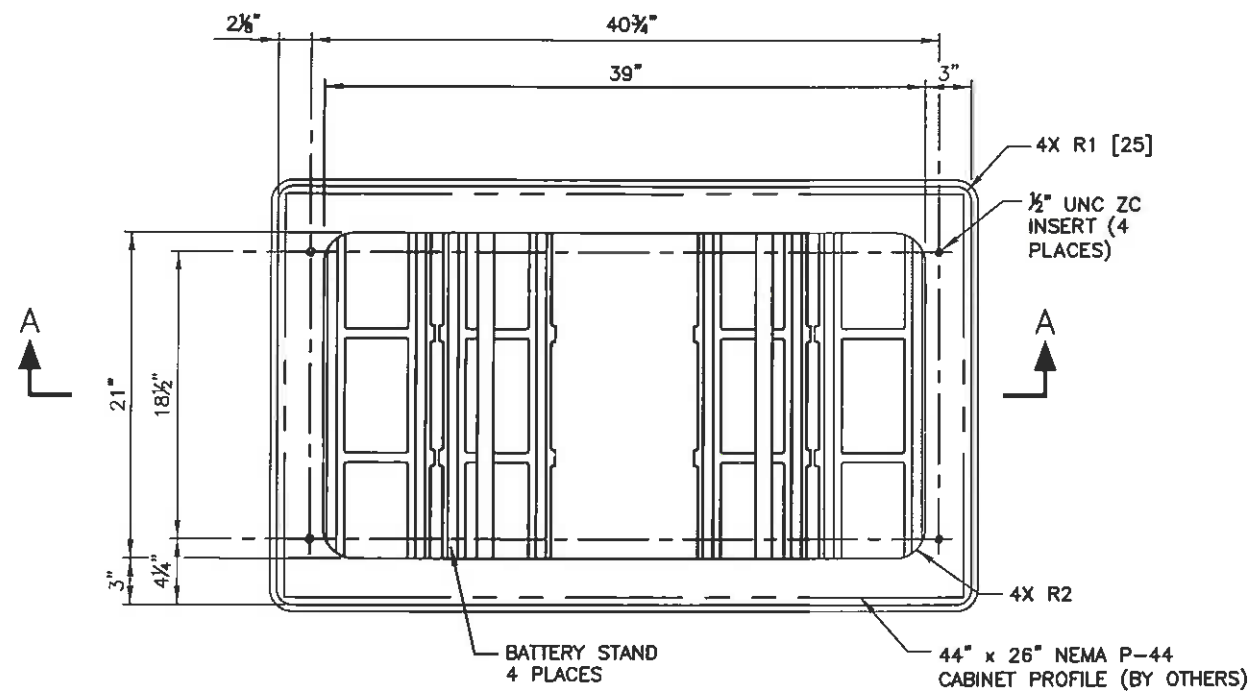
TABLE OF DIMENSIONS FOR PRECAST PULL BOX									
DESCRIPTION	DIMENSIONS (IN.)								COMMENTS
	A	B	C	D	E	F	G	H	
TYPE A (ELECTRIC)	13-3/4"	23-1/4"	2"	15-1/2"	25"	12"	10-1/4"	19-1/4"	
TYPE B (TRAFFIC)	17-1/2"	30-1/2"	2"	19-1/4"	32-1/4"	12"	13-1/2"	26-1/2"	
TYPE C (COMM)	22-1/4"	34-1/4"	2"	24"	36"	24"	19-3/4"	30-1/4"	

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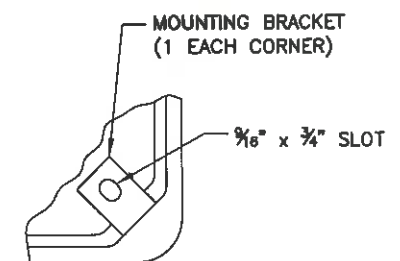
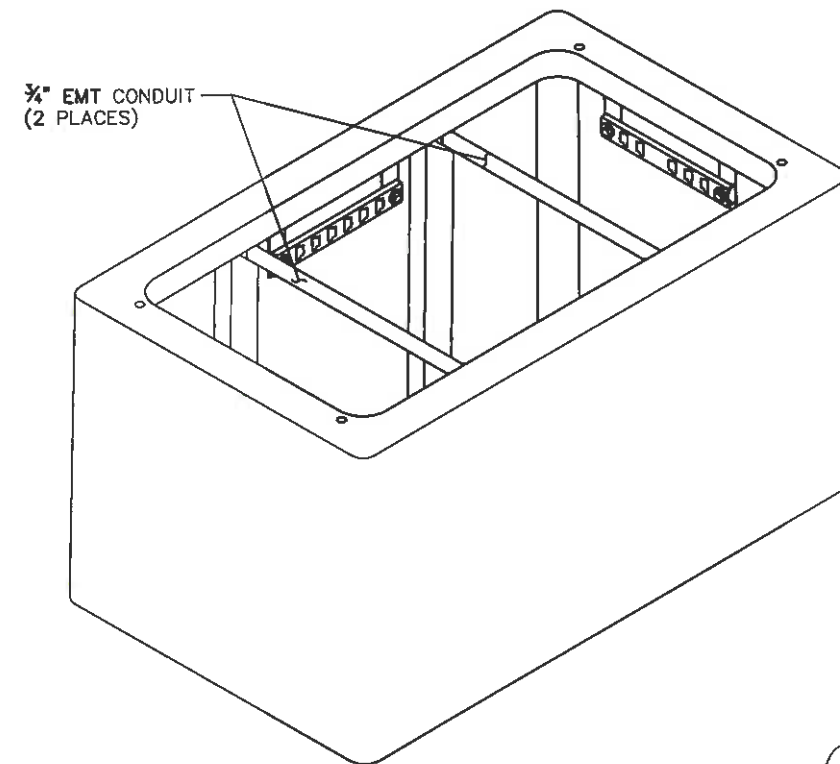
PULL BOXES



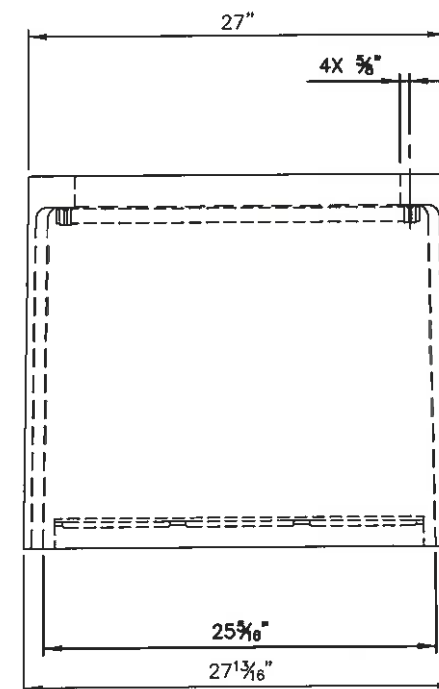
STD DWG NO
16.1.7
DATE
1/12/12



SECTION A-A



VIEW B-B
4 PLACES

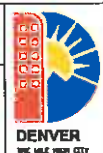


NOTES:

1. BASE DETAILS ARE FOR A NEMA P-44 CABINET ONLY.
2. BASE SHALL BE CONSTRUCTED FROM LIGHTWEIGHT POLYMER CONCRETE ONLY.
3. BASE SHALL MEET OR EXCEED ASTM D-2444 IMPACT RESISTANCE TESTING.
4. BASE SHALL MEET OR EXCEED ASTM METHOD D-543, SECTION 7, PROCEDURE 1 FOR CHEMICAL RESISTANCE.
5. BASE SHALL BE "UL" LISTED.

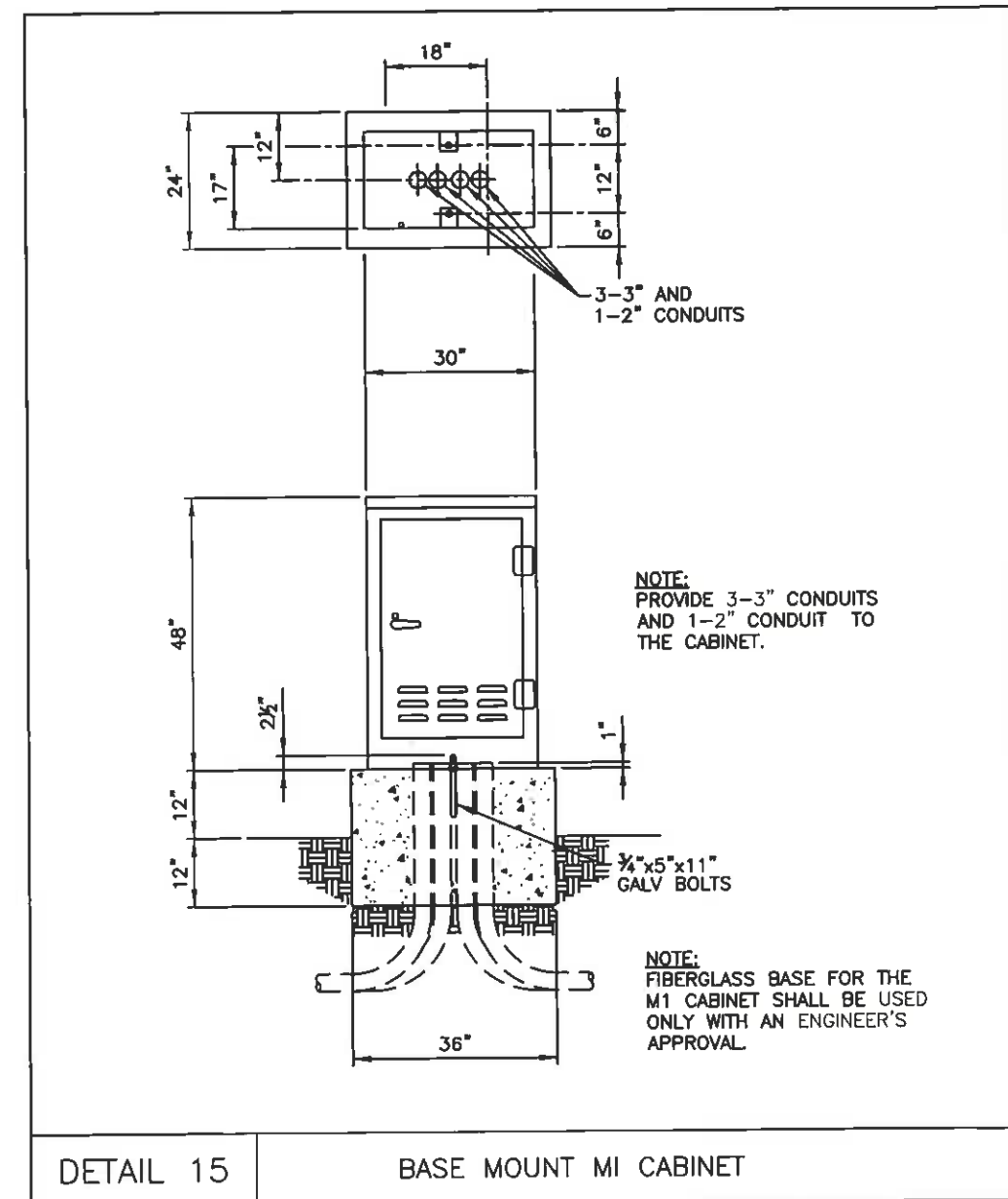
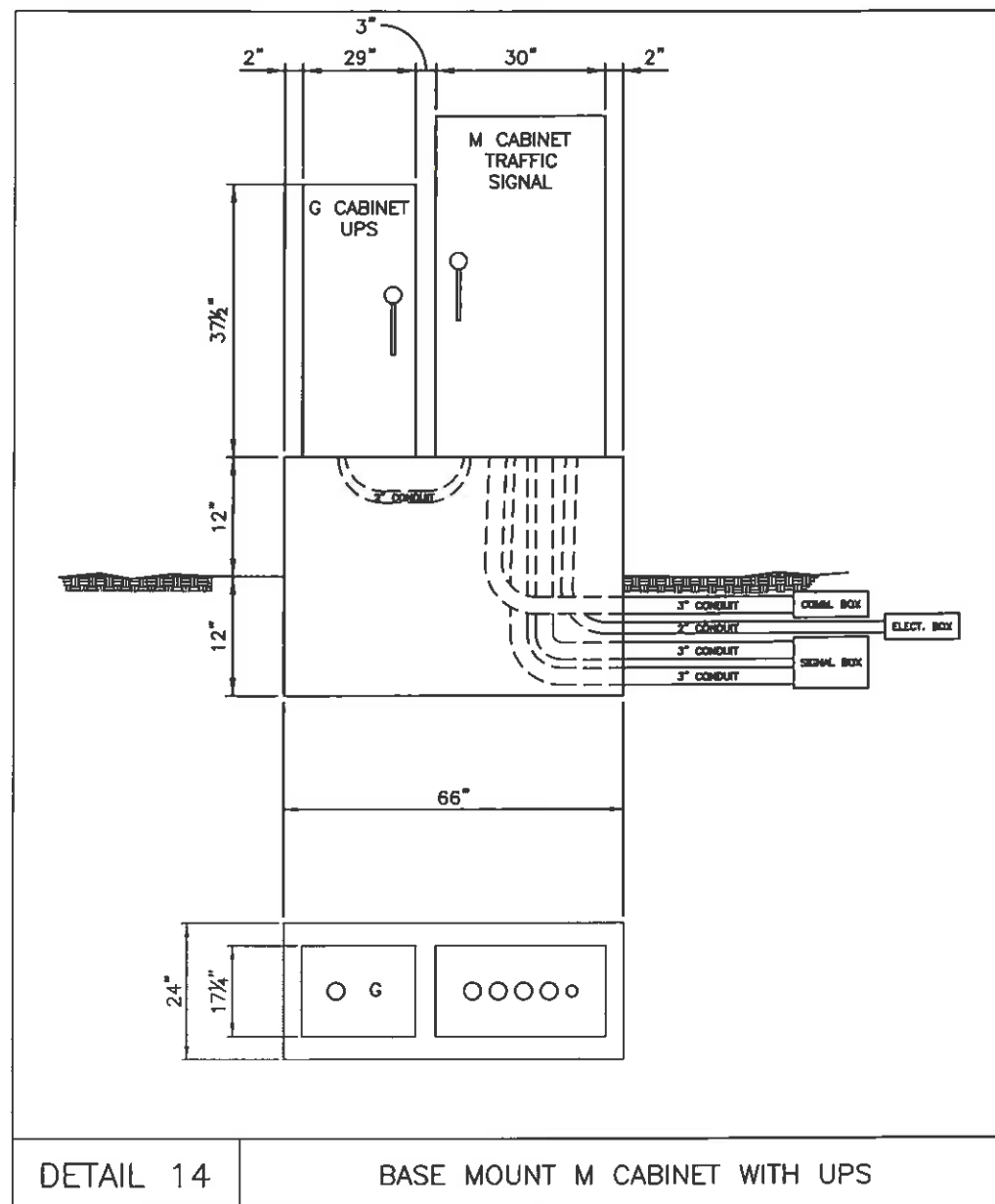
CITY & COUNTY OF DENVER

"P" CABINET BASE



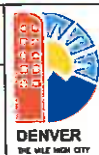
STD DWG NO
16.1.16

DATE
1/12/12



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"M" CABINET BASE



STD DWG NO
16.1.18

DATE
1/12/12