



Boulder County Purchasing
1325 Pearl Street
Boulder, CO 80302
purchasing@bouldercounty.org

INVITATION TO BID
COVER PAGE

BID Number:	7163-20
BID Title:	Restroom Construction at Lefthand Valley Grange Trailhead
BID Questions Due:	Thursday, July 16, 2020 - 2:00 p.m. MDT
Submittal Due Date:	Tuesday, July 28, 2020 - 2:00 p.m. MDT
Email Address:	purchasing@bouldercounty.org
Documents included in this package:	BID Instructions Bond Requirements Terms and Conditions Specifications Insurance and W-9 Requirements Bid Tab Section Submittal Checklist Signature Page Attachment A: Location Map Attachment B: Restroom Drawings Attachment C: Restroom Specifications Attachment D: Sample Contract Attachment E: Contract Qualifications



Boulder County Purchasing
1325 Pearl Street
Boulder, CO 80302
purchasing@bouldercounty.org

BID INSTRUCTIONS

BACKGROUND:

Boulder County Parks and Open Space (BCPOS) is soliciting bids from qualified and experienced contractors to secure construction services for the construction of a restroom at Lefthand Valley Grange Trailhead (Project), located at 7075 North 83rd Street, on the northwest corner of North 83rd Street and Niwot Road in Niwot, Colorado. The selected contractor will complete all construction aspects of the Project within 120 calendar days after the execution of the contract and upon receipt of a Notice to Proceed.

The trailhead and visitor facilities located at Lefthand Valley Grange Open Space (LHVG) are owned by Boulder County and managed by BCPOS for recreational, aesthetic and natural resource purposes.

The visitor facilities at LHVG were constructed over a number of years, beginning back in the 1980s for the public's recreational use of the open space. The trailhead, surrounding trails, and associated landscaping were reconstructed during 2018. The goal of the Project is to construct a new restroom. The restroom will be a standard BCPOS evaporative vault, as shown in the attached drawings (Attachment B) and shall meet all necessary specifications (Attachment C).

It should be noted that the trail system and supporting facilities at LHVG are designated as accessible with the trails and other visitor amenities, all designed to meet the ADA Accessibility Guidelines.

CONTRACT LANGUAGE:

The successful bidder will be required to enter into a Contract for Services and meet all insurance requirements as required prior to any work beginning.

All bidders are instructed to thoroughly review all the stated insurance requirements for this Project, the insurance requirements stated are the minimum and standard for Boulder County Government, for this Project. All hired contractors are required to meet the insurance requirements, as stated, for contracted services as part of the Boulder County contracting process. Owner/Sole Proprietors/Officer are not Exempt from the County's insurance requirements and coverage limits. Please refer to the Insurance Requirements in this BID.

In the event the selected contractor is unable to commence work as agreed to, the Boulder County Commissioners may rescind the bid award and proceed to award the contract to another bidder based on this BID, re-bid the work, or proceed in any lawful manner the County deems necessary.

PRE-BID MEETING:

A pre-bid meeting is not scheduled for this Project. Bidders are strongly encouraged to visit the Project site located at 7075 North 83rd Street in Niwot, CO 80503. A similar restroom Project was completed at the Pella Crossing Open Space Trailhead located at 11600 N. 75th Street just south of the town of Hygiene, Colorado and all bidders are encouraged to visit this restroom on their own time prior to bidding.

FACE MASKS AND DISTANCING PROTOCOLS OF AT LEAST 6 FEET SHALL BE FOLLOWED.

PAYMENT & PERFORMANCE BONDS:

Both a payment and a performance bond are required for this Project, and each bond must equal 100% of the proposed cost. Please include the cost of this bonding into the total proposed cost.

Payment and Performance Bond requirements are addressed in the attached Sample Contract. Payment and Performance bonds will be required for bids over \$50,000.00. Bonds must be received and approved, by the County, prior to work commencing. If applicable, Retainage and a Notice of Final Settlement posting will be required.

ATTACHMENTS:

The following documents are part of this BID:

1. Attachment A: Location Map
2. Attachment B: Restroom Drawings
3. Attachment C: Restroom Specifications
4. Attachment D: Sample Contract
5. Attachment E: Contract Qualifications

WRITTEN INQUIRIES:

All inquiries regarding this BID will be submitted via email to the Boulder County Purchasing Office at purchasing@bouldercounty.org on or before **2:00 p.m. Mountain Time on Thursday, July 16, 2020**. A response from the County to all inquiries will be posted and sent via email no later than **Wednesday, July 22, 2020**.

Please do not contact any other county department or personnel with questions or for information regarding this solicitation.

SUBMITTAL INSTRUCTIONS:

Please note: Due to COVID-19, proposals will only be accepted electronically by emailing purchasing@bouldercounty.org.

BIDs are due at the email box only, listed below, for time and date recording on or before **2:00 p.m. Mountain Time on Tuesday, July 28, 2020**. A bid opening will be conducted at 3:00 p.m. via email, by sending a copy of the bid tab to all those that have submitted a proposal.

Please note that email responses to this solicitation are limited to a maximum of 50MB capacity. NO ZIP FILES ALLOWED. Electronic submittals must be received in the email box listed below. Submittals sent to any other box will NOT be forwarded or accepted. This email box is only accessed on the due date of your questions or proposals. Please use the Delivery Receipt option to verify receipt of your email. It is the sole responsibility of the proposer to ensure their documents are received before the deadline specified above. Boulder County does not accept responsibility under any circumstance for delayed or failed email or mailed submittals.

Email: purchasing@bouldercounty.org; identified as **BID # 7163-20** in the subject line.

All BIDs must be received, and time and date recorded by authorized county staff by the above due date and time. Sole responsibility rests with the bidder to see that their BID response is received on time at the stated location(s). Any BIDs received after due date and time will be returned to the bidder.

The Board of County Commissioners reserves the right to reject any and all BIDs, to waive any informalities or irregularities therein, and to accept the proposal that, in the opinion of the Board, is in the best interest of the Board and of the County of Boulder, State of Colorado.

Americans with Disabilities Act (ADA): If you need special services provided for under the Americans with Disabilities Act, contact the ADA Coordinator or the Human Resources office at (303) 441-3525 at least 48 hours before the scheduled event.



Boulder County Purchasing
1325 Pearl Street
Boulder, CO 80302
purchasing@bouldercounty.org

TERMS AND CONDITIONS

-
1. Bidders are expected to examine the drawing, specifications, schedule of delivery, and all instructions. Failure to do so will be at the bidder's risk.
 2. Each bidder will furnish the information required in the Invitation to Bid.
 3. The Contract/Purchase Order will be awarded to that responsible bidder whose submittal, conforming to the Invitation to Bid, will be most advantageous to the County of Boulder, based on best value not only price.
 4. The County of Boulder reserves the right to reject any or all bids and to waive informalities and minor irregularities in bids received, and to accept any portion of or all items proposed if deemed in the best interest of the County of Boulder to do so.
 5. No submittal will be withdrawn for a period of thirty (30) days subsequent to the opening of bids without the consent of the County Purchasing Agent or delegated representative.
 6. A signed purchase order or contract furnished to the successful bidder results in a binding contract without further action by either party.
 7. Late or unsigned bids will not be accepted or considered. It is the responsibility of bidders to ensure that the Bid arrives at the Administrative Services Information Desk prior to the time indicated in the "Invitation to Bid."
 8. The proposed price will be exclusive of any Federal or State taxes from which the County of Boulder is exempt by law.
 9. Any interpretation, correction or change of the bid documents will be made by Addendum. Interpretations, corrections, and changes of the bid documents made in any other manner will not be binding, and bidder will not rely upon such interpretations, corrections, and changes. The County's Representative will not be responsible for oral clarification.
 10. Confidential/Proprietary Information: Bids submitted in response to this "Invitation to

Bid” and any resulting contract are subject to the provisions of the Colorado Public (Open) Records Act, 24-72-201 et.seq., C.R.S., as amended. Any restrictions on the use or inspection of material contained within the Bid and any resulting contract will be clearly stated in the Bid itself. Confidential/proprietary information must be readily identified, marked, and separated/packaged from the rest of the Bid. **Co-mingling of confidential/proprietary and other information is NOT acceptable. Neither a bid, in its entirety, nor bid price information will be considered confidential/proprietary. Any information that will be included in any resulting contract cannot be considered confidential.**

The Boulder County Attorney’s Office retains sole authority for determining whether the Colorado Open Records Act requires or permits Boulder County to disclose proposal or bid documents, or any information contained therein, pursuant to an open records request.

11. Boulder County promotes the purchase/leasing of energy efficient, materials efficient, and reduced toxic level products where availability, quality, and budget constraints allow. Bidders are expected whenever possible to provide products that earn the ENERGY STAR and meet the ENERGY STAR specifications for energy efficiency with power management features enabled. Bidders are encouraged to offer products and equipment with post-consumer recycled-content materials. Products should be packaged and delivered with a minimum amount of recycled packaging that adequately protects the product but is not excessive.
12. Pursuant to Colorado law (House Bill 1292), in any bidding process for public works in which a bid is received from a non-resident bidder who is from a state that provides a percentage bidding preference, a comparable percentage disadvantage will be applied to the bid of that bidder. Bidders may obtain additional information from the Department of Personnel’s website: <http://www.colorado.gov/dpa/>.



Boulder County Purchasing
1325 Pearl Street
Boulder, CO 80302
purchasing@bouldercounty.org

SPECIFICATIONS

SPECIFICATIONS:

The Project consists of the construction of a restroom. Major items of work include:

1. Mobilization, demobilization, construction of the restroom, and associated site restoration;
2. Construction of LHVg restroom including the connection of the electrical service to the panel and the restroom fans; and connecting to the water line and installing the specified drinking water fountain. There is also a sewer tap and line located in close proximity to the restroom location, and this line will need to be removed and sealed off to accommodate the restroom vault;
3. Closeout of all associated permits required for construction, including but not limited to, a Boulder County Building Permit and an On-Site Wastewater Permit with Boulder County Health Department;
4. Site restoration and reseeded with a seed mix specification provided by BCPOS Plant Ecologist.

CONTRACTOR RESPONSIBILITIES:

Boulder County encourages the use of face masks and social distancing for completion of this Project, the Contractor is responsible for setting their own safety protocols for this Project.

Contractor shall provide all labor, equipment, operators, and materials to implement the Project as designed, including construction, erosion control installation, and reseeded disturbed areas determined by BCPOS as being temporarily impacted by Project. Reseeded disturbed areas includes soil preparation and drill/broadcast seeding.

Contractor is required to provide a list of subcontractors with BID submittal.

Pre-construction meeting:

The BCPOS Project Manager (PM) will schedule the pre-construction meeting in consultation with the contractor prior to the start of the Project. Contractor to provide written baseline construction schedule to BCPOS PM forty-eight (48) hours prior to the pre-construction meeting. The pre-construction meeting is anticipated to last one (1) hour. If the Boulder County Parks and Open Space building is still closed to members of the public due to COVID 19, the preconstruction meeting will be held at the restroom site or a mutually agreed upon alternative site.

Construction meetings:

Contractor will hold weekly construction meetings onsite with designated Project Manager (PM). Meetings with the engineer will be held as needed for the duration of the Project. Contractor will supply a written construction meeting agenda to the PM forty-eight (48) hours in advance. Contractor will issue subsequent written meeting notes and list action items within two (2) working days after the weekly construction meeting.

Jobsite safety protocol:

Contractor will review or provide job safety protocol manual to PM prior to the start of the Project.

Electric service:

There is electrical service roughed into the Project site with temporary electrical service as a contractor option. Contractor is responsible to contact and coordinate with utility companies regarding protection of existing utilities and special requirements at utility crossing locations, as well as, other conditions where work is nearby existing utilities. Contractor will be responsible for acquiring temporary service and permits.

Restroom service:

The Project site has a portable restroom facility for park visitors. The contractor is responsible for providing their own temporary restroom facilities for the Project.

Water service:

The Project site does have water service to an existing nearby irrigation system, and water is roughed into the restroom site. The contractor is responsible for providing their own water or connecting to the roughed in water during restroom construction.

Concrete washout:

Prior to work commencing, the contractor is responsible for providing and maintaining a BCPOS approved concrete washout system to collect and retain all the concrete washout water and solids in leak-proof containers so that the caustic material does not reach the soil surface and migrate into the groundwater. The washout structure shall be sized large enough to contain washout from concrete placement, construction equipment cleaning operations, and residue from cutting, coring, grinding, grooving, and demolition work. Concrete washout water and solids are to be recycled when possible. Contractor shall ensure washout systems are inspected daily to check for leaks, plastic lining failures, and determine if they have been filled to over 75% capacity and need to be vacuumed off or allowed to evaporate to avoid overflows. The contractor is also responsible for overseeing all ready-mix deliveries and to ensure all sub-contractors follow the same proper washout procedures and avoid dumping of cementitious material while on the Project site. If a spill occurs, the contractor must notify the County immediately.

Drawings and Specifications:

The Contractor agrees to work in a timely and efficient manner, and in accordance with the Drawings and Specifications to accomplish the tasks specified in this Project.

Permits and Inspections:

Contractor will be required to fulfill all permit requirements and assist in closing out all associated permits required for construction, including but not limited to the following: Boulder County

Public Health Department's On-site Wastewater System Permit and Boulder County Community Planning and Permitting Department for the restroom, collectively referred to hereinafter as "Contractor-required permits."

Contractor shall verify all appropriate permits have been acquired and transferred to their name, as applicable, prior to starting any work. Contractor must meet requirements of all permits acquired for this Project.

Inspection services: Contractor is responsible to call the Boulder County Public Works Department, Building Services Division, for all building inspections and notifying PM forty-eight (48) hours in advance of all building inspections.

Contractor Licenses:

The successful bidder must have a Boulder County Contractors License through the Boulder County Community Planning and Permitting Department in order to obtain the Building Permit and construct the restroom. A septic installer licensed with Boulder County Health Department will be required to complete the restroom vault and evaporative system and to sign off that the septic system was installed per plans.

Electricians and plumbers are required to be licensed through the State of Colorado and registered with the Boulder County Community Planning and Permitting Department. It is the responsibility of the selected contractor to apply for and ensure the appropriate contractor's license is obtained and submitted as part of your bid package.

Submitting a copy of a Boulder County Contractor's license application and license fee check is not acceptable.

Codes and Locates:

The Contractor shall also be responsible for following all State and County codes, which may be required in order to carry out the Project. The Contractor shall also be responsible for all "locates" of all public utilities related to performing work under the terms of this contract. The Contractor shall also be responsible for ensuring that any of its subcontractors performing work on the Project satisfy the provisions of this paragraph.

Contractor is responsible to contact and coordinate with utility companies regarding protection of existing utilities and special requirements at utility crossing locations, as well as other conditions where work is nearby existing utilities. Contractor shall be responsible for all costs of coordination with utilities, including, but not limited to: outages, protection or support and any fees for costs from the utility.

Equipment:

All equipment and vehicles utilized by the contractor shall meet all the requirements of federal, state, and local regulations without limitation, including all U. S. Department of Transportation (USDOT) and Colorado Department of Transportation (CDOT) safety regulations.

Staging Area:

All equipment must be maintained and in good working order. Continuous, excessive oil and hydraulic fluid leakage will not be tolerated and will be cause to have the machinery removed from the project site and including removal of any contaminated soil by the contractor.

All operators shall have the skills to operate the machinery in a responsible, safe, and efficient manner while being conscientious of the natural resource values.

WARRANTIES AND/OR GUARANTIES:

1-year written guarantee on work performed.

BCPOS RESPONSIBILITIES:

Project Communication and Coordination:

The BCPOS PM will serve as the primary point of contact and will help coordinate all communication between the design team, other BCPOS representatives, and the selected contractor. The PM will also coordinate with the design team and the selected contractor to address any questions, construction issues, design change request, submittals, and Requests for Information (RFI).

Drawings and Specifications:

BCPOS will provide digital Drawings and Specifications and hard copy files as needed by the contractor in order to fulfill the terms of the contract.

Permits:

BCPOS will obtain all initial necessary permits. A Building Permit will be required by Boulder County Community Planning and Permitting and an On-site Wastewater Septic Treatment Permit by Boulder County Health Department.

Staging Areas:

Staging areas will be identified and agreed upon by BCPOS and the selected contractor prior to on-site construction activity.

Structural Services:

BCPOS will provide all structural services for this Project. Otak, Incorporated is the Engineer of Record and will provide the structural engineering services.

PROJECT COMPLETION SCHEDULE:

The Project is to be completed within one hundred and twenty (120) calendar days from the execution of the contract. If weather delays are encountered, BCPOS will work with the contractor to adjust the project schedule.

CONFLICT OF INTEREST:

Any party that has developed, designed or drafted specifications, requirements, statements of work and/or has participated in planning activities for this Project may be excluded from consideration for the award of this Project.

CHANGE ORDERS:

Any unplanned, change orders, modifications or additional services to this Project, shall be submitted by the contractor, in a separate, written document, including a fee schedule and completion schedule and presented to the County for review. Approval from the County, in writing, must accompany all change order requests.

OVERNIGHT CAMPING:

Boulder County prohibits any overnight camping; all operational staff, including designated security staff, are not authorized to be present at Project site from sunset to sunrise, the open space property will remain closed during these hours to the contractor and its subcontractors and/or designated representatives and/or agents, unless specifically authorized by a BCPOS representative.

HOURS OF OPERATION:

Contractor work hours shall be designated as **Monday through Friday, 8:00 a.m. to 5:00 p.m.** Work on Saturdays and Sundays, nights, and designated Federal Holidays shall not be allowed unless approved, in writing, by the County.

PAYMENT FOR SERVICES:

Contractor may invoice for payment as work is completed. Contractor shall submit, in writing, to Boulder County, a request for payment. Invoices shall be submitted on company letterhead and include, but not limited to, depending on the activity completed, designated project name, date(s), type of work performed. Additionally, all invoices should contain the current date, invoice number, amount due, and current return address.

SELECTION CRITERIA:

In order to be eligible for consideration, a Contractor must submit all information as requested herein. Omission of any of the required information may be grounds to reject the contractor's Bid from further consideration. The selection criteria will include, but is not limited to:

1. Technical ability, capacity, experience, and skill of the contractor, and key team members assigned to the Project.
2. Past experience of the company having successfully completed projects of similar size and complexity.
3. Quality and/or performance of work provided on previous projects.
4. References and recommendations from former customers and/or design engineers and clients.
5. Financial ability, sufficiency of resources, and bonding capacity to undertake and successfully complete the Project.
6. Organization and completeness of the Statement of Qualifications.
7. Other relevant information provided by the contractor.
8. Contractor selection will be based on the Bid that provides Boulder County with the best cost and quality project.
9. Ability to commence the work within ten (10) days of approval of all Contractor-required permits and to complete construction within one hundred and twenty (120) calendar days from the date of the Notice to Proceed.



Boulder County Purchasing
1325 Pearl Street
Boulder, CO 80302
purchasing@bouldercounty.org

INSURANCE AND W-9 REQUIREMENTS

INSURANCE REQUIREMENTS

General Liability	\$1,000,000 Each Occurrence \$2,000,000 General Aggregate \$2,000,000 Products Completed Operations Aggregate 3 years Products/Completed Operations
Excess or Umbrella	\$3,000,000.00
Automobile Liability	\$1,000,000 Each Accident *Including Hired & Non-Owned Auto
Worker's Compensation and Employer's Liability	Statutory limits
Pollution Liability	\$1,000,000 Per Loss \$1,000,000 Aggregate Coverage maintained or extended discovery period for 3 years

***In regard to General Liability, Umbrella/Excess Liability, and Pollution Liability:**

If any or all of these coverages are required above, additional insured status will be required at the time a contract is executed. The County requires the Products/Completed Operations coverage to be provided 3 years after completion of construction. An endorsement must be included with the certificate. If the coverage is written on a claims-made basis, the Contractor warrants that any retroactive date applicable to coverage under the policy precedes the effective date of this Contract; and that continuous coverage will be maintained or an extended discovery period will be exercised for a period of three (3) years beginning from the time that work under this contract is completed.

Note that the above insurance amounts are the minimum required for this Project. Proof of current insurance must be provided with your proposal in the form of a sample certificate. You are NOT required to include additional insured status until the time a contract is executed.

If you require a waiver of insurance requirements you may request one in your response with an explanation.

W-9 REQUIREMENT

Provide a copy of your business's W-9 with your proposal.



Boulder County Purchasing
1325 Pearl Street
Boulder, CO 80302
purchasing@bouldercounty.org

BID TAB SECTION

<u>Item Number</u>	<u>Item Description</u>	<u>Cost</u>
1.	Mobilization	\$ _____
2.	Restroom construction	\$ _____
3.	Utility connections (electric and sewer)	\$ _____
4.	Drinking fountain and installation	\$ _____
5.	Demobilization and site restoration	\$ _____
6.	Permit closeout	\$ _____
BID TOTAL		\$ _____

Company Name

Name of person and title submitting BID (PLEASE PRINT)

Signature of Bidder Date



Boulder County Purchasing
1325 Pearl Street
Boulder, CO 80302
purchasing@bouldercounty.org

SUBMITTAL CHECKLIST

The bidder’s attention is especially called to the items listed below, which must be submitted in full as part of the BID. Failure to submit any of the documents listed below as a part of your BID, or failure to acknowledge any addendum in writing with your BID, or submitting a bid on any condition, limitation or provision not officially invited in this Invitation to Bid (BID) may be cause for rejection of the BID.

THIS CHECKLIST MUST BE SUBMITTED AS PART OF YOUR BID PACKAGE: Bidder will check each box indicating compliance:

INCLUDED	ITEM
<input type="checkbox"/>	Name and address of the partners and subcontractors, if applicable
<input type="checkbox"/>	A detailed project schedule with the total cost
<input type="checkbox"/>	Information on the relevant experience of key personnel
<input type="checkbox"/>	Include a list of all sub-contractors
<input type="checkbox"/>	State your compliance with the terms and conditions in the sample contract contained in this BID. Specifically list any deviations and provide justification for each deviation.
<input type="checkbox"/>	Three (3) references from former customers and/or design engineers and clients for similar projects your company has completed within the last three (3) years and their contact information
<input type="checkbox"/>	Demonstrate previous experience working on similar structures by providing a list of a list of recently completed, within the last three (3) years, or currently active projects, including project name, address, project description, and photos.
<input type="checkbox"/>	Insurance certificate-sample
<input type="checkbox"/>	Ability to meet payment and performance bonds
<input type="checkbox"/>	W-9
<input type="checkbox"/>	Professional certifications and/or license including copy of current Boulder County contractor’s license type
<input type="checkbox"/>	Copy of Colorado State License number for the parties responsible for all electrical and plumbing work required to complete the project
<input type="checkbox"/>	Copy of Boulder County Health Department issued septic tank installation license
<input type="checkbox"/>	Copy of Commercial construction contractor registration number required by Boulder County Community Planning and Permitting for the main contractor overseeing the project
<input type="checkbox"/>	Signature page
<input type="checkbox"/>	Addendum acknowledgement(s) (if applicable)



Boulder County Purchasing
1325 Pearl Street
Boulder, CO 80302
purchasing@bouldercounty.org

SIGNATURE PAGE

Contact Information	Response
Company Name including DBA	
List Type of Organization (Corporation, Partnership, etc.)	
Name, Title, and Email Address of Person Authorized to Contract with Boulder County	
Company Address	
Company Phone Number	
Company Website	

By signing below, I certify that:

I am authorized to bid on my company's behalf.

I am not currently an employee of Boulder County.

None of my employees or agents is currently an employee of Boulder County.

I am not related to any Boulder County employee or Elected Official.

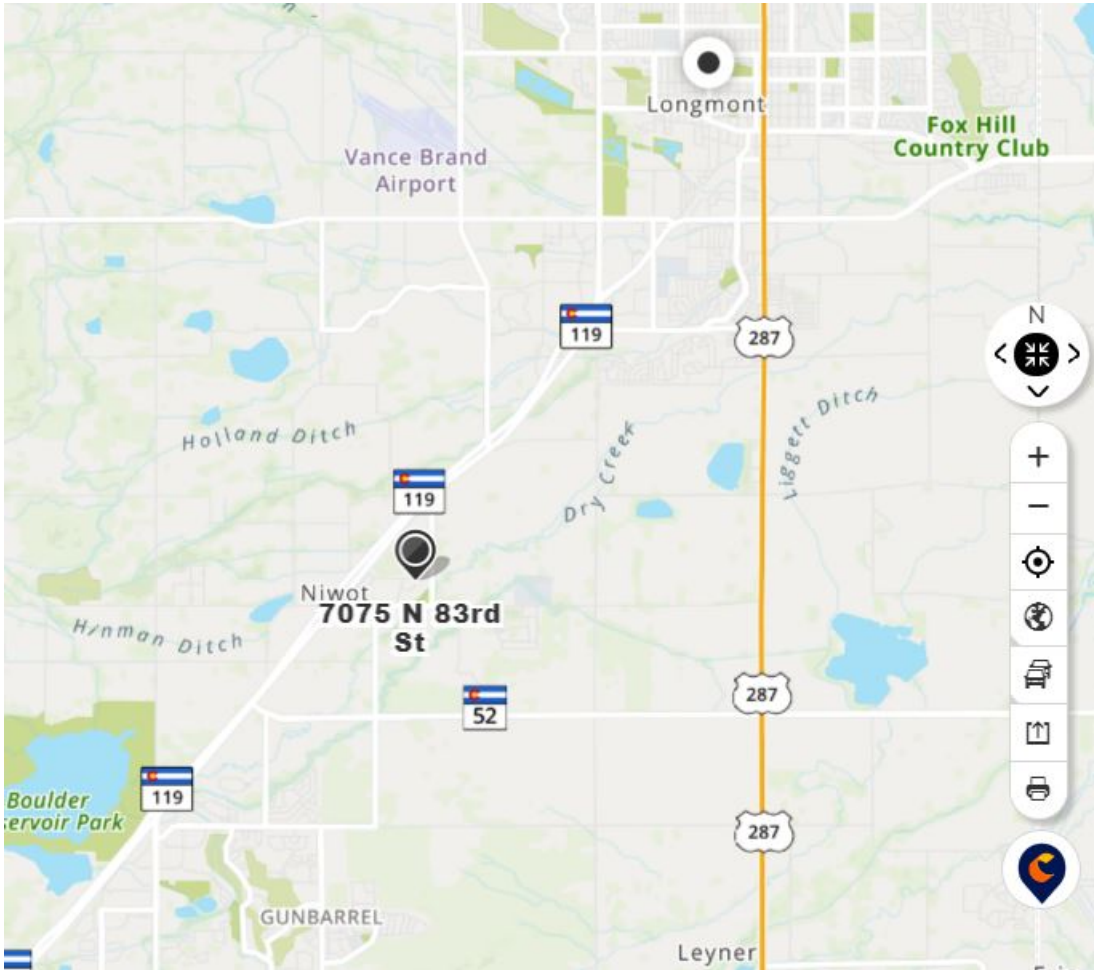
(Sole Proprietorships Only) I am not a Public Employees' Retirement Association (PERA) retiree.

**Signature of Person Authorized to Bid on
 Company's Behalf**

Date

Note: If you cannot certify the above statements, please explain in a statement of explanation.

ATTACHMENT A
Lefthand Valley Grange Restroom Map



Attachment B Restroom Drawings

Lefthand Valley Grange Restroom

7075 North 83rd St. Niwot, CO 80503



Boulder County
Parks Office
5201 St Vrain Rd
Longmont
Colorado 80503
Office: 303.678.6200
Fax: 303.678.6180

Lefthand Valley Grange Restroom
7075 North 83rd St. Niwot, CO 80503
Title Sheet

ABBREVIATIONS

ACI	AMERICAN CONCRETE INSTITUTE	LAM	LAMINATE (D)
AB	ANCHOR BOLT	LB	POUND (S)
ADJ	ADJACENT	LIN	LINEAL
AFF	ABOVE FINISHED FLOOR	LH	LEFT HAND
AL	ALUMINUM	LHO	LEFT HAND OPPOSITE
ANOD	ANODIZED	LL	LIVE LOAD
AP	ACCESS PANEL	LT	LIGHT
ARCH	ARCHITECT (URAL)		
BD	BOARD	MAX	MAXIMUM
BIT	BITUMINOUS	MECH	MECHANIC (AL)
BLDG	BUILDING	MET	METAL
BLK(G)	BLOCK (ING)	MFR	MANUFACTURE (ER)
BOT	BY OTHERS	MIN	MINIMUM
BRG	BEARING	MISC	MISCELLANEOUS
BS	BOTH SIDES	MR	MOISTURE RESISTANT
BW	BOTH WAYS	MT	MOUNT (ED), (ING)
		MTL	MATERIAL (S)
CIP	CAST IN PLACE	NIC	NOT IN CONTRACT
CJT	CONTROL JOINT	NO	NUMBER
CLG	CEILING	NOM	NOMINAL
CLR	CLEAR (ANCE)	NTS	NOT TO SCALE
CTR	CENTER		
COMP	COMPRESS (ED, ION, IBLE, OR)	OA	OVERALL
CONC	CONCRETE	OC	ON CENTER (S)
CONT	CONTINUOUS OR CONTINUE	OD	OUTSIDE DIAMETER
		OH	OVERHEAD
DBL	DOUBLE	OPP	OPPOSITE HAND
DIAM	DIAMETER	OSB	ORIENTED STRAND BOARD
DIM	DIMENSION		
DL	DEAD LOAD	PL	PLATE
DN	DOWN	PSF	POUNDS PER SQUARE FOOT
DR	DOOR	PSI	POUNDS PER SQUARE INCH
DTL	DETAIL	PTN	PARTITION
DWG	DRAWING	PLY	PLYWOOD
		QTY	QUANTITY
EA	EACH	RE	REINFORCING
EB	EXPANSION BOLT	REQ	REQUIRE (D)
EJ	EXPANSION JOINT	RH	RIGHT HAND
ELEV	ELEVATION	RHR	RIGHT HAND REVERSE
EQ	EQUAL	RO	ROUGH OPENING
EW	EACH WAY		
EXH	EXHAUST	SC	SOLID CORE
EXIST	EXISTING	SCH	SCHEDULE
EXP	EXPOSED	SHT	SHEET
EXPN	EXPANSION	SIM	SIMILAR
EXT	EXTERIOR	SOG	SLAB ON GRADE
FFE	FINISHED FLOOR ELEVATION	SQ	SQUARE
FIN	FINISH (ED)	STD	STANDARD
FLG	FLASHING	STL	STEEL
FLR(G)	FLOOR (ING)	SYM	SYMMETRICAL
FND	FOUNDATION		
FOS	FACE OF STUD	T	TREAD
FT	FOOT, FEET	T&G	TONGUE AND GROOVE
FTG	FOOTING	T&B	TOP AND BOTTOM
FRP	FIBER REINFORCED PLASTIC	TO	TOP OF
		TOS	TOP OF SLAB
GA	GAUGE, GAGE	TOW	TOP OF WALL
GALV	GALVANIZED	TS	TUBE STEEL
GI	GALVANIZED IRON	TYP	TYPICAL
GL	GLASS, GLAZING		
GYP	GYPSON	UC	UNDERCUT
GS	GALVANIZED STEEL	UL	UNDERWRITERS LABORATORY
GSM	GALVANIZED SHEET METAL	UON	UNLESS OTHERWISE NOTED
HCAP	HANDICAPPED		
HDW	HARDWARE	VAR	VARIABLE (VARIES)
HM	HOLLOW METAL	VB	VAPOR BARRIER
HOR	HORIZONTAL	VERT	VERTICAL
HR	HOUR	VIF	VERIFY IN FIELD
HT	HEIGHT		
		W	WIDE OR WIDTH
ID	INSIDE DIAMETER	W/	WITH
IN	INCH (ES)	W/O	WITHOUT
INCL	INCLUDE (D), (ING)	WD	WOOD
INT	INTERIOR	WR	WATER RESISTANT
		WWF	WELDED WIRE FABRIC

DESIGN CRITERIA

CODE REFERENCE: 2015 IBC & THE CURRENT VERSION OF THE NEC ADOPTED BY THE STATE OF COLORADO

HANDICAP ACCESSIBILITY
CODE REFERENCE: ICC/ANSI A117.1-2009

OCCUPANCY TYPE: U

OCCUPANCY LOAD: 2 OCCUPANTS

CONSTRUCTION TYPE: V-B

ALLOWABLE AREA: 6,000 SF

ACTUAL AREA: 84 SF

ROOF SNOW LOAD: 30 P.S.F.

BASIC WIND SPEED: 150 M.P.H. = V_{fm}

WIND EXPOSURE: C

FLOOR LIVE LOAD: 130 P.S.F.

SEISMIC ZONE: 1

ALLOWABLE BEARING CAPACITY: 2,500 P.S.F.

DRAWING INDEX

S1	TITLE SHEET
S2	FLOOR PLAN & SECTIONS
S3	ELEVATIONS & SPECIFICATIONS
S4	WALL & PORCH SECTIONS
S5	VENT, WINDOW, DOOR, & FRAME DETAILS
S6	BEAM, ROOF, & REAR ACCESS DETAILS
SP1	SITE PLAN
P1	PLUMBING GENERAL INFORMATION
P2	PLUMBING FLOOR PLAN
P3	PLUMBING SECTION PLAN
P4	PLUMBING DETAIL AND SCHEDULES
E1	ELECTRICAL ELEVATIONS AND SPECIFICATIONS

PROJECT GENERAL NOTES

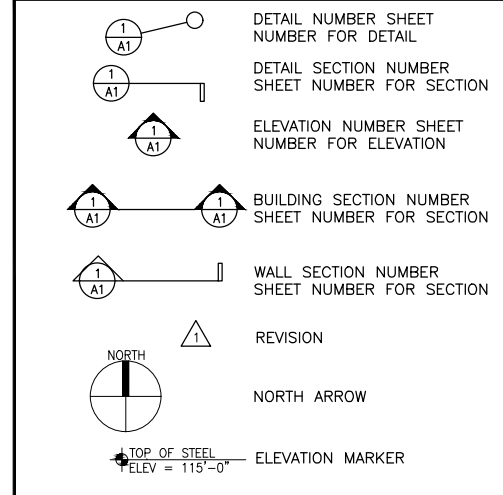
- DETAILS INCLUDED HEREIN ARE INTENDED TO SHOW END RESULT OF DESIGN. MINOR MODIFICATIONS MAY BE REQUIRED TO SUIT JOB CONDITIONS OR SITUATIONS, AND SUCH MODIFICATIONS SHALL BE INCLUDED AS PART OF THE SCOPE OF WORK.
- BOULDER COUNTY HAS MADE EVERY EFFORT TO SET FORTH IN THE CONSTRUCTION AND CONTRACT DOCUMENTS THE COMPLETE SCOPE OF WORK. CONTRACTORS BIDDING THE JOB ARE NEVERTHELESS CAUTIONED THAT MINOR OMISSIONS OR ERRORS IN THE DRAWINGS AND OR SPECIFICATIONS SHALL NOT EXCUSE SAID CONTRACTOR FROM COMPLETING THE PROJECT AND IMPROVEMENTS IN ACCORDANCE WITH THE INTENT OF THESE DOCUMENTS. THE BIDDER SHALL BEAR THE RESPONSIBILITY OF NOTIFYING (IN WRITING) BOULDER COUNTY OF ANY CONFLICTS, ERRORS, OR OMISSIONS PRIOR TO THE SUBMISSION OF CONTRACTOR'S PROPOSAL. IN THE EVENT OF DISCREPANCIES THE CONTRACTOR SHALL PRICE THE MORE COSTLY OR EXTENSIVE WORK, UNLESS DIRECTED OTHERWISE.
- DRAWINGS ARE NOT TO BE SCALED, WRITTEN DIMENSIONS TAKE PRECEDENCE. LARGE SCALE DRAWINGS TAKE PRECEDENCE OVER SMALL SCALE DRAWINGS. SPECIFICATIONS TAKE PRECEDENCE OVER DRAWINGS. THIS SET OF PLANS IS INTENDED TO BE USED FOR DIAGRAMMATIC PURPOSES ONLY, UNLESS NOTED OTHERWISE. THE GENERAL CONTRACTOR'S SCOPE OF WORK SHALL INCLUDE FURNISHING ALL MATERIALS, EQUIPMENT, LABOR, AND ANYTHING ELSE DEEMED NECESSARY TO COMPLETE INSTALLATIONS AS DESCRIBED HEREIN.
- PRIOR TO THE SUBMISSION OF BIDS, THE CONTRACTORS INVOLVED SHALL VISIT THE JOB SITE AND FAMILIARIZE THEMSELVES WITH ALL CONDITIONS AFFECTING THE PROPOSED PROJECT, WITH THE CONSTRUCTION AND CONTRACT DOCUMENTS, FIELD CONDITIONS AND CONFIRM THAT THE PROJECT MAY BE ACCOMPLISHED AS SHOWN PRIOR TO PROCEEDING WITH CONSTRUCTION. ANY ERRORS, OMISSIONS, OR DISCREPANCIES ARE TO BE BROUGHT TO THE ATTENTION OF BOULDER COUNTY.
- THE GENERAL CONTRACTOR SHALL RECEIVE WRITTEN AUTHORIZATION TO PROCEED WITH CONSTRUCTION PRIOR TO STARTING WORK ON ANY ITEM NOT CLEARLY DEFINED BY THE CONSTRUCTION DRAWINGS/CONTRACT DOCUMENTS.
- THE CONTRACTOR SHALL SUPERVISE AND DIRECT THE PROJECT DESCRIBED HEREIN. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR ALL CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES AND PROCEDURES AND FOR COORDINATING ALL PORTIONS OF THE WORK UNDER THE CONTRACT.
- THE CONTRACTOR SHALL INSTALL ALL EQUIPMENT AND MATERIALS ACCORDING TO MANUFACTURER'S/VENDOR'S SPECIFICATIONS UNLESS NOTED OTHERWISE OR WHERE LOCAL CODES OR ORDINANCES TAKE PRECEDENCE.
- ALL WORK PERFORMED ON PROJECT AND MATERIALS INSTALLED SHALL BE IN STRICT ACCORDANCE WITH ALL APPLICABLE CODES, REGULATIONS, AND ORDINANCES. CONTRACTOR SHALL GIVE ALL NOTICES AND COMPLY WITH ALL LAWS, ORDINANCES, RULES, REGULATIONS AND LAWFUL ORDERS OF ANY PUBLIC AUTHORITY, MUNICIPAL AND UTILITY COMPANY SPECIFICATIONS, AND LOCAL AND STATE JURISDICTIONAL CODES BEARING ON THE PERFORMANCE OF THE WORK.
- GENERAL CONTRACTOR SHALL PROVIDE AT THE PROJECT SITE A FULL SET OF CONSTRUCTION DOCUMENTS, UPDATED WITH FIELD MARKUPS IN RED INK OR PENCIL, THE LATEST REVISIONS, ADDENDA, AND CLARIFICATIONS FOR THE USE BY ALL PERSONNEL INVOLVED WITH THE PROJECT.
- PROVIDE A PORTABLE FIRE EXTINGUISHER WITH A RATING OF NOT LESS THAN 2-A OR 2-A10BC WITHIN 75 FEET TRAVEL DISTANCE TO ALL PORTIONS OF THE PROJECT AREA DURING CONSTRUCTION.
- THE CONTRACTOR SHALL MAKE NECESSARY PROVISIONS TO PROTECT EXISTING IMPROVEMENTS, EASEMENTS, PAVING, CURBING, ETC. DURING CONSTRUCTION. UPON COMPLETION OF WORK, CONTRACTOR SHALL REPAIR ANY DAMAGE THAT MAY HAVE OCCURRED DUE TO CONSTRUCTION ON OR ABOUT THE PROPERTY.
- CONTRACTOR SHALL SEE TO IT THAT GENERAL WORK AREA IS KEPT CLEAN AND HAZARD FREE DURING CONSTRUCTION AND DISPOSE OF ALL DIRT, DEBRIS, RUBBISH AND REMOVE EQUIPMENT NOT SPECIFIED AS REMAINING ON THE PROPERTY. PREMISES SHALL BE LEFT IN CLEAN CONDITION AND FREE FROM PAINT SPOTS, DUST, OR SMUDGES OF ANY NATURE.
- THIS FACILITY SHALL MEET ICC/ANSI A117.1-2009.
- PROTECT TREES AND SURROUNDING VEGETATION DURING CONSTRUCTION OPERATIONS AS REQUIRED TO AVOID DAMAGE.
- THE GENERAL CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR SITE SAFETY WITHIN THE CONTRACT LIMITS.

SPECIAL INSPECTIONS

SPECIAL INSPECTIONS SHALL BE PERFORMED ON BUT ARE NOT LIMITED TO THE ITEMS LISTED IN THE BELOW TABLE. SPECIAL INSPECTIONS SHALL COMPLY WITH CHAPTER 17 THE OF INTERNATIONAL BUILDING CODE AND ANY INSPECTIONS REQUIRED BY THE LOCAL BUILDING CODE OR GOVERNING OFFICIAL.

SPECIAL INSPECTIONS	CONTINUOUS	PERIODIC
VERIFY MATERIALS BELOW FOUNDATIONS ARE ADEQUATE TO ACHIEVE DESIGN BEARING CAPACITY.	X	
VERIFY EXCAVATIONS ARE EXTENDED TO PROPER DEPTH AND HAVE REACHED PROPER MATERIAL.	X	
VERIFY USE OF PROPER MATERIALS, DENSITIES AND LIFT THICKNESSES DURING PLACEMENT AND COMPACTION OF FILL.		X
PRIOR TO PLACEMENT OF FILL, OBSERVE SUBGRADE AND VERIFY SITE HAS BEEN PREPARED PROPERLY.	X	

DRAWING SYMBOL LEGEND



DATE: 05/22/2020
DRAWN BY: DAG
DESIGNED BY: DAG
CHECKED BY:
SCALE: AS NOTED
CAD FILE:
PERMIT #:

ISSUED: DATE:

SHEET:

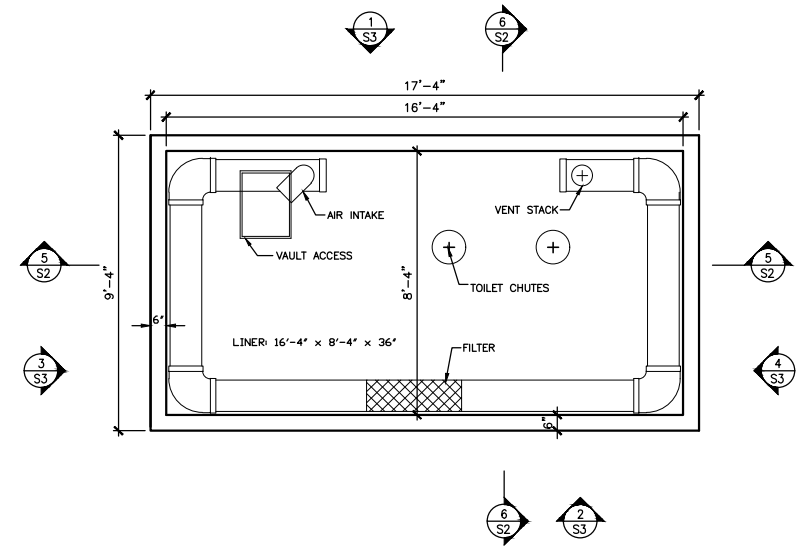
S1



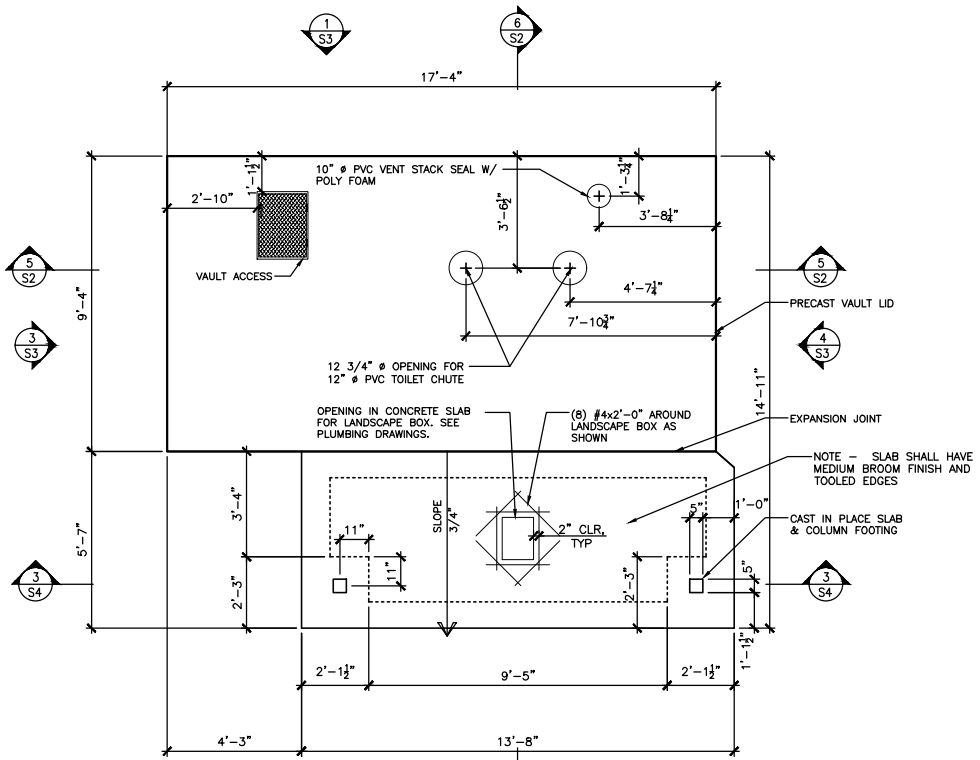
Boulder County
Parks Office
5201 St Vrain Rd
Longmont
Colorado 80503
Office: 303.678.6200
Fax: 303.678.6180

Lefthand Valley Grange Restroom
7075 North 83rd St. Niwot, CO 80503
Floor Plan & Sections

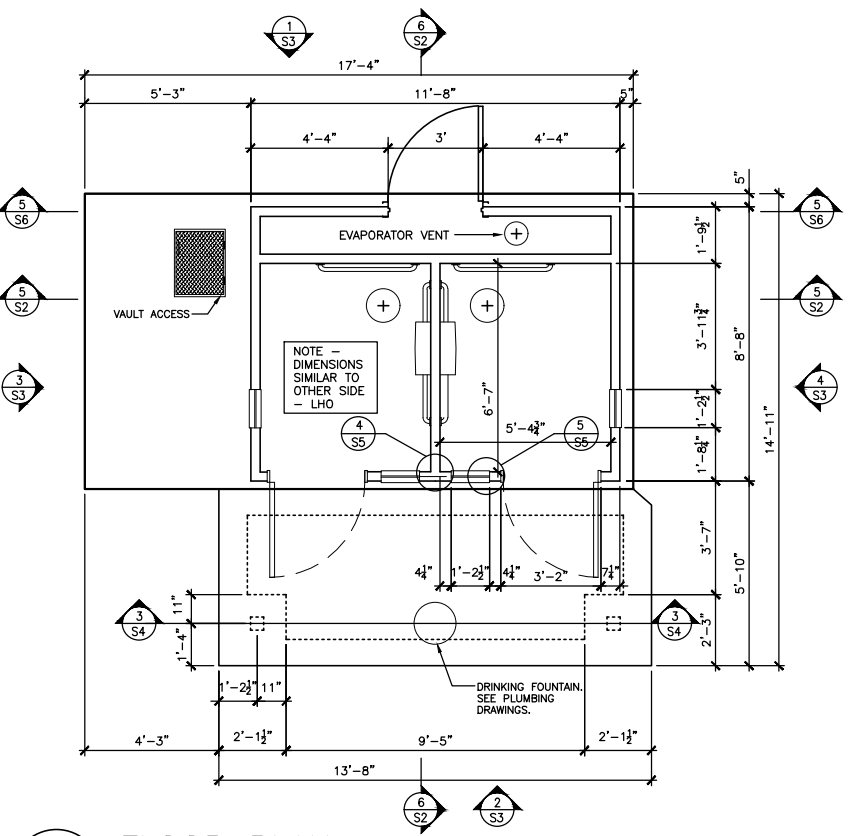
DATE: 05/22/2020
 DRAWN BY: DAG
 DESIGNED BY: DAG
 CHECKED BY:
 SCALE: AS NOTED
 CAD FILE:
 PERMIT #:
 ISSUED: DATE:
 SHEET:



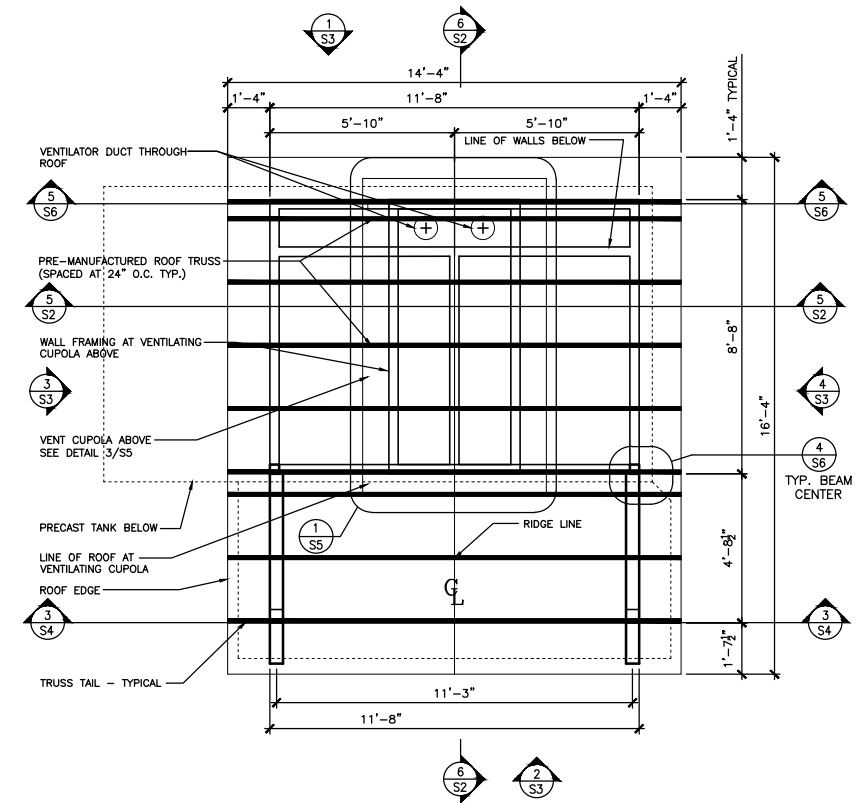
1
S2 VAULT PLAN
 SCALE: 3/8" = 1'-0"



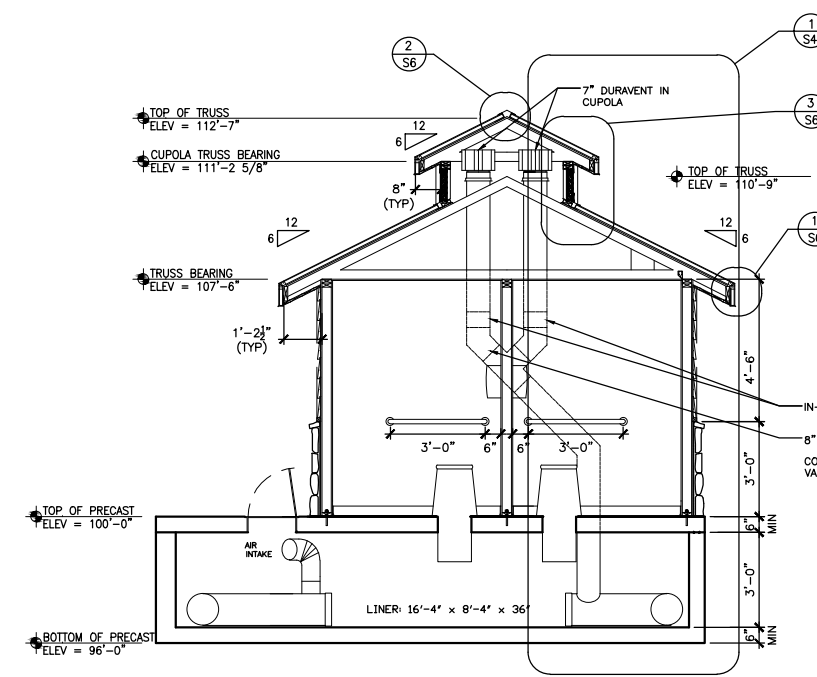
2
S2 SLAB PLAN
 SCALE: 3/8" = 1'-0"



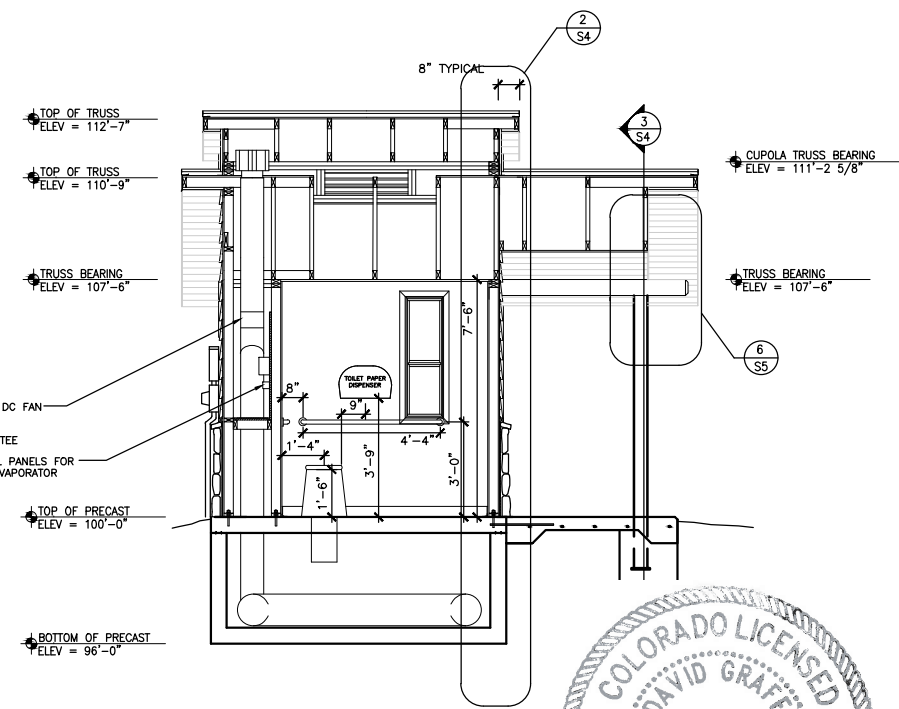
3
S2 FLOOR PLAN
 SCALE: 3/8" = 1'-0"



4
S2 ROOF FRAMING PLAN
 SCALE: 3/8" = 1'-0"



5
S2 BUILDING SECTION
 SCALE: 3/8" = 1'-0"



6
S2 BUILDING SECTION
 SCALE: 3/8" = 1'-0"



S2

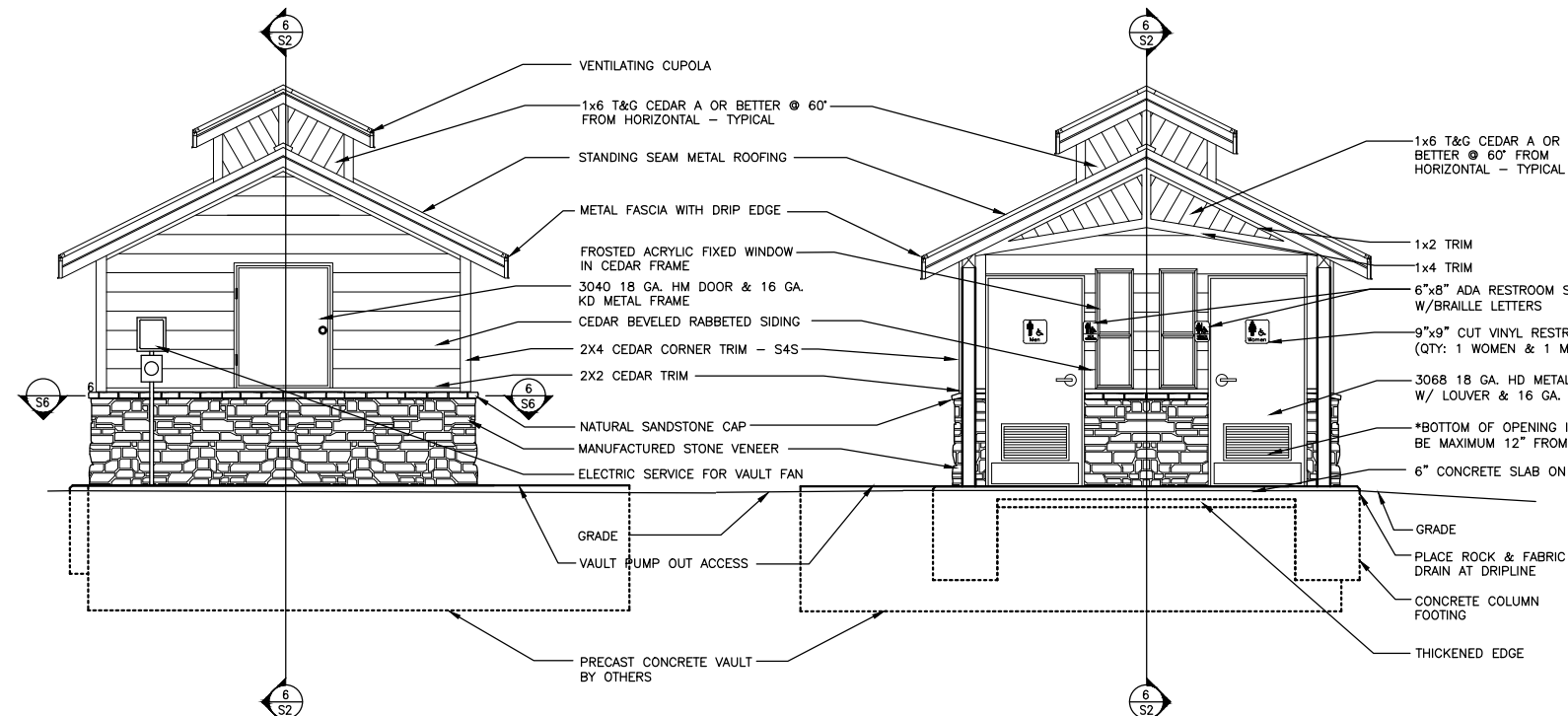


Boulder County
Parks Office
5201 St Vrain Rd
Longmont
Colorado 80503
Office: 303.678.6200
Fax: 303.678.6180

Lefthand Valley Grange Restroom
7075 North 83rd St. Niwot, CO 80503
Elevations & Specifications

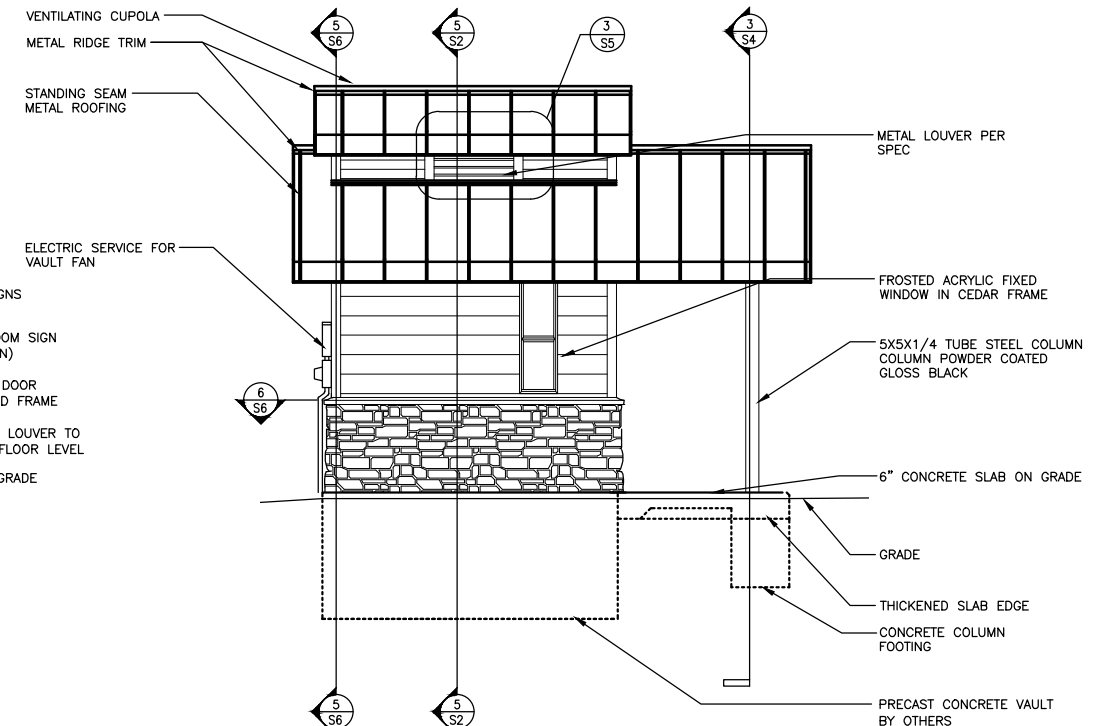
DATE: 05/22/2020
 DRAWN BY: DAG
 DESIGNED BY: DAG
 CHECKED BY:
 SCALE: AS NOTED
 CAD FILE:
 PERMIT #:
 ISSUED: DATE:
 SHEET:

S3



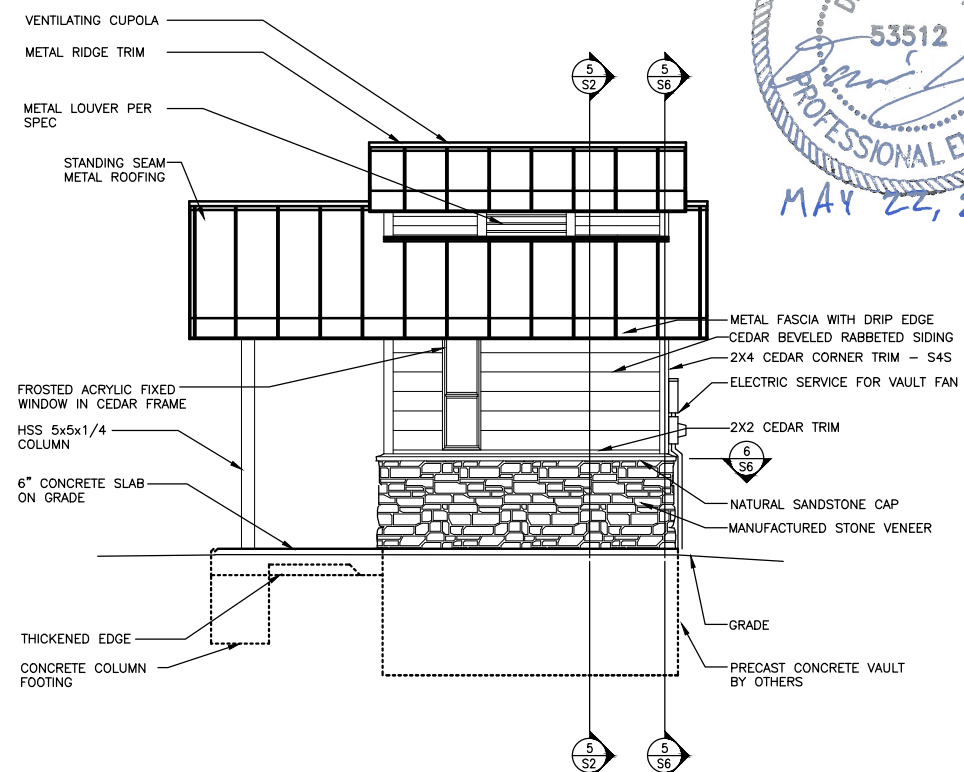
1
S3
 REAR ELEVATION
 SCALE: 3/8" = 1'-0"

2
S3
 FRONT ELEVATION
 SCALE: 3/8" = 1'-0"



3
S3
 LEFT ELEVATION
 SCALE: 3/8" = 1'-0"

NOTE: ALL CALL OUTS THIS SHEET ARE TYPICAL



4
S3
 RIGHT ELEVATION
 SCALE: 3/8" = 1'-0"



OUTLINE SPECIFICATIONS

- 02 SITEWORK**
- A. A GEOTECHNICAL REPORT BY CTLTHOMPSON DATED APRIL 7, 2020 IS AVAILABLE AND THE CONTRACTOR SHALL BE FAMILIAR WITH THE REPORT REQUIREMENTS. SUBSURFACE CONDITIONS CONSIST OF 5 FEET OF CLAYEY SAND OVER 13 FEET OF SANDY CLAY OVERLYING CLAYSTONE BEDROCK. EXISTING ONSITE SOILS HAVE LOW SWELL POTENTIAL AND ARE SUITABLE FOR RE-USE AS FILL MATERIAL PROVIDED DEBRIS OR DELETERIOUS ORGANIC MATERIALS ARE REMOVED.
 - B. VAULT EXCAVATIONS SHALL 1'-0" (MIN.) LARGER THAN PRECAST VAULT UNIT ON ALL SIDES FOR MANEUVERING THE PRECAST UNIT INTO PLACE.
 - C. 8" MINIMUM LAYER OF 3/4" (MAX) COMPACTED GRAVEL LEVELED AND COMPACTED TO 90% DENSITY SHALL BE PLACED IN THE BOTTOM OF THE EXCAVATION. BEARING CAPACITY SHALL BE CONFIRMED BY A GEOTECHNICAL ENGINEER AT THE TIME OF CONSTRUCTION.
 - D. THE EXCAVATION SHALL BE BACKFILLED WITH 3/4" (MAX.) GRAVEL TO 1'-0" ABOVE THE FOOTING FOR WELL DRAINED SITES OR TO HALF THE TOTAL BACKFILL HEIGHT FOR POORLY DRAINED SITES. THE GRAVEL SHALL BE COVERED WITH STRIPS OF 30 # ASPHALT PAPER OR 6 MIL THICK POLYETHYLENE FILM.
 - E. BACKFILL SHALL BE COMPLETED WITH SOIL THAT WAS EXCAVATED, MOISTURE CONDITIONED AND COMPACTED TO AT LEAST 95 PERCENT OF STANDARD PROCTOR MAXIMUM DRY DENSITY (ASTM D698, AASHTO T99) IN 8" MAXIMUM LIFTS.
 - F. 6" MINIMUM LAYER OF 3/4" (MAX) WASHED ROCK PLACED ON DRAINAGE FABRIC AT ALL ROOF DRIPLINES. ROCK SHALL BE PLACED NEXT TO BUILDING AND EXTEND A MINIMUM 3' FROM THE BUILDING.
- 03 CONCRETE**
- A. CONCRETE VAULT - OLDCASTLE PRECAST 1820 14TH ST. SOUTHEAST, LOVELAND, CO 80537 (970) 669-0535 OR EQUIVALENT APPROVED BY BMS INC.
 - B. CAST IN PLACE CONCRETE SHALL BE 4000 PSI MIN AFTER 28 DAY CURE. ALL CONCRETE WORK SHALL BE IN ACCORDANCE WITH ACI 301 AND ACI 318.
- 04 MASONRY**
- A. FACE STONE - PRECAST STONE PER BOULDER COUNTY SPEC.
 - B. STONE CAP - 2" THICK STONE CAP PER BOULDER COUNTY SPEC.
- 05 TUBE COLUMN AND STEEL PLATE**
- A. TUBING: ASTM A500 GRADE
 - B. BEARING PLATES ASTM A36/A 36/M CARBON STEEL.
- 06 WOOD AND PLASTICS**
- A. ALL FRAMING LUMBER TO BE HEM FIR OR OTHER WOOD ACCEPTABLE TO THIS REGION. WALL FRAMING: .25 A.C.O. PRESSURE TREATED, KILN DRIED, NOMINAL 2x4 HEM FIR A. AT NOMINAL 16" ON CENTER WITH (2)2x6 DOOR & WINDOW HEADERS. 2x4 BOTTOM PLATE TO BE .40 C.C.A. PRESSURE TREATED.
 - B. MAIN ROOF FRAMING: ENGINEERED, PREFABRICATED ROOF TRUSSES, WITH #2 HEM FIR NOMINAL 2x4 (MIN.) CHORDS AND WEBS. TRUSSES TO BE AT NOMINAL 24" ON CENTER SPACING WITH 6:12 SLOPE. CLEARESTORY ROOF FRAMING - 2x4 FRAMING & TRUSS
 - C. ROOF SHEATHING: 1/2" THICK, O.S.B T&G ROOF DECKING
 - D. SUB-FASCIA: KILN DRIED, NOMINAL 2x6 DF
 - E. SOFFIT: 1X6 TONGUE AND GROOVE WESTERN RED CEDAR A OR BETTER
 - F. OPTIONAL WIND SCREENS: KILN DRIED, HEM FIR FRAMING W/ 5/8" THICK, EXTERIOR GRADE, 5/4 x 8" BEVEL RABBETED CEDAR SIDING A OR BETTER.
 - G. GLULAM BEAMS - DOUGLAS FIR ARCHITECTURAL GRADE WITH WATERPROOF GLUE AND SEALED AGAINST MOISTURE PENETRATION. ALL EXPOSED FACES SHALL BE SURFACED, MISSES NOT PERMITTED. ALL VOIDS FILLED OR REPAIRED.
- 07 THERMAL AND MOISTURE PROTECTION**
- A. ROOFING - DOUBLE-LOCK STANDING SEAM; WIDTH: 18", SEAM HEIGHT: 1 1/2", HARTFORD GREEN OVER 30# ROOFING PAPER. ROOF CHECK, 1610 SKYWAY DR., LONGMONT, CO 303-678-7828
 - B. SIDING - 5/4 x 8" RABBETED BEVELED CEDAR: A OR BETTER
- 08 DOORS AND WINDOWS**
- A. DOORS: STEELCRAFT LF18 3068 1 3/4" W/LOUVER CUTOUT AND REINFORCEMENT, 18ga STEEL DOOR W/ 12"x24" LOUVER 13" FROM BOTTOM OF DOOR, FACTORY PRIMED COLORADO DOORWAYS, INC., 3333 E. 52ND AVE., DENVER, CO 303-291-0900
 - B. FRAMES: STEELCRAFT K16 3068 16ga 5 3/4" KD STEEL JAMBS 4 3/4" THROAT, DOUBLE RABBIT, W/ BASE ANCHOR SCREWS, FACTORY PRIMED COLORADO DOORWAYS, INC., 3333 E. 52ND AVE., DENVER, CO 303-291-0900
 - C. DOOR HARDWARE:
 - LOCKSET: SARGENT 10 LINE PRIVACY SET W/L ROSE, P LEVER
 - DEADBOLT: SARGENT #475 SINGLE/ WITH INSIDE THUMBTURN - STAINLESS STEEL FINISH
 - CLOSER: SARGENT 351 SERIES - HINGES: MCKINNEY TA 2714 W/ BALL BEARING
 - KICKPLATES: IVES 8400 8" x 34"
 - LOUVER VENT: 8" x 24" AFDL
 - LOCKSET & CLOSER FINISH: SATIN CHROME
 - HINGES & KICKPLATE FINISH: STAINLESS
 - IN DOOR VENT : BEIGE
 - D. COLORADO DOORWAYS, INC., 3333 E. 52ND AVE., DENVER, CO 303-291-0900
 - D. WINDOWS
 - 1/4" THICK CLEAR FROSTED ACRYLIC PIEDMONT PLASTICS, INC. 5265 S. RIO GRANDE ST. LITTLETON, CO, 303-794-9823
 - E. WINDOW FRAMES WESTERN RED CEDAR, A OR BETTER
- 09 FINISHES**
- A. INTERIOR FINISH: CLASS 'C' FIBERGLASS REINFORCED PLASTIC (FRP)** 3/32" THICK, PEARL GRAY, PEBBLE GRAIN FINISH, CONTINUOUS (CORNER TO CORNER, FLOOR TO CEILING) GLUED TO 1/2" THICK "O.S.B" BACKER BOARD. ** ICBO REPORT #3286, HORIZONTAL BURN RATE OF CC-1, ASTM E-84 FLAME SPREAD RATING, AND ASTM D-2843 SMOKE RATING, UL CLASSIFIED, FLAME SPREAD 20 (CLASS I), SMOKE DEVELOPED 200 (PER ASTM E-84).
 - B. CEILING FINISH: RESTROOMS - 3/32" THICK, PEARL GRAY, PEBBLE GRAIN FINISH, CONTINUOUS (WALL TO WALL) CLASS 'C' FIBERGLASS REINFORCED PLASTIC (FRP)** OVER 1/2" THICK BACKER BOARD
 - C. ENTRY PORCH - 1X6 TONGUE AND GROOVE WESTERN RED CEDAR A OR BETTER.
 - D. INTERIOR WALL CORNER: KEMLITE ONE PIECE VINYL MOULDINGS PEARL GRAY
 - E. EXTERIOR SIDING: 5/4 x 8" A OR BETTER BEVELED WESTERN RED CEDAR SIDING RABBETED.
 - F. ROOF: STANDING SEAM METAL ROOF HARTFORD GREEN.
 - G. EXTERIOR STAIN PENOFIN PENETRATING OIL FINISH, CHESTNUT EXTERIOR, HOME DEPOT 393 S. HOVER RD., LONGMONT, CO 720-494-0319
 - H. INTERIOR BASE TRIM ARMSTRONG 4" VINYL COVE BASE PEARL GRAY HOME DEPOT 393 S. HOVER RD., LONGMONT, CO, 720-494-0319
 - I. INTERIOR PAINT (WINDOW FRAMES) BENJAMIN MOORE: MOORGARD LATEX HOUSE PAINT CLIFFSIDE GRAY # 74 GUIRY'S COLOR CENTER 2404 PEARL ST., BOULDER, CO 303-444-3800
 - J. DOOR PAINT SHERWIN-WILLIAMS AUTOMOTIVE PAINT IVY GREEN # 90832 SHERWIN-WILLIAMS, 3211-B PEARL ST, BOULDER, CO 303-443-1811
- 10 SPECIALTIES**
- A. 36" GRAB BAR: 1 1/2" DIAMETER STAINLESS STEEL WITH CONCEALED FASTENERS. GAMCO
 - B. 52" GRAB BAR: 1 1/2" DIAMETER STAINLESS STEEL WITH CONCEALED FASTENERS. GAMCO
 - C. TOILET PAPER HOLDERS: GEORGIA-PACIFIC 59209 JUMBO JR. TWO ROLL DISPENSER. INSTALL ONE (1) - EACH SIDE.
- 15 PLUMBING**
- A. THE WRS VAULT EVAPORATOR (AC POWERED UNIT) BIOLOGICAL MEDIATION SYSTEMS, INC. P.O. BOX 8248 FT. COLLINS, CO 800-524-1097



Boulder County
Parks Office
 5201 St Vrain Rd
 Longmont
 Colorado 80503
 Office: 303.678.6200
 Fax: 303.678.6180

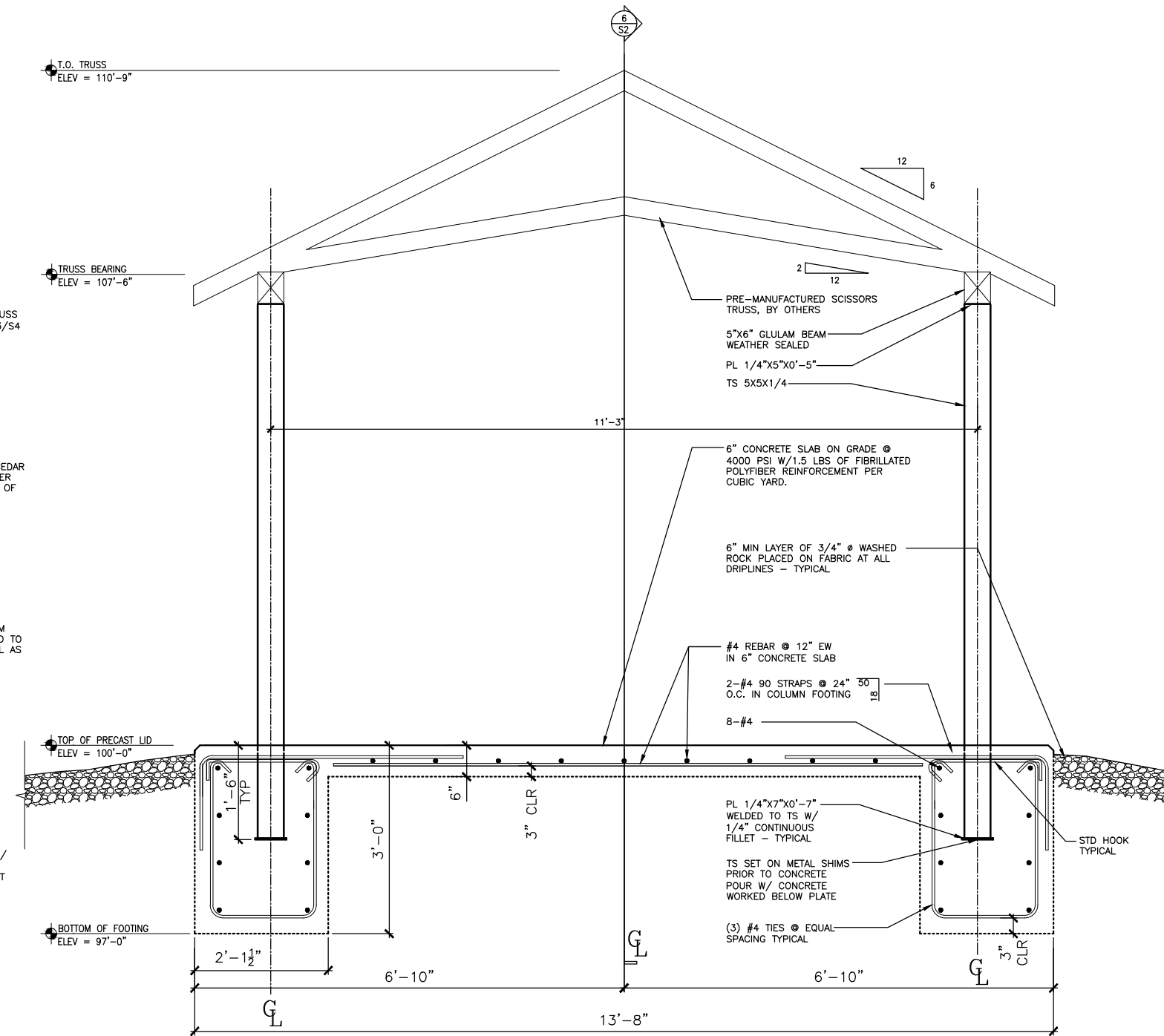
Lefthand Valley Grange Restroom
 7075 North 83rd St. Niwot, CO 80503
Wall & Porch Sections

DATE: 05/22/2020
 DRAWN BY: DAG
 DESIGNED BY: DAG
 CHECKED BY:
 SCALE: AS NOTED
 CAD FILE:
 PERMIT #:

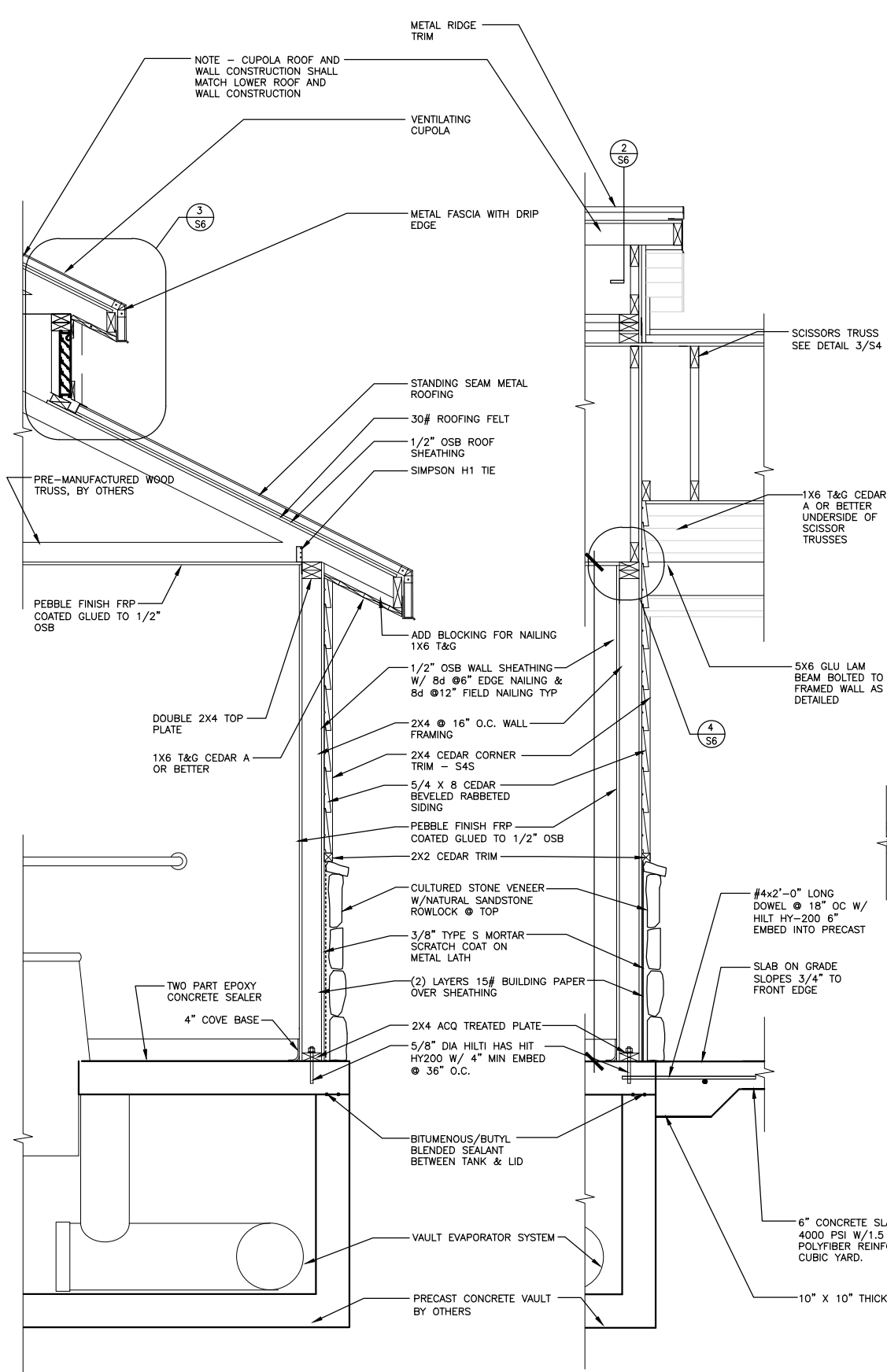
ISSUED: _____ DATE: _____

 SHEET:

S4



3
S4 SECTION AT ENTRY SLAB
 SCALE: 1" = 1'-0"



1
S4 WALL SECTION
 SCALE: 1" = 1'-0"

2
S4 WALL SECTION
 SCALE: 1" = 1'-0"

NOTE - CUPOLA ROOF AND WALL CONSTRUCTION SHALL MATCH LOWER ROOF AND WALL CONSTRUCTION

METAL RIDGE TRIM
 VENTILATING CUPOLA
 METAL FASCIA WITH DRIP EDGE
 PRE-MANUFACTURED WOOD TRUSS, BY OTHERS
 PEBBLE FINISH FRP COATED GLUED TO 1/2" OSB
 ADD BLOCKING FOR NAILING 1X6 T&G
 1/2" OSB WALL SHEATHING W/ 8d @ 6" EDGE NAILING & 8d @ 12" FIELD NAILING TYP
 DOUBLE 2X4 TOP PLATE
 1X6 T&G CEDAR A OR BETTER
 2X4 @ 16" O.C. WALL FRAMING
 2X4 CEDAR CORNER TRIM - S4S
 5/4 X 8 CEDAR BEVELED RABBETED SIDING
 PEBBLE FINISH FRP COATED GLUED TO 1/2" OSB
 2X2 CEDAR TRIM
 CULTURED STONE VENEER W/NATURAL SANDSTONE ROWLOCK @ TOP
 3/8" TYPE S MORTAR SCRATCH COAT ON METAL LATH
 (2) LAYERS 15# BUILDING PAPER OVER SHEATHING
 2X4 ACQ TREATED PLATE
 5/8" DIA HILTI HAS HIT HY200 W/ 4" MIN EMBED @ 36" O.C.
 BITUMENOUS/BUTYL BLENDED SEALANT BETWEEN TANK & LID
 VAULT EVAPORATOR SYSTEM
 PRECAST CONCRETE VAULT BY OTHERS
 6" CONCRETE SLAB ON GRADE @ 4000 PSI W/1.5 LBS OF FIBRILLATED POLYFIBER REINFORCEMENT PER CUBIC YARD.
 10" X 10" THICKENED EDGE, TYP

T.O. TRUSS
 ELEV = 110'-9"

TRUSS BEARING
 ELEV = 107'-6"

TOP OF PRECAST LID
 ELEV = 100'-0"

BOTTOM OF FOOTING
 ELEV = 97'-0"

SCISSORS TRUSS
 SEE DETAIL 3/54

1X6 T&G CEDAR A OR BETTER
 UNDERSIDE OF SCISSOR TRUSSES

5X6 GLU LAM BEAM BOLTED TO
 FRAMED WALL AS DETAILED

#4x2'-0" LONG DOWEL @ 18" OC W/
 HILT HY-200 @ 6" EMBED INTO PRECAST

SLAB ON GRADE SLOPES 3/4" TO
 FRONT EDGE

PRE-MANUFACTURED SCISSORS TRUSS, BY OTHERS

5"x6" GLULAM BEAM WEATHER SEALED

PL 1/4"x5"x0'-5"

TS 5X5X1/4

6" CONCRETE SLAB ON GRADE @ 4000 PSI W/1.5 LBS OF FIBRILLATED POLYFIBER REINFORCEMENT PER CUBIC YARD.

6" MIN LAYER OF 3/4" @ WASHED ROCK PLACED ON FABRIC AT ALL DRIPLINES - TYPICAL

#4 REBAR @ 12" EW IN 6" CONCRETE SLAB

2-#4 90 STRAPS @ 24" 50 O.C. IN COLUMN FOOTING

8-#4

PL 1/4"x7"x0'-7" WELDED TO TS W/ 1/4" CONTINUOUS FILLET - TYPICAL

TS SET ON METAL SHIMS PRIOR TO CONCRETE POUR W/ CONCRETE WORKED BELOW PLATE

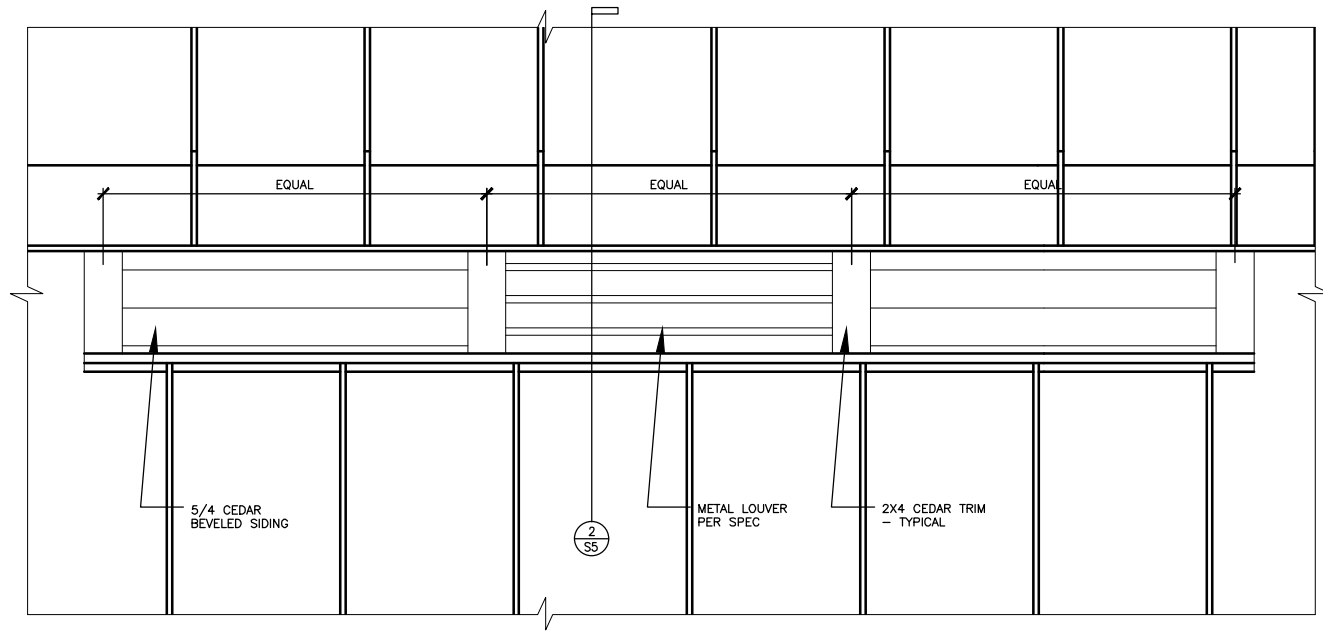
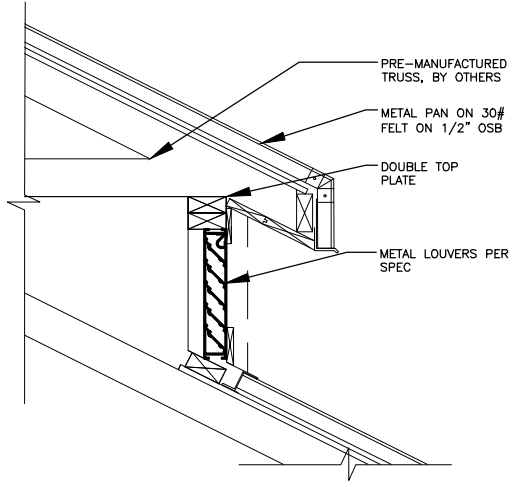
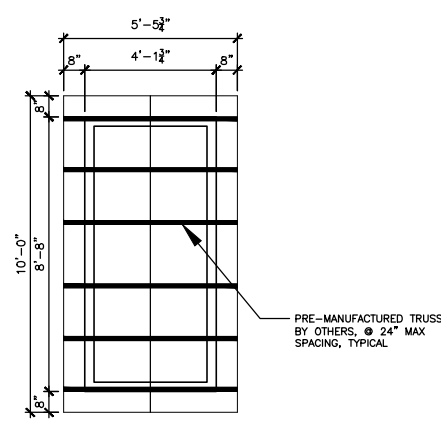
(3) #4 TIES @ EQUAL SPACING TYPICAL

STD HOOK TYPICAL



Boulder County
 Parks Office
 5201 St Vrain Rd
 Longmont
 Colorado 80503
 Office: 303.678.6200
 Fax: 303.678.6180

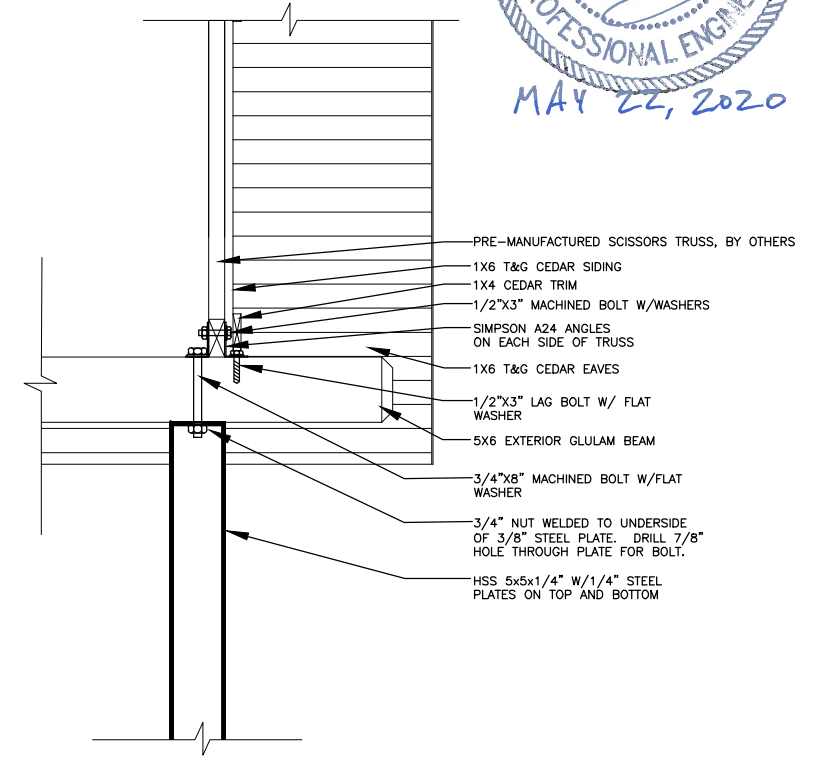
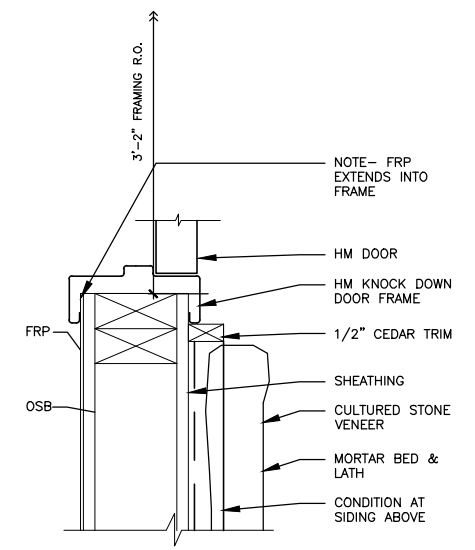
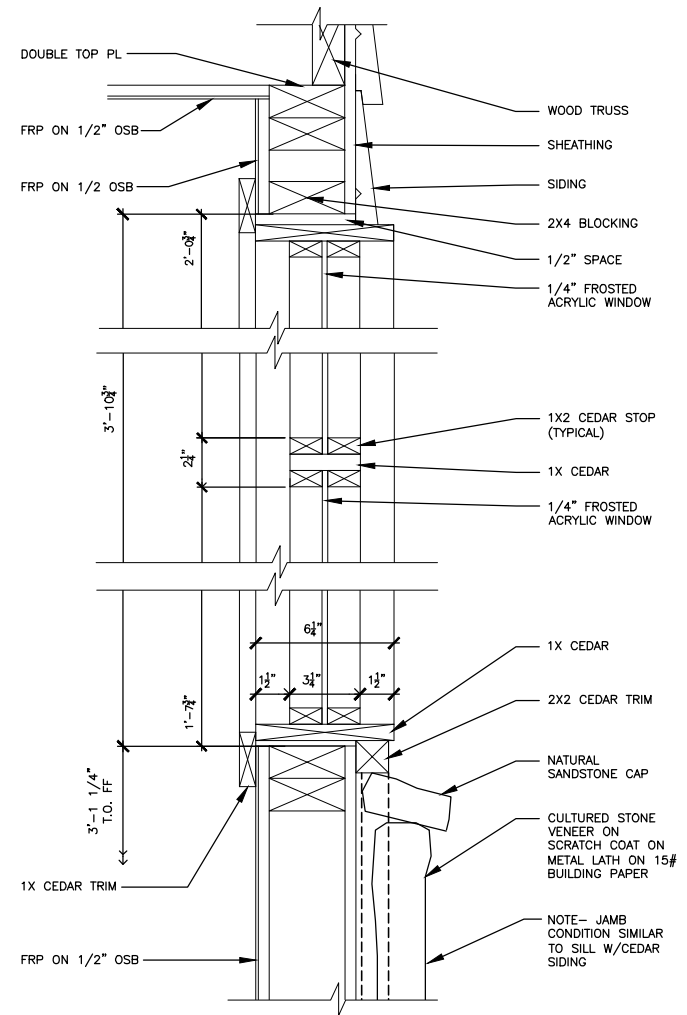
Lefthand Valley Grange Restroom
 7075 North 83rd St. Niwot, CO 80503
 Vent, Window, Door & Frame Details



1 CUPOLA ROOF FRAMING
S5 3/8" = 1'-0"

2 SECTION @ VENT LOUVERS
S5 SCALE: 1 1/2" = 1'-0"

3 ELEVATION @ VENT
S5 SCALE: 1 1/2" = 1'-0"



4 SECTION WINDOW HEAD/ MUNTIN/ SILL
S5 SCALE: 3" = 1'-0"

5 DOOR JAMB
S5 SCALE: 3" = 1'-0"

6 BEAM & COLUMN CONNECTION
S5 SCALE: 1 1/2" = 1'-0"

DATE: 05/22/2020
 DRAWN BY: DAG
 DESIGNED BY: DAG
 CHECKED BY:
 SCALE: AS NOTED
 CAD FILE:
 PERMIT #:
 ISSUED: DATE:
 SHEET:

S5

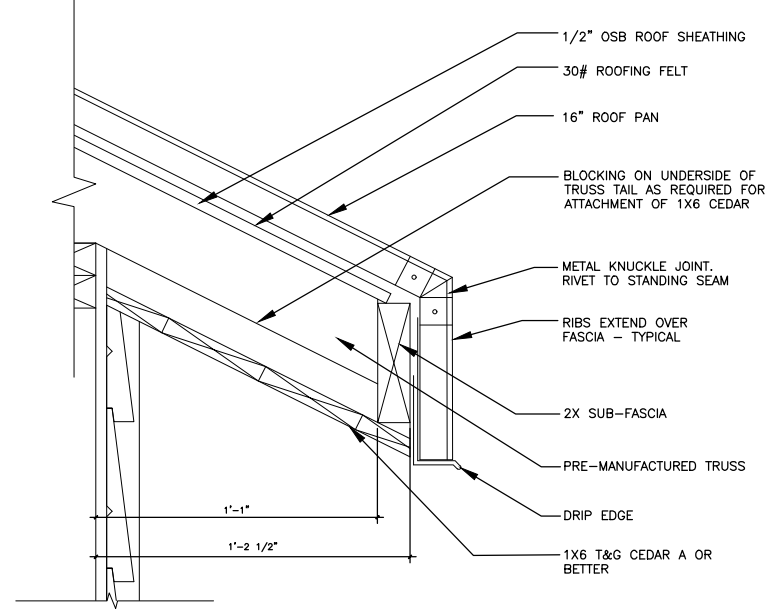


Boulder County
Parks Office
 5201 St Vrain Rd
 Longmont
 Colorado 80503
 Office: 303.678.6200
 Fax: 303.678.6180

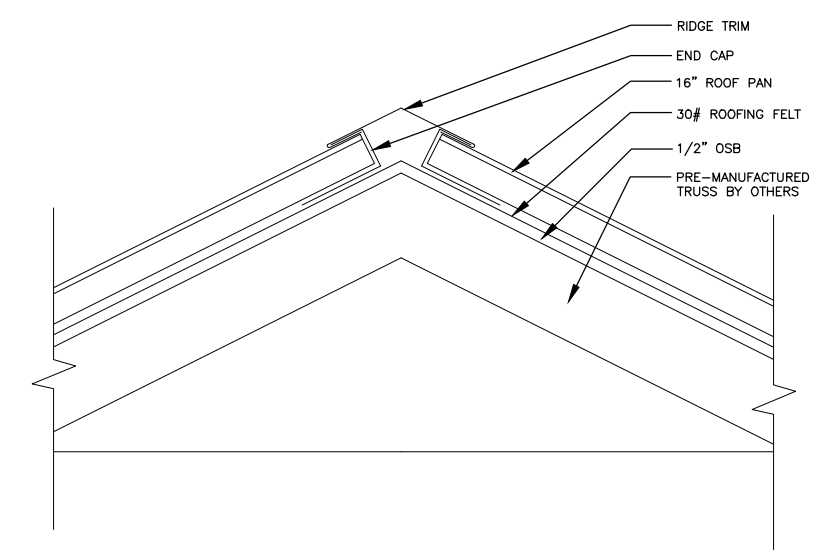
Lefthand Valley Grange Restroom
 7075 North 83rd St. Niwot, CO 80503
Beam, Roof, & Rear Access Details

DATE: 05/22/2020
 DRAWN BY: DAG
 DESIGNED BY: DAG
 CHECKED BY:
 SCALE: AS NOTED
 CAD FILE:
 PERMIT #:
 ISSUED: DATE:
 SHEET:

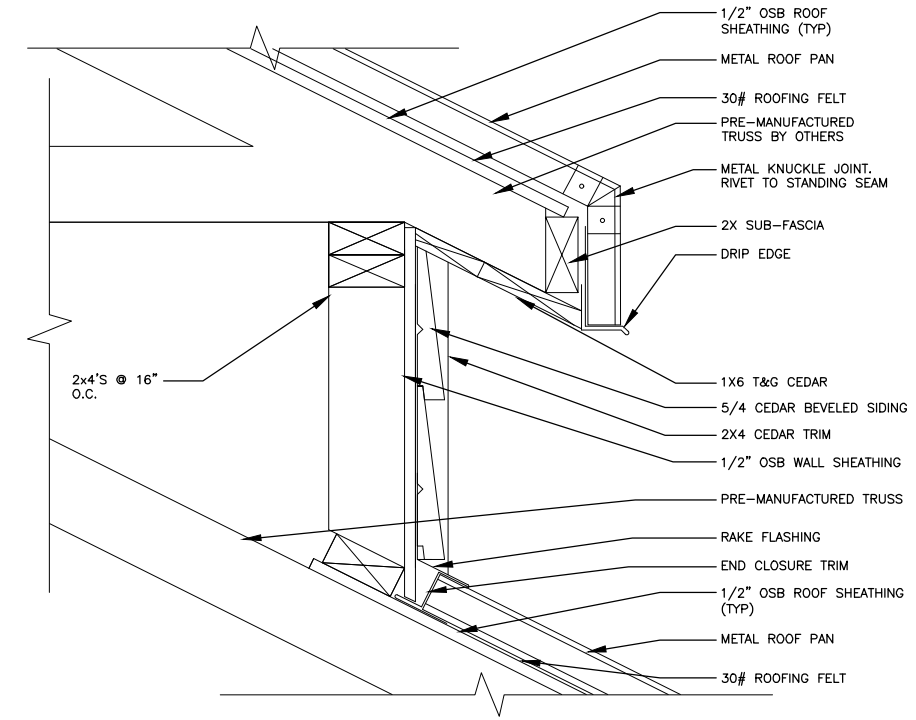
S6



1 METAL FASCIA
PA6 SCALE: 3" = 1'-0"

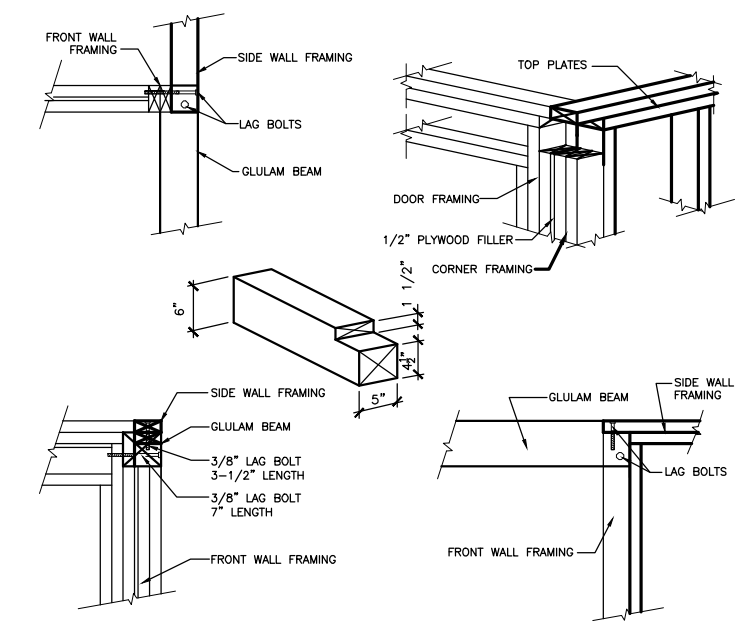


2 RIDGE TRIM
PA6 SCALE: 3" = 1'-0"

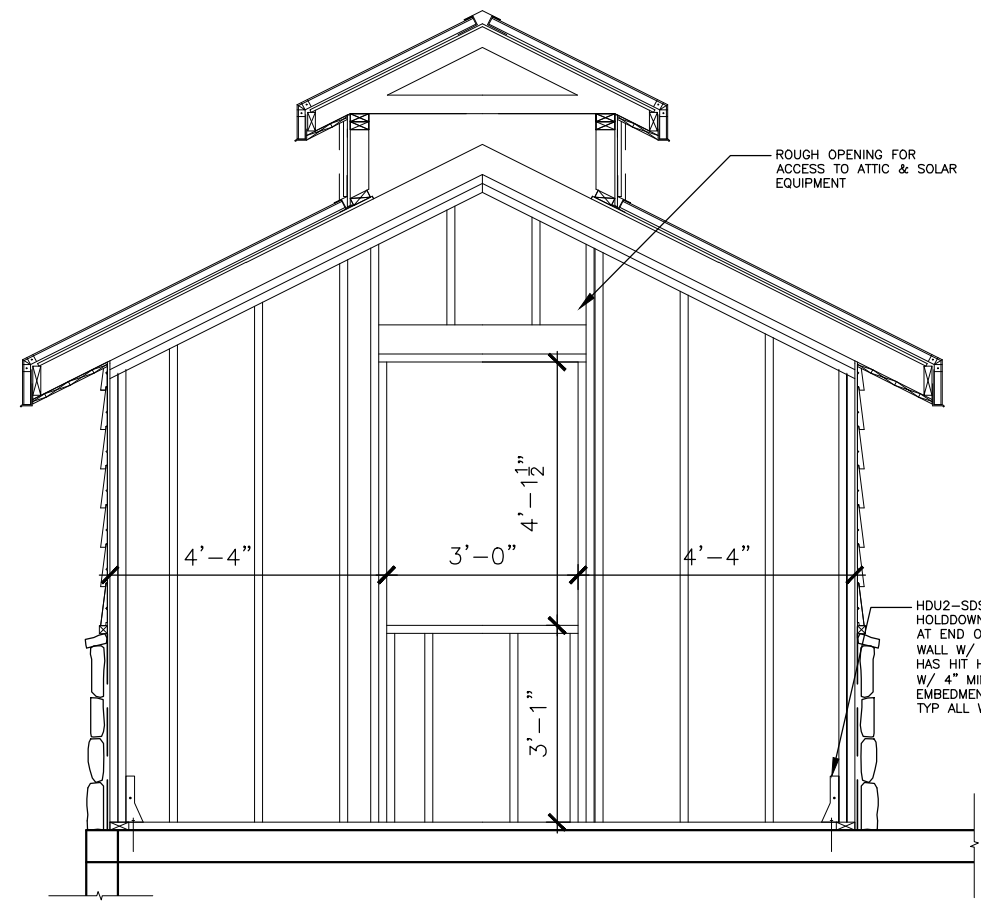


3 RAKE TRIM
PA6 SCALE: 3" = 1'-0"

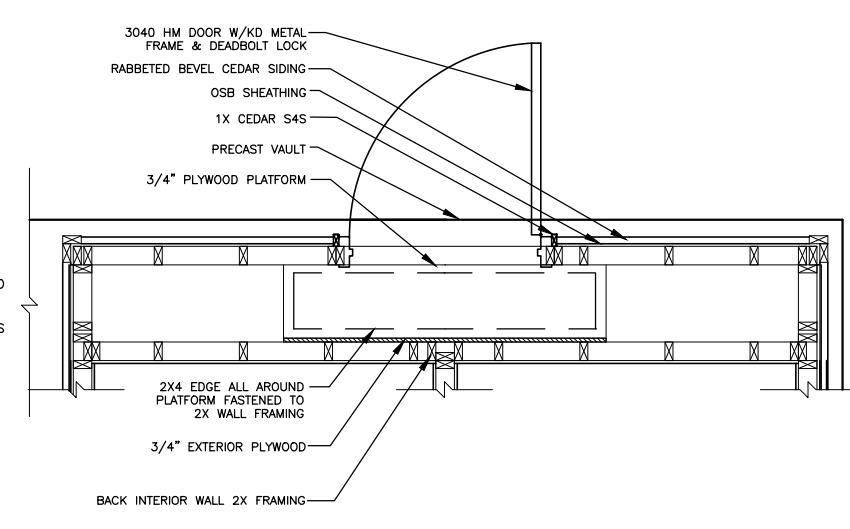
NOTE: ALL CALL OUTS THIS SHEET ARE TYPICAL



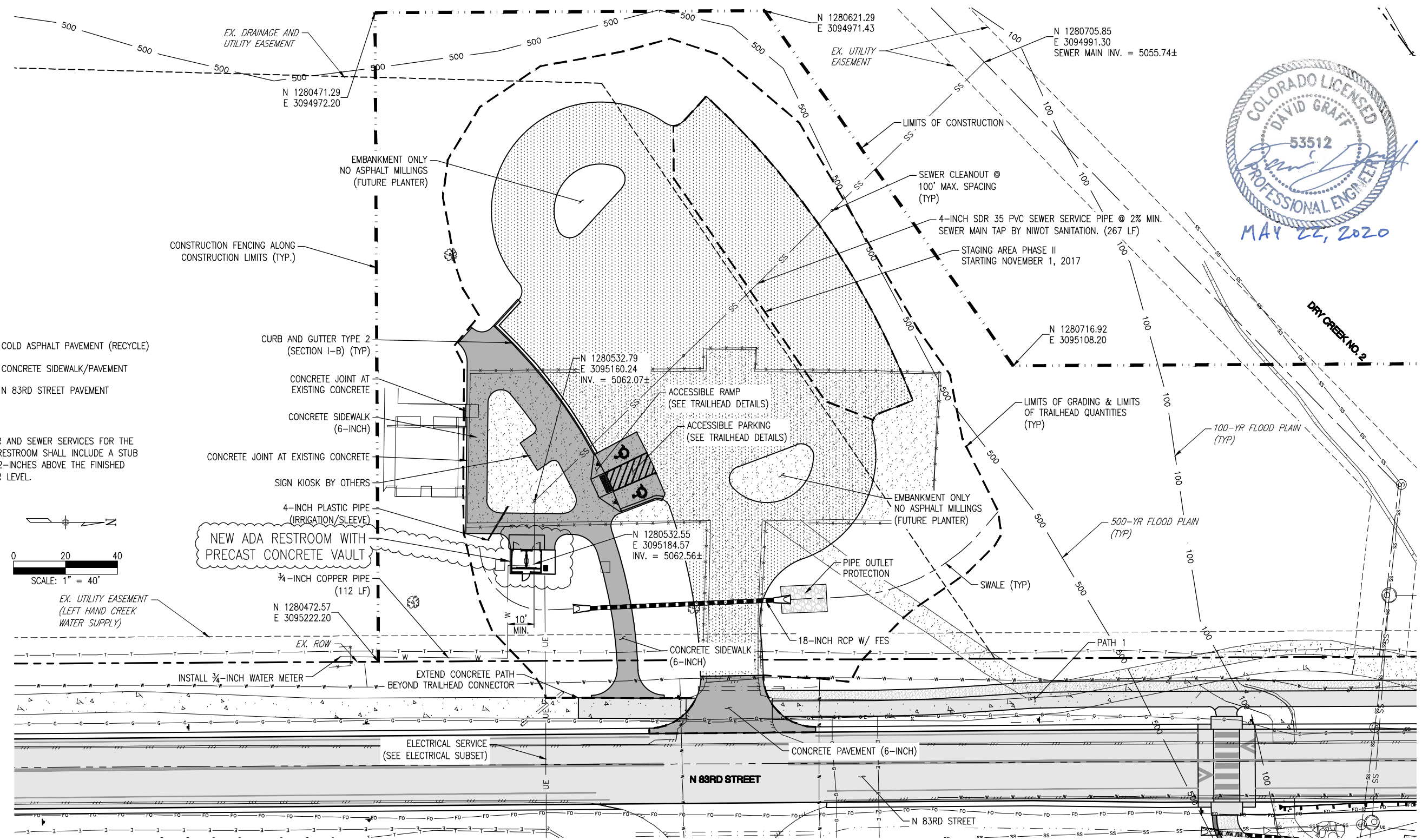
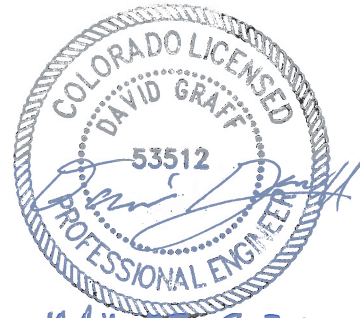
4 BEAM POCKET DETAILS
PA6 NOT TO SCALE



5 REAR EXTERIOR WALL FRAMING DETAIL
PA6 3/4" = 1'-0"



6 REAR DOOR AND PLATFORM SECTION
PA6 3/4" = 1'-0"

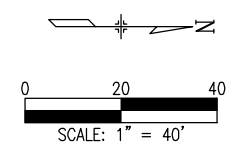


LEGEND

- COLD ASPHALT PAVEMENT (RECYCLE)
- CONCRETE SIDEWALK/PAVEMENT
- N 83RD STREET PAVEMENT

NOTES:

1. WATER AND SEWER SERVICES FOR THE ADA RESTROOM SHALL INCLUDE A STUB UP 12-INCHES ABOVE THE FINISHED FLOOR LEVEL.



Y:\Share\Projects\BCCO\POS\19671-Lefthand Valley Grange Restroom\50 CADD\50 DWG\19671 - Site Plan.dwg May 18, 2020 - 11:30am

Print Date: May 18, 2020		Sheet Revisions	Otak		As Constructed	N 83RD STREET RECONSTRUCTION LEFTHAND VALLEY GRANGE TRAILHEAD SITE PLAN		Project No./Code
File Name: 19671 - Site Plan.dwg		Date:			No Revisions:			BR-25-0.8-DR2
Horiz. Scale: 1"=40'	Vert. Scale: As Noted	Comments	Init.		Revised:	Designer: CLC	Structure Numbers	-
Unit Information	Unit Leader Initials				Void:	Detailer: CLC		
						Sheet Subset: TRAILHEAD	Subset Sheets: 1 of 1	Sheet Number SP1



Boulder County
Parks Office
5201 St Vrain Rd
Longmont
Colorado 80503
Office: 303.678.6200
Fax: 303.678.6180

Lefthand Valley Grange Restroom
1075 North 83rd St. Niwot, CO 80503
PLUMBING GENERAL INFORMATION

DATE: 05/22/2020
DRAWN BY: JKM
DESIGNED BY: JKM
CHECKED BY: GMG
SCALE: AS NOTED
CAD FILE:
PERMIT #:

ISSUED: DATE:
PERMIT - 05/22/2020
SHEET:

P1

GENERAL PLUMBING NOTES:

1. PLUMBING WORK SHALL COMPLY WITH ALL APPLICABLE CODES. VERIFY ALL REQUIREMENTS PRIOR TO SUBMITTING BID OR COMMENCING WORK. THE PLUMBING DESIGN IS BASED ON THE 2015 INTERNATIONAL PLUMBING CODE.
2. WASTE AND VENT PIPING BELOW SLAB SHALL BE SCHEDULE 40, DWV, PVC, PLASTIC. FITTINGS SHALL BE PVC.
3. WASTE AND VENT PIPING ABOVE SLAB SHALL BE SCHEDULE 40, DWV, PVC, PLASTIC. FITTINGS SHALL BE PVC.
4. POTABLE WATER PIPING BELOW GRADE SHALL BE TYPE K COPPER WITHOUT JOINTS.
5. POTABLE WATER PIPING ABOVE GRADE SHALL BE TYPE L COPPER WITH SOLDERED COPPER FITTINGS AND NO LEAD SOLDER UNLESS NOTED OTHERWISE.
6. POTABLE WATER VALVES SHALL BE FULL PORT, BALL TYPE.
7. HANGERS FOR 2" AND SMALLER PIPE SHALL BE BAND TYPE, 2.5" AND LARGER SHALL BE CLEVIS TYPE. USE COPPER COATED TYPE ON COPPER PIPE.

WINTERIZATION NOTES:

THE POTABLE WATER LINE MUST BE WINTERIZED PRIOR TO ANY FREEZING WEATHER CONDITIONS, AND IS NOT INTENDED FOR USE DURING COLD WEATHER MONTHS. THE BUILDING OWNER SHALL BE RESPONSIBLE FOR PROVIDING A WINTERIZATION SERVICE TO ENSURE THE SAFETY AND PROTECTION OF THE PROJECT'S PLUMBING SYSTEMS. THE OWNER SHALL BE RESPONSIBLE FOR:

- BLOW OUT AND EVACUATION OF THE SERVICE LINE FROM THE CURB STOP TO THE BACKFLOW PREVENTION DEVICE USING THE PROVIDED COMPRESSED AIR CONNECTION AND DRAIN PORT.
- BLOW OUT AND EVACUATION OF THE SUPPLY LINE FROM THE BACKFLOW PREVENTER TO THE DRINKING FOUNTAIN USING THE PROVIDED COMPRESSED AIR CONNECTION AND DRAIN INTEGRAL TO THE DRINKING FOUNTAIN.
- DRAINING OF THE ACCESSIBLE P-TRAP SERVING THE DRINKING FOUNTAIN USING THE PROVIDED THREADED DRAIN PORT.

FAILURE TO ADEQUATELY UTILIZE THE WINTERIZATION PROVISIONS PROVIDED UNDER THIS SCOPE MAY RESULT IN DAMAGE TO THE BUILDING'S PLUMBING SYSTEM.

PLUMBING LEGEND:

—CW—	COLD WATER PIPING	—○—	BALL VALVE
---V---	VENT PIPING	—X—	GATE VALVE
—W—	WASTE PIPING	—▽—	GAS COCK
—CA—	COMP AIR PIPING	—X—	PRESS. RED. VALVE
—┐—	PIPE ELBOW DOWN	—N—	CHECK VALVE
—○—	PIPE ELBOW UP	— —	UNION
—○—	PIPE TEE UP	—⊙—	FLOOR CLEANOUT
—○—	PIPE TEE DOWN	—⊙—	GRADE CLEANOUT
—┘—	PIPE CAP	—┘—	WALL CLEANOUT
—→	PIPE CONTINUATION	I.E.	INVERT ELEVATION

PLUMBING DRAWING INDEX

SHEET NUMBER	SHEET NAME
P1	PLUMBING GENERAL INFORMATION
P2	PLUMBING FLOOR PLAN
P3	PLUMBING SECTION PLAN
P4	PLUMBING DETAIL AND SCHEDULES

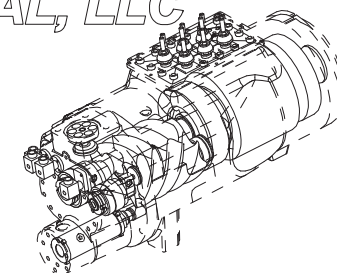


22 MAY 2020

INTEGRATED MECHANICAL, LLC

320 Maple St., Suite 110
Fort Collins, CO 80521

Phone: 970-556-0570
front-desk@int-mech.com





Boulder County
Parks Office
5201 St Vrain Rd
Longmont
Colorado 80503
Office: 303.678.6200
Fax: 303.678.6180

Lefthand Valley Grange Restroom
1075 North 83rd St. Niwot, CO 80503
PLUMBING FLOOR PLAN

DATE: 05/22/2020
DRAWN BY: JKM
DESIGNED BY: JKM
CHECKED BY: GMG
SCALE: AS NOTED
CAD FILE:
PERMIT #:
ISSUED: DATE: 05/22/2020
PERMIT - 05/22/2020
SHEET:

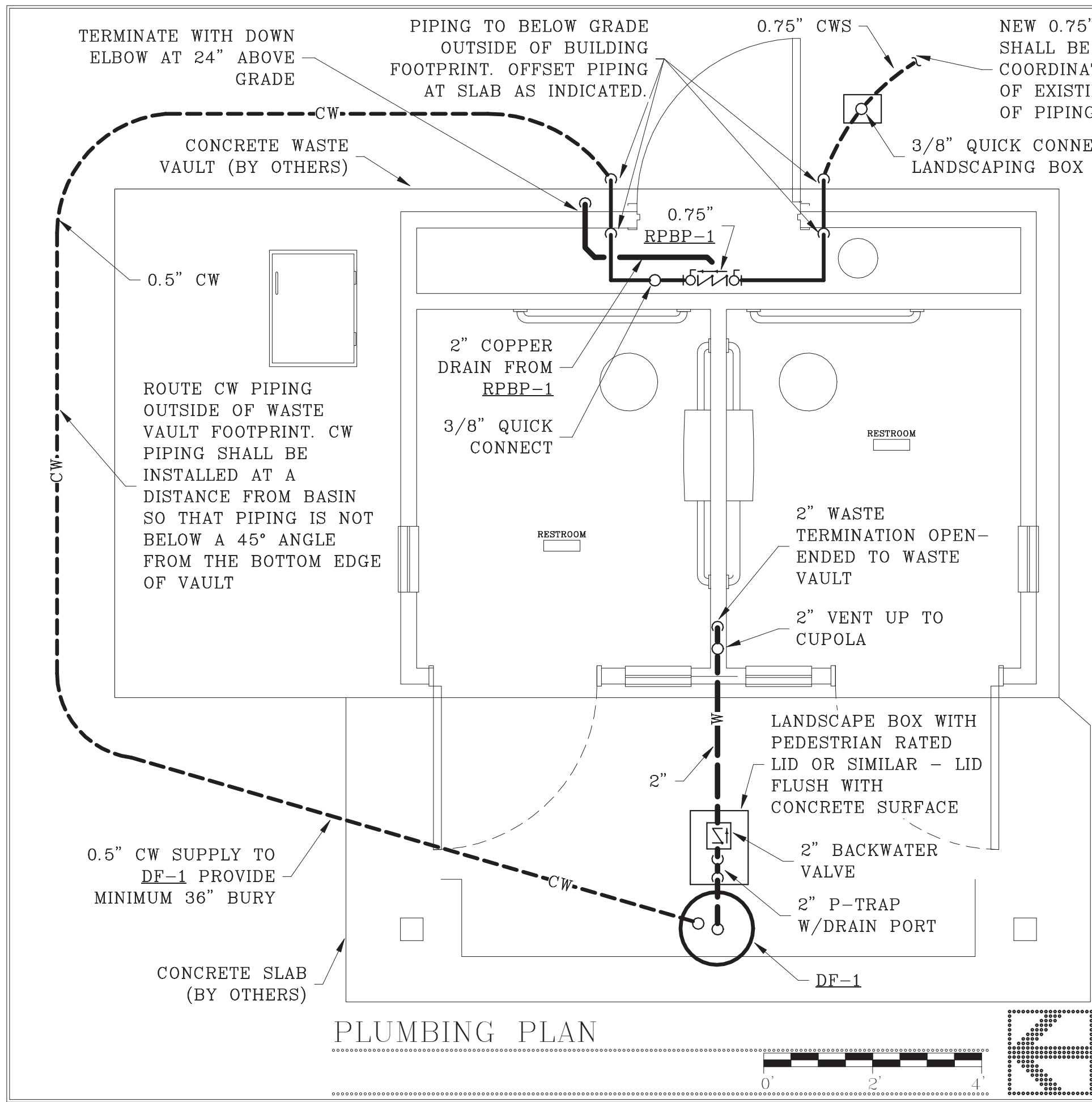
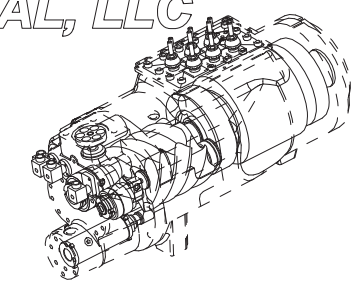
P2



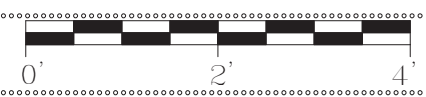
INTEGRATED MECHANICAL, LLC

320 Maple St., Suite 110
Fort Collins, CO 80521

Phone: 970-556-0570
front-desk@int-mech.com



PLUMBING PLAN



NOTE:
1) REFER TO WATER SERVICE ENTRY DETAIL ON THIS SHEET FOR MORE POTABLE WATER INSTALLATION INFORMATION.
2) REFER TO DF-1 WASTE PIPING INSTALLATION DETAIL ON THIS SHEET FOR MORE WASTE AND VENT INSTALLATION INFORMATION.

TERMINATE WITH DOWN ELBOW AT 24" ABOVE GRADE

PIPING TO BELOW GRADE OUTSIDE OF BUILDING FOOTPRINT. OFFSET PIPING AT SLAB AS INDICATED.

NEW 0.75" CWS FROM SITE METER. THIS PIPING SHALL BE BURIED AT MINIMUM 36" DEPTH. COORDINATE WITH BUILDING OWNER FOR LOCATION OF EXISTING METER ON SITE. APPROXIMATELY 90' OF PIPING FROM THIS POINT.

CONCRETE WASTE VAULT (BY OTHERS)

0.5" CW

ROUTE CW PIPING OUTSIDE OF WASTE VAULT FOOTPRINT. CW PIPING SHALL BE INSTALLED AT A DISTANCE FROM BASIN SO THAT PIPING IS NOT BELOW A 45° ANGLE FROM THE BOTTOM EDGE OF VAULT

2" COPPER DRAIN FROM RBPB-1

3/8" QUICK CONNECT

0.75" RBPB-1

3/8" QUICK CONNECT IN LANDSCAPING BOX

0.75" CWS

2" WASTE TERMINATION OPEN-ENDED TO WASTE VAULT

2" VENT UP TO CUPOLA

LANDSCAPE BOX WITH PEDESTRIAN RATED LID OR SIMILAR - LID FLUSH WITH CONCRETE SURFACE

2" BACKWATER VALVE

2" P-TRAP W/DRAIN PORT

DF-1

0.5" CW SUPPLY TO DF-1 PROVIDE MINIMUM 36" BURY

CONCRETE SLAB (BY OTHERS)



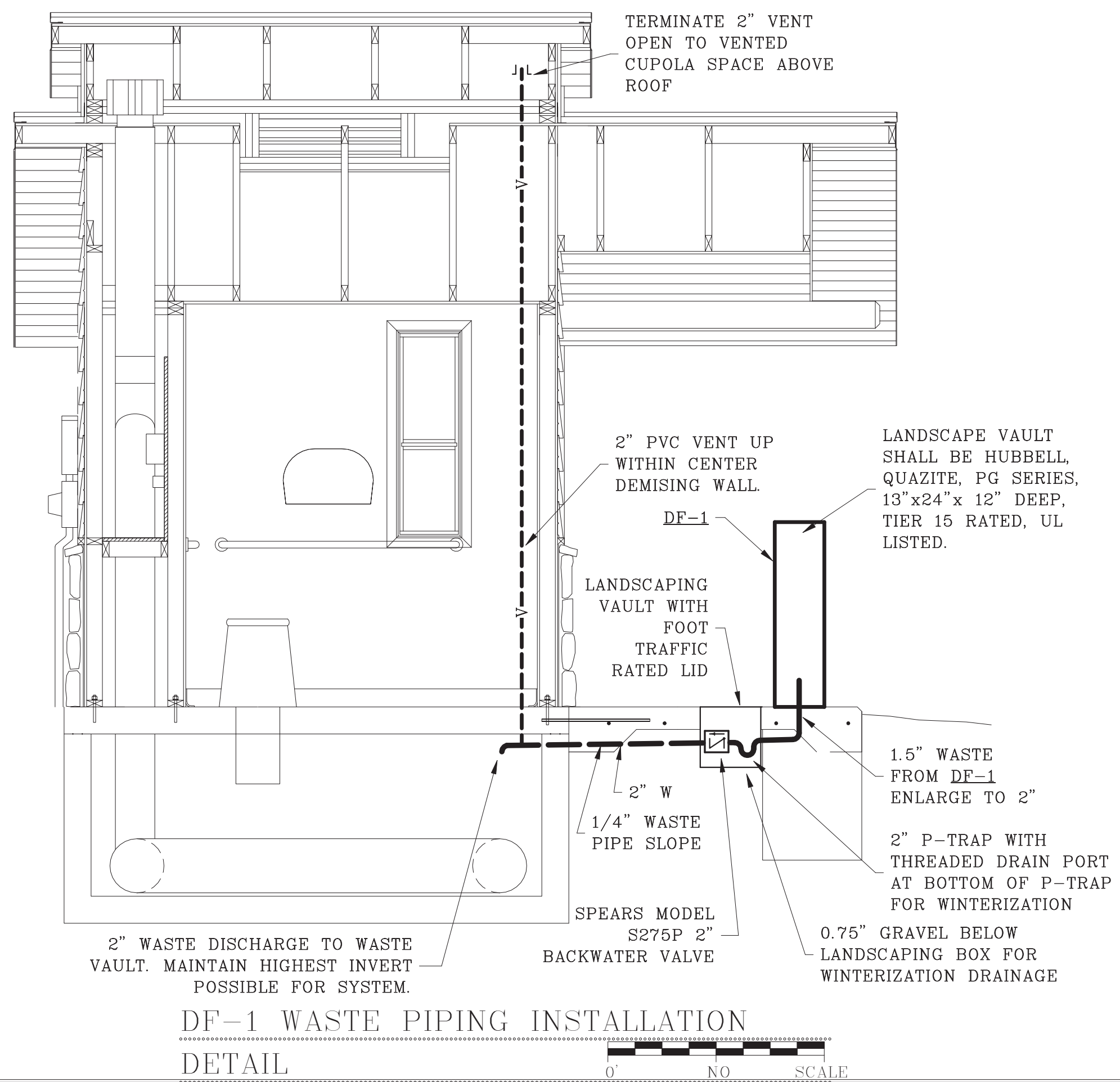
Boulder County
Parks Office
5201 St Vrain Rd
Longmont
Colorado 80503
Office: 303.678.6200
Fax: 303.678.6180

Lefthand Valley Grange Restroom
1075 North 83rd St. Niwot, CO 80503
PLUMBING SECTION PLAN

DATE: 05/22/2020
DRAWN BY: JKM
DESIGNED BY: JKM
CHECKED BY: GMG
SCALE: AS NOTED
CAD FILE:
PERMIT #:

ISSUED: DATE:
PERMIT - 05/22/2020
SHEET:

P3

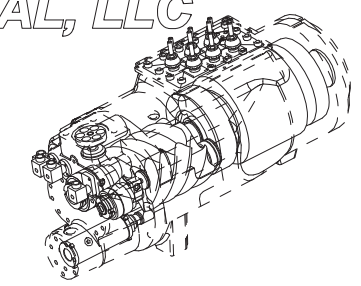


22 MAY 2020

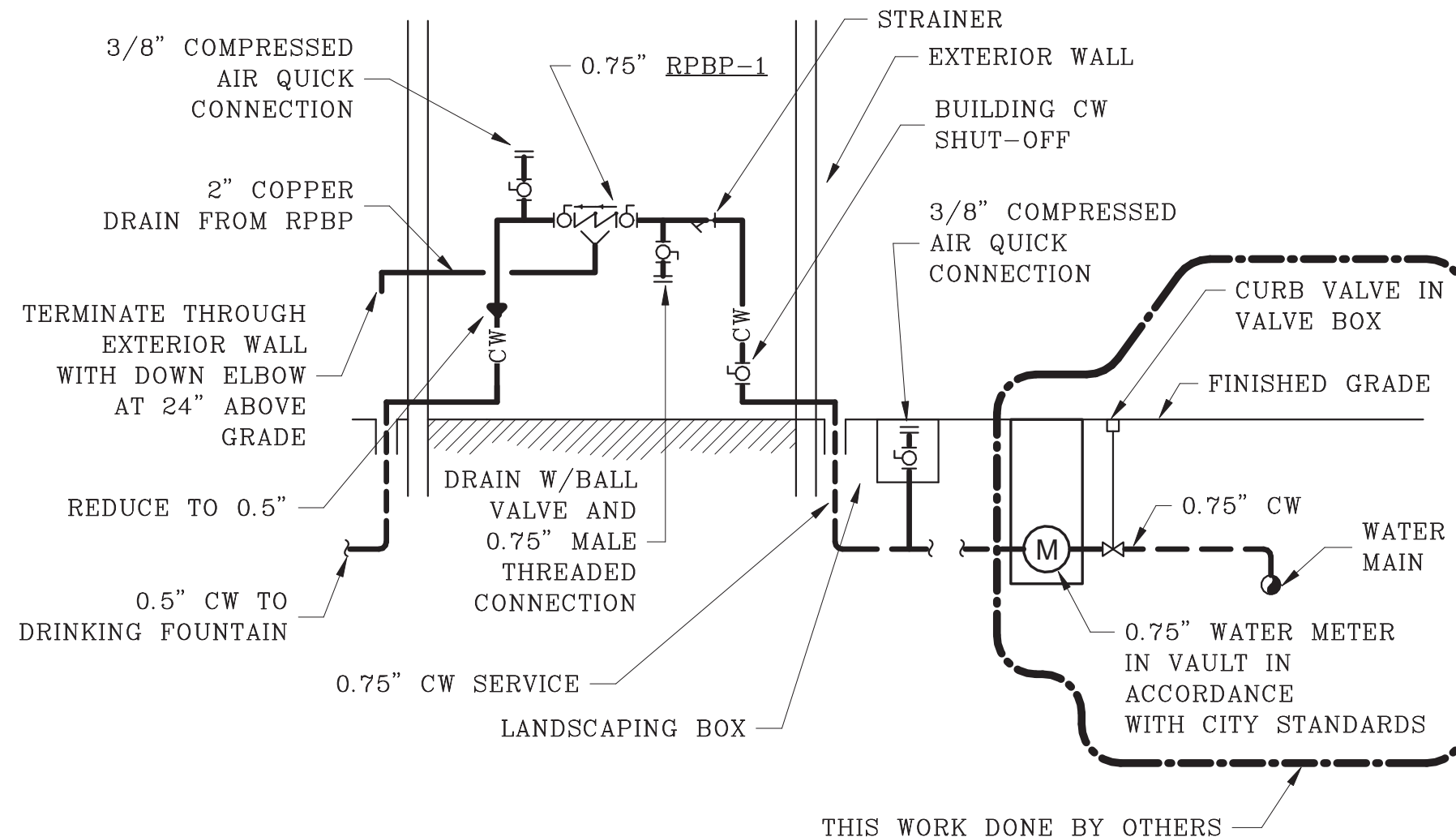
INTEGRATED MECHANICAL, LLC

320 Maple St., Suite 110
Fort Collins, CO 80521

Phone: 970-556-0570
front-desk@int-mech.com



DF-1 WASTE PIPING INSTALLATION
DETAIL



WATER SERVICE
ENTRY DETAIL

SCALE:
NONE

PLUMBING FIXTURE SCHEDULE:

DF-1 DRINKING FOUNTAIN - WILLOUGHBY STAINLESS FOUNTAINS, MODEL WODF-3-HC-PET, VANDAL RESISTANT, 2-STATION DRINKING FOUNTAIN WITH PET BOWL, HIGH/LOW ADA COMPLIANT, PUSH BUTTON VALVE ASSEMBLY, 6 BOLT MOUNTING KIT, TYPE 304 STAINLESS STEEL CONSTRUCTION, WITH SEASONAL BOWL COVERS, INLINE STRAINER, STAINLESS STEEL CONSTRUCTION, CONFIRM COLOR SELECTION WITH BUILDING OWNER PRIOR TO ORDER.

RPBP-1 REDUCED PRESSURE BACKFLOW PREVENTER - WATTS 009QT, 0.75", 12 GPM, 14 PSI PRESSURE DROP, QUARTER-TURN BALL VALVES, BRONZE STRAINER, AIR-GAP FITTING, BRONZE BODY, NSF APPROVED

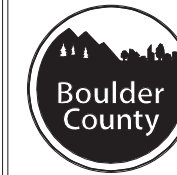
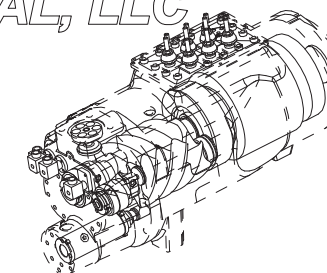


22 MAY 2020

**INTEGRATED
MECHANICAL, LLC**

320 Maple St., Suite 110
Fort Collins, CO 80521

Phone: 970-556-0570
front-desk@int-mech.com



Boulder County
Parks Office
5201 St Vrain Rd
Longmont
Colorado 80503
Office: 303.678.6200
Fax: 303.678.6180

Lefthand Valley Grange Restroom
1075 North 83rd St. Niwot, CO 80503
PLUMBING DETAIL AND SCHEDULES

DATE: 05/22/2020
DRAWN BY: JKM
DESIGNED BY: JKM
CHECKED BY: GMG
SCALE: AS NOTED
CAD FILE:
PERMIT #:

ISSUED: DATE:
PERMIT - 05/22/2020

SHEET:

P4



Boulder County
Parks Office
5201 St Vrain Rd
Longmont
Colorado 80503
Office: 303.678.6200
Fax: 303.678.6180

PANEL P		Job # 20079	
VOLTAGE	120/240	AIC AMPS	10,000
RATED AMPS	200	BUSSING	AL
PHASE * HERTZ	1 * 60	NEUTRAL BUS	YES
# OF CIRCUITS	24	GROUND BUS	YES
MANUFACTURER	SQ D	MAIN LUG ONLY	200
PANEL TYPE	LC	FEED	BOTTOM
		MOUNTING	SURFACE
		COVER TYPE	N3R
		FEED THROUGH LUGS	NO
		FED FROM	Meter
		ISOLATED GND	NO
		NOTE;	"L" BREAKERS TO BE "LOCK ON"

CIR#	BKR	CIRCUIT DESCRIPTION	Cat.	WATTS	L1	L2	WATTS	Cat.	BKR	CIR#
1	20A-1P	Vault Fan	E	250	L1					2
3	20A-1P	Spare				L2				4
5					L1					6
7						L2				8
9					L1					10
11						L2				12
13					L1					14
15						L2				16
17					L1					18
19						L2				20
21					L1					22
23						L2				24

Category	Connected	Demand Factor	Demand	Connected	Demand
R- Recept.	0	N.E.C. 220-13	0	LINE L1	250
L- Lighting	0	1.25	0	LINE L2	0
H- Heating	0	1	0		
C- Cooling	0	1	0		
E- Equip.	250	1	250	TOTAL	250
M- Misc.	0	1	0		
Total:	250		250	DEMAND AMPERAGE:	250 / 240 1 Amps

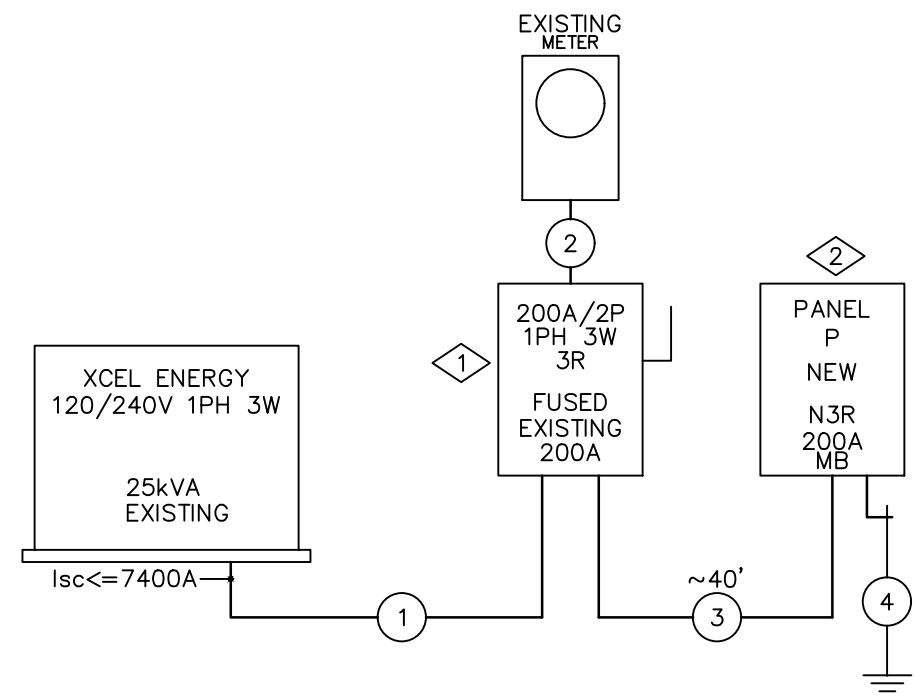
KEY NOTES

(THIS SHEET ONLY)

- 1 SERVICE DISCONNECT AND METER ALREADY INSTALLED ON UNI-STRUT RACK. ELECTRICAL CONTRACTOR TO VERIFY SERVICE IS SINGLE PHASE PRIOR TO ORDERING NEW PANEL.
- 2 NEW PANEL P TO BE LOCATED ON EAST ELEVATION OF STRUCTURE. SEE ELEVATIONS ON SHEET S3 FOR APPROXIMATE LOCATION.

FEEDER SCHEDULE

- 1 EXISTING 200A SERVICE FEEDER
- 2 EMPTY 1" CONDUIT
- 3 (3-250kCML AL, #6G CU) 2-1/2"C
- 4 #4G CU TO GND RODS



ONE-LINE DIAGRAM

SCALE: NONE

Electricicon
Electrical Engineering
37127 Cullison Ridge Road Severance, CO 80550
Ph: 970.686.1004
Email: larry@electricicon-eng.com

Lefthand Valley Grange Restroom
7075 North 83rd St. Niwot, CO 80503
Elevations & Specifications

DATE:	5/22/2020
DRAWN BY:	LNS
DESIGNED BY:	LNS
JOB #:	20079
SCALE:	AS NOTED
CAD FILE:	
PERMIT #:	
ISSUED:	DATE

SHEET:
E1

ATTACHMENT C LEFTHAND VALLEY GRANGE RESTROOM SPECIFICATIONS

DIVISION 1 – GENERAL REQUIREMENTS

- 01 02 50 MEASUREMENT AND PAYMENT
- 01 31 00 PROJECT MANAGEMENT AND COORDINATION
- 01 32 00 CONSTRUCTION PROGRESS DOCUMENTATION
- 01 33 00 SUBMITTAL PROCEDURES
- 01 35 00 SITE SAFETY
- 01 40 00 QUALITY REQUIREMENTS
- 01 41 00 PROJECT PERMITS AND ENVIRONMENTAL CONTROLS
- 01 42 00 REFERENCES
- 01 45 16 MATERIALS TESTING
- 01 50 00 MOBILIZATION
- 01 51 00 TEMPORARY UTILITIES
- 01 55 00 SITE ACCESS AND STORAGE
- 01 55 26 TRAFFIC CONTROL
- 01 56 00 PROTECTION OF EXISTING FACILITIES
- 01 66 00 STORAGE AND HANDLING REQUIREMENTS
- 01 71 20 CONSTRUCTION SURVEYING
- 01 71 22 CONSTRUCTION STAKING
- 01 77 00 PROJECT CLOSEOUT

DIVISION 2 – EXISTING CONDITIONS

- 02 05 00 SITE PREPARATION AND DEMOLITION
- 02 10 00 TREE RETENTION AND PROTECTION

DIVISION 3 - CONCRETE

- 03 30 00 CAST-IN-PLACE CONCRETE

DIVISION 4 - MASONRY

- 04 70 00 SIMULATED MASONRY
- 04 86 00 STONE VENEER ASSEMBLIES

DIVISION 5 - METALS

- 05 12 00 STRUCTURAL STEEL
- 05 50 00 METAL FABRICATIONS

DIVISION 6 - WOOD AND PLASTICS

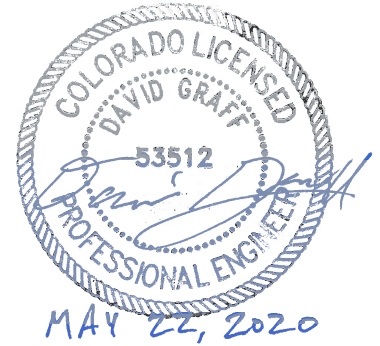
- 06 10 00 ROUGH CARPENTRY
- 06 18 50 STRUCTURAL GLUED-LAMINATED TIMBER
- 06 20 00 FINISH CARPENTRY
- 06 40 10 EXTERIOR ARCHITECTURAL WOODWORK

DIVISION 7 - THERMAL AND MOISTURE PROTECTION

- 07 61 00 SHEET METAL ROOFING
- 07 92 00 JOINT SEALANTS

DIVISION 8 - DOORS AND WINDOWS

- 08 11 00 STEEL DOORS AND FRAMES
- 08 55 00 WOOD WINDOWS
- 08 71 00 DOOR HARDWARE



DIVISION 9 - FINISHES

- 09 65 30 RESILIENT WALL BASE AND ACCESSORIES
- 09 77 00 FIBERGLASS REINFORCED PLASTIC PANELS
- 09 91 00 PAINTING

DIVISION 10 – SPECIALTIES

- 10 20 00 LOUVERS AND VENTS
- 10 43 10 SIGNS
- 10 80 10 TOILET AND BATH ACCESSORIES
- 10 90 10 DRINKING FOUNTAIN

DIVISION 16 - ELECTRICAL

- 16 01 00 GENERAL ELECTRIC
- 16 10 00 BASIC ELECTRICAL MATERIALS AND METHODS

DIVISION 31 - EARTHWORK

- 31 10 00 EARTHWORK
- 31 23 00 STRUCTURE EXCAVATION AND BACKFILL
- 31 25 00 SEDIMENT AND EROSION CONTROL

SECTION 01 02 50 - MEASUREMENT AND PAYMENT

PART 1 – GENERAL

1.1 DESCRIPTION

- A. Payment for the various items of the Bid Sheets, as further specified herein, shall include all compensation to be received by the Contractor for furnishing all tools, equipment, supplies, and manufactured articles, and for all labor, operations, and incidentals belonging to the items of work being described, as necessary to complete the various items of work as specified and shown on the Drawings. No separate payment will be made for any item that is not specifically set forth in the Bid Sheet(s), and all costs therefor shall be included in the prices named in the Bid Sheet(s) for the various supporting items of work.

PART 2 - PRODUCTS (NOT APPLICABLE)

PART 3 - EXECUTION

3.1 BID SCHEDULE

- A. All pay line items will be paid for at the unit prices named in the Bid Sheets for the respective items of work. The quantities of work or material stated as unit price items on the Bid Sheets are supplied only to give an indication of the general scope of the Work; the County does not expressly nor by implication agree that the actual amount of work or material will correspond therewith, and reserves the right after award to increase or decrease the quantity of any unit price of any major item of work by an amount up to and including 10 percent of any major bid item, without a change in the unit price, and shall have the right to delete any bid item in its entirety, or to add additional bid items up to and including an aggregate total amount not to exceed 10 percent of the contract price.
- B. Changes in the Work:
 - 1. General:
 - a. Without invalidating the Contract and without notice to any surety, the County may, at any time or from time to time, order additions, deletions, or revisions in the Work; these will be authorized by a Change Order issued by the County. Upon receipt of either such document, the Contractor shall promptly proceed with the Work involved which will be performed under the applicable conditions of the Contract Documents.
 - b. The Contractor shall not be entitled to an increase in the Contract Price or an extension of the Contract Time with respect to any Work performed that is not required by the Contract Documents as amended, modified and supplemented by Change Order.
 - c. The County and the Contractor shall execute appropriate Change Orders covering the following:
 - 1) Changes in the Scope of Work which are ordered by the County;
 - 2) Changes required because of acceptance of defective work;
 - 3) Changes in the Contract Price or Contract Time which are agreed to by both parties;

- 4) Changes in the Contract Price or Contract Time which embody the substance of any written decision rendered by the County; and
- 5) Any other changes agreed to by both parties.
- d. If notice of any change is required by the provisions of any Bond to be given to a surety, the giving of any such notice will be the Contractor's responsibility, and the amount of each applicable bond shall be adjusted accordingly.
2. Allowable Quantity Variations on Unit Price Contracts: In the event of an increase or decrease in a bid item quantity of a bid item, the total amount of work actually done or materials or equipment furnished shall be paid for according to the unit price established for such work under the Contract Documents, wherever such unit price has been established; provided, that an adjustment in the Contract Unit Price may be made for changes which result in an increase or decrease in the quantity of any unit price of a major bid item of the Work in excess of 10 percent, or for eliminated items of work. No adjustment in the Contract Unit Price will be made for increases or decreases in the quantity of any minor bid item. A major bid item shall be any item that is listed in the bid the total cost of which is equal to or greater than 10 percent of the total amount of the awarded contract. All other items shall be considered minor bid items.
3. Eliminated Items on Unit Price Contracts:
 - a. On unit price contracts, should any contract item of the Work be eliminated in its entirety, in the absence of an executed contract Change Order covering such elimination, payment will be made to the Contractor for actual costs incurred in connection with such eliminated contract item if incurred prior to the date of notification in writing by the County of such elimination.
 - b. If acceptable material is ordered by the Contractor for the eliminated item prior to the date of notification of such elimination by the County, and if orders for such material cannot be canceled, it will be paid for at the actual cost to the Contractor. In such case, the material paid for shall become the property of the County and the actual cost of any further handling will be paid for by the County. If the material is returnable to the vendor and if the County so directs, the material shall be returned and the Contractor will be paid for the actual cost of charges made by the vendor for returning the material and the actual cost of handling returned material.
- C. Any and all items and/or work shown on the Construction Drawings or indicated in the Contract Documents and not included in a description of a specific bid items shall be included by the Bidder in one or more supplemental bid items. This includes, but is not limited to such items as mobilization, scheduling and coordination, all water, dust, debris, and noise control, surface preparations, protection of curing materials, replacement of damaged improvements and materials, provision of all safety requirements of work and materials required to provide public convenience and safety, such as, flaggers, barricades, lights, vehicular detours and pedestrian walkways.

END OF SECTION 01 02 50

SECTION 01 31 00 - PROJECT MANAGEMENT AND COORDINATION

PART 1 - GENERAL

1.1 SUMMARY

A. Section includes:

1. Project coordination.
2. Pre-construction conference.
2. Site mobilization conference.
4. Progress meetings.
5. Pre-Installation meetings.
6. Project Schedules.
7. Short Interval Schedules.
8. Delays and extensions.
9. Coordination drawings.
10. Incidental costs.
11. Correspondence and notices.

1.2 PROJECT COORDINATION

- A. Coordinate scheduling, submittals and work to assure efficient and orderly sequence of installation of interdependent construction elements, with provisions for accommodating items installed later.
- B. Any verbal authorizations, instructions or acknowledgments by anyone will not be binding unless followed up in writing by authorized representatives of the County or Contractor.
- C. Contractor will be responsible for notifying subcontractors and/or suppliers of their required attendance for any of the conferences/meetings.

1.3 PRECONSTRUCTION CONFERENCE

- A. After Notice to Proceed, a Preconstruction Conference to discuss Project Work will be held at a time and location designated by the County.
- B. Agenda:
 1. The County will prepare the agenda.
 2. Review and discuss the following subjects at a minimum:
 - a. Required schedules.
 - b. Erosion/sediment control plans.
 - d. Sequencing of critical path Work items.
 - e. Work changes and clarification procedures.
 - f. Use of site, access, office and storage areas, security and temporary facilities.
 - g. Major product deliveries and priorities.
 - h. Contractor's safety plan.
 - i. Progress payment procedures.
 3. Minimum attendance:

- a. County representatives.
- b. The Contractor's superintendent.
- c. Subcontractors' and Suppliers' representatives as the Contractor or the County deem appropriate.
- d. Others as appropriate to the agenda.

1.4 SITE MOBILIZATION CONFERENCE

- A. The Contractor will schedule a conference at the Project site prior to Contractor occupancy.
- B. Agenda:
 1. Use of premises by County and Contractor.
 2. County requirements and occupancy during construction.
 3. Construction facilities and controls.
 4. Temporary utilities.
 5. Survey and construction layout.
 6. Security and housekeeping procedures.
 7. Schedules.
 8. Procedures for testing.
 9. Procedures for maintaining record documents.
 10. Requirements for start -up of equipment.
 11. Inspection and acceptance of equipment put into service during construction period.
- C. Attendance Required:
 1. County representatives.
 2. Contractor.
 3. Contractor's Superintendent
 4. Major subcontractors.

1.5 PROGRESS MEETINGS

- A. At a time and location determined by the County and Contractor, Weekly Progress Meetings will be held.
- B. The purpose of these meetings is to discuss schedule, progress, coordination, submittals, and job related problems.

Agenda:

1. Review minutes of previous meetings.
2. Review of Work progress.
3. Field observations, problems, and decisions.
4. Identification of problems which impede planned progress.
5. Review of submittals and status of submittals.
6. Review of off-site fabrication and delivery schedules.
7. Special Project Procedures.
8. Maintenance of progress schedule.
9. Corrective measures to regain projected schedules.
10. Planned progress during succeeding work period.

11. Coordination of projected progress.
12. Maintenance of quality and work standards.
13. Effects of proposed changes on progress schedule and coordination.
14. Other business relating to the Project.

C. The Contractor will conduct the meetings, prepare and distribute meeting notes.

D. Attendance:

1. County representatives.
2. Contractor.
3. Contractor's Superintendent.
4. Major subcontractors.
5. Suppliers and others as deemed necessary.

E. Contractor will be responsible for notifying subcontractors and suppliers of their required attendance.

1.6 PRE-INSTALLATION MEETINGS

- A. When required in the individual specification section, convene a pre-installation meeting at work site prior to commencing work.
- B. Require attendance of parties directly affecting, or affected by, work of the specific Section.
- C. Contractor shall notify the County, four days in advance of meeting dates.
- D. The Contractor will prepare an agenda, preside at meeting, record minutes, and distribute copies within two days after meeting to participants.
- E. Review conditions of installation, preparation and installation procedures and coordination of related work.

1.7 CONSTRUCTION SCHEDULES

- A. In accordance with the General Conditions, the Contractor shall, within 10 days after Notice to Proceed is issued, shall deliver to the County 3 copies of a complete construction schedule which addresses all of the work required under the Contract.
- B. The schedules shall include the following information as a minimum:
 1. Detail of activities required for mobilization and start of construction.
 2. A plan for completion of work in sufficient detail to allow observation and monitoring by the County. Any activity longer than two weeks, with the exception of submittal and procurement activities, should be broken down into phases two weeks or less in length.
 3. Long lead procurement requirements.
 4. Submittal and shop drawings preparation and review times. Indicate critical dates for submission of specified shop drawings, product data, samples, and certificates.

- Allow ample time for review of submittals by the County and/or the County's Engineer.
5. Include decision dates for products specified by allowance and for selection of colors/finishes.
 6. Duration of all activities.
 7. Dependencies and logic between activities.
 8. County-furnished materials and equipment, if any.
 9. The schedule will be time-scaled and cost loaded. The cost for performing each activity shall include all labor, material and equipment including overhead and profit. The sum of the costs of all activities shall equal the total contract value. The Contractor shall provide supplemental reports, such as computerized logic reports, if deemed necessary by the County to facilitate review of the proposed schedule.
 10. Contractor's Schedule shall be submitted with acknowledgements signed by authorized officials of each subcontractor listed in the bid confirming their review of the schedule and their ability to perform their portion of the work according to said Schedule.
- C. The schedule shall be the basis for establishing starting and completing dates of Work for the Project.
- D. Conform to accepted schedule and arrange work in such a manner that it will be installed in accordance with the schedule.
- E. Update the schedule in accordance with requirements of the Project and the General Conditions.
- F. Coordinate letting of subcontracts, material purchases, delivery of materials, sequence of operations, and similar activities to conform to accepted schedule, and furnish proof of conformance as required by County.
- G. The Contractor shall be responsible for planning and scheduling the Work and monitoring progress of the Work with respect to the schedule. The Contractor shall be responsible for scheduling all work activities, including those of its subcontractors. The Schedules shall be feasible, workable and reasonable for the work, and shall be the Contractor's plan of construction for completing the contract work within the specified time periods.
- H. The County will review the Contractor's proposed Construction Schedule within a reasonable time and will provide comments, make inquiries regarding the schedule in a timely manner. The Contractor shall re-submit its revised Construction Schedule for review after incorporating the necessary changes and revisions to the County within 7 days of the issuance of the County's comments.
- I. The Construction Schedule, upon acceptance, will become the basis for determining schedule compliance, for determining the impact of changes to the Contract and delays to the Work.
- I.8 SHORT INTERVAL SCHEDULES
- A. Short Interval Scheduling will be used throughout the construction process.

- B. The interval will be three weeks and will include the week submitted and two weeks thereafter.
- C. The schedules will be in sufficient detail to evaluate daily milestones and will correspond to the updated Construction Schedule.
- D. The Contractor shall prepare its short interval schedule and deliver several copies of it to each weekly job site meeting where it will be discussed, revised if necessary, and distributed to parties present.

1.9 DELAYS AND EXTENSIONS OF TIME

- A. The scheduled completion date shall be the same as the contractual completion date.
- B. The contract completion time shall include a period during which adverse weather conditions are anticipated and the work is expected to proceed at a slower pace. Because this has already been accounted for, no time extensions will be granted for delays due to adverse weather conditions between October 31 and March 31. The Contractor shall consider the impact of the anticipated weather and the consequences thereof in scheduling and planning the Work.
- C. Abnormal weather conditions encountered and weather impacts occurring beyond the parameters set forth in General Conditions on critical paths activities may be cause for a contract extension. The Contractor shall give notice to the County, in writing, within 2 days of the on-set of such conditions and the County shall determine:
 - 1. If it agrees with the conditions.
 - 2. Whether there is an impact to the critical path of the construction schedule.
- D. It is understood that all disruptive weather events with an average interval of (10) years or more between their occurrence and the occurrence of a similar event of equal or greater magnitude cannot be reasonably anticipated. For the purposes of this contract, weather information and historical data for the area in question shall be assumed to be the same as that measured at the nearest or most applicable record station of the Environmental Data Service of the National Oceanic and Atmospheric Administration (NOAA) of the U.S. Department of Commerce.
- E. Weather days will be recorded by the Contractor and forwarded to the County within five (5) days of occurrence. Each record shall indicate the critical path activity(s) affected. It will be the Contractor's duty to perform on unaffected activities whenever possible during weather days.
- F. There shall be no increase in the contract sum, time, or remuneration of any kind by County to Contractor for extensions due to adverse weather conditions unless approved in writing by the County.
- G. When the County initiates a change which has the potential to impact the stipulated contract completion date or milestone dates established above, the Contractor shall prepare a revised schedule to reflect the impact of the change. After the revised schedule has been mutually agreed upon, and Contractor has been authorized to

proceed with the change, the revisions shall be incorporated into the Construction Schedule.

- H. Time extensions will be considered only to the extent that there is insufficient remaining float time to absorb the changes. Float time is defined as the amount of the time between the earliest start date and the latest finish date on the accepted Construction Schedule. Contractor acknowledges and agrees that actual delays affecting paths of activities containing float time will not have any affect upon contract completion times, providing that the actual delay does not exceed the float time, per the latest updated and accepted version of the Construction Schedule.

1.10 COORDINATION DRAWINGS

- A. Provide information required by the County for preparation of coordination drawings.
- B. Review drawings prior to submission to the County.

1.11 CORRESPONDENCE AND NOTICES

- A. Clearly identify correspondence, notices and submittals with project name, subject and detailed references to Drawings and Specifications.
- B. Notify the County two working days in advance of required inspection.

PART 2 - PRODUCTS (NOT APPLICABLE)

PART 3 - EXECUTION (NOT APPLICABLE)

END OF SECTION 01 31 00

SECTION 01 32 00 - CONSTRUCTION PROGRESS DOCUMENTATION

PART 1 – GENERAL

1.1 SUMMARY

- A. Contractor shall perform scheduling of Work, monthly payment requests and project status reporting under these Contract Documents in accordance with requirements of this section.
- B. Upon Award of Contract, Contractor shall immediately commence development of Progress Schedule to ensure compliance with schedule submittal requirements.

1.2 GENERAL

- A. The Progress Schedule shall be based on and incorporate milestone and completion dates specified in the Contract Documents.
- B. Overall time of completion and time of completion for each milestone shown on Progress Schedule shall adhere to times agreed on by both parties, unless an earlier (advanced) time of completion is requested by Contractor and agreed to by the County. Any such agreement shall be formalized by a Change Order.
 - 1. The County is not required to accept an earlier (advanced) schedule, i.e., one that shows early completion dates for the Contract Times.
 - 2. Contractor shall not be entitled to extra compensation in event agreement is reached on an earlier (advanced) schedule and the Contractor completes its Work, for whatever reason, beyond completion date shown in earlier (advanced) schedule but within the Contract Times.
 - 3. A schedule showing the work completed in less than the Contract Times that has been accepted by the County shall be considered to have Project Float. The Project Float is the time between the scheduled completion of the work and Substantial Completion. Project Float is a resource available to both the County and Contractor.
- C. Float Ownership: Neither the County nor Contractor owns float. The Project owns the float. As such, liability for delay of the Substantial Completion Date rests with the party whose unexcused delay, last in time, actually cause delay to the Substantial Completion Date:
 - 1. For example, if Party A incurs unexcused delay and uses some, but not all of the float and Party B later incurs unexcused delay and uses the remainder of the float as well as additional time beyond the float, Party B shall be liable for the delay that represents a delay to the Substantial Completion Date.
 - 2. Party A would not be responsible for the delay since it did not consume the entire float and additional float remained; therefore, the Substantial Completion Date was unaffected by Party A.
- D. The Progress Schedule shall be the basis for evaluating job progress, payment requests, and time extension requests. Responsibility for developing contract schedules and monitoring actual progress as compared to Progress Schedule rests with the Contractor.

- E. Failure of the Progress Schedule to include any element of the Work or any inaccuracy in Progress Schedule will not relieve the Contractor from responsibility for accomplishing the Work in accordance with the Contract Documents. The County's acceptance of the Progress Schedule shall be for its use in monitoring and evaluating job progress, payment requests, and time extension requests, and shall not, in any manner, impose a duty of care upon the County, or act to relieve the Contractor of its responsibility for means and methods of construction.
- F. Transmit each item under form approved by the County:
 - 1. Identify Project with County Contract name and number, and name of the Contractor.
 - 2. Provide space for Contractor's approval stamp and the County's review stamps.
 - 3. Submittals received from sources other than Contractor will be returned to the Contractor without the County's review.

1.3 CONSTRUCTION SCHEDULE FORMAT AND LEVEL OF DETAIL

- A. Contractor shall submit its Construction Schedule for review at the preconstruction conference. The Construction Schedule shall be completed and accepted by the County prior to issuing the Notice to Proceed. The Construction Schedule shall indicate all separate fabrication and field construction activities required for completion of the work, including but not limited to the following:
 - 1. All Contractor, Subcontractor and assigned Contractor work shall be shown in a logical work sequence that demonstrates a coordinated plan of work for all contractors. The intent is to provide a common basis of acceptance, understanding and communication, as well as interface with other Contractors.
 - 2. Activities related to the delivery of County-furnished equipment to be Contractor-installed per Contract Documents shall be shown.
 - 3. All activities shall be identified through codes or other identification to indicate the building (i.e. buildings, sitework) and Contractor/subcontractor responsibility to which they pertain.
 - 4. Contractor shall break up the work schedule into activities of durations of approximately 15 working days or less each, except for non-field construction activities or as otherwise deemed acceptable by the County.
- B. Contractor's failure to include any element of work required for performance of the work on the detailed construction schedule shall not excuse Contractor from completing all work required within the Contract time.
- C. Contractor shall update and issue weekly a three-week detailed bar chart schedule for all contracts with duration longer than 45 working days.
- D. The County will require the Contractor to utilize computer scheduling software, such as Microsoft Project or approved equivalent software for all scheduling including schedule updates unless otherwise approved by the County.

1.4 MONTHLY SCHEDULE UPDATE SUBMITTALS

- A. Following acceptance of Contractor's Schedule, Contractor shall monitor progress of Work and adjust schedule each month to reflect actual progress and any anticipated changes to planned activities:
 - 1. Each schedule update submitted shall be complete, including all information, Schedule format, and level of details as required under this Section.
 - 2. Each schedule update shall continue to show all work activities including those already completed. These completed activities shall accurately reflect "as built" information by indicating when activities were actually started and completed.
- B. Revising any report, schedule or narrative submitted to the County by the Contractor shall not have the effect of amending or modifying, in any way, the Substantial Completion date or milestone dates or modify or limit the Contractor's obligations established in the Contract Documents.

1.5 RECOVERY SCHEDULE

- A. If the monthly Schedule Update shows a completion date 10 calendar days beyond the Contract Completion date, or a delay of individual milestone completion dates, Contractor shall within 7 calendar days, submit to the County the proposed revisions to recover the lost time. As part of this submittal, Contractor shall provide a written narrative for each revision made to recapture the lost time. If the revisions include sequence changes, Contractor shall provide a schedule diagram comparing the original sequence to the revised sequence of work.
- B. Contractor shall provide supervision, labor, equipment and materials, as necessary, to recover the lost time.

1.6 TIME EVALUATION FOR CHANGE ORDERS, AND OTHER DELAYS

- A. Before Contractor is directed to proceed with changed work, Contractor shall prepare and submit, with his signed change order price quote request, a written narrative explaining how the changed work affects other schedule activities. The written narrative shall describe how the Contractor proposes to incorporate the changed work in the schedule, and how it impacts the current schedule update. The Contractor is responsible for requesting all time extensions or any impacts to the critical path.
- B. Contractor shall, in addition, comply with the requirements of Paragraph "A" above for all types of delays such as, but not limited to, Contractor/Subcontractor delays, asserted County or third party caused delays, adverse weather delays, strikes, procurement delays, fabrication delays, etc. Contractor shall be responsible for all costs associated with the preparation of the Time Evaluation described in Paragraph "A" above, and the process of incorporating them into the current schedule update. The Contractor's Time Evaluation request must be based on the as-built critical path.

1.7 TIME EXTENSIONS

- A. Contractor is responsible for requesting time extensions for time impacts that, in the opinion of Contractor, impact the critical path of the current schedule update. Notice of changes of contract time shall be given in writing.

- B. Where an event for which either Contractor or the County is not responsible impacts the projected Substantial Completion date, Contractor shall provide a written mitigation plan, including a schedule diagram, which explains how (e.g., increase crew size, overtime, etc.) the impact can be mitigated. Contractor shall also include a detailed cost breakdown of the labor, equipment and material the Contractor would expend to mitigate time impact. Contractor shall submit its mitigation plan to the County within 14 calendar days from the date of discovery of said impact. Contractor is responsible for the cost to prepare the mitigation plan.
- C. Contractor's failure to request time, provide a written time evaluation or a mitigation plan will result in Contractor waiving its right to a time extension and cost to mitigate the delay.
- D. If Contractor does not submit a written time evaluation within the required 14 calendar days for any issue, it is mutually agreed that Contractor does not require a time extension for said issue.

PART 2 - PRODUCTS (NOT APPLICABLE)

PART 3 - EXECUTION (NOT APPLICABLE)

END OF SECTION 01 32 00

SECTION 01 33 00 - SUBMITTAL PROCEDURES

PART 1 - GENERAL

1.1 SECTION INCLUDES

- A. Where required by the Specifications, the Contractor shall submit descriptive information that will enable the County to determine whether the Contractor's proposed materials, equipment, and work methods are in general conformance to the design concept and in accordance with the Drawings and Specifications. The information submitted may consist of drawings, specifications, descriptive data, certificates, samples, test results, product data, and such other information, all as specifically required in the Drawings and Specifications. In some instances, specified submittal information describes some, but not all features of the material, equipment, or work method.

1.2 PROCEDURES

- A. Direct all submittals to the County unless specified otherwise.
- B. Transmittal of Submittal:
 - 1. Contractor shall be responsible for the accuracy and completeness of the information contained in each submittal and shall ensure that the material, equipment, or Work method shall be as described in the submittal.
 - a. Contractor shall verify that all features of all products conform to the requirements of the Drawings and Specifications.
 - b. Contractor shall ensure that there is no conflict with other submittals and notify the County in each case where its submittal may affect the work of the County or others.
 - c. Contractor shall ensure coordination of submittals among the Subcontractor(s).
 - 2. Unless a different number is called for in the individual Specification sections, four (4) copies of each submittal are required.
 - a. Two (2) will be retained by the County and/or the County's Engineer.
 - b. Contractor will receive two (2) copies in return.
 - 3. Contractor shall complete, sign, and transmit with each submittal package, one Transmittal of Contractor's Submittal form in format approved by the County and the County's Engineer.
 - 4. Submittal Identification shall include the following:
 - a. A unique number, sequentially assigned, shall be noted on the transmittal form accompanying each item submitted.
 - b. Original submittal numbers shall have the following format: "XXX-Y;" where "XXX" is the originally assigned submittal number and "Y" is a sequential letter assigned for resubmittals (for example, A, B, or C being the first, second, and third resubmittals, respectively). Submittal 25B, for example, is the second resubmittal of Submittal 25.
 - c. Specification section and paragraph to which submittal applies.
 - d. Project name and Project number, and references to applicable Drawings and Specifications.
 - e. Date of transmittal.
 - f. Names of Contractor, Subcontractor, or supplier, and manufacturer as appropriate.

5. If Contractor proposes to provide materials, equipment, or Work methods that deviate from the Drawings and Specifications, it shall be indicated under “deviations” on the transmittal form accompanying the submittal copies.

C. Format:

1. Submittals regarding material and equipment shall be presented directly to the County and be accompanied by a transmittal form.
 - a. A separate form shall be used for each specific item, class of material, equipment, and items specified in separate Specifications for which the submittal is required.
 - b. Submittals for various items shall be made with a single form when the items taken together constitute a manufacturer’s package or are so functionally related that expediency indicates checking or review of the group or package as a whole.
2. Submittals that are related to or affect each other shall be forwarded simultaneously as a package to facilitate coordinated review. Uncoordinated submittals will be rejected.
3. Any comments by the Contractor shall be duplicated on all copies submitted.
4. When catalog pages are submitted, applicable items must be clearly identified.
5. Submittals that do not have all the information required, including deviations, are not acceptable and will be returned without review.

D. Timelines: Schedule and submit in accordance with the Construction Schedule, and requirements of individual Specification sections.

E. Resubmittals: Clearly identify each correction or change made.

F. Review Procedure:

1. Submittals are required for those materials, equipment, and Work methods that can be selected based on Contractor’s judgment of their conformance to the Drawings and Specifications.
 - a. Other materials, equipment, and Work methods are specified in a manner that enables Contractor to determine acceptable options without submittals.
2. The review procedure is based on Contractor’s guarantee that all materials, equipment, and Work methods not requiring submittals conform to the Drawings and Specifications.
3. Review will not extend to means, methods, techniques, sequences, or procedures of construction or to verifying quantities, dimensions, weights or gages, or fabrication processes (except where specifically indicated or required by the Drawings and Specifications) of separate items, and as such, will not indicate approval of the assembly in which the item functions.
4. The County and/or the County’s Engineer will review submittals for overall design intent and returned to the Contractor with suggested or necessary revisions.
5. Deviations from Contract requirements:
 - a. Deviations from Contract requirements will be reviewed by the County and/or its Engineer.
 - b. Contractor shall describe such variations in writing, separate from the appropriate submittal at time of submission.

- c. If the County and/or the County's Engineer approves any such variations, an appropriate Contract Modification may be issued unless the variation is minor and does not involve a change in price or in time of performance.
 6. If the items or system(s) proposed are acceptable, but the major part of the individual drawings or documents are incomplete or require revision, the submittal will be returned with requirements for completion.
 7. The right is reserved for the County and/or its Engineer to require submittals in addition to those called for in individual Specification sections.
 8. The returned submittal will indicate one of the following:
 - a. If the review determines that the material, equipment, or Work method complies with the Drawings and Specifications, submittal copies will be marked "NO EXCEPTIONS TAKEN." In this event, Contractor may begin to implement the Work method or incorporate the material or equipment covered by the submittal.
 - b. If the review determines limited corrections are required, copies will be marked "FURNISH AS NOTED." Contractor may begin implementing the Work method or incorporating the material and equipment covered by the submittal in accordance with the noted corrections. Where submittal information will be incorporated in Operation and Maintenance data, a corrected copy shall be provided.
 - c. If the review indicates that the submittal is insufficient or contains incorrect data, copies will be marked "REVISE AND RESUBMIT." Except at its own risk, Contractor shall not undertake Work covered by this submittal until it has been revised, resubmitted, and returned marked either "NO EXCEPTIONS TAKEN" or "FURNISH AS NOTED."
 - d. If the review indicates that the material, equipment, or Work method does not comply with the Specifications, copies of the submittal will be marked "REJECTED." Submittals with deviations that have not been identified clearly may be rejected. Except at its own risk, Contractor shall not undertake the Work covered by such submittals until a new submittal is made and returned marked either "NO EXCEPTIONS TAKEN" or "FURNISH AS NOTED."
 9. It shall be Contractor's responsibility to ensure that required items are corrected and resubmitted. Any Work done before approval shall be at Contractor's own risk.
 10. Processing Time: Unless otherwise specified, the County will review the submittal and return copies with comments/required actions within seven (7) calendar days after receipt of the submittal.
- G. Certificates: For those items called for in individual Specification sections, Contractor shall furnish two (2) certificates of compliance from manufacturers or suppliers certifying that materials or equipment being furnished comply with the requirements of these Drawings and Specifications.
- H. Samples: Unless a different number is called for in the individual Specification sections, four (4) copies of each are required; two (2) of which will be retained by the County and Engineer. Contractor will receive two (2) copies in return. Samples shall be sufficient in size to clearly illustrate functional characteristics and full range of color, texture, and pattern.
- I. Effect of Review of Contractor's Submittals:
 1. Review of Shop Drawings, data, Work methods, or information regarding materials or equipment Contractor proposes to provide shall not relieve Contractor of the

- responsibility for errors therein and will not be regarded as an assumption of risks or liability by the County and/or the County's Engineer, or by any officer or employee thereof; and Contractor shall have no claim under the Contract on account of the failure or partial failure of the Work methods, materials, or equipment so reviewed.
2. A mark of "NO EXCEPTIONS TAKEN" or "FURNISH AS NOTED" will mean that the County has no objection to the Contractor, upon its own responsibility, using the Work method proposed, or providing the materials or equipment proposed.

1.3 SHOP DRAWINGS

- A. The Contractor shall coordinate all Shop Drawings and review them for legibility, accuracy, completeness, and compliance with Contract requirements and shall indicate this approval thereon as evidence of such coordination and review.
 1. Shop Drawings submitted to the County and/or its Engineer without evidence of Contractor's approval will be returned for resubmission.
- B. The Contractor shall stamp approval on Shop Drawings prior to submission to the Engineer and County as an indication that dimensions and coordination with interrelated items have been checked and verified. Stamp shall read:
 1. The Contractor represents that they have determined and verified all field dimensions and measurements, field construction criteria, materials, catalog numbers and similar data, and that we have checked with the requirements of the Drawings and Specifications, the Contract Documents, and General Conditions."
- C. Contractor's comments on Shop Drawings shall not be in red ink.
- D. Should the Contractor propose any item on the Shop Drawings or incorporate an item into the Work which subsequently proves to be defective or otherwise unsatisfactory, (regardless of the County's or its Engineer's preliminary review) the Contractor shall, at Contractor's own expense, replace the item with another item that will perform satisfactorily.

1.4 PROJECT SITE LAYOUT

- A. In accordance with Section 01500, Mobilization, Contractor shall submit within seven (7) days after the effective date of the NOTICE TO PROCEED, a layout of the Project site including fences, roads, parking, buildings, storage areas, drainage plans, temporary building layouts, and temporary utility locations.

PART 2 - PRODUCTS (NOT APPLICABLE)

PART 3 - EXECUTION (NOT APPLICABLE)

END OF SECTION 01330

SECTION 01 35 00 - SITE SAFETY

PART 1 - GENERAL

1.1 SECTION INCLUDES

- A. Responsibility and requirements for site health and safety.

1.2 CONTRACTOR'S RESPONSIBILITY

- A. The Contractor shall be solely and completely responsible for initiating, maintaining and supervising all safety precautions and programs in connection with the Work.
- B. The Contractor shall take precautions to prevent injury to employees, County personnel, Engineer's personnel and other persons that may be at the work site or affected by the Contractor's actions.
- C. The Contractor's responsibility for safety is continuous throughout the duration of the Work and is not limited to the actual hours of construction operations.
- D. Comply with all relevant health and safety regulations governing the work being performed.
- E. Comply with 29 CFR 1926 - Health and Safety Regulations for Construction.
- F. Become familiar with the potential hazardous health and safety conditions and risks associated with the work to be performed.
- G. Provide a fire extinguisher in the Contractor's field office and in any enclosed shed. Extinguisher shall be of the non-freeze type ABC of not less than 10-pound capacity.
- H. Post a "HARD HAT AREA" sign at the construction site, as needed.
- I. Keep an accurate record of and report to the County all cases of death, occupational diseases and traumatic injury occurring to employees or others at the work site.

1.3 SITE SAFETY OFFICER

- A. Designate a qualified person to be the site safety officer. The designated person shall have a thorough knowledge of the potential safety hazards, prevention and remedial actions concerning general construction activities. The site safety officer shall be trained in first aid.
- B. Site Safety Officer Responsibilities:
 - 1. Be present whenever construction operations are in progress.
 - 2. Assure compliance with the Contractor's Health and Safety Plan.
 - 3. Provide health and safety briefing to the Contractor's employees and subcontractors.

1.4 HEALTH AND SAFETY PLAN

- A. Prepare and submit a Health and Safety Plan to the County. The County will review the plan for general conformance with the requirements. The County's review will not constitute an approval of the plan nor will the review relieve the Contractor of full responsibility for site health and safety.
- B. Include as a minimum:
 - 1. First aid equipment to be available and number of persons trained in first aid.
 - 2. Emergency response plan including location and routes to local medical facilities and a list of emergency phone numbers.
 - 3. Procedures and actions to be taken if there is a fire or explosion.

1.5 STOP WORK ORDER

- A. When violations of the health and safety requirements or unsafe conditions are called to the Contractor's attention by the County, the Contractor shall immediately take remedial action.
- B. If, following the County's compliance directive for remedial action, the Contractor fails or refuses to take prompt corrective action, the County may issue an order to stop all or a portion of work. When satisfactory corrective action is taken, an order to resume work will be issued.

PART 2 - PRODUCTS (NOT APPLICABLE)

PART 3 - EXECUTION (NOT APPLICABLE)

END OF SECTION 01 35 00

SECTION 01 40 00 – QUALITY REQUIREMENTS

PART 1 - GENERAL

1.1 SECTION INCLUDES

- A. Quality Monitoring: Contractor shall monitor quality control over subcontractors, suppliers, manufacturers, products, services, site conditions, and workmanship, to produce Work of specified quality. Contractor shall perform quality control procedures and inspections during installation.
- B. Standards: Contractor shall comply with specified standards as minimum quality for the Work except where more stringent tolerances, codes, or specified requirements indicate higher standards or more precise workmanship.
- C. Tolerances: Contractor shall monitor fabrication and installation tolerance control of products to produce acceptable Work. Do not permit tolerances to accumulate. Comply with manufacturers' tolerances.
- D. Reference Standards: For products or workmanship specified by association, trade, or other consensus standards, Contractor shall comply with requirements of the standard, except when more rigid requirements are specified or are required by applicable codes.
- E. Manufacturer's Field Services: Contractor when specified in individual specifications, require material suppliers, product suppliers or manufacturers will provide qualified staff personnel to perform the following as applicable, and to initiate instructions when necessary.
 - 1. Observe site conditions.
 - 2. Conditions of surfaces and installation.
 - 3. Quality of workmanship.
 - 4. Start-up of equipment.
 - 5. Test, adjust and balance of equipment.
- F. Mock-Ups: Contractor shall assemble and erect specified items with specified attachment and anchorage devices, flashings, seals, and finishes, as requested. Accepted mock-ups shall be a comparison standard for the remaining Work.
- G. Removal of Mock-Ups: Where mock-up has been accepted by the County and/or its Engineer and no longer needed, Contractor shall remove mock-up and clear area when directed to do so.

PART 2 PRODUCTS (NOT APPLICABLE)

PART 3 EXECUTION (NOT APPLICABLE)

END OF SECTION 01 40 00

SECTION 01 41 00 - PROJECT PERMITS AND ENVIRONMENTAL CONTROLS

PART 1 – GENERAL

1.1 SECTION INCLUDES

- A. Requirements for abatement of water pollution.
- B. Requirements for abatement of air pollution.
- C. Requirements for noise pollution.
- D. Project permitting

1.2 ABATEMENT OF WATER POLLUTION

- A. The Contractor's construction activities shall be performed by methods that will prevent entrance, or accidental spillage, of solid matter, contaminants, debris, and other pollutants and wastes into streams, flowing or dry water courses, and underground water sources.
- B. Such pollutants and wastes include, but are not restricted to, refuse, garbage, cement, concrete, heavy sediment from erosion of construction areas, sanitary waste, industrial waste, radioactive substances, oil and other petroleum products, aggregate processing tailings, mineral salts, and thermal pollution.
- C. Dewatering work for earthwork operations adjacent to or encroaching on, streams or water courses shall be conducted in a manner to prevent muddy water and eroded materials from entering the streams or water courses by construction of intercepting ditches, bypass channels, barriers, evaporation ponds, or by other approved means. Excavated materials or other construction materials shall not be stockpiled or deposited near or on streambanks, lake shorelines, or other water course perimeters where they can be washed away by high water or storm runoff or can in any way encroach upon the water course itself, except as approved by the County.
- D. Turbidity increases in a stream or other bodies of water that are caused by construction activities shall be limited to the increases above the natural turbidities permitted under the water quality standards prescribed for that stream or body of water. When necessary to perform required construction work in a stream channel, the prescribed turbidity limits may be exceeded, as approved by the Colorado Department of Public Health and Environment (CDPHE), and the County, for the shortest practicable period required to complete such work. This required construction work may include such work as diversion of a stream, or specified earthwork in or adjacent to a stream channel, and construction of turbidity control structures. Mechanized equipment shall not be allowed to operate in flowing water except as necessary and permitted to construct crossings or to perform the required construction.
- E. Wastewaters from construction operations shall not enter streams, water courses, wetlands, or lakes, without passing through suitable sedimentation ponds or treatment facilities approved by CDPHE and the County.

- F. The Contractor shall comply with applicable federal and state and local laws, orders, regulations, and water quality standards concerning the control and abatement of water pollution.
- G. Where the location of a construction site is such that oil or gas from an accidental spillage could reasonably be expected to enter into or upon the navigable waters of the United States or adjoining shorelines, and the aggregate storage of oil or gas at the site is over 1320 gallons or a single container has a capacity in excess of 660 gallons, the Contractor shall prepare an SPCC Plan (Spill Prevention Control and Counter Measure Plan) reviewed and certified by a registered professional engineer in accordance with 40 CFR, part 112, as required by Public Law 92-500 as amended by Public Law 95-217 and Public Law 95-576.
- H. The Contractor shall submit to the County a certified statement that states that the SPCC plan, if required, was reviewed and certified by a professional engineer registered in the State of Colorado.
- I. A specific Contractor designated "Erosion Control Supervisor" shall be responsible for documenting, monitoring, and providing maintenance of all erosion control measures.

1.3 ABATEMENT OF AIR POLLUTION

- A. The Contractor shall comply with applicable Federal, State, and local laws and regulations concerning the prevention and control of air pollution.
- B. In conduct of construction activities and operation of equipment, the Contractor shall utilize such practicable methods and devices as are reasonably available to control, prevent, and otherwise minimize atmospheric emissions or discharges of air contaminants.
- C. The emission of dust into the atmosphere shall be minimized during handling and storage of construction materials, and the Contractor shall use such methods and equipment as are necessary to minimize or prevent dust during these operations.
- D. Equipment and vehicles that are found to have emissions of exhaust gases or particulates that exceed applicable limits established by Federal, State or local laws or authorities, shall not be operated until corrective repairs or adjustments are made. If required by the County, the Contractor shall provide acceptable evidence that equipment and vehicles have been tested for exhaust emissions and have been found to be in compliance with applicable limits.
- E. The Contractor shall carry out proper and efficient measures wherever and as often as necessary to reduce the dust nuisance, and to prevent dust from damaging crops, orchards, cultivated field, and dwellings, or causing a nuisance to persons. The Contractor shall be held liable for any damage resulting from dust originating from his operations under these specifications on County property or elsewhere.

1.4 ABATEMENT OF NOISE POLLUTION

- A. The Contractor shall comply with applicable Federal, State, and local laws, orders, and regulations concerning the prevention, control, and abatement of excess noise.

- B. Blasting shall not be allowed for this work.
- C. Contractor work hours shall be Monday to Friday, 7:00am to 5:00pm. Work on Saturdays and Sundays, nights, and federal holidays shall not be allowed unless approved in writing by the County.

1.5 ABATEMENT OF SOLID WASTE

- A. The Contractor shall be responsible for all waste products produced from the Contractor's operations. This includes all material packing, surplus materials, expendable materials, waste materials, temporary construction materials, signage and related solid waste. Concrete in excess of that needed for construction, used for testing, and/or associated with washing out delivery trucks may be temporarily placed within a contained on-site vessel for handling and storage during the construction period and must be removed to off-site disposal at the conclusion of construction.
- B. Any material not intended for incorporation into this Project shall not be stored on-site at any time.

1.6 PROJECT PERMITS

- A. The County will apply for a Building Permit and an On-Site Wastewater Permit and convey to the awarded Contractor. The Contractor will be responsible for following all permit requirements and closing out said permits.
*Such permit applications shall be consistent with the Drawings and Specifications.
- B. The Contractor shall maintain a temporary construction access off of North 83RD St. with the Contractor's "Traffic Control Plan".

PART 2 - PRODUCTS (NOT APPLICABLE)

PART 3 - EXECUTION (NOT APPLICABLE)

END OF SECTION 01 41 00

SECTION 01 42 00 - REFERENCES

PART 1 – GENERAL

1.1 SUMMARY

- A. Titles of Sections and Paragraphs: Captions accompanying specification sections and paragraphs are for convenience of reference only, and do not form a part of the Specifications.
- B. Applicable Publications: Whenever in these specifications references are made to published specifications, codes, standards, or other requirements, it shall be understood that wherever no date is specified, only the latest specifications, standards, or requirements of the respective issuing agencies which have been published as of the date of Bid Opening, shall apply; except to the extent that said standards or requirements may be in conflict with applicable laws, ordinances, or governing codes. No requirements set forth herein or shown on the Drawings shall be waived because of any provision of, or omission from, said standards or requirements.
- C. Specialists, Assignments: In certain instances, specifications text requires (or implies) that specific work is to be assigned to specialists or expert entities, who must be engaged for the performance of that work. Such assignments shall be recognized as special requirements over which the Contractor has no choice or option. These requirements shall not be interpreted so as to conflict with the enforcement of building codes and similar regulations governing the Work; also they are not intended to interfere with local union jurisdiction settlements and similar conventions. Such assignments are intended to establish which party or entity involved in a specific unit of work is recognized as "expert" for the indicated construction processes or operations. The final responsibility for fulfillment of the entire set of contract requirements remains with the Contractor.
- D. Without limiting the general provisions of other portions of the specifications, all work specified herein shall conform to or exceed the requirements of all applicable codes and the applicable requirements of the following documents to the extent that the provisions of such documents are neither conflict with the requirements of these Specifications nor the applicable codes.
- E. References herein to codes shall mean the following listed codes, including all addenda, modifications, amendments, or other lawful changes thereto:
- International Building Code
 - International Plumbing Code
 - International Mechanical Code
 - National Electric Code
 - Uniform Fire Code
 - Boulder County Building Code
- F. In case of conflict between codes, reference standards, drawings and the other Contract Documents, the most stringent requirements shall govern. All conflicts shall be brought

to the attention of the County for clarification and directions prior to ordering or providing any materials or labor. The Contractor shall bid the most stringent requirements.

- G. Applicable Utility Regulations: Regulations and tariffs utilized by the utility companies shall govern minimum utility related requirements for the Work. Where utility regulations conflict with the technical specifications, the more stringent provision shall apply. Upon discovery, any and all such conflicts shall be brought to the immediate attention of the County prior to proceeding with the Work.
- H. Applicable Standard Specifications: The Contractor shall construct the Work specified herein in accordance with the requirements of the Contract Documents and the referenced portions of those referenced codes, standards, and specifications listed herein; except, that whenever references to "Standard Specifications" are made, the provisions therein for measurement and payment shall not apply.
- I. References herein to "OSHA Standards" shall mean Title 29, Part 1910, Occupational Safety and Health Standards, Code of Federal Regulations (OSHA), including all changes and amendments thereto.

1.2 ABBREVIATIONS AND ACRONYMS

- A. Specific abbreviations, used on the Drawings, are listed thereon. The following abbreviations of organizations may be used in the Contract Documents:

AAMA	American Architectural Manufacturers Association
AASHTO	American Association of State Highway and Transportation Officials
ACI	American Concrete Institute
ACIL	American Council of Independent Laboratories
ADA	Americans with Disabilities Act
AGC	Associated General Contractors
AI	The Asphalt Institute
AISC	American Institute of Steel Construction
AISI	American Iron and Steel Institute
AITC	American Institute of Timber Construction
ALSC	American Lumber Standard Committee
AMCA	Air Movement and Control Association
ANSI	American National Standards Institute
APA	American Plywood Association
APWA	American Public Works Association
ASCE	American Society of Civil Engineers
ASTM	American Society for Testing and Materials
AWS	American Welding Society
AWWA	American Water Works Association
BBC	Basic Building Code, Building Officials and Code Administrators
BHMA	Builders Hardware Manufacturers Association
CDOT	Colorado Department of Transportation
CDPHE	Colorado Department of Public Health and Environment
CFR	Code of Federal Regulations
CPSC	Consumer Products Safety Commission
CRSI	Concrete Reinforcing Steel Institute
DHI	Door and Hardware Institute

SPECIFICATIONS

LEFTHAND VALLEY GRANGE RESTROOM Boulder County Parks and Open Space

EPA	Environmental Protection Agency
FM	Factory Mutual
FS	Federal Specification
FSC	Forest Stewardship Council
GA	Gypsum Association
GANA	Glass Association of North America
IAPMO-UES	International Association of Plumbing and Mechanical Officials – Uniform Evaluation Service
IBC	2015 International Building Code
ICBO	International Conference of Building Officials
ICC	International Code Council
ICCPC	International Code Council Performance Code
IEBC	International Existing Building Code
IECC	International Energy Conservation Code
IEEE	Institute of Electrical and Electronics Engineers, Inc.
IGCC	International Green Construction Code
IMC	International Mechanical Code
IPC	2015 International Plumbing Code
IRC	International Residential Code
ISO	International Organization for Standardization
ITE	Institute of Traffic Engineers
MSS	Manufacturers Standardization Society
NAAMM	National Association of Architectural Metal Manufacturers
NACE	National Association of Corrosion Engineers
NEC	National Electrical Code
NECA	National Electrical Contractors Association
NEMA	National Electrical Manufacturers Association
NFPA	National Fire Protection Association
NIST	National Institute of Standards and Technology
NLGA	National Lumber Grades Authority
NPCA	National Precast Concrete Association
NRCA	National Roofing Contractors Association
NRCS	National Resource Conservation Service
NWWDA	National Wood Window and Door Association
OSHA	Occupational Safety and Health Administration (Federal)
PCA	Portland Cement Association
RIS	Redwood Inspection Service
RSCS	Research Council on Structural Connections
SAE	Society of Automotive Engineers
SGCC	Safety Glazing Certification Council
SMACNA	Sheet Metal and Air Conditioning Contractors National Association, Inc.
SSPC	Society for Protective Coatings
UBC	Uniform Building Code
UL	Underwriters Laboratories Inc.
WCLIB	West Coast Lumber Inspection Bureau
WDMA	Window and Door Manufacturers Association
WI	Woodwork Institute
WRCLA	Western Red Cedar Lumber Association
WWPA	Western Wood Products Association

1.4 REFERENCE STANDARDS

- A. For products or workmanship specified by association, trade, or other consensus standards, complies with requirements of the standard, except when requirements that are more rigid are specified or are required by applicable codes.
- B. Applicable standards of the construction industry have the same force and effect (and are made a part of the Contract Documents by reference) as if copied directly into the Contract Documents, or as if published copies were bound herewith.
- C. Conform to reference standard by date of issue current on date of Contract Documents, except where a specific date is established by code.
- D. Obtain copies of standards as required.
- E. Should specified reference standards conflict with Contract Documents, request clarification from the County before proceeding.
- F. Neither the contractual relationships, nor responsibilities/duties of the parties in Contract nor those of the County and/or its Engineer shall be altered from the Contract Documents by mention or inference otherwise in any reference document.

PART 2 - PRODUCTS (NOT APPLICABLE)

PART 3 - EXECUTION (NOT APPLICABLE)

END OF SECTION 01 42 00

SECTION 01 45 16 - MATERIALS TESTING

PART 1 - GENERAL

1.1 SUMMARY

- A. Section includes general information and execution for materials testing.

1.2 REFERENCES

- A. American Concrete Institute (ACI):

- 1. 318 – Building Code Requirements for Structural Concrete and Commentary

- B. ASTM International (ASTM):

- 1. C 42 – Standard Test Method for Obtaining and Testing Drilled Cores and Sawed Beams of Concrete
 - 2. D 2950 – Standard Test Method for Density of Bituminous Concrete in Place by Nuclear Methods
 - 3. D 5361 – Standard Practice for Sampling Compacted Bituminous Mixtures for Laboratory Testing
 - 4. D 6752 – Standard Test Method for Bulk Specific Gravity and Density of Compacted Bituminous Mixtures Using Automatic Vacuum Sealing Method

1.3 DEFINITIONS

- A. The County's QA/QC: A program of testing and inspection performed by the OWNER to determine the level of quality and compliance with the requirements and standards of the Contract Documents.
- B. Contractor's QA/QC: The operational techniques and the activities that sustain the quality of a product or service to satisfy given requirements of both the Contract Documents as well as the jurisdictional entity where the Work takes place. It consists of quality planning, data collection, data analysis, and implementation, and is applicable to all phases of the product life cycle: design, development, manufacturing, delivery and installation, and operation and maintenance.

1.4 SEQUENCING AND SCHEDULING

- A. General:

- 1. Assist and cooperate with the County and its Engineer for access to the Work to perform the County's materials testing.
 - 2. Provide testing and reporting required to satisfy jurisdictional and permitting requirements.

PART 2 - PRODUCTS (NOT USED)

PART 3 - EXECUTION

3.1 QUALITY CONTROL

A. Soils Compaction Testing:

1. The County will perform QA/QC testing of geotechnical materials and work product to determine the conformance of the Work with the requirements of the Contract Documents.
2. The Contractor, at their discretion, may retain a qualified consultant to perform any necessary Contractor's QA/QC testing to assist the Contractor in determining the state of materials incorporated into the Work.
3. The County's QA/QC program is for the sole use of the County to determine the quality of the Work and is in no way intended to replace the Contractor's QA/QC.
4. The frequency of the County's QA/QC compaction testing will be in conformance with the accepted industry standard of care and at the Engineer's discretion.
5. Areas of noncompliance, as determined by the County's QA/QC testing, shall be removed and re-compacted to conform to requirements of the Contract Documents upon receipt of test results. Costs for reworking and retesting backfill material to meet the requirements of the Contract Documents are at the Contractor's expense.

B. Concrete Testing:

1. The County will perform QA/QC testing of the concrete to determine the conformance of Work with the requirements of the Contract Documents. The frequency of the County's QA/QC testing will be at the County's Engineer discretion.
2. Assist the County with concrete sampling and testing:
 - a. Provide designated test site areas.
 - b. Test sites shall be approximately 150 sf in area, level, and accessible at all times.
3. The concrete Supplier may perform their own QA/QC testing.
4. Acceptance of concrete with failed compressive strength tests will be based on ACI 318 and ASTM C 42.

C. Special Inspections and Testing: Special inspections and testing required by the building permit will be performed by the County, or a third party consultant hired by the County, at the County's expense.

END OF SECTION 01 45 16

SECTION 01 50 00 – MOBILIZATION

PART 1 – GENERAL

1.1 SECTION REQUIREMENTS

- A. This work consists of the mobilization of personnel, equipment and supplies at the project site in preparation for work on this project. This item shall also include the establishment of the Contractor's offices, buildings and other necessary facilities, obtaining all necessary permits, and all other costs incurred or labor and operations which must be performed prior to beginning the other items under the Contract.

1.2 ITEMS SUPPLIED BY CONTRACTOR

- A. Storage/Staging Area: Storage of all materials and equipment shall be contained within the limit of work line as noted on the plans or agreed upon by the County. All storage/staging areas shall be restored to their preconstruction condition at no additional cost to the County.

1.3 ACCESS

- A. Primary site access is from 83rd Street, Niwot CO.

1.4 TEMPORARY PROTECTIVE FACILITIES

- A. Provide and maintain protective devices and facilities for protection of public and general protection of workmen on project.
 - 1. Provide warning signs against hazards created by construction activities.
 - 2. Provide and maintain fire extinguishers and active fire hydrants where required. Maintain fire lanes to hydrants and other equipment as necessary for proper fire protection during construction.
 - 3. Maintain temporary protective facilities in good condition throughout term of work. Remove at completion of work. Repair and replace damaged work.
- B. Contractor should be aware that this project is eagerly anticipated by the community. Safety and security of the work site is the Contractor's responsibility.

1.5 CLEAN-UP

- A. General: Maintain project and site in clean and orderly condition. Regularly remove waste materials, debris and rubbish from site.

1.6 SUBMITTALS

- A. The Contractor shall submit a complete list of equipment proposed for the work to include type, number of units, and any other data necessary to permit the County to judge that adequate equipment shall be provided to complete the work in a timely manner.

PART 2 - PRODUCTS (NOT APPLICABLE)

SPECIFICATIONS

LEFTHAND VALLEY GRANGE RESTROOM
Boulder County Parks and Open Space

PART 3 - EXECUTION (NOT APPLICABLE)

END OF SECTION 01 50 00

SECTION 01 51 00 - TEMPORARY UTILITIES

PART 1 – GENERAL

1.1 SUMMARY

- A. It shall be the Contractor's responsibility to provide power and equipment that is adequate for the performance of the Work under this Contract within the time specified. All power and equipment shall be kept in satisfactory operating condition, shall be capable of safely and efficiently performing the required Work.

1.2 POWER AND LIGHTING

- A. Power: The Contractor shall provide all necessary temporary power required for its operations under the Contract, and shall provide and maintain all temporary power lines required to perform the Work in a safe and satisfactory manner.
- B. Construction Lighting: All Work conducted under conditions of deficient daylight shall be suitably lighted to insure proper Work and to afford adequate facilities for inspection and safe working conditions.
- C. Approval of Electrical Connections: All temporary connections for electricity shall be subject to permitting and approval by the Boulder County Building Division, BCPOS and the power company, and shall be removed in like manner at the Contractor's expense prior to final acceptance of the Work.
- D. Construction Wiring: All wiring for temporary electric light and power shall be properly permitted, installed and maintained and shall be securely fastened in place. All electrical facilities shall conform to the requirements local, state and federal regulations.

1.3 WATER SUPPLY

- A. General: The Contractor will furnish all quantities of water required to perform the Work under the Contract.
- B. Potable Water: All drinking water on the site during construction shall be furnished by the Contractor and shall be water furnished in appropriate dispensers.
- C. Water Connections: The Contractor shall not make connection to, or draw water from, any fire hydrant or pipeline without first obtaining permission of the City, Town or other authority having jurisdiction over the use of said fire hydrant or pipeline and from the agency owning the affected water system. For each such connection made, the Contractor shall first attach to the fire hydrant or pipeline a valve and a construction meter, supplied by the City, Town or said other authority and agency.
- D. Removal of Water Connections: Before final acceptance of the Work on the project, all temporary connections and piping installed by the Contractor shall be entirely removed, and all affected improvements shall be restored to their original condition, or better, to the satisfaction of the County, and the agency owning the affected utility.
- E. Fire Protection: The Contractor shall be adequately protected against damage by fire.

1.4 SANITATION

- A. Toilet Facilities: Fixed or portable chemical toilets shall be provided wherever needed for the use of employees.
- B. Sanitary and Other Organic Wastes: The Contractor shall establish a regularly scheduled collection of all sanitary and organic wastes. All wastes and refuse from sanitary facilities provided by the Contractor or organic material wastes from any other source related to the Contractor's operations shall be disposed of away from the site in a manner satisfactory to the County and in accordance with all local, state and federal laws and regulations.

1.5 TEMPORARY HEATING

- A. The Contractor shall provide temporary heating as required to allow proper performance of certain finishing work and to protect installed work.
- B. The Contractor shall take special precautions to prevent fire and the discharge of noxious fumes, fuel spillage, and other hazards resulting from the operation of its heating system.

1.6 COMMUNICATIONS

- A. Telephone Services: The Contractor shall provide and maintain at all times during the progress of the Work not less than one telephone in good working order, at its own field construction office, at or near the site of the Work included in the Contract.

PART 2 - PRODUCTS (NOT APPLICABLE)

PART 3 - EXECUTION (NOT APPLICABLE)

END OF SECTION 01 51 00

SECTION 01 55 00 - SITE ACCESS AND STORAGE

PART 1 – GENERAL

1.1 GENERAL

- A. The Contractor shall take all necessary precautions for the protection of the Work and the safety of the public. All barricades and obstructions shall be illuminated at night, and all lights shall be kept burning from sunset until sunrise. The Contractor shall station such guards or flaggers and shall conform to such special safety regulations relating to traffic control as may be required by the public authorities within their respective jurisdictions. All signs, signals, and barricades shall conform to the requirements of the "Manual on Uniform Traffic Control Devices" 2009 Edition including the latest revisions.

1.2 HIGHWAY LIMITATIONS

- A. The Contractor shall make its own investigation of the condition of available public and private roads and of clearances, restrictions, bridge load limits, and other limitations affecting transportation and ingress and egress to and from the site of the Work. It shall be the Contractor's responsibility to construct and maintain any access or haul roads required for its construction operations.
- B. All hauling by motor vehicles shall be confined to truck routes, except where otherwise authorized in writing by the County.

1.3 CONTRACTOR'S WORK AND STORAGE AREA

- A. The Contractor shall make its own arrangements for any necessary off-site storage or shop areas necessary for the proper execution of the Work. The Contractor shall submit a site plan, drawn to scale, of the proposed storage/trailer and/or construction site to the County for review and approval.
- B. The County will designate and arrange for the Contractor's use, a portion of the property (adjacent to the Work) for its exclusive use during the term of the contract as storage and shop area for its construction operations relative to this contract.
- C. Lands to be furnished by the County for construction operations, roads, and other purposes are as shown on the plans and/or specified herein. Should the Contractor find it necessary to use any additional land for its purposes during the construction of the Work, it shall provide for the use of such lands at its own expense. The Contractor shall obtain the County's or private property owner's written approval prior to using any additional land.

1.4 TEMPORARY STREET USE

- A. Nothing herein shall be construed to entitle the Contractor to the exclusive use of any public street, alley, way, or parking area during the performance of the Work hereunder, and it shall so conduct its operations as not to interfere unnecessarily with the authorized work of the Boulder County, utility companies, or other agencies in such streets, roadways, or parking areas.

- B. No Street shall be closed to the public without first obtaining the permission of the Board of County Commissioners and other proper governmental authority, where applicable. Where excavation is being performed in primary streets or highways, one lane of traffic shall be kept open in each direction at all times unless otherwise noted in the plans under the terms of the permits issued by the County, State, or other public agencies, as required.
- C. Fire hydrants on or adjacent to the Work shall be kept accessible to firefighting equipment at all times.
- D. Temporary provisions shall be made by the Contractor to assure the use of sidewalks and the proper functioning of all gutters, sewer inlets, and other drainage facilities.
- E. Wherever necessary or required for the convenience of the public or individual residents or business places at street or highway crossings, private driveways, or elsewhere, the Contractor shall provide suitable temporary bridges or steel plates over unfilled excavations, except in such cases as the Contractor shall secure the written consent of the individuals or authorities concerned to omit such temporary bridges or steel plates, which written consent shall be delivered to the County prior to beginning the excavation. All such bridges or steel plates shall be maintained in service until access is provided across the backfilled excavation.
- F. Temporary bridges or steel plates for street and highway crossings shall conform to the requirements of the authority having jurisdiction in each case, and the Contractor shall adopt designs furnished by said authority for such bridges or steel plates, or shall submit designs to said authority for approval, as may be required.

PART 2 - PRODUCTS (NOT APPLICABLE)

PART 3 - EXECUTION (NOT APPLICABLE)

END OF SECTION 01 55 00

SECTION 01 55 26 - TRAFFIC CONTROL

PART 1 – GENERAL

1.1 SECTION REQUIREMENTS

A. If required, the Contractor shall submit a Traffic Control Plan to Boulder County a minimum of one week prior to the start of construction. The Plan shall detail the proposed methods of traffic control and signing in the work zone, for all phases of construction. All traffic control shall conform to the “Manual of Uniform Traffic Control Devices for Streets and Highways”, Colorado Supplement to the “Manual of Uniform Traffic Control Devices for Streets and Highways”, and to the requirements of Boulder County or as directed by the County. The key elements of the Contractor’s Method of Handling Traffic (MHT) are included in the current version of the Manual of Uniform Traffic Control Devices (MUTCD) and Colorado Department of Transportation’s Standard Specifications for Road and Bridge Construction Manual listed below:

- Standard Plan S-614-50, Traffic Controls for Highway Construction, and Standard Plan S-614-51.

B. Special Requirements:

1. Traffic control signs compatible with the construction zone traffic control plan shall remain visible and fully operational. Construction traffic control signs, which do not apply, shall be turned from view or removed as directed by the County.

1.2 PEDESTRIAN TRAFFIC CONTROL

A. The Contractor shall utilize flagmen when accessing the site through 83rd Street at the park entrance. Contractor shall note that existing trails, schools, parks, roads, etc. surrounding the site will remain open to the public throughout construction. The contractor is solely responsible for providing a safe work place and controlling access to the construction area through the duration of the project.

PART 2 - PRODUCTS (NOT APPLICABLE)

PART 3 - EXECUTION (NOT APPLICABLE)

END OF SECTION 01 55 26

SECTION 01 56 00 - PROTECTION OF EXISTING FACILITIES

PART 1 - GENERAL

1.1 GENERAL

- A. The Contractor shall protect all existing utilities, trees, shrubbery, landscaping, irrigation facilities, buildings, fences, roadside signs, poles, mailboxes, traffic detectors (loops), traffic signals, street lights, and all other improvements not designated for removal and shall restore damaged or temporarily relocated utilities and other improvements as listed above to a condition equal to or better than they were prior to such damage or temporary relocation, all in accordance with requirements of the Contract Documents.
- B. The Contractor shall verify the exact locations and depths of all utilities shown and the Contractor shall make exploratory excavations of all utilities that may interfere with the Work. All such exploratory excavations shall be performed as soon as practicable after award of contract and, in any event, a sufficient time in advance of construction to avoid possible delays to the Contractor's work. When such exploratory excavations show the utility location as shown to be in error, the Contractor shall so notify the County.
- C. The number of exploratory excavations required shall be sufficient to determine the alignment and grade of the utility.
- D. Private hose bibs and hoses shall not be used for construction.
- E. All reference markings made by the Contractor shall be done with spray chalk and shall be removed by the Contractor.
- F. In the event it is necessary to respond with County Park Maintenance staff in lieu of the Contractor to repair damages done to any County facilities caused by the Contractor's operations or as a consequences thereof, there shall be a minimum mobilization cost of \$500 for administrative overhead, billing and equipment use in addition to the hourly rate (including benefits) billed for County employees and any materials costs. The Contractor shall be obligated to pay this amount separately to the County prior to the completion of the project and retention payment. The use of County Park Maintenance personnel will be at the discretion of the County.
- G. If a hazardous condition is observed and the County notifies the Contractor either directly or by telephone, the Contractor shall correct the condition immediately. If the Contractor fails to correct the condition immediately, the County reserves the right to call a local supplier(s) to install the necessary measures such as lights, barricade, etc. The cost involved shall be deducted from any money due (or to become due) to the Contractor.

1.2 RIGHTS-OF-WAY

- A. The Contractor shall not do any work that would affect any oil, gas, sewer, or water pipeline; any telephone, optical fiber or electric transmission line; any fence; or any other structure, nor shall the Contractor enter upon the rights-of-way involved until the Contractor has secured authority from the proper party. After authority has been obtained, the Contractor shall give said party due notice of its intention to begin work,

and shall give said party convenient access and every facility for removing, shoring, supporting, or otherwise protecting such pipeline, transmission line, ditch, fence, or structure, and for replacing same. When 2 or more contracts are being executed at one time on the same or adjacent land in such manner that work on one contract may interfere with that on another, the County shall determine the sequence and order of the Work. When the territory of one contract is the necessary or convenient means of access for the execution of another contract, such privilege of access or any other reasonable privilege may be granted by the County to the Contractor so desiring, to the extent, amount, in the manner, and at the times permitted. No such decisions as to the method or time of conducting the Work or the use of territory shall be made the basis of any claim for delay or damage.

1.3 PROTECTION OF STREET OR ROADWAY MARKERS

- A. The Contractor shall not destroy, remove, or otherwise disturb any existing survey markers or other existing street or roadway markers without proper authorization. No pavement breaking or excavation shall be started until all survey or other permanent marker points that will be disturbed by the construction operations have been properly referenced for easy and accurate restoration. It shall be the Contractor's responsibility to notify the proper representatives of the County of the time and location that work will be done. Such notification shall be sufficiently in advance of construction so that there will be no delay due to waiting for survey points to be satisfactorily referenced for restoration. All survey markers or points disturbed by the Contractor without proper authorization by the County will be accurately restored by the Contractor at the Contractor's expense after all street or roadway resurfacing has been completed.

1.4 EXISTING UTILITIES AND IMPROVEMENTS

- A. General: The Contractor shall protect all Underground Utilities and other improvements which may be impaired during construction operations. It shall be the Contractor's responsibility to ascertain the actual location of all existing utilities and other improvements that will be encountered in its construction operations, and to see that such utilities or other improvements are adequately protected from damage due to such operations. The Contractor shall take all possible precautions for the protection of unforeseen utility lines to provide for uninterrupted service and to provide such special protection as may be necessary.
- B. Utilities to be Moved: In case it shall be necessary to move the property of any public utility or franchise holder, such utility company or franchise holder will, upon request of the Contractor, be notified by the County to move such property within a specified reasonable time. When utility lines that are to be removed are encountered within the area of operations, the Contractor shall notify the County a sufficient time in advance for the necessary measures to be taken to prevent interruption of service.
- C. Where the proper completion of the Work requires the temporary or permanent removal and/or relocation of an existing utility or other improvement which is shown the Contractor shall remove and, without unnecessary delay, temporarily replace or relocate such utility or the facility. In all cases of such temporary removal or relocation, restoration to former location shall be accomplished by the Contractor in a manner that will restore or replace the utility or improvement as nearly as possible to its former locations and to as good or better condition than found prior to removal.

- D. County's Right of Access: The right is reserved to the County and to the owners of public utilities and franchises to enter at any time upon any public street, alley, right-of-way, or easement for the purpose of making changes in their property made necessary by the Work of this Contract.
- E. Underground Utilities Shown or Indicated: Existing utility lines that are shown or the locations of which are made known to the Contractor prior to excavation and that are to be retained, and all utility lines that are constructed during excavation operations shall be protected from damage during excavation and backfilling and, if damaged, shall be immediately repaired by the Contractor.
- F. Underground Utilities Not Shown or Indicated: In the event that the Contractor damages any existing utility lines that are not shown or the locations of which are not made known to the Contractor prior to excavation, a written report thereof shall be made immediately to the County. If directed by the County, repairs shall be made by the Contractor under the provisions for changes and extra work.
- G. All costs of repairing damage not due to failure of the Contractor to exercise reasonable care, and removing or relocating such utility facilities not shown in the Contract Documents and for equipment on the project which was actually working on that portion of the work which was interrupted or idled by removal or relocation of such utility facilities, and which was necessarily idled during such work will be paid for as extra work.
- H. Approval of Repairs: All repairs to a damaged improvement are subject to inspection and approval by an authorized representative of the proper party before being concealed by backfill or other work.
- I. Maintaining in Service: All oil and gasoline pipelines, power, and telephone or other communication cable ducts, gas and water mains, irrigation lines, sewer lines, storm drain lines, poles, and overhead power and communication wires and cables encountered along the line of the Work shall remain continuously in service during all the operations under the Contract, unless other arrangements satisfactory to the County are made with the owner of said pipelines, duct, main, irrigation line, sewer, storm drain, pole, or wire or cable agency. The Contractor shall be responsible for and shall repair all damage due to its operations, and the provisions of this Section shall not be abated even in the event such damage occurs after backfilling or is not discovered until after completion of the backfilling.
- J. Monuments: If monuments are disturbed by the Contractor, the Contractor shall hire a licensed surveyor to prepare and process a record of survey through the County or the County Transportation Department (if the monuments are located in County roads) to reset the monuments. The cost of preparing the necessary survey documents, processing the survey documents, and resetting the monuments shall be paid for by the Contractor. This work shall be completed prior to project acceptance and additional monies will be withheld for this work prior to the release of retention.
- K. Traffic Detectors (Loops) and Traffic Signals: In the event a loop wire is disturbed or a signal conduit is damaged, the Contractor shall notify the County. It shall be the Contractor's responsibility to replace damaged loops and street signal wires within 24

hours. Traffic signal conduit and wiring shall be repaired immediately by the Contractor. All repairs of the traffic signals and loops by the Contractor shall be at the Contractor's sole expense.

1.5 TREES WITHIN PROJECT LIMITS

- A. General: The Contractor shall exercise all necessary precautions so as to protect any trees or shrubs, including those lying within street rights-of-way and project limits, and shall not trim or remove any trees unless such trees have been approved for trimming or removal by the County or other jurisdictional agency. All existing trees and shrubs which are damaged during construction shall be trimmed or replaced by the Contractor or a certified tree company hired by the Contractor to the satisfaction of the County and/or agency. Tree trimming and replacement shall be accomplished in accordance with the following paragraphs.
- B. Trimming: The natural shape and form of the tree shall be preserved and enhanced; no stubs or splits or torn branches left; no topping or drop crotching; and clean cuts shall be made close to the trunk or large branches.
- C. Replacement: The Contractor shall immediately notify the County and/or other jurisdictional agency if any tree is damaged by the Contractor's operations. If, in the opinion of the County or said other agency, the damage is such that replacement is necessary, the Contractor shall replace the tree at its own expense. The tree shall be of a like size and variety as the tree damaged, or, if of a smaller size, the Contractor shall pay to the owner of said tree a compensatory payment acceptable to the tree owner, subject to the approval of the County or other jurisdictional agency. The size of the trees shall be not less than 1-inch diameter nor less than 6 feet in height. Fines will be assessed against the Contractor for trees removed without the County's prior written approval. The minimum amount of fine or restitution to the County will be the replacement of the tree removed, with one of equal or greater size and maturity and as approved by the County.

1.6 NOTIFICATION BY THE CONTRACTOR

- A. Prior to any excavation in the vicinity of any existing underground facilities, including all water, sewer, storm drain, gas, petroleum products, or other pipelines; all buried electric power, communications, or television cables; all traffic signal and street lighting facilities; and all roadway and state highway rights-of-way the Contractor shall notify the Utilities Notification Center of Colorado (Colorado 811) and the respective authorities representing the owners or agencies responsible for such underground facilities not less than 72 hours prior to excavation so that a representative of said owners or agencies can be present during such work if they so desire.

PART 2 - PRODUCTS (NOT APPLICABLE)

PART 3 - EXECUTION (NOT APPLICABLE)

END OF SECTION 01 56 00

SECTION 01 66 00 - STORAGE AND HANDLING REQUIREMENTS

PART 1 – GENERAL

1.1 DEFINITIONS

- A. The word "Products," as used herein is defined to include purchased items for incorporation into the Work, regardless of whether specifically purchased for the Project or taken from Contractor's stock of previously purchased products. The word "Materials," is defined as products which must be substantially cut, shaped, worked, mixed, finished, refined, or otherwise fabricated, processed, installed, or applied to form units of work. The word "Equipment" is defined as products with operational parts, regardless of whether motorized or manually operated, and particularly including products with service connections (wiring, piping, etc.). Definitions in this paragraph are not intended to negate the meaning of other terms used in Contract Documents, including "specialties," "systems," "structure," "finishes," "accessories," "furnishings," "special construction," and similar terms, which are self-explanatory and have recognized meanings in the construction industry. All equipment, products and materials shall remain under the ownership of the Contractor until accepted by the County.

1.2 GENERAL STORAGE REQUIREMENTS

- A. Storage shall be arranged to provide access for inspection. The Contractor shall periodically inspect to assure products are undamaged and are maintained under required conditions.
- B. Storage shall be arranged in a manner that will provide access for maintenance of stored items for inspection.
- C. Stored materials to be incorporated into the Project, for which the Contractor has requested payment, must be stored in an insured and secure facility that is under control of the County.

1.3 QUALITY ASSURANCE

- A. Source Limitations: To the greatest extent possible for each unit of work, the Contractor shall provide products, materials, or equipment of a singular generic kind from a single source.
- B. Compatibility of Options: Where more than one choice is available as options for Contractor's selection of a product, material, or equipment, the Contractor shall select an option which is compatible with other products, materials, or equipment already selected. Compatibility is a basic general requirement of product/material selections.

1.4 PRODUCT DELIVERY-STORAGE-HANDLING

- A. The Contractor shall deliver, handle, and store products in accordance with manufacturer's written recommendations and by methods and means which will prevent damage, deterioration, and loss including theft. Delivery schedules shall be controlled to minimize long-term storage of products at site and overcrowding of construction spaces. In particular, the Contractor shall provide delivery/ installation coordination to ensure

minimum holding or storage times for products recognized to be flammable, hazardous, easily damaged, or sensitive to deterioration, theft, and other sources of loss.

- B. The Contractor's property/liability insurance shall cover full replacement value of all equipment, products and materials stolen, destroyed, or otherwise made not usable.

1.5 TRANSPORTATION AND HANDLING

- A. Products shall be transported by methods to avoid product damage and shall be delivered in undamaged condition in manufacturer's dry, unopened containers or packaging.
- B. The Contractor shall provide equipment and personnel to handle products, materials, and equipment including those provided by County, by methods to prevent soiling and damage.
- C. The Contractor shall provide additional protection during handling to prevent marring and otherwise damaging products, packaging, and surrounding surfaces.

1.6 ENCLOSED STORAGE

- A. Products subject to damage by the elements, and which have been delivered to the site, shall be stored in substantial, weather-tight enclosures provided by the Contractor.
- B. Temperature and humidity in such enclosures shall be maintained within ranges stated in manufacturer's written instructions.
- C. The Contractor shall provide humidity control and ventilation for sensitive products as required by manufacturer's written instructions.
- D. Unpacked and loose products shall be stored inside a weather-tight enclosure on shelves, in bins, or in neat groups of like items.

1.7 EXTERIOR STORAGE

- A. The Contractor shall provide substantial platforms, blocking, or skids to support fabricated products above ground and shall slope to provide drainage. Products shall be protected from soiling and staining.
- B. Products subject to discoloration or deterioration from exposure to the elements, including materials commonly referred to as plastics, shall be covered with impervious sheet material. Stored products made of plastics shall be provided with a covering that will effectively block ultraviolet rays of the sun until use. Ventilation shall be provided to avoid condensation.
- C. Loose granular materials shall be stored on clean, solid surfaces such as pavement, or on rigid sheet materials to prevent mixing with foreign matter.
- D. Surface drainage shall be provided to prevent erosion and ponding of water.
- E. The Contractor shall prevent mixing of refuse or chemically injurious materials or liquids.

1.8 MAINTENANCE OF STORAGE

- A. Stored products shall be periodically inspected on a scheduled basis. The Contractor shall maintain a log of inspections and shall make the log available to the County on request.
- B. The Contractor shall verify that storage facilities comply with manufacturer's written product storage requirements.
- C. The Contractor shall verify that manufacturer-required environmental conditions are maintained continually.
- D. The Contractor shall verify that surfaces of products exposed to the elements are not adversely affected and that any weathering of finishes is acceptable under requirements of Contract Documents.

1.9 MAINTENANCE OF EQUIPMENT IN STORAGE

- A. For mechanical and electrical equipment in long-term storage, the Contractor shall provide a copy of the manufacturer's written service instructions to accompany each item, with notice on enclosed instruction shown on exterior of package.
- B. Equipment shall be serviced on a regularly scheduled basis, and a written log of services shall be maintained and made available at the request of the County.

1.10 SALVAGE OF EXISTING FACILITIES

- A. Existing materials and equipment removed by the Contractor under the provisions of the Contract, and not to be reused in the Work shall become the Contractor's property and shall be removed from the site of the Work upon completion of the Work.
- B. The Contractor shall carefully remove, in a manner to prevent damage, any and all materials and equipment specifically designated in the Contract Documents to be removed and salvaged, or to remain the property of the County. The Contractor shall store and protect all salvaged items specified or indicated in the Contract Documents to be reused in the Work.
- C. Salvaged items not designated for reuse in the work, but identified as items to be retained as County property, shall be delivered to the Boulder County Parks and Open Space Department by the Contractor in good condition at the following location:

The Open Space and Transportation Center
5201 Saint Vrain Road
Longmont, CO 80503
- D. Any items damaged during the removal, storage, or handling as a result of carelessness, negligence, or improper procedures shall be replaced by the Contractor with corresponding items of equal or greater value.

SPECIFICATIONS

LEFTHAND VALLEY GRANGE RESTROOM
Boulder County Parks and Open Space

- E. The Contractor may at its option and on approval of the County furnish and install new items in lieu of those indicated to be salvaged or reused, in which case the original items shall become the property of the Contractor and shall be removed from the site after completion of the Work. The cost of substituting new items in lieu of salvaged or revised items, at the Contractor's option, shall be the responsibility of the Contractor.
- F. Existing materials and equipment removed by the Contractor shall not be reused in the Work, except where otherwise called for in the Contract Documents.

PART 2 - PRODUCTS (NOT APPLICABLE)

PART 3 - EXECUTION (NOT APPLICABLE)

END OF SECTION 01 66 00

SECTION 01 71 20 – CONSTRUCTION SURVEYING

PART 1 – GENERAL

1.1 GENERAL

- A. The Contractor shall layout and install all work to lines and grades in accordance with the Drawings.
- B. If necessary, survey work shall be done under the supervision of a Professional Land Surveyor (PLS) currently licensed in the State of Colorado.
- C. The PLS shall be available to review work, resolve problems, and make decisions in a timely manner.
- D. The Contractor shall be responsible for setting and maintaining all field engineering, establishing lines and grades, and for the accuracy of the stake information. All horizontal and vertical stake datum shall agree with the Drawings.

1.2 BASE LINES AND GRADES

- A. General: The County will establish sufficient temporary horizontal and vertical control points prior to the beginning of construction to enable the Contractor to layout the Work. The Contractor shall notify the County not less than 5 days in advance of the need for the settings of the baseline and grades. If no control is supplied by the County, it is the Contractor's responsibility to provide adequate control to construct the project. The control shall be established by a licensed land surveyor in the state of Colorado with review and approval by the County. The cost of establishing control if none is provided should be included in the contractor's bid.
- B. Preservation of Stakes and Marks: It shall be the responsibility of the Contractor to maintain and preserve all stakes and other marks established by the Surveyor/Engineer until authorized to remove them. If such stakes or other marks are destroyed by the Contractor, subcontractors, suppliers, or any other persons at the site on behalf of the Contractor, prior to their authorized removal, they may be replaced by and at the discretion of the County. The expense of such replacement shall be borne by the Contractor and will be deducted from any amounts of money due or to become due to the Contractor. The County may require the Work be suspended at any time when location or limit marks established by the Contractor are not reasonably adequate to permit convenient checking of the Work by the County.
- C. Datum: The plane of reference for elevations used in the Contract Documents shall be indicated on the construction drawings.
- D. Base Line: A monumented survey line will be provided by the Surveyor/Engineer as a base line for horizontal control on the project area.
- E. Bench Marks: Temporary bench marks and their elevations will be set in the field by the County. The elevation of each temporary bench mark will be marked at each temporary bench mark in the field.

- F. Horizontal and Vertical Control: From the base line and temporary benchmarks described herein and as shown on the Drawings, the Contractor shall complete the layout of the Work and shall be responsible for all measurements that may be required for execution of the Work to the location and limit marks prescribed in the Contract Documents, subject to such modifications as the County may require to meet changed or unforeseen conditions, or as a result of necessary modifications to the Contract Work.

1.3 RECORDS

- A. The Contractor shall maintain a complete, accurate log of all control and survey work as it progresses.

PART 2 – PRODUCTS (NOT APPLICABLE)

PART 3 - EXECUTION (NOT APPLICABLE)

END OF SECTION 01 71 20

SECTION 01 71 22 - CONSTRUCTION STAKING

PART 1 - GENERAL

1.1 LAYOUT OF IMPROVEMENTS

- A. The Contractor shall provide the construction staking and project survey and all costs related thereto.
- B. The Contractor shall be responsible for all land surveying and shall be responsible for replacing points lost or damaged during the course of construction.

1.2 SUBMITTALS

- A. Plans will show the calculated survey points with elevations and descriptions.
- B. Stakes shall be provided by a licensed land surveyor with cuts/fills.

PART 2 – PRODUCTS

2.1 GENERAL

- A. Materials and Equipment: The Contractor shall furnish all personnel and materials necessary to perform the required construction surveying.
- B. Construction Requirements: The Contractor shall check all control points, and verify and document their accuracy, prior to using them for construction surveying control.
 - 1. Contractor Surveying: The contractor shall perform all construction surveying and staking that is necessary for construction of the project.
 - 2. Responsibility and Inspection: Supervision and coordination of construction surveying is the Contractor's responsibility. The County may inspect the Contractor's surveying, however such inspection will not relieve the Contractor of any responsibility of accuracy or completeness of the work. The Contractor shall check the work to verify the accuracy and include documentation of this check in the Survey Records. All Contractor surveying inaccuracies, errors, or omissions shall be corrected at the Contractor's expense. The County's inspection of the Contractor's corrections shall not entitle the Contractor to additional payment or contract time extension.
 - 3. Reset Controls and Stakes: Control points, bench marks, and other significant stakes or markers that are damaged, destroyed, or made inaccessible by the progress of construction shall be replaced, transferred or re-established at the Contractor's expense.
 - 4. Changes: All changes in lines and grades required by field conditions and all discrepancies in grades, alignment, location or dimensions detected by the Contractor shall be immediately submitted to the County in writing. No changes in given data or plans will be allowed unless approved by the County in writing. All changes shall be documented in the survey records.
- C. Contractor's Layout: The Contractor shall furnish at its own expense all such stakes, templates, platforms, ranges, gages, equipment, tools, materials, and all labor as

SPECIFICATIONS

LEFTHAND VALLEY GRANGE RESTROOM
Boulder County Parks and Open Space

required in laying out any and all parts of the Work from the base line and benchmarks established by the Engineer.

PART 3 - EXECUTION (NOT APPLICABLE)

END OF SECTION 01 71 22

SECTION 01 77 00 - PROJECT CLOSEOUT**PART 1 - GENERAL****1.1 FINAL CLEANUP**

- A. The Contractor shall promptly remove all rubbish, debris, unused materials, concrete forms, construction equipment, and temporary structures and facilities used during construction. Final acceptance of the Work by the County will be withheld until the Contractor has satisfactorily complied with the foregoing requirements for final cleanup of the project site.

1.2 CLOSEOUT TIMETABLE

- A. The Contractor shall establish dates for equipment testing, acceptance periods, (as required under the Contract). Such dates shall be established not less than two weeks prior to beginning any of the foregoing items, to allow the County and its authorized representatives and consultants sufficient time to schedule attendance at such activities.

1.3 FINAL SUBMITTALS

- A. The Contractor, prior to requesting its final progress payment, shall submit the following items to the County:
 - 1. Written guarantees or warranties.
 - 2. Operations and Maintenance Manuals and instructions.
 - 3. Keys and keying schedule.
 - 4. Maintenance stock items; spare parts; special tools.
 - 5. Record Drawings: Maintain a set of Contract Drawings as Record Drawings. Mark to show installation that varies from the Work originally shown.
 - 6. Record Specifications: Maintain 1 copy of the Project Manual, including addenda, as Record Specifications. Mark to show variations in the Work performed in comparison with the text of the Specifications and modifications.
 - 7. Certificates of inspection and acceptance by local governing agencies having jurisdiction.
 - 8. Releases executed by property owners adjacent to the project site attesting that the Contractor has restored any damage done to their property during construction.
 - 9. Releases from all parties who are entitled to claims against the subject project, property, or improvement pursuant to the provisions of law.

1.4 COMPLETION OF THE WORK

- A. When requested by the County, the Contractor shall certify that all Work on the project has been substantially completed in accordance with the approved Contract Documents.
- B. The date of Substantial Completion of the Project shall be the date when the construction is sufficiently completed, in accordance with the Contract Documents, as modified by any change orders agreed to by the parties, so that the County can occupy or utilize the project for the use for which it was intended.

- C. Final Acceptance of the Project shall be when the legislative body of the County has accepted the Project as evidenced by execution and recording of a Notice of Final Settlement.

1.5 REMAINING PUNCH LIST ITEMS

- A. Upon attaining Substantial Completion, by agreement between the parties some small remaining punch list items may remain to be completed by the Contractor, as provided, if any, under the provisions for "Completion of the Work" in Paragraph 1.4 A, herein.
- B. The County shall have the right to retain an additional amount of money from the final progress payment to the Contractor, equal to 150% of the estimate of the value of such uncompleted punch list items.
- C. Failure of the Contractor to complete or correct all such outstanding punch list work to the satisfaction of the County and its Engineer shall constitute a waiver by the Contractor of all rights to any and all claims it may have to all monies withheld by the County under the Contract to cover the value of such uncompleted or uncorrected items.

1.6 MAINTENANCE, CORRECTION AND REPAIR PERIOD

- A. The Contractor shall comply with the following correction and repair requirements:
 - 1. Warranty and Guarantee:
 - a. Contractor represents and warrants that it is and will be at all times fully qualified and capable of performing every phase of the Work and to complete the Work in accordance with the terms of the Contract Documents.
 - b. The Contractor warrants that all construction work and construction services shall be performed in accordance with generally accepted professional standards of good and sound construction practices and all requirements of the Contract Documents.
 - c. The Contractor warrants that the Work, including but not limited to each item of materials and equipment, shall be new, shall be of suitable grade of its respective kind for its intended use, shall be free from defects in design, engineering, materials, construction and workmanship, and shall conform in all respects with all applicable requirements of federal, state and local laws, licenses, and permits, the Contract Documents and all descriptions set forth, applicable construction codes and standards, and all other requirements of the Contract Documents.
 - d. Neither the right to inspect, nor the presence of the inspectors, consultants, or testing agencies hired by the County or the County, or their general review or approval shall relieve the Contractor from its obligations to perform the Work in accordance with the Contract Documents.
 - 2. Access to Work: The County, other representatives of the County, testing agencies, and governmental agencies with jurisdictional interests shall have access to the Work at reasonable times for their observation, inspections, and testing. The Contractor shall provide proper and safe conditions for such access.
 - 3. Tests and Inspections:
 - a. The Contractor shall give the County timely notice of readiness of the Work: for all required inspections, tests, or approvals, but in no event less than 48 hours' notice excluding weekends and holidays.

- b. If Laws or Regulations of any public body having jurisdiction other than the County require any Work to specifically be inspected, tested, or approved, the Contractor shall furnish the County with the required certificates of inspection, testing, or acceptance. The Contractor shall also be responsible for and shall pay all costs in connection with any inspection or testing required in the County's acceptance of a Supplier of materials or equipment proposed as a substitution or "or equal" to be incorporated in the Work, or of materials or equipment submitted for approval prior to the Contractor's purchase thereof for incorporation in the Work. The cost of all inspections, tests, and approvals in addition to the above which are required by the Contract Documents will be paid by the County (unless otherwise specified).
- c. The County will make, or have made, such inspections and tests as the County deems necessary to see that the Work is being accomplished in accordance with the requirements of the Contract Documents. Unless otherwise specified, the cost of such inspection and initial testing will be borne by the County. In the event such inspections or tests reveal noncompliance with the requirements of the Contract Documents, the Contractor shall bear the cost of corrective measures deemed necessary by the County and/or the County's Engineer, as well as the cost of subsequent re-inspection and re-testing. Neither observations by the County or the County's Engineer nor inspections, tests, or approvals by others shall relieve the Contractor from the Contractor's obligation to perform the Work in accordance with the Contract Documents.
- d. All inspections, tests, or approvals other than those required by Laws or Regulations of any public body having jurisdiction shall be performed by organizations acceptable to the County.
- e. If any Work (including the work of others) that is to be inspected, tested, or approved is covered without written concurrence of the County, it shall be uncovered for observation. Such uncovering shall be at the Contractor's expense.
- f. If any work is covered contrary to the written request of the County Representative, it shall be uncovered for the County Representative's observation and replaced at the Contractor's expense.
- g. If the County considers it necessary or advisable that covered work be observed by the County or inspected or tested by others, the Contractor, at the County's request, shall uncover, expose, or otherwise make available for observation, inspection, or testing, as the County may require, that portion of the Work in question and shall furnish all necessary labor, material, and equipment. If it is found that such work is defective, the Contractor shall bear all direct, indirect, and consequential costs of such uncovering, exposure, observation, inspection, and testing and of satisfactory reconstruction, including but not limited to fees and charges of engineers, Engineers, attorneys, and other professionals. However, if such work is not found to be defective, the Contractor shall be allowed an increase in the Contract Price for such uncovering, exposure, observation, inspection, testing, and reconstruction.
- h. The Contractor shall permit on site videotaping, still photography, or motion picture photography of the construction project. The Contractor shall cooperate with and shall coordinate with County personnel or their authorized representatives in its efforts to carry out such videotaping and or photography.
- i. The Contractor shall bear the inspection costs for any inspection time lost due to the work not being ready for inspection or the Contractor's failure to appear at the work site for any test or inspection which has been scheduled by the Contractor.

4. County May Stop the Work: If the Work is defective, or the Contractor fails to perform the Work in such a way that the completed Work will conform to the Contract Documents, the County may order the Contractor to stop the Work, or any portion thereof, until the cause for such order has been eliminated; however, this right of the County to stop the Work shall not give rise to any duty on the part of the County to exercise this right for the benefit of the Contractor or any other party.
 5. Correction or Removal of Defective Work: If required by the County, the Contractor shall promptly either correct all defective Work, whether or not fabricated, installed or completed, or, if the Work has been rejected by the County, the Contractor shall remove it from the site and replace it with non-defective Work. The Contractor shall bear all direct, indirect, and consequential costs of such correction or removal, including but not limited to fees and charges of engineers, attorneys, and other professionals, made necessary thereby.
 6. One Year Correction Period:
 - a. If within one year after the date of Notice of Final Settlement or such longer period of time as may be prescribed by Laws or Regulations or by the terms of any applicable special guarantee required by the Contract Documents or by any specific provision of the Contract Documents, any Work is found to be defective, the Contractor shall promptly, without cost to County and in accordance with County's written instructions, either correct such defective Work, or, if it has been rejected by County, remove it from the site and replace it with non-defective Work. If the Contractor does not promptly comply with the terms of such instructions, or in an emergency where delay would cause serious risk of loss or damage, County may have the defective Work corrected or the rejected Work removed and replaced, and all direct, indirect and consequential costs of such removal and replacement, including but not limited to fees and charges of engineers, attorneys and other professionals, shall be paid by the Contractor. In special circumstances where a particular item of equipment is placed in continuous service before Substantial Completion of all the Work, the correction period for that item may start to run from an earlier date if so provided in the Contract Documents.
 7. Acceptance of Defective Work: If, instead of requiring correction or removal and replacement of defective Work, the County prefers to accept the Work, the County may do so. The Contractor shall bear all direct, indirect, and consequential costs attributable to the County's evaluation of and determination to accept such defective Work. If any such acceptance occurs prior to final payment, a Change Order will be issued incorporating the necessary revisions in the Contract Documents with respect to the Work; and the County shall be entitled to an appropriate decrease in the Contract Price.
- B. Replacement of earth fill or backfill, where it has settled below the required finish elevations, shall be considered as a part of such required repair work, and any repair or resurfacing constructed by the Contractor which becomes necessary by reason of such settlement shall likewise be considered as a part of such required repair work.
- C. The Contractor shall make all repairs and replacements promptly upon receipt of written order from the County. If the Contractor fails to make such repairs or replacements promptly, the County reserves the right to do the work or to have the work done by others and the Contractor and its Surety shall be liable to the County for the cost thereof.

PART 2 - PRODUCTS (NOT APPLICABLE)

SPECIFICATIONS

LEFTHAND VALLEY GRANGE RESTROOM
Boulder County Parks and Open Space

PART 3 - EXECUTION (NOT APPLICABLE)

END OF SECTION 01 77 00

SECTION 02 05 00 - SITE PREPARATION AND DEMOLITION

PART 1 - GENERAL

1.1 SECTION REQUIREMENTS

A. Perform site preparation and demolition as shown and specified. The work includes but is not limited to the following:

1. Protecting existing fences, pavements, walls, utilities, roads, park features, and all other improvements to remain.
2. Removing existing improvements as designated on the plans.
3. Salvaging designated site items.
4. Clearing and grubbing.
5. Removal of trees and other vegetation as specified on the plans
6. Pruning of trees and shrubs to remain.

B. Submittals:

Submit copies of all required permits to the County prior to commencement of work.

C. Related Work:

1. Section 02 10 00, Tree Retention and Protection
2. Section 31 10 00, Earthwork

1.2 PROJECT CONDITIONS

- A. Schedule meeting with the County to photo document existing conditions prior to commencing any work.
- B. Schedule meeting with the County to review all tree and shrub removals, and all tree and shrub pruning.
- C. Perform site preparation and demolition before commencing earthwork and site construction.
- D. Locate, protect, and maintain active utilities, benchmarks and site improvements to remain.
- E. Provide necessary barricades, covering and protection to prevent damage to existing improvements to remain.
- F. Restore to original grades and conditions, areas adjacent to the site disturbed or damaged as a result of site preparation work.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. Materials and equipment: As selected by the Contractor, except as indicated.

- B. Construction Fencing: 4' high orange colored reflectorized plastic construction fence secured in place with 6' steel T-posts installed 6' o.c. The top of the posts is to be equal to the top of the fence fabric and the bottom of the fence fabric is to be flush with the ground. Secure fabric to posts with 3 nylon lock ties per post. Install 9 gauge galvanized tension wire 3" from top of posts. Secure tension wire to posts with double lock ties. Attach fabric to tension wire with lock ties 2' o.c.

PART 3 - EXECUTION

3.1 PROTECTION OF EXISTING FEATURES

- A. Existing concrete pavement, asphalt pavement, existing park facilities, fencing, utilities, and other items as designated on the plans shall be protected in place.

3.2 CLEARING AND GRUBBING

- A. Locate and suitably identify trees and improvements to remain.
- B. Protect existing trees scheduled to remain against injury or damage per Section 02100.
- C. Clear and grub areas within contract limits as required for site access and execution of the work.
- D. Remove trees, plants, undergrowth, other vegetation, and debris not designated to remain.
 - 1. Fell trees in a manner to prevent injury to adjacent facilities and to trees scheduled to remain.
 - 2. Use hand methods for grubbing inside the drip line of trees to remain. Strip grass materials to a maximum depth of 1' under tree canopies. Carefully till or scarify existing grade to a depth of 1".
 - 3. Remove stumps and roots to a clear depth of 36" below subgrades. Remove stumps and roots to their full depth within 36" of paved areas or structures.
- E. Remove grass, weeds and debris as required for site access and execution of work.

3.3 TREE AND SHRUB PRUNING

- A. Prune existing trees and shrubs as necessary to provide the required clear zone around the trail (clear zone for trail shall extend 10' above the proposed trail surface and 3' beyond the edge of the trail on each side.)
- B. All pruning shall be completed by experienced, certified arborists, and shall be completed in accordance with the standards listed in section 02100.

3.4 EXISTING UTILITIES

- A. Information on the drawings relating to existing utility lines and services is from the best sources presently available. All such information is furnished only for information and is not guaranteed. Excavate test pits as required to determine exact locations of existing utilities. The Contractor is responsible for the exact location of all utilities and their

protection. The Contractor should obtain utility locates incrementally as per the schedule of the project. Additional locates will be at the Contractor's expense.

*Call the Utility Notification Center of Colorado at 1-800-922-1987. Call three (3) business days in advance before you dig, grade or excavate for the marking of underground member utilities.

3.5 DISPOSAL OF WASTE MATERIALS

- A. Haul from site and legally dispose of materials that are not useful in the construction of the project and that are not scheduled to be salvaged.
- B. Haul off and disposal shall occur on a regular basis so that discarded materials are not stockpiled on-site.

3.6 CLEANING

- A. Upon completion of site preparation work, or portion thereof clean areas worked on each day, remove debris, tools and equipment. Maintain the site clear and clean, and free of materials and debris and suitable for the unobstructed site work operations.

END OF SECTION 02 05 00

SECTION 02 10 00 - TREE RETENTION AND PROTECTION

PART 1 – GENERAL

1.1 SECTION REQUIREMENTS

- A. This work consists of retaining and protecting trees during the construction of the project.
- B. There should be daily supervision of field crews by the Boulder County Arborist during the critical phases of the project: for example, during clearing and grubbing; root pruning; tree or shrub pruning, or construction of new trail or wall in tree protection areas.

*If it appears that the completion of the construction may cause damage to the branches of any tree, the contractor shall contact the County's Arborist. The Arborist will make a determination as to whether such damage is eminent.

- C. Motorized equipment and trailers, including tractors, skid steers, loaders, bulldozers, track excavators, trucks, cars, and carts shall not be allowed access within tree protection areas. Should access be necessary within designated tree protection areas, the existing grade shall be covered with six (6) to eight (8) inches of wood mulch to help distribute the weight of equipment and to minimize soil compaction and rutting. Plywood and/or mulch are not acceptable bridging material for driving over exposed tree roots. Exposed tree roots shall not be driven over. The County Arborist shall be notified and shall approve of the access and driving surface prior to its use.
- D. Materials and supplies shall not be stockpiled or stored within the tree protection area. Should temporary storage be necessary within designated tree protection areas, the existing grade shall be covered with double, overlapping sheets of $\frac{3}{4}$ inch thick plywood, or six (6) to eight (8) inches of wood mulch to help distribute the weight of materials or supplies and to minimize soil compaction.
- E. Under no circumstances shall any objects or materials be leaned against or supported by a tree's trunk, branches, or exposed roots. The attachment or installation to trees of any sign, cable, wire, nail, swing, or any other material that is not needed to help support the natural structure of the tree is prohibited. Standard arboricultural techniques such as bracing or cabling that are performed by professional arborists are acceptable upon approval by the County Arborist.

1.2 DEFINITIONS

- A. **TREE PROTECTION AREA:** Generally, a tree protection area should consist of the ground encompassing from 1.5 (minimum) to 2.0 times the distance between the trunk and dripline, or one linear foot away from the trunk base for every inch diameter of the trunk, whichever is greater. (See plans). Areas of ground covered by pavement, buildings, or other permanent structures where the presence of roots is minimal or negligible are excluded. The area under or within the tree's dripline is also referred to as the "Critical Root Zone" (see below).
- B. **DRIPLINE:** The outermost edge of the tree's canopy or branch spread. The area within a tree's dripline is all the ground under the total branch spread.

- C. CRITICAL ROOT ZONE: Generally, all of the ground area included under the dripline.
- D. DIAMETER (CALIPER): The size (in inches) of a tree's trunk is measured at: [1]- six (6) inches above grade for trunk diameters up to and including four (4) inches; [2]-twelve (12) inches above grade for trunk diameters from four (4) inches up to and including eight (8) inches; and [3]-four and a half (4½) feet above grade for trunk diameters greater than eight (8) inches; in accordance with guidelines established in the "Guide for Plant Appraisal" (see Section c). All measurements should be rounded to the nearest inch.
- E. HIGH-VALUE SHRUB: Any specimen shrub with an appraised value of \$100.00 or more.
- F. PROJECT ARBORIST: A professional with a degree in a field related to arboriculture, and at least five years field experience in tree preservation or on-site monitoring of public works or construction projects involving tree retention and protection. The consultant should be an active member in the American Society of Consulting Arborists and International Society of Arboriculture.

1.3 REFERENCE STANDARDS AND GUIDELINES

- A. Contractor shall comply with applicable requirements and recommendations of the most current versions of the following standards and guidelines. Where these conflict with other specified requirements, the more restrictive requirements shall govern.
 - 1. ANSI Z133.1-1988
American National Standard for Tree Care Operations
 - 2. ANSI A300-1994
Standard Practices for Trees, Shrubs and Other Woody Plant Maintenance
 - 3. NATIONAL ARBORIST ASSOCIATION STANDARDS
Pruning, Cabling and Bracing, Fertilization
 - 4. GUIDE FOR PLANT APPRAISAL-8TH EDITION
Authored by the Council of Tree and Landscape Appraisers; published by the International Society of Arboriculture.

PART - 2 MATERIALS

2.1 TREE PROTECTION FENCING

- A. Tree protection fences should be constructed of one of the following:
 - 1. Galvanized chain-link - six (6) feet in height. Posts should be installed on ten (10) foot centers (maximum), at a depth of three (3) feet minimum. Installation of post shall not result in injury to surface roots or root flares of trees.
 - 2. Colored (orange), molded plastic construction fencing-four (4) feet in height per section 02050.

2.2 TREE PROTECTION SIGNAGE.

- A. A sign shall be mounted on tree protection fencing at fifty (50) foot intervals warning construction personnel and the public to keep out of the tree protection areas.

PART 3 - EXECUTION

3.1 IRRIGATION OR UTILITY INSTALLATION

- A. Contractor shall protect all trees and high-value shrubs from injury due to irrigation related work. All injuries to trees and high-value shrubs shall be mitigated to the satisfaction of the County, and, if appropriate in accordance with guidelines established in the "Guide for Plant Appraisal". All costs of such mitigation shall be charged to and paid by the Contractor.
- B. All irrigation lines shall be indicated on construction plans and pre-approved by the County Arborist. Unless absolutely necessary, no irrigation lines shall be located within 10 feet of any existing tree trunk.

3.2 PROTECTION OF EXISTING TREES

- A. The County Arborist shall be notified prior to any trenching or excavation known or suspected to involve cutting of more than: **[1]**- two roots, three inches or more in diameter; and/or **[2]**-four roots between two (2) and three (3) inches in diameter. The County Arborist shall be notified immediately in the event that roots in excess of that described above are cut, torn, ripped, or otherwise injured.
- B. All trenching or other work under the dripline of any tree shall be done by hand or by other methods which will prevent breakage or other injury to branches and roots.
- C. Where it is necessary to excavate within the critical root zone of existing trees, contractor shall use all possible care to avoid injury to trees and tree roots. Excavation, in areas where two (2) inch diameter and larger roots occur, shall be done by hand with approved hand tools. Where possible, tree roots two (2) inches or larger in diameter shall be tunneled or bored under and shall be covered with moistened burlap to prevent excessive drying.
- D. Wherever a trenching machine exposes roots smaller than two (2) inches in diameter, such roots extending through the trench wall shall be hand pruned (see section (d)). All trenches within critical root zones shall be closed within twelve (12) hours-if this is not possible, the trench walls shall be covered with burlap and kept moistened. Prior to backfilling, Contractor shall contact the County Arborist to inspect the condition and treatment of roots larger than two (2) inches in diameter injured by trenching.
- E. Horizontal directional boring (auger tunneling), rather than open trenching, should be used for irrigation line or other utility installation within one half ($\frac{1}{2}$) foot linear distance from the trunk base for every inch of trunk diameter, if root disruption or utility installation occurs on no more than one side of the tree. If trenching or utility installation will occur on two or more sides of a tree trunk (e.g. N,S,E, or W), then horizontal directional boring should be used if line installation is within one (1) foot linear distance from the trunk base for every inch of trunk diameter.

3.3 ROOT PRUNING

- A. Tree roots shall not be pruned or cut unless their removal is unavoidable or absolutely necessary. The County Arborist shall be notified prior to any operation known or

suspected to involve cutting of more than: [1]- two roots, three (3) inches or more in diameter; and/or [2]- four (4) roots between two (2) and three (3) inches in diameter. The County Forester or Project Consulting Arborist shall be notified immediately in the event that roots in excess of that described above are cut, torn, ripped, or otherwise injured.

1. Upon approval by the County Arborist, prior to any excavation, removal of sidewalk, or other activity that will result in removal of soil and tree roots, all tree roots within a designated area will be pruned to a depth of fourteen (14) inches. Pruning shall occur with a Dosko Root Pruner, or equivalent, in accessible areas, and by hand in areas inaccessible to the root-pruning machine. All other root pruning shall be done by hand with approved tools.
2. Removal of roots greater than one (1) inch diameter or parts of roots that are injured or diseased should be performed as follows:
 - a. Preserve the root bark ridge (similar in structure and function to a branch bark ridge). Directional root pruning is the recommended technique and should be used during hand excavation around tree roots. Roots are similar to branches in their response to pruning practices. With directional root pruning, objectionable and severely injured roots are properly cut to a lateral root, if possible, that is growing downward or in a favorable direction.
 - b. All roots needing to be pruned or removed shall be cut cleanly with sharp hand tools, with oversight by the County Forester or Project Consulting Arborist. No wound dressings shall be used.
 - c. Recommended root pruning tools:
 - Scissor-type lopper
 - Scissor-type pruner
 - Large and small hand saws
 - Wound scribe
 - Trowel or small shovel
 - Garden Fork
 - Hand broom

3.4 TREE PROTECTION FENCING

- A. Fencing should be installed to completely surround the limits of tree protection areas, and should extend at least ten (10) feet beyond the designated construction limits.
- B. Tree protection fencing shall be installed prior to any site activity and shall remain until its removal is authorized by the County Arborist.

3.5 INJURIES TO EXISTING PLANTS - DAMAGE PENALTIES.

A. TREE AND HIGH-VALUE SHRUB APPRAISAL:

All trees and high-value shrubs will be evaluated and appraised by the County Arborist, and a list of all tree values for the project will be on file in the Construction Manager's office. Any tree or other plant requiring retention or protection that is not on the list shall be appraised by the County Arborist as necessary to comply with this damage penalty.

- B. Documentation for appraisals will consist of:

1. Measurement of plant size
2. Identification by common and botanical names
3. Current condition (overall health, injuries, overt hazard status, etc.)
4. Location factors as described in the "Guide for Plant Appraisal".
5. Photographs may be taken of certain trees and shrubs to document debilitating condition factors.

The threshold level for plants to be appraised shall be \$100.00; only those trees and shrubs estimated to have a monetary value greater than \$100.00 shall be appraised.

- C. Trees and other plants designated as requiring retention or protection shall be identified and located on construction plans. Loss of, or partial injury to, any of these plants due to Contractor neglect or improper construction activities will result in liquidated damages for the assessed value of the tree as determined by the County Arborist.
 - D. Trees determined as requiring "general protection" or "special protection" in the construction areas and in other key locations should be clearly identified by the County Arborist. Loss or partial injury to any of these trees due to Contractor neglect or improper construction activities will result in liquidated damages for the assessed value of the trees as determined by the County Arborist. Injury to a portion of these trees will be assessed by the County Arborist and a corresponding portion of the liquidated damages will be assessed to the Contractor.
 - E. A fine of one thousand dollars (\$1,000.00) will be levied against the Contractor for each incident of construction damage (including construction traffic) within designated tree protection areas. Any fine shall be independent of any applicable liquidated damages for the assessed value of the tree or tree part.
 - F. Trees or roots visibly and unnecessarily injured will cause the County to withhold from the Contractor an assessed amount conforming to the requirements stipulated above, for a period of one full year. After that period the impact of the injury to any tree will be assessed by the County Arborist.
 - G. If any trees or shrubs designated to be retained or protected are injured and replacement is justified, a number and equivalent diameter inches of trees or shrubs of same or similar species shall be furnished and planted by the Contractor. The total inch diameter of the replacement plant(s) shall equal the diameter of the plant(s) to be replaced, in accordance with the "Guide for Plant Appraisal".
- 3.6 TREE AND OTHER PLANT MAINTENANCE DURING AND AFTER COMPLETION OF CONSTRUCTION
- A. Proper maintenance should include, but without limitation to: structural and remedial pruning; watering; mulching; remediating soil compaction; fertilization; insect and disease control; soil and tissue analysis; aeration; and wound treatment.
 - B. The timing, duration and frequency of necessary maintenance practices should be determined by the County Arborist, based on factors associated with the site and affected plants.

END OF SECTION 02 10 00

SECTION 31 10 00 - EARTHWORK

PART 1 - GENERAL

1.1 DESCRIPTION

- A. The Contractor shall furnish all labor, materials, tools, and equipment necessary for the satisfactory performance of excavation, backfill, compaction, grading, and placement and compaction of fill, as shown on the Drawings and as specified herein. The site grading shall be suitable for the placement of crusher fines trail, concrete trail, modular block wall, and other surface improvements.
- B. Excavation, sheeting, and bracing shall be carried out in such a manner as to eliminate any possibility of undermining or disturbing the foundations of any existing structures or any work previously completed under this Contract.

1.2 RELATED WORK

- A. The following is a list of Specifications, which may be related to this section:
 - 1. Section 02 05 00, Site Preparation and Demolition
 - 2. Section 16 60 00, Site Electrical Work
 - 3. Section 31 37 00, Erosion Control Groin
 - 4. Section 32 11 00, Road and Parking Surfacing
 - 5. Section 32 12 00, Crusher Fine Trail

1.3 PROJECT CONDITIONS

- A. Contractor shall schedule all tests at least 48 hours in advance. Coordinate with the County for areas to be tested.
- B. If in the opinion of the County there is reasonable doubt that fill material is not being placed according to these specifications, a geotechnical engineer shall be retained by the County to supervise placements, compaction, and any necessary testing. The geotechnical engineer 's decisions and test results shall be final.
- C. Test results shall show the location, depth, percent of compaction and type of material, if imported, of all tests including those that failed and were re-tested.
- D. All re-testing due to initial tests non-compliance shall be the responsibility of the Contractor.

1.4 CARE AND RESTORATION OF PROPERTY

- A. On paved surfaces, the Contractor shall not use or operate tractors, bulldozers, or other power-operated equipment, the treads or wheels of which are so shaped as to cut or otherwise damage such surfaces. Vehicles are restricted on foundation areas.
- B. All lawns, paved surfaces, roadways, and structures which have been damaged by the Contractor's operations shall be restored to a condition at least equal to that in which they were found immediately prior to the beginning of operations.

- C. The restoration of existing property or structures shall be completed as promptly as practical and shall not be left until the end of the construction period.

1.5 GRADING TOLERANCES

- A. All earthwork shall be carried out in such a manner that final grades, after construction of surface improvements shall provide positive surface drainage on the entire site so that no depressions or ponds are formed, regardless of depth. It shall be the Contractor's responsibility to insure that all portions of the site drain. The final earthwork shall be considered acceptable, providing all final grade elevations do not vary from the designed elevations by more than the following tolerances:
 - B. 0.10 feet for the areas on which curb and gutter are to be installed.
 - C. 0.20 feet for all other graded areas of the site.
- D. In addition to the above tolerances, positive surface drainage shall be provided on the entire site so that no depressions or ponds are formed, regardless of depth. It shall be the Contractor's responsibility to insure that all portions of the site drain.

PART - 2 MATERIALS

2.1 CONSTRUCTION WATER

- A. The Contractor shall supply all construction water.

2.2 FILL MATERIAL

- A. Approved on-site soils may be used as fill material for general site grading and backfill.

2.3 IMPORTED FILL MATERIAL

- A. Imported fill material (if necessary) shall be free of organic material and other deleterious materials. Imported material should have soils that have less than 50 percent passing the no. 200 sieve and should have a plasticity index of less than 12. Representative samples of materials proposed for import should be approved prior to transport to the site.

2.4 TOPSOIL

- A. Prior to performing site earthwork, all topsoil shall be stripped and stockpiled.
- B. The topsoil shall be spread evenly on all landscape areas immediately before seeding and planting.

PART 3 - EXECUTION

3.1 EXCAVATION

- A. The Contractor shall make excavations in such a manner and to such widths as will give suitable room for building the structure. The Contractor shall furnish and place all sheeting, bracing and supports and shall do all pumping and draining; and shall render the bottom of the excavation firm and dry in all respects acceptable for construction as determined by the geotechnical engineer. All retaining systems and excavations shall be constructed in accordance with OSHA guidelines. The sides of excavations shall be sloped to a minimum of 1 ½ horizontal to 1 vertical.
- B. For a distance of four feet on each side of the point of intersection of cut slopes and existing grade or to adjacent cut slopes, the grading shall be rounded to give a smooth transition.
- C. In no case shall the earth be plowed, scraped, or dug by machinery so near to the finished grade at the bottom of the excavation as to result in disturbance of material below said grade.
- D. All water pumped or drained from the work shall be disposed of in a manner satisfactory to the County and in accordance with CDPHE rules and regulations, without undue interference or damage to pavements, other surfaces, or property.
- E. The Contractor shall take extreme care in the excavation for new structures and near existing structures to avoid disturbing supporting materials. Hand excavation or careful backhoe solid removal is required in excavating the last few inches.

3.2 EXCESS EXCAVATION

- A. If, in the opinion of the County, the materials at or below the depth to which excavation for structures and pavement would normally be carried is unsuitable for a foundation, it shall be removed to such widths and depths as directed by the County and shall be replaced with stabilization material. Compensation will be made in accordance with amount of material required.
- B. Where the bottom of the excavation shall, by error of the Contractor, have been taken to a depth greater than the depth specified, shown on the Drawings or directed by the County, said condition shall be corrected by refilling and compacting to the proper grade with structural backfill. All measures taken to rectify conditions caused by over-excavation shall have the County's approval, and the cost resulting from such measures shall be borne by the Contractor.
- C. If, through failure or neglect of the Contractor to conduct the excavation work in a proper manner, the surface of the subgrade is in an unsuitable condition for proceeding with construction, the Contractor shall, at his own expense, remove the unsuitable material and replace it with, structural backfill, or other approved material so that the condition of the subgrade meets with the approval of the County before any work is placed thereon.
- D. Failure of the Contractor to control surface water or groundwater adequately, premature excavation at the work site, or other manifestations of the Contractor's neglect or improper conduct of work, as determined by the County, shall be grounds for requiring removal and replacement of unsuitable subgrade without additional compensation.

3.3 EXCAVATION NEAR EXISTING STRUCTURES AND UTILITIES

- A. The Contractor's attention is directed to the fact that underground utilities may exist within or immediately adjacent to the areas of proposed construction. Where possible, these utilities are indicated on the Drawings; however, all of the services may not have been shown on the Drawings, and the completeness and accuracy of the information presented is unverified and without guarantee. This information is supplied for the purpose of providing the Contractor with an indication as to the approximate locations of utilities at the work areas so that the Contractor will be made aware of probable obstructions and the extent to which construction may be affected by these.
- B. All utility lines shall be located on the ground with location equipment well ahead of the work at all times. All such locations shall be plainly marked by coded paint symbols on pavement or by marked stakes in the ground. All such location work shall be provided by the Contractor, to the satisfaction of the County, at no extra cost.
- C. Any relic utilities encountered shall be abandoned in accordance with applicable regulations, removed as necessary, and properly capped.

3.4 PROTECTION OF EXISTING STRUCTURES AND UTILITIES

- A. All existing pipes, poles, wires, fences, curbs, fences, property line markers, and other structures which, in the opinion of the County must be preserved in place without being temporarily or permanently relocated, shall be carefully supported and protected from damage by the Contractor. In case of damage, the Contractor shall notify the County so that proper steps may be taken to repair any and all damage done. Damage shall be repaired by the Contractor; or if not promptly done by him, the County may have the repairs made at the expense of the Contractor.
- B. All utility services shall be supported by suitable means so that the services do not fail during construction or when tamping and settling occur.
- C. The Contractor shall be compensated for any additional work involved whenever a utility or underground structure which had not been previously anticipated, is so encountered longitudinally within the excavation limits as to severely hinder normal excavation and construction methods. The costs of such work shall be established by the County and the Contractor through a Change Order before any additional work is performed.
- D. When fences interfere with Contractor's operations, he may remove and, unless otherwise specified, later restore them to a condition at least as good as that in which they were found immediately before the work was begun, all without additional compensation. The restoration of fences shall be done as promptly as possible and not left until the end of the construction period.

3.5 EXCAVATED MATERIAL

- A. Excavated material shall not be deposited on private property unless written consent of the property owner(s) has been filed with the County.
- B. It is expressly understood that no excavated materials shall be removed from the site of the work or disposed of by the Contractor except as directed or approved by the County.

- C. Suitable excavated material will be used as backfill, fill for embankments, or other parts of the work in accordance with the appropriate sections of the Specifications.
- D. The Contractor shall remove and dispose of all pieces of concrete or rock, and man-made fill which are not suitable for use in the work. Any deficiency in backfill material shall be made up with material approved by the County.
- E. Existing soils are anticipated to have high moisture contents. Excavations may encounter groundwater and soils will deflect and may rut significantly under construction traffic. Contractor should be prepared to work in such conditions utilizing lightly loaded or tracked construction equipment.

3.6 FILL

- A. Earth fill shall be constructed in accordance with this Section, including placing and compacting of all embankment material, and all related work as required to ensure proper bond of materials with previously placed fill.
- B. No material shall be placed in any section of the fill until the foundation for that section has been cleared, stripped, and de-watered and compacted in accordance with the provisions of the Specifications.
- C. The suitability of each part of the foundation for placing imported material thereon and of all materials for use in the fill construction, will be as determined by the County. All materials shall be placed and compacted in approximately horizontal layers of the specified thickness.
- D. After the subgrade has satisfactorily been prepared, the fill material shall be placed and compacted thereon and built-up in successive layers until the required elevation is reached. Fill shall be placed within the lines and to the grades shown on the Drawings or as directed by the County. No fill shall be placed on frozen surfaces, nor shall the fill material contain snow, ice, or other frozen materials. Depth of fill layers shall be in accordance with the requirements of the geotechnical study. This depth shall not exceed 8 inches of loose material when the fill is within 2 feet of finished grade.
- E. The filling operation shall begin in the deepest part of the area to be filled and fill shall be brought up in essentially level lifts. Fill shall be placed in layers by an approved method. The entire surface of the work shall be maintained free from ruts and in a condition that will permit construction equipment to travel over any section readily.
- F. The Contractor shall maintain the fill in a manner satisfactory to the County until the final completion of acceptance of all work under this contract.
- G. Previously placed or new materials shall be moistened by sprinkling, if required, to ensure proper bond and compaction. No compacting shall be done when material is too wet. If the compacted fill of the surface of the fill layer is determined to be too smooth to provide an adequate bond with the succeeding layer, the surface shall be loosened by harrowing or some other approved method before placement of the succeeding layer.
- H. Excavated materials, which the Contractor desires to use for fill, and which are otherwise suitable for fill except that, when excavated materials are too wet for immediate

compaction, shall be dried such as to permit them to be placed in the embankment at the proper moisture content. No additional payment will be made for wetting or drying materials, to obtain the proper moisture content.

- I. The moisture content of the fill prior to and during, compaction shall be distributed uniformly throughout each layer of material. The placement moisture content for all materials shall be per Section 31 10 00, 3.7, Earthwork.
- J. Compaction: All fill shall be compacted per Section 31 10 00, 3.7, Earthwork.
- K. Prior to filling, the top 8 to 12 inches of in-place materials on which fill soils will be placed should be scarified, moisture conditioned, and properly compacted in accordance with the recommendations below to provide a uniform base for fill placement.
- L. If over-excavation is to be performed, then these recommendations for subgrade preparation are for the subgrade below the bottom of the specified over-excavation depth.
- M. If surfaces to receive fill exposes loose, wet, soft, or otherwise deleterious material, additional material should be excavated or other measures taken to establish a firm platform for filling. The surfaces to receive fill must be effectively stable prior to placement of fill.

3.7 EXCAVATION, BACKFILL AND COMPACTION FOR ROAD, PARKING LOT AND TRAILS AREAS

- A. Road, parking lot and trail paving: Prior to placing the materials, the Contractor shall ensure that properly moisture conditioned and compacted fill soils at least 12 inches in thickness existing beneath the entire area.
- B. Fill materials shall be thoroughly mixed to achieve uniform moisture content, placed in uniform lifts no exceeding 8 inches in loose thickness, and properly compacted. Soils that classify as GP, GW, GM, GC, SP, SW, SM, or SC in accordance with the USCS classification system (granular materials) should be compacted to 95 or more percent of the maximum modified Proctor dry density at moisture contents within 2 percent of optimum moisture content as determined by ASTM D1557. Soils that classify as ML, MH, CL, or CH should be compacted to 95 percent of the maximum standard Proctor density at moisture contents from 1 percent below to 3 percent above the optimum moisture content as determined by ASTM D698. It may be necessary to rework the fill materials more than once by adjusting moisture and replacing the materials, in order to achieve the recommended compaction and moisture criteria.
- C. Crusher fines trail: Prior to placing the crusher fines material, the Contractor shall provide a firm, smooth, uniform and compacted subgrade.

3.8 FINAL GRADING FOR LANDSCAPE AREAS

- A. The final 6" of soil shall not be compacted. Should compaction occur, the top 6" of soil shall be scarified and loosened until approved by the County.

- B. Final grading shall be done by approved means. Areas adjacent to structures and other areas inaccessible to heavy grading equipment shall be graded by manual methods.
- C. Final grading shall be performed in such a manner as to provide proper drainage. Finished grades shall be pitched to drain away from structures completed under this Contract as indicated on the Drawings or as directed by the County. In no case shall drainage from the project site be so altered or controlled as to result in damage, or the potential for damage, to adjacent property or to any portion of the work executed under this Contract from erosion or flooding.

3.9 PRESERVATION DURING THE COURSE OF THE PROJECT

- A. The Contractor is advised that all effects of surface water which the Contractor is responsible to control, may cause erosion during the course of the project.
- B. The Contractor is responsible to deliver to the County, at the time of final acceptance of the entire project, a site which is properly graded and provides positive drainage.
- C. In the event that erosion should occur, the site shall be re-graded and returned to its designed grades, regardless of the number of times which such events may occur, and without additional compensation.
- D. The fact that grading is completed and damaged prior to final acceptance shall not relieve the Contractor of the responsibility to restore the site prior to the final acceptance.

END OF SECTION 31 10 00

SECTION 31 23 00 - STRUCTURE EXCAVATION AND BACKFILL

PART 1 - GENERAL

1.1 WORK INCLUDED

1. This section covers furnishing of all labor, materials, tools, equipment, and performing all work and services for excavating, over excavating, borrowing, removing undesired or excess materials, filling and backfilling of the soils for the structures shown on the Drawings, in accordance with the Contract Documents.
- B. Although such work is not specifically indicated, perform all supplementary work incidental to the services outlined above.
- C. Foundations include footings, floor slabs, foundation walls, mat foundations, piers, or any other support placed on or in the soil.

1.2 RELATED WORK

- A. The following is a list of Specifications, which may be related to this section:
 1. Section 02 14 00, Water Control
 2. Section 31 10 00, Earthwork
 3. Section 31 37 00, Erosion Control Groin

1.3 PROTECTION

- A. Protect bench marks from equipment and vehicular traffic.
- B. Protect above and below grade utilities which are to remain.
- C. Protect excavations by shoring, bracing, casing, sheet piling, underpinning, or other methods required to prevent cave-in or loose soil from falling into excavation.
- D. Notify the County of unexpected subsurface conditions and discontinue affected work in area until notified to resume work.
- E. Protect bottom of excavations and soil adjacent to and beneath foundations from frost.
- F. Grade excavation top perimeter to prevent surface water run-off into excavation.

1.4 QUALITY STANDARDS

- A. American Society of Testing and Materials (ASTM), ASTM D-698 and ASTM D-2049.

1.5 SUBMITTALS

- A. See General Requirements

1.6 SUBSURFACE AND GEOLOGICAL INVESTIGATIONS

- A. An investigation was performed relative data concerning the character of material in and upon which the foundation might be built. Information contained in any investigation report is included as an appendix to the project manual.
- B. The Contractor shall satisfy himself as to the kind and type of soil to be encountered and any water condition which might affect the construction of the project.

1.7 CONSTRUCTION REVIEW

- A. A geotechnical engineer may be retained by the County to review the excavation and construction of foundation fills and to confirm/test moisture density.
- B. Tests shall be conducted on all backfill, including select structural fill for lifts 2'-0" and above at locations and frequency as directed by the County.
- C. The expense of these services will be borne by the County except where failure occurs, where it shall be borne by the Contractor.

PART 2 - MATERIALS

2.1 BACKFILL

- A. Materials used for backfill shall be of Structural Backfill (Class 1) per CDOT Standard Specification 703.08
- B. Backfill materials shall be free from frozen lumps, wood, or other organic, extraneous or perishable material.
- C. Materials excavated for the foundations may be acceptable for use with prior review and acceptance by the County.

PART 3 - EXECUTION

3.1 GENERAL

- A. The Contractor shall notify the County at least 48 hours in advance of the commencement of work.

3.2 PREPARATION

- A. Identify required lines, levels, contours, and datum.
- B. Identify underground utilities. Stake and flag locations.
- C. Identify and flag surface and aerial utilities.
- D. Maintain and protect existing utilities which pass through work area.

3.3 TOPSOIL

- A. Topsoil shall be removed and stockpiled for use during finish grading.

- B. Topsoil which is to be used shall be free from roots, brush, weeds, debris, and stones larger than 2-inch in diameter in native landscape areas.

3.4 EXCAVATION

- A. The Contractor shall excavate to elevations shown on the Contract Drawings, allowing additional space as required for construction operations and review of foundation construction. All excavation and side slopes shall conform to all applicable regulations.
- B. Where engineered cut slopes are required by OSHA regulations, the Contractor shall retain a professional engineer to provide the necessary engineering designs for review by the County.
- C. The Contractor shall remove obstructions including but not limited to old foundations, pipe, unsuitable subgrade soils, and any other materials which may be concealed beneath the present grade, as required to construct an acceptable grade for the foundations.

3.5 OVER-EXCAVATION

- A. The Contractor shall over-excavate subgrade soils, as required or as shown on the Drawings, which in the opinion of the County, are undesirable or unsuitable for foundation support.

3.6 PREPARATION OF FOUNDATIONS

- A. Where foundations are to rest on rock, the rock shall be fully exposed and the surface of the rock shall be leveled off to approximate horizontal and vertical steps and roughened.
- B. Where foundations are to rest on subgrade material other than rock, care should be taken to avoid disturbance of the bottom of the excavation. Soils loosened during excavation shall be removed from the excavation, and the excavation restored to a condition at least equal to the undisturbed subgrade.
- C. The materials below foundations shall be verified to achieve the design bearing capacity by a geotechnical engineer.
- D. The Contractor is responsible for notifying the County as soon as excavations are completed in order that subgrade may be reviewed.
- E. Completed excavations shall be protected from becoming unacceptable including but not limited to becoming wet, frozen, or soft due to weather, and or construction operations.
- F. Grading around excavations for structures shall be performed to prevent water from running into the excavation or from damaging completed foundations. Should any free water, ground water, or springs be encountered, the Contractor shall be required to keep excavations free from water during construction of the foundations by the use of trenches, well points, or other means as reviewed and accepted by the County.

- G. The Contractor shall shore, sheet pile, slope, and/or brace excavations as required to maintain a safe site and to conform to all local, State, or Federal agency regulations having jurisdiction over the work. The Contractor is fully and solely responsible for maintaining safe working conditions during construction.
- H. The Contractor is responsible for protecting all monuments, benchmarks, and other reference points to be used to construct the foundations. Reference points disturbed that require restaking, will be restaked by the Contractor and the Contractor's expense.

3.7 STRUCTURE BACKFILL

- A. Structure backfill shall not be placed until the foundations or other portions of the structure have been reviewed by the County and/or the County's Engineer and accepted for backfilling.
- B. No backfill materials shall be deposited against foundation walls, abutments, and retaining walls until the structure has reached the strength necessary to sustain backfill and other anticipated loads.
- C. When permitted by the County, footings may be backfilled to a level equal to the top of the footings or berm elevation where appropriate, upon removal of the forms.
- D. Foundations for rigid frame structures or walls or abutments which are not designed as self-sustaining against soil and backfill loads. Structures shall not be backfilled unless the superstructure has been placed and reach a strength necessary to sustain the anticipated loads.
- E. Foundations shall not be backfilled until the area involved has been cleared of all falsework, sheet piling, cribbing, shoring, bracing, forms, and debris.
- F. Structure backfill shall be performed as to prevent wedging action against the structure.
- G. Existing slopes shall be stepped, terraced, or otherwise treated as necessary to prevent slippage and wedging of the backfill.
- H. Unless otherwise provided, backfill shall be placed in continuous horizontal layers not exceeding 8-inches in loose thickness. Where hand operated compaction equipment is used, the layers shall not exceed 6-inches. Each layer shall be brought up uniformly on all sides of the foundation and shall be compacted before the next layer is placed, by means of rollers, tampers or vibrators.
- I. Backfilling operations shall be performed to minimize live load and compaction effort surcharges to the foundation. Backfill operations shall be performed in such a manner that no portion of the foundation or structure is damaged or deflected out of alignment.
- J. All backfill shall be compacted in accordance with the densities shown on the plans, but not less than 90% Standard Proctor.
- K. If water is present in the excavation, backfill operations shall be so performed such that the water will be displaced by the backfill and not trapped therein. Water shall not be used to expedite settlement of backfill.

- L. Compaction by jetting is unacceptable.
- M. Backfill materials transported in trucks or other vehicles shall be placed so that the contents of each vehicle are carefully and gradually deposited. All chams, dippers, or containers of backfill shall be lowered to within 5 feet of the surface of the previously deposited backfill before they are dumped.
- N. The Contractor is responsible for legally disposing of excess excavated materials, rock, organic materials, and soils from the site. The County may request written confirmation from the Owner of the property where excess and waste materials are deposited.

END OF SECTION 31 23 00

SECTION 31 25 00 - EROSION AND SEDIMENT CONTROL

PART 1 - GENERAL

1.1 SECTION INCLUDES

- A. This work shall consist of temporary measures needed to control erosion and water pollution. These temporary measures shall include, but not be limited to, berms, dikes, dams, sediment basins, fiber mats, netting, gravel, mulches, grasses, slope drains, and other erosion control devices or methods. These temporary measures shall be installed at the locations where needed to control erosion and water pollution during the construction of the project, and as directed by the County, and as shown on the drawings.
- B. An acceptable Erosion Control Plan will be developed by the Contractor and serves as a minimum for the requirements of erosion control during construction. Contractor has the ultimate responsibility for providing adequate erosion control and water quality throughout the duration of the project. Therefore, if the provided plan is not working sufficiently to protect the project areas, then contractor shall provide additional measures as required to obtain the required protection.
- C. Contractor shall include in the bid price for erosion control any additional items, beyond those shown in the erosion control plan that may be needed to control erosion and water pollution.

1.2 RELATED SECTIONS

- A. The following is a list of Specifications, which may be related to this section:
 - 1. Section 02 14 00, Water Control
 - 2. Section 31 10 00, Earthwork
 - 3. Section 31 23 00, Structure Excavation and Backfill

1.3 SUBMITTALS

- A. Product data for all erosion control devices
- B. Copies of all required permits

PART 2 - PRODUCTS

2.1 MATERIALS

- A. Materials may include silt fence, reinforced rock berms, hay bales, straw, fiber mats, fiber netting, wood cellulose, fiber fabric, gravel, and other suitable materials, and shall be reasonably clean, free of deleterious materials, and certified weed free.
- B. All materials shall be submitted for approval prior to installation.

PART 3 - EXECUTION

3.1 CONSTRUCTION REQUIREMENTS

- A. When so indicated in the contract documents, or when directed by the County, contractor shall prepare construction schedules for accomplishing temporary erosion control work. These schedules shall be applicable to clearing and grubbing, grading, structural work, construction, etc. contractor shall also submit for acceptance the proposed method of erosion control on haul roads and borrow pits and a plan for disposal of waste material. Work shall not be started until the erosion control schedules and methods of operations have been accepted.
- B. Contractor shall be required to incorporate all permanent erosion control features into the project at the earliest practicable time as outlined in the accepted schedule.
- C. Temporary erosion control measures will then be used to correct conditions that develop during construction.
- D. The erosion control features installed by contractor shall be adequately maintained by contractor until the project is accepted and erosion control requirements are met.
- E. In the event of conflict between these requirements and erosion and pollution control laws, rules, or regulations of other Federal, State or local agencies, the more restrictive laws, rules, or regulations shall apply.

3.2 PERMITS AND COMPLIANCE

- A. The County will apply for and obtain a Building Permit and an On-site Wastewater Permit prior to commencement of any construction activity. These permits will be turned over to the Contractor prior to construction activities. The Contractor will be responsible for following all permit requirements, completing necessary inspections and closing out all required permits.
- B. Contractor is legally obligated to comply with all terms and conditions of the permits.
- C. Contractor shall allow permitting agencies or other representatives to enter the site to test for compliance with the permits. Non-compliance with the permits can result in stoppage of all work.
- D. In addition to permit requirements, the County shall also monitor contractor's erosion control and work methods. If the overall function and intent of erosion control is not being met, then the County shall require contractor to provide additional measures as required to obtain the desired results.
- E. Costs for any additional erosion control measures shall be the responsibility of contractor, since he has the ultimate responsibility for providing adequate erosion control and water quality for the duration of the project.

3.3 STABILIZATION OF DISTURBED AREAS

- A. Temporary sediment control measures shall be established prior to time of exposure/disturbance. Permanent erosion protection measures shall be established within five (5) days after final grading of areas.

3.4 PROTECTION OF ADJACENT PROPERTIES

- A. Properties adjacent to the site of a land disturbance shall be protected from sediment deposition.
- B. In addition to the erosion control measures required on the drawings, perimeter controls may be required if damage to adjacent properties is likely. Perimeter controls include, but are not limited to, a vegetated buffer strip around the lower perimeter of the land disturbance, sediment barriers such as straw bales and silt fences; sediment basins; or a combination of such measures.
- C. Vegetated buffer strips may be used only where runoff in sheet flow is expected and should be at least twenty (20) feet in width.

3.5 TIMING AND STABILIZATION OF SEDIMENT AND EROSION CONTROL MEASURES

- A. Sediment barriers, perimeter dikes, and other measures intended to either trap sediment or prevent runoff from flowing over disturbed areas must be constructed as a first step in grading and be made functional before land disturbance takes place.
- B. Earthen structures such as dams, dikes, and diversions must be stabilized within five (5) days of installation.
- C. Stormwater outlets must also be stabilized prior to any upstream land disturbing activities.

3.6 STABILIZATION OF WATERWAYS AND OUTLETS

- A. All on-site stormwater conveyance channels used by contractor for temporary erosion control purposes shall be designed and constructed with adequate capacity and protection to prevent erosion during storm and runoff events.
- B. Stabilization adequate to prevent erosion shall also be provided at the outlets of all pipes and channels.

3.7 STORM SEWER INLET PROTECTION

- A. All storm sewer inlets which are made operable during construction or which drain stormwater runoff from a construction site shall be protected from sediment deposition by the use of filters.

3.8 WORKING IN OR CROSSING WATERCOURSES AND WETLANDS

- A. Construction vehicles should be kept out of watercourses to the extent possible. Where in-channel work is necessary, precautions must be taken to stabilize the work area during construction to minimize erosion. The channel (including bed and banks) must always be restabilized immediately after in-channel work is completed.
- B. Where a live (wet) watercourse must be crossed by construction vehicles during construction, a temporary stream crossing must be provided for this purpose.

3.9 CONSTRUCTION ACCESS ROUTES

- A. Wherever construction vehicles enter or leave a construction site, a Stabilized Construction Entrance may be required.
- B. Where sediment is transported onto a public road surface, the roads shall be cleaned thoroughly at the end of each day. Sediment shall be removed from roads by shoveling or sweeping and be transported to a sediment controlled disposal area. Street washing shall be allowed only after sediment is removed in this manner.

3.10 DISPOSITION OF TEMPORARY MEASURES

- A. All temporary erosion and sediment control measures shall be disposed of within thirty (30) days after final site stabilization is achieved or after the temporary measures are no longer needed as determined by the County.
- B. Trapped sediment and other disturbed soil areas resulting from the disposition of temporary measures shall be permanently stabilized to prevent further erosion.

3.11 MAINTENANCE

- A. All temporary and permanent erosion and sediment control practices must be maintained and repaired as needed to assure continued performance of their intended function.

3.12 SEQUENCING

- A. Contractor shall submit a sequencing plan for approval for erosion control in conformance with contractor's overall Construction Plan for approval by the County.
- B. Changes to the erosion control Sequencing Plan may be considered by the County only if presented in writing by contractor.

3.13 SUBSTANTIAL COMPLETION OF EROSION CONTROL MEASURES

- A. At the time specified in the contract documents, and subject to compliance with specified materials and installation requirements, contractor shall receive a Substantial Completion Certificate for temporary erosion control measures.

3.14 FINAL COMPLETION AND ACCEPTANCE OF EROSION CONTROL MEASURES

- A. After the County has determined that the drainage area has stabilized, contractor shall remove all remaining temporary erosion control measures.
- B. Any damage to the site shall be repaired to the satisfaction of the County and at no cost to the County.

END OF SECTION 31 25 00**SECTION 16 60 00 - SITE ELECTRICAL WORK****PART 1 - GENERAL****1.1 DESCRIPTION**

- A. Work Included:
 - 1. Furnish, install and connect conduits, conductors, fittings and accessories.
 - 2. Trench, excavate, and backfill for all underground conduits, splice boxes, pull boxes and handholes.
 - 3. Concrete work for conduit encasement.

1.2 SEPARATION FROM OTHER SERVICES

- A. Separate duct and conduit runs not less than one foot horizontally and one foot vertically from gas, water, sewer, and drainage lines or per County requirements.

1.3 STANDARD PRACTICES

- A. Related Work:
 - 1. Section 31 10 00, Earthwork
 - 2. Section 31 23 00, Structure Excavation and Backfill
- B. Installation of ducts and conduits shall be in accordance with current Boulder County Building Codes and the NEC.

PART 2 - PRODUCTS

- A. As specified on the Drawings.

PART 3 - EXECUTION**3.1 EXCAVATION**

- A. Excavations shall be open vertical construction of sufficient width to provide free working space around the work installed and to provide sufficient space for back filling and tamping.

- B. Provide safety shoring, bracing or bulk heading to support excavations and maintain warning signs and barricades. Provide suitable temporary steel covers over excavations crossing roadways or walks.
- C. Excavate all trenches so that minimum coverage above conduit or duct to finish grade is not less than 24" in open space areas or 30" in paved areas, unless otherwise specified or shown on Drawings.
- D. For non-metallic conduits not encased in concrete, excavate trench 3" below the required grade. Place 3" bed of sand properly compacted, or of pea-gravel, and graded to provide uniform bearing surface for conduits, unless otherwise specified or shown on drawings.
- E. Excavate adjacent to existing trees by hand to avoid injury to trees and tree roots. Protect all roots 2" and larger in diameter with heavy burlap. Hand trim roots smaller than 2" diameter. If trenches remain open more than 24 hours shade side of trench adjacent to tree with burlap and keep damp. Stockpiling of any materials within the dripline of trees is prohibited.
- F. Keep excavations free of water.

3.2 BACKFILL

- A. Cover non-metallic conduits not encased in concrete with a minimum 12" layer above of sand, or pea-gravel. Compact sand backfill per Specifications.
- B. Except where sand or select fill is required as specified above and except under paved areas, walks or roads, use backfill of suitable excavated material with 2" maximum rocks or clods. If excavated material is unsuitable or inadequate for the backfill as specified, furnish and import additional suitable materials to complete the work.
- C. Compact fill by adding material in 8" maximum layers and tamping by hand or machine. Do not machine tamp initial back fill layer over non-metallic conduits or ducts not concrete encased.
- D. Remove shoring as backfill is placed. Remove from property surplus material remaining after backfilling, or place as directed by the County.
- E. Place WARNING-ELECTRIC marker tape the continuous length of trench, down approximately 12" from finish grade. Strips shall be installed over all over all lighting and power conduits.
- F. Replace existing walkways, pavements, or similar surfaces to match existing work, except material used shall not be of lesser quality than required for the same material in Standard Specifications.
- G. Bring to grade any subsidence occurring during the guarantee period by adding surfacing materials of the like kind.

3.3 SPLICEBOXES, PULLBOXES AND HANDHOLES

- A. In spliceboxes and handholes, place duct and conduit entries using knockout panels provided. Pour concrete around conduits to anchor them in place.
- B. Spliceboxes and handholes shall have as a minimum one base section and one 12" extension, set on a minimum 6" bedding of drain rock.
- C. In pavement set top of box flush with pavement, and use steel traffic-rated bases and covers. In landscape areas use reinforced concrete covers.
- D. Covers of pull boxes shall be secured by means of either bronze or stainless steel bolts and nuts, or studs and nuts conforming to current codes.

3.4 RACEWAYS

- A. Install duct and conduit runs straight and true between spliceboxes. Do not use bends except where shown on plans.
- B. Rod all underground raceways with approved flexible mandrels and brushes to remove all obstructions and to prove that raceways are clear and usable.
- C. Furnish and install pull lines in all empty raceways. Pull line with 200# tensile strength shall be continuous from splicebox to splicebox or vault, with 24" of slack left at each termination.
- D. All duct and conduits entering pullboxes or spliceboxes shall be sealed with Duct-Seal after conductors and/or pull lines have been installed.

END OF SECTION 16 60 00

LEFTHAND VALLEY GRANGE RESTROOM SPECIFICATIONS

DIVISION 2 - SITE CONSTRUCTION

02 54 00 SEPTIC TANK SYSTEMS

DIVISION 3 - CONCRETE

03 30 00 CAST-IN-PLACE CONCRETE

DIVISION 4 - MASONRY

04 70 00 SIMULATED MASONRY

04 86 00 STONE VENEER ASSEMBLIES

DIVISION 5 - METALS

05 12 00 STRUCTURAL STEEL

05 50 00 METAL FABRICATIONS

DIVISION 6 - WOOD AND PLASTICS

06 10 00 ROUGH CARPENTRY

06 18 50 STRUCTURAL GLUED-LAMINATED TIMBER

06 20 00 FINISH CARPENTRY

06 40 10 EXTERIOR ARCHITECTURAL WOODWORK

DIVISION 7 - THERMAL AND MOISTURE PROTECTION

07 61 00 SHEET METAL ROOFING

07 92 00 JOINT SEALANTS

DIVISION 8 - DOORS AND WINDOWS

08 11 00 STEEL DOORS AND FRAMES

08 55 00 WOOD WINDOWS

08 71 00 DOOR HARDWARE

DIVISION 9 - FINISHES

09 65 30 RESILIENT WALL BASE AND ACCESSORIES

09 77 00 FIBERGLASS REINFORCED PLASTIC PANELS

09 91 00 PAINTING

DIVISION 10 – SPECIALTIES

10 20 00 LOUVERS AND VENTS

10 43 10 SIGNS

10 80 10 TOILET AND BATH ACCESSORIES

10 90 10 DRINKING FOUNTAIN

DIVISION 16 - ELECTRICAL

16 01 00 GENERAL ELECTRIC

16 10 00 BASIC ELECTRICAL MATERIALS AND METHODS

SECTION 02 54 00 - SEPTIC TANK SYSTEMS

PART 1 - GENERAL

1.1 SECTION REQUIREMENTS

- A. Structural Performance: Provide structural precast concrete units capable of withstanding design loadings indicated.
- B. Submittals: Product Data, Shop Drawings and structural analysis data signed and sealed by a qualified professional engineer.
- C. Vault Fabricator Qualifications: Fabricator participates in PCI's Plant Certification Program and is designated a PCI-certified plant, Product Group C.
- D. Vault to comply with PCI's "PCI Design Handbook--Precast and Pre-stressed Concrete," PCI's "Manual for Quality Control for Plants and Production of Precast and Pre-stressed Concrete Products," AWS D1.1, and AWS D1.4.
- E. Submittals: Product Data for vault, access door and septic evaporator system.

PART 2 - PRODUCTS

2.1 VAULT

- A. Precast Concrete Tank: Single-chamber, precast, reinforced-concrete tank and covers; designed for structural loading according to drawings.
 - 1. Vault Floor and Walls (Restroom Tank): The floor shall be a one-piece structural monolithic precast concrete tank manufactured in a closed environmentally controlled plant. Construction shall be 6" thick concrete floor with 6" concrete walls. Concrete shall develop 4,000 psi in 28 days. The vault floor slab or walls shall be designed and engineered with pick-up points for possible future relocation. After the vault floor and walls are cured, they shall be sealed with a two-part epoxy coating
 - 3. Vault Lid (Restroom Floor): The vault lid shall be designed and engineered with pick-up points for possible future relocation. The vault lid shall be 6" thick concrete. The vault lid shall have a non-skid broom finish. The anchor bolts will be embedded in a minimum 4" of concrete, the wood framed walls will be installed directly on concrete. Floor drains will be precast into the vault lid. Concrete shall develop 4,000 psi in 28 days.
 - 4. Vault Access Door: Aluminum frame and door, 24 inches by 18 inches, manufactured by Syracuse aluminum hatch door with lock tab.

2.2 EVAPORATOR SYSTEM

- A. Manufactured by: Biological Mediation Systems, Inc. (BMSI)
- B. AC powered system shall include the following:
 - 1. 1- BMSI Evaporation System Patent #5, 573,661

2. 1 - Fan speed control
3. 2- AC vent fan or substitute 2 DC vent fans with an AC converter
4. 1 - 100 amp breaker box
5. 1 - Meter box
6. 1 - Ground rod kit
7. 24' +/- of 8" PVC vent pipe coming out of vault and forming a Y in the rear maintenance area and exhausting into the restroom cupula with all fittings and vent caps
8. 50' - 12/2 wire
9. 2 - Model H18 Toilet Risers
10. 2 -12" diameter x 18" PVC Toilet chutes w/black interior

C. Warranty:

1. 5 years on 18" PVC evaporator piping.
2. 5 year warranty on Spray-on Liner.
3. 1 year manufacturer warranty on vent fans.
4. 1 year warranty on toilet risers.

3.1 VAULT INSTALLATION

- A. Earthwork per Section 31 23 00, Structure Excavation and Backfill.
- B. Install vault and cover level and plumb.
- C. Backfill with gravel to one foot above the footing for well drained sites or half the total backfill height for poorly drained sites.
- D. Cover gravel backfill with strips of 30 # asphalt paper, or 6 mil polyethylene film.

3.2 EVAPORATION SYSTEM INSTALLATION

- A. The system shall be factory assembled and partially disassembled for transportation for final assembly on the job site. Biological Mediation Systems, Inc. will provide a factory representative on site during the assembly of the vault evaporation system.
- B. BMSI will provide operation maintenance instruction and conduct start up and operating class.

END OF SECTION 02 54 00

SECTION 03 30 00 - CAST-IN-PLACE CONCRETE

PART 1 - GENERAL

1.1 SECTION REQUIREMENTS

- A. Submittals: Product Data and concrete mix designs.
- B. Ready-Mixed Concrete Producer Qualifications: ASTM C 94/C 94M.
- C. Comply with ACI 301, "Specification for Structural Concrete"; ACI 117, "Specifications for Tolerances for Concrete Construction and Materials"; and CRSI's "Manual of Standard Practice."

PART 2 - PRODUCTS

2.1 MATERIALS

- A. Reinforcing Bars: ASTM A 615/A 615M, Grade 60, deformed.
- B. Plain Steel Wire: ASTM A 82, as drawn.
- C. Plain-Steel Welded Wire Reinforcement: ASTM A 185, fabricated from as-drawn steel wire into flat sheets.
- D. Deformed-Steel Welded Wire Reinforcement: ASTM A 497, flat sheet.
- E. Portland Cement: ASTM C 150, Type I or II.
- F. Fly Ash: ASTM C 618, Type C or F.
- G. Aggregates: ASTM C 33, uniformly graded.
- H. Synthetic Fiber: ASTM C 1116, Type III, polypropylene fibers, 1/2 to 1-1/2 inches long. (1.5 lbs per cubic yard)
- I. Air-Entraining Admixture: ASTM C 260.
- J. Chemical Admixtures: ASTM C 494. Do not use calcium chloride or admixtures containing calcium chloride.
- K. Joint-Filler Strips: ASTM D 1751, asphalt-saturated cellulosic fiber, or ASTM D 1752, cork or self-expanding cork.
- L. Moisture-Retaining Cover: ASTM C 171, polyethylene film or white burlap-polyethylene sheet.

2.2 MIXES

- A. Comply with ACI 301 requirements for concrete mixtures.

- B. Normal-Weight Concrete: Prepare design mixes, proportioned according to ACI 301, as follows:
1. Minimum Compressive Strength: 4000 psi at 28 days.
 2. Maximum Water-Cementitious Materials Ratio: 0.45.
 3. Slump Limit: 4 inches, plus or minus 1 inch.
 4. Air Content: Maintain within range permitted by ACI 301. Do not allow air content of floor slabs to receive troweled finishes to exceed 3 percent.
- C. Measure, batch, mix, and deliver concrete according to ASTM C 94/C 94M.
1. When air temperature is above 90 degree F, reduce mixing and delivery time to 60 minutes.

PART 3 - EXECUTION

3.1 CONCRETING

- A. Construct formwork according to ACI 301 and maintain tolerances and surface irregularities within ACI 347R limits of Class A, 1/8 inch for concrete exposed to view and Class C, 1/2 inch for other concrete surfaces.
- B. Place vapor retarder on prepared subgrade, with joints lapped 6 inches and sealed.
- C. Comply with CRSI's "Manual of Standard Practice" for fabricating, placing, and supporting reinforcement.
- D. Install construction, isolation, and contraction joints where indicated. Install full-depth joint-filler strips at isolation joints.
- E. Place concrete in a continuous operation and consolidate using mechanical vibrating equipment.
- F. Protect concrete from physical damage, premature drying, and reduced strength due to hot or cold weather during mixing, placing, and curing.
- G. Formed Surface Finish: Smooth-formed finish for concrete exposed to view, coated, or covered by waterproofing or other direct-applied material; rough-formed finish elsewhere.
- H. Slab Finishes: Comply with ACI 302.1R for screeding, re-straightening, and finishing operations for concrete surfaces. Do not wet concrete surfaces. Provide the following finishes:
1. Scratch finish for surfaces to receive mortar setting beds.
 2. Non-slip broom finish to exterior concrete platforms, steps, and ramps.
- I. Cure formed surfaces by moist curing for at least seven days.

SPECIFICATIONS

LEFTHAND VALLEY GRANGE RESTROOM
Boulder County Parks and Open Space

- J. Begin curing concrete slabs after finishing.
- K. BCPOS will engage a testing agency to perform field tests and to submit test reports.
- L. Protect concrete from damage. Repair surface defects in formed concrete and slabs.

END OF SECTION 03 30 00

SECTION 04 70 00 - SIMULATED MASONRY**PART 1 - GENERAL****1.1 SECTION REQUIREMENTS**

- A. Submittals: Product Data and manufacturer's color charts showing the full range of colors available for factory-applied finishes.
- B. Verify dimensions by field measurements before fabrication.
- C. Warranties: Provide standard manufacturer's written warranty, without monetary limitation, signed by manufacturer agreeing to promptly repair or replace products that fail in materials or workmanship for the period of 40 years.
- D. Construct a sample wall panel approximately 24 inches long by 24 inches high to demonstrate aesthetic effects and set quality standards for materials and execution.
- E. Extra Materials: Deliver to BCPOS 5 square feet of stone, of each color and type used on Project, securely packaged and labeled.

PART 2 - PRODUCTS**2.1 SIMULATED MASONRY**

- A. Description: Simulated, manufactured stone veneer products intended for interior or exterior nonstructural use as a lightweight veneer facing on masonry, metal framed or wood framed construction for architectural aesthetics.
- B. Manufacturer: Sunset Stone, Inc.
- C. Product: As selected
- D. Color: Rio Grande River Rock or Natural Field Stone

2.2 INSTALLATION MATERIALS

- A. Mortar:
 - 1. Portland Cement, ASTM C150, Type I or masonry cement (Type N), ASTM C91.
 - 2. Masonry sand.
 - 3. Lime: ASTM C207.
 - 4. Iron oxide pigments
- B. Masonry Sealer: use: breather type (non-film forming) sealer.
- C. Water Resistive Barrier (WRB): 2 layers grade D or approved equivalent.
- D. Metal Lath: Minimum 18 gauge galvanized woven wire mesh or galvanized [2.5 lbs. flat diamond mesh) (3.4 lbs. flat rib).

2.3 MORTAR MIXES

- A. Mixing: Mix proprietary materials in accordance with manufacturer's instructions, including product data and product technical bulletins. Thoroughly mix mortar ingredients in quantities needed for immediate use in accordance with ASTM C270, Type N. Do not use antifreeze compounds to lower the freezing point of mortar.

PART 3 - EXECUTION

3.1 MANUFACTURER'S INSTRUCTIONS

- A. Perform installation of manufactured masonry in accordance with Masonry Veneer Manufacturers Association's "Installation Guide for Adhered Concrete Masonry Veneer", unless more stringent requirements are specified herein.
- B. Compliance: Comply with manufacturer's product data, including product technical bulletins, product catalog installation instructions and product carton instructions for installation.

3.2 EXAMINATION

- A. Site Verification of Conditions: Verify substrate conditions, which have been previously installed under other sections, are acceptable for product installation in accordance with manufacturer's instructions.

3.3 PREPARATION

- A. Surface Preparation:
 - 1. Sheathed Surfaces:
 - a. Apply WRB with lap joints 4 inches (102 mm) in a shingle fashion.
 - b. Apply code approved metal lath, attach with galvanized nails or staples that penetrate a minimum of 1 inch (25.4 mm) into framing.
 - c. Fastener spacing should be 6 inches (152 mm) on center vertically and 16 inches (406 mm) on center horizontally.
 - d. Wrap weather resistant barrier and metal lath a minimum of 16 inches (406 mm) around all outside and inside corners.

3.4 MANUFACTURED STONE VENEER INSTALLATION

- A. Mortar: Apply 1/2 inch - 3/4 inch (12.7 - 19.1 mm) of mortar to Lath, covering a maximum of 10 ft² (0.93 m²) at one time. Press the units firmly into position in soft mortar bed, wiggle and apply slight pressure to unit to ensure firm bonding, causing mortar to extrude slightly around edges of units. Mortar may also be applied to the entire back of the stone.
- B. Joints: Place units with uniform mortar joints. Stone joints should not be over 1/2 inch - 3/4 inch (12.7 - 19.1 mm) in width. When installing pre-fitted stone

textures, units should be tight fit/dry stacked against each other with no allowance for mortar joints.

1. Remove excess mortar; do not allow mortar to set up on face of units. Point and tool joints before mortar has set. Clean and finish joints in accordance with manufacturer's instructions.
- C. Setting Units: Press each stone into the mortar setting bed firmly enough to squeeze some mortar out around the stone's edges. Apply pressure to the stone to ensure a good bond. Ensure complete coverage between the mortar bed and back surface of the stone.
- D. Cutting: Perform necessary cutting with proper tools to provide uniform edges; take care to prevent breaking unit corners or edges.
- E. Finish Color: Rio Grande River Rock

3.5 CLEANING

- A. Cleaning: Remove temporary coverings and protection of adjacent work areas. Remove construction debris from project site and legally dispose of debris.
1. Cleaning: Use a strong solution of granulated soap or detergent and water with a bristle brush. Do not use a wire brush as it will cause damage to the surface. Rinse immediately with fresh water. Do not attempt to clean using acid or acid based products. Do not clean with high pressure power washer.
 2. Salt and De-icing Chemicals: Do not use de-icing chemicals on areas immediately adjacent to a Cultured Stone
 3. Scuffing: Remove scuff marks by cleaning as specified herein.

3.6 PROTECTION

- A. Protection: Protect installed product and finish surfaces from damage during construction.

END OF SECTION 04 70 00

SECTION 04 86 00 - STONE CAP ASSEMBLIES

PART 1 - GENERAL

1.1 SECTION REQUIREMENTS

- A. Submittals: Samples for stone and colored pointing mortar.
- B. Submit qualification data for masonry contractor, including a list of completed projects.
- C. Do not use frozen materials or materials mixed or coated with ice or frost. Do not build on frozen subgrade or setting beds. Comply with cold-weather construction requirements contained in ACI 530.1/ASCE 6/TMS 602.

PART 2 - PRODUCTS

2.1 STONE

- A. Sandstone, buff, used as cap stone.

2.2 MORTAR

- A. Mortar for Stone Masonry Cap: ASTM C 270, Proportion Specification, Type N for setting stone, Type N for pointing.
 - 1. Colored Pointing Mortar: Use colored cement or cement-lime mix of color selected to coordinate with simulated masonry (section 04700)
- B. Latex-Modified Portland Cement Setting Mortar: Proportion and mix Portland cement, aggregate, and latex additive to comply with latex-additive manufacturer's written instructions.
- C. Mortar for Scratch Coat over Metal Lath: 1 part Portland cement, 1/2 part lime, and 5 parts sand.
- D. Mortar for Scratch Coat over Unit Masonry: 1 part Portland cement, 1 part lime, and 7 parts sand.

2.3 EMBEDDED FLASHING MATERIALS

- A. Laminated Flashing: Copper sheet 3 oz./sq. ft., bonded with asphalt between 2 layers of glass-fiber cloth.

2.4 MISCELLANEOUS MATERIALS

- A. Damp-proofing for Limestone: Cementitious damp proofing recommended by ILI.
- B. Expanded Metal Lath: ASTM C 847, 3.4 lbs/sq. yd., galvanized, self-furring, diamond-mesh lath.

- C. Welded-Wire Lath: ASTM C 933.

2.5 STONE FABRICATION

- A. Gage backs of stones more than 81 sq. in. in area.
- B. Thickness of Stone Masonry Cap: 2 inches plus or minus ¼ inch.
- C. Type of Masonry (Pattern): Cap stone
- D. Finish: Natural cleft edge.

PART 3 - EXECUTION

3.1 SETTING STONE MASONRY CAP - GENERAL

- A. Install stone masonry cap by skilled masons experienced with the kind and form of stone and installation method indicated. Arrange stones for good fit, in pattern indicated.
- B. Maintain uniform joint widths of 3/8 to 1/2 inch, except for variations due to stone size variations and minor variations required to maintain bond alignment.
- C. Install concealed flashing and weep holes at shelf angles, lintels, ledges, and similar obstructions to downward flow of water.
 - 1. Extend flashing 4 inches into masonry at each end and turn up 2 inches to form a pan.
- D. Coat limestone with damp-proofing on beds, joints, and back surfaces to at least 12 inches above finish-grade elevations, and on face surfaces up to finish-grade elevations.

3.2 INSTALLING ADHERED STONE MASONRY CAP

- A. Install lath over sheathing and asphalt-saturated felt by fastening through sheathing into framing to comply with ASTM C 1063.
- B. Install lath over simulated masonry to comply with ASTM C 1063.
- C. Install 3/8-inch-thick scratch coat over metal lath. Coat backs of stone units and face of scratch coat with cement-paste bond coat, then butter both surfaces with setting mortar. Tap units into place, completely filling space between units and scratch coat.
- D. Rake out joints for pointing 1/2 inch deep.

3.3 POINTING

- A. Point stone joints by placing and compacting mortar in layers not greater than 3/8 inch. Compact each layer thoroughly and allow to become thumbprint hard before applying next layer.

- B. Tool joints, when pointing mortar is thumbprint hard, with a smooth jointing tool to produce joint profile indicated.

3.4 CLEANING

- A. Clean masonry as work progresses. Remove mortar fins and smears before tooling joints.
- B. Final Cleaning: After mortar is thoroughly cured, remove large mortar particles, scrub, and rinse stone masonry cap.

END OF SECTION 04 86 00

SECTION 05 12 00 - STRUCTURAL STEEL

PART 1 – GENERAL

1.1 SECTION REQUIREMENTS

- A. Submittals: Product Data and Shop Drawings.
- B. Comply with AISC's "Specification for Structural Steel Buildings--Allowable Stress Design and Plastic Design," RCSC's "Specification for Structural Joints Using ASTM A 325 or A 490 Bolts," and AWS D1.1, "Structural Welding Code--Steel."

PART 2 - PRODUCTS

2.1 STRUCTURAL STEEL AND ACCESSORIES

- A. Structural-Steel Shapes, Plates, and Bars: ASTM A 36/A 36M, carbon steel.
- B. Cold-Formed Structural-Steel Tubing: ASTM A 500, Grade B.
- C. Steel Pipe: ASTM A 53, Type E or S, Grade B, standard weight (Schedule 40), black finish.
- D. Anchor Rods, Bolts, Nuts: ASTM A 36/A 36M, un-headed rods.
- E. Bolts, Nuts, and Washers: ASTM A 307, Grade A; non-high strength carbon-steel, hex-head bolts; carbon-steel nuts; and flat, unhardened steel washers, uncoated.
- F. Primer: Fast-curing, lead- and chromate-free, universal modified-alkyd, rust-inhibiting primer.
- G. Grout: ASTM C 1107, nonmetallic, shrinkage resistant, premixed.

2.2 FABRICATION

- A. Fabricate structural steel according to AISC specifications and tolerance limits of AISC's "Code of Standard Practice for Steel Buildings and Bridges" for structural steel.
- B. Shop Priming: Prepare surfaces according to SSPC-SP 2, "Hand Tool Cleaning" or SSPC-SP 3, "Power Tool Cleaning." Shop prime steel to a dry film thickness of at least 1.5 mils. Do not prime surfaces to be embedded in concrete or mortar or to be field welded.

PART 3 - EXECUTION

3.1 ASSEMBLY

- A. Erect structural steel according to AISC specifications and within erection tolerances of AISC's "Code of Standard Practice for Steel Buildings and Bridges."
- B. Set base and bearing plates on wedges, shims, or setting nuts. Tighten anchor bolts, cut off wedges or shims flush with edge of plate, and pack grout solidly between bearing surfaces and plates.
- C. Bolted Connections: Install and tighten non-high strength bolts, unless high-strength bolts are indicated. Snug tighten high-strength bolts according to RCSC's "Specification for Structural Joints Using ASTM A 325 or A 490 Bolts."
- D. Weld Connections: Comply with AWS D1.1.

END OF SECTION 05 12 00

SECTION 05 50 00 - METAL FABRICATIONS

PART 1 - GENERAL

1.1 SECTION REQUIREMENTS

- A. Submittals: Shop Drawings showing details of fabrication and installation.

PART 2 - PRODUCTS

2.1 METALS

- A. Steel Plates, Shapes, and Bars: ASTM A 36/A 36M.
- B. Steel Tubing: Cold-formed steel tubing complying with ASTM A 500.
- C. Round steel tubing and pipe are sized differently. Tubing is designated by OD and wall thickness. Pipe is designated by NPS and weight or schedule number.
- D. Steel Pipe: ASTM A 53, standard weight (Schedule 40), black finish.
- E. Steel Wire: ASTM A 510 (ASTM A 510M).
- F. Wire Mesh: No. 10 gauge, steel wire woven into 1 inch square mesh pattern.

2.2 GROUT

- A. Non-shrink, Nonmetallic Grout: ASTM C 1107; recommended by manufacturer for exterior applications.

2.3 FABRICATION

- A. General: Shear and punch metals cleanly and accurately. Remove burrs and ease exposed edges. Form bent-metal corners to smallest radius possible without impairing work.
- B. Welding: Weld corners and seams continuously. Use materials and methods that minimize distortion and develop strength and corrosion resistance of base metals. At exposed connections, finish welds and surfaces smooth with contour of welded surface matching those adjacent.
- C. On units indicated to be cast into concrete or built into masonry, provide welded steel strap anchors, 1/8 by 1-1/2 inches, with a minimum 6-inch embedment and 2-inch hook, not less than 8 inches from ends and corners of units and 24 inches o.c.
- D. Fabricate steel girders for wood frame construction from continuous steel shapes of sizes indicated.
- E. Fabricate steel tube columns with 1/2-inch steel base plates and 1/4-inch steel top plates welded to pipe with continuous fillet weld same size as pipe wall

thickness. Drill top plates for connection bolts and base plates for 5/8-inch anchor bolts.

- F. Fabricate loose lintels from steel angles and shapes. Size to provide bearing length at each side of openings equal to one-twelfth of clear span, but not less than 8 inches.

2.4 STEEL AND IRON FINISHES

- A. Powder coat as indicated on the drawings.
- B. Prepare uncoated ferrous metal surfaces to comply with SSPC-SP 3, "Power Tool Cleaning," and paint with a fast-curing, lead- and chromate-free, universal modified-alkyd primer complying with MPI#79.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Perform cutting, drilling, and fitting required for installing miscellaneous metal fabrications. Set metal fabrication accurately in location, alignment, and elevation; with edges and surfaces level, plumb, true, and free of rack.
- B. Fit exposed connections accurately together to form hairline joints.
- C. Coat concealed surfaces of aluminum that will come into contact with grout, concrete, masonry, wood, or dissimilar metals with a heavy coat of bituminous paint.

END OF SECTION 05 50 00

SECTION 06 10 00 - ROUGH CARPENTRY

PART 1 - GENERAL

1.1 SECTION REQUIREMENTS

- A. Submittals: Model code evaluation reports for treated wood engineered wood products and building wrap.

PART 2 - PRODUCTS

2.1 WOOD PRODUCTS, GENERAL

- A. Lumber: Provide dressed lumber, S4S, 19 percent maximum moisture content for 2-inch nominal thickness or less, marked with grade stamp of inspection agency.
- B. Engineered Wood Products: Acceptable to authorities having jurisdiction and for which current model code research or evaluation reports exist that show compliance with building code in effect for Project.
- C. Wood Structural Panels: DOC PS 2. Provide plywood complying with DOC PS 1, where plywood is indicated.
 - 1. Comply with "Code Plus" provisions in APA Form No. E30K.

2.2 TREATED MATERIALS

- A. Preservative-Treated Materials: AWPA C2 lumber, labeled by an inspection agency approved by ALSC's Board of Review. After treatment, kiln-dry lumber and plywood to 19 and 15 percent moisture content, respectively.
- B. Preservative-treatment: Treatment chemical to be alkaline copper quaternary (ACQ). Do not use chromated copper arsenate (CCA).
- C. Treat indicated items and the following:
 - 1. Concealed members in contact with masonry or concrete.
 - 2. Wood floor plates installed over concrete slabs directly in contact with earth.

2.3 LUMBER

- A. Dimension Lumber: The following grades are per inspection agency indicated:
 - 1. Non-Load-Bearing Interior Partitions: Construction, Stud, or No. 3 or better.
 - 2. Framing Other Than Non-Load-Bearing Partitions: No. 2: Douglas fir-larch: NLGA, WCLIB, or WWPA;.
 - 3. Exposed Framing: No. 2, hand selected: Hem-fir: NLGA, WCLIB, or WWPA; Spruce-pine-fir: NELMA, NLGA, WCLIB, or WWPA; or Douglas fir-larch: NLGA, WCLIB, or WWPA;.

- B. Timbers 5-Inch Nominal Size and Thicker: No. 1: Douglas fir-larch, NLGA, WCLIB, or WWPA.
- C. Concealed Boards: 19 percent maximum moisture content: Northern species: No. 3 Common per NLGA rules; or Western woods: Standard per WCLIB rules or No. 3 Common per WWPA rules.
- D. Miscellaneous Lumber: Construction, Stud, or No. 3 grade of any species for nailers, blocking, and similar members.

2.4 ENGINEERED WOOD PRODUCTS

- A. Engineered wood products with allowable design stresses, as published by manufacturer, that meet or exceed those indicated. Manufacturer's published values shall be demonstrated by comprehensive testing.
- B. Laminated-Veneer Lumber: Manufactured with exterior-type adhesive complying with ASTM D 2559. Allowable design values determined according to ASTM D 5456.
 - 1. Extreme Fiber Stress in Bending, Edgewise: 2600 psi for 12-inch nominal- depth members.
 - 2. Modulus of Elasticity, Edgewise: 1,900,000 psi

2.5 PANEL PRODUCTS

- A. Wall Sheathing:
 - 1. Plywood: Exposure 1, Structural I, rated sheathing.
 - 2. Oriented-Strand-Board: Exposure 1, Structural I. rated sheathing.
- B. Roof Sheathing:
 - 1. Plywood: Exposure 1, Structural I, rated sheathing.
 - 2. Oriented Strand Board: Exposure 1, Structural I. rated sheathing.

2.6 MISCELLANEOUS PRODUCTS

- A. Fasteners: Size and type indicated. Where rough carpentry is exposed to weather, in ground contact, or in area of high relative humidity, provide fasteners with hot-dip zinc coating complying with ASTM A 153/A 153M or of Type 304 stainless steel.
 - 1. Power-Driven Fasteners: CABO NER-272.
 - 2. Bolts: Steel bolts complying with ASTM A 307, Grade A; with ASTM A 563 hex nuts and, where indicated, flat washers.
- B. Metal Framing Anchors: Hot-dip galvanized steel of structural capacity, type, and size indicated.

- C. Building Paper: Asphalt-saturated organic felt complying with ASTM D 226, Type I (No. 15 asphalt felt), unperforated.
- D. Sill-Sealer: Foam closed cell insulation, 1/4-inch thick, compressible to 1/32 inch.
- E. Adhesives for Field Gluing Panels to Framing: APA AFG-01.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Set rough carpentry to required levels and lines, with members plumb, true to line, cut, and fitted. Locate nailers, blocking, and similar supports to comply with requirements for attaching other construction.
- B. Securely attach rough carpentry to substrates, complying with the following:
 - 1. CABO NER-272 for power-driven fasteners.
 - 2. Published requirements of metal framing anchor manufacturer.
 - 3. Table 602.3(1), "Fastener Schedule for Structural Members," and Table 602.3(2), "Alternate Attachments," in the International One- and Two-Family Dwelling Code.
- C. Fastening Methods: Comply with recommendations and "Code Plus" provisions in APA Form No. E30K and the following:
 - 1. Sheathing: Nail to framing.

END OF SECTION 06 10 00

SECTION 06 18 50 - STRUCTURAL GLUED-LAMINATED TIMBER

PART 1 - GENERAL

1.1 SECTION REQUIREMENTS

- A. Submittals: Product Data
- B. Standards: Comply with ANSI/AITC A 190.1, "Structural Glued Laminated Timber." Factory mark with AITC Quality Mark or APA trademark on surfaces that will not be exposed in completed Work.
- C. Comply with AITC 111, "Recommended Practice for Protection of Structural Glued Laminated Timber During Transit, Storage, and Erection."

PART 2 - PRODUCTS

2.1 STRUCTURAL GLUED-LAMINATED UNITS

- A. Species: Douglas fir.
- B. Species and Beam Stress Classification for Beams and Purlins: Douglas fir-larch, 24F-1.8E, 0 degree camber.
- C. Appearance: Architectural grade.
- D. Adhesive: ASTM D 2559, wet-use type.
- E. Seal Coat: After fabricating and sanding each unit, and end-coat sealing, apply a heavy saturation coat of penetrating sealer on surfaces of each unit.

2.2 CONNECTORS

- A. General: As indicated on Drawings

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Install structural glued-laminated timber for a close fit and neat appearance of joints. Carefully trim ends to fit connectors, mark and drill for bolts, and seal cuts with end sealer.
- B. Handle and temporarily support members to prevent visible surface damage. When hoisting members into place, use padded slings, and protect corners with wood blocking.
- C. Brace members as they are placed to maintain safe condition until full stability is provided.

END OF SECTION 06 18 50

SECTION 06 20 00 - FINISH CARPENTRY

PART 1 - GENERAL

1.1 SECTION REQUIREMENTS

- A. Submittals: Product Data

PART 2 - PRODUCTS

2.1 MATERIALS, GENERAL

- A. Lumber: DOC PS 20 and grading rules of inspection agencies certified by American Lumber Standards Committee Board of Review.
- B. Softwood Plywood: DOC PS 1.
- C. Hardwood Plywood: HPVA HP-1.

2.2 EXTERIOR FINISH CARPENTRY

- A. Exterior Lumber Trim: Planed S4S, western red cedar, Grade B or better
- B. Lumber Siding: Rabbetted bevel cedar siding, western red cedar select tight knot.
- C. Lumber Soffits: Smooth-textured, 1 x 6 tongue and groove, western red cedar Grade B or better

2.3 PANELING

- A. Fiberglass Reinforced Panel: Refer to section 09770.

2.4 MISCELLANEOUS MATERIALS

- A. Fasteners for Exterior Finish Carpentry: hot-dip galvanized steel nails.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Condition finish carpentry in installation areas for 24 hours before installing.
- B. Prime and backprime lumber for painted finish exposed on the exterior.
- C. Install finish carpentry level, plumb, true, and aligned with adjacent materials. Scribe and cut to fit adjoining work. Refinish and seal cuts.
- D. Install standing and running trim with minimum number of joints practical, using full-length pieces from maximum lengths of lumber available. Stagger joints in adjacent and related trim. Cope at returns and miter at corners.

SPECIFICATIONS

LEFTHAND VALLEY GRANGE RESTROOM
Boulder County Parks and Open Space

- E. Nail siding at each stud. Do not allow nails to penetrate more than one thickness of siding, unless otherwise recommended by siding manufacturer. Seal joints at inside and outside corners and at trim locations.
- F. Select and arrange paneling for best match of adjacent units. Install with uniform tight joints.

END OF SECTION 06 20 00

SECTION 06 40 10 - EXTERIOR ARCHITECTURAL WOODWORK

PART 1 - GENERAL

1.1 SECTION REQUIREMENTS

- A. Submittals: Shop Drawings.
- B. Quality Standard: Architectural Woodwork Institute's "Architectural Woodwork Quality Standards."
- C. Forest Certification: Provide woodwork produced from wood obtained from forests certified by an FSC-accredited certification body to comply with FSC 1.2, "Principles and Criteria."

PART 2 - PRODUCTS

2.1 MATERIALS

- A. Hardboard: AHA A135.4.
- B. Softwood Plywood: DOC PS 1.
- C. Preservative Treatment: Comply with WDMA I.S.4 for items indicated to receive water-repellent preservative treatment.
- D. Fasteners for Exterior Woodwork: Hot-dip galvanized steel nails.

2.2 EXTERIOR WOODWORK

- A. Complete fabrication before shipping to Project site to maximum extent possible. Disassemble only as needed for shipping and installing. Where necessary for fitting at Project site, provide for scribing and trimming.
- B. Back-out or groove backs of flat trim members, and kerf backs of other wide, flat members, except for members with ends exposed in finished Work.
- C. Exterior Standing and Running Trim: Planed S4S, western red cedar, Grade B or better
- D. Exterior Ornamental Work: Planed S4S, western red cedar, Grade B or better.
- E. Exterior Frames and Jambs: Planed S4S, western red cedar, Grade B or better.
- F. Shop prime woodwork for paint finish with one coat of specified wood primer. Backprime with one coat of primer; two coats on items installed over concrete or masonry.
- G. Shop seal woodwork for transparent finish with stain, other required pretreatments, and first coat of specified finish. Backprime with one coat of

sealer compatible with finish; two coats on items installed over concrete or masonry.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Install woodwork to comply with referenced quality standard for grade specified.
- B. Install woodwork level, plumb, true, and straight. Shim as required with concealed shims. Install to a tolerance of 1/8 inch in 96 inches for level and plumb.
- C. Scribe and cut woodwork to fit adjoining work, seal cut surfaces, and repair damaged finish at cuts.
- D. Install trim with minimum number of joints possible, using full-length pieces to greatest extent possible. Stagger joints in adjacent and related members.

END OF SECTION 06 40 10

SECTION 07 61 00 - SHEET METAL ROOFING

PART 1 – GENERAL

1.1 SECTION INCLUDES

- A. Preformed, pre-finished metal roofing and flashings.
- B. Miscellaneous trim, flashing, closures, drip flashing, and accessories.
- C. Sealant
- D. Fastening devices.

1.2 RELATED SECTIONS

- A. Section 06 10 00, Rough Carpentry.
- B. Section 07 92 00, Sealants.

1.3 REFERENCES

- A. ASTM E-1680-95 (Air Infiltration Test)
- B. ASTM E-1646-95 (Water Penetration Test)
- C. ASTM E-1592
- D. Spec Data Sheet - Galvalume Sheet Metal by Bethlehem Corp.
- E. SMACNA - Architectural Sheet Metal Manual.
- F. Building Materials Directory - Underwriter's Laboratories, Test Procedure 580.

1.4 ASSEMBLY DESCRIPTION

- A. The roofing assembly includes preformed sheet metal panels, related accessories, valleys, hips, ridges, eaves, corners, rakes, miscellaneous flashing and attaching devices.

1.5 SUBMITTALS

- A. Submit detailed drawings showing layout of panels, anchoring details, joint details, trim, flashing, and accessories. Show details of weatherproofing, terminations, and penetrations of metal work.
- B. Submit a sample of each type of roof panel, complete with factory finish.

1.6 QUALITY ASSURANCE

- A. Manufacturer: Company specializing in Architectural Sheet Metal Products with ten (10) years minimum experience.
- B. No product substitutions shall be permitted without meeting specifications and BCPOS approval.

1.7 DELIVERY, STORAGE AND HANDLING

- A. Upon receipt of panels and other materials, installer shall examine the shipment for damage and completeness.
- B. Panels should be stored in a clean, dry place. One end should be elevated to allow moisture to run off.
- C. Panels with strippable film must not be stored in the open, exposed to the sun.
- D. Stack all materials to prevent damage and to allow for adequate ventilation.

1.8 WARRANTY

- A. Paint finish shall have a twenty year guarantee against cracking, peeling and fade (not to exceed 5 N.B.S. units).
- B. Galvalume material shall have a twenty year guarantee against failure due to corrosion, rupture or perforation.
- C. Applicator shall furnish guarantee covering water-tightness of the roofing system for the period of two (2) years from the date of substantial completion.

PART 2 – PRODUCT

2.1 SHEET MATERIALS

- A. Finish shall be full strength Kynar 500 Fluoropolymer coating, applied by the manufacturer on a continuous coil coating line, with a top side dry film thickness of 0.70 to 0.90 mil over 0.25 to 0.35 mil prime coat, to provide a total dry film thickness of 0.95 to 1.25 mil. Bottom side shall be coated with primer with a dry film thickness of 0.25 mil. Finish shall conform to all tests for adhesion, flexibility, and longevity as specified by the Kynar 500 finish supplier.
- B. Strippable film shall be applied to the topside of the painted coil to protect the finish during fabrication, shipping and field handling. This strippable film must be removed before installation.
- C. Color shall be Hartford Green or approved equal.

2.2 ACCESSORY MATERIALS

- A. Fasteners: Cadmium Plated Steel with washers where required.
- B. Sealant: As specified in Section 79200.

- C. Vinyl Weatherseal Insert.

2.3 FABRICATION

- A. All exposed flashing, trim, ridge cap and channel shall be of the same material and finish as the roof panels.
- B. Hem all exposed edges of flashing on underside, 1/2 inch.

2.4 STANDING SEAM PANEL

- A. 1 1/2" high vertical legs shall be spaced at 16" on-center.
- B. Panels shall be pre-formed in continuous lengths from ridge to eave or factory-formed to 40' max.
- C. Rib shall be connected to roof decking with clips spaced at 3'-0".
- D. Optional Vinyl Weatherseal (U.S. Patent 5134825) to be factory-installed over Continuous Rib.
- E. Sidelap to be mechanically seamed with a powered seamer or hand crimper.
- F. When required, panel assembly to bear Underwriters Laboratories Label UL90, pursuant to Construction Number 312 for open framing conditions, either uninsulated or with blanket insulation; 335 or 335 (mod.) with rigid board insulation or 403 over solid substrate and applicable Fire Ratings.
- G. Certification shall be submitted, based on independent testing laboratory, indicating no measurable water penetration or air leakage through the system when tested in accordance with ASTM E-1680-95 and ASTM E-1646-95.

PART 3 - EXECUTION

3.1 INSPECTION

- A. Substrate:
 - 1. Examine deck to ensure proper attachment to framing.
 - 2. Inspect roof sheathing to verify deck is clean and smooth, free of depressions, waves or projections, level to +/- 1/4" in 20', and properly sloped to eaves.
 - 3. Verify roof openings, curbs, pipes, sleeves, ducts or vents through roof are solidly set, cant strips and reglets in place, and nailing strips located.
 - 4. Verify deck is dry and free of snow or ice. Joints in wood deck to be solidly supported and nailed.
- B. Underlayment:

1. Install #30 un-perforated asphalt saturated roofing felt underlayment over solid sheathing and fastened in place.
2. One (1) layer of #30 asphalt roofing felt paper for roof slopes of 3:12 and up, two (2) layers for roof slopes of 1:12 - 3:12 in moderate climates.
3. Ensure felt installed horizontally, starting at eave to ridge with a 6" minimum overlap and 18" end laps.
4. Ensure that all nail heads are totally flush with the substrate. Nails shall be galvanized roofing nails with felt caps.

3.2 INSTALLATION

- A. Comply with manufacturers standard instructions and conform to standards set forth in the Architectural Sheet Metal Manual published by SMACNA, in order to achieve a watertight installation.
- B. Install panels in such a manner that horizontal lines are true and level and vertical lines are plumb.
- C. Install starter and edge trim before installing roof panels.
- D. Remove protective strippable film prior to installation of roof panels.
- E. Attach panels using manufacturer's standard clips and fasteners, spaced in accordance with approved shop drawings.
- F. Install sealants for preformed roofing panels as approved on shop drawings.
- G. Do not allow panels or trim to come into contact with dissimilar materials.
- H. Do not allow traffic on completed roof. If required, provide cushioned walk boards.
- I. Protect installed roof panels and trim from damage caused by adjacent construction until completion of installation.
- J. Remove and replace any panels or components that are damaged beyond successful repair.

3.3 CLEANING

- A. Clean any grease, finger marks or stains from the panels per manufacturer's recommendations.
- B. Remove all scrap and construction debris from the site.

END OF SECTION 07 61 00

SECTION 07 92 00 - JOINT SEALANTS

PART 1 - GENERAL

1.1 SECTION REQUIREMENTS

- A. Submittals: Product Data and color Samples.
- B. Environmental Limitations: Do not proceed with installation of joint sealants when ambient and substrate temperature conditions are outside limits permitted by joint sealant manufacturer or are below 40 deg F.

PART 2 - PRODUCTS

2.1 JOINT SEALANTS

- A. Compatibility: Provide joint sealants, joint fillers, and other related materials that are compatible with one another and with joint substrates under service and application conditions.
- B. Sealant for General Exterior Use Where Another Type Is Not Specified, One of the Following:
 - 1. Single-component, non-sag polysulfide sealant, ASTM C 920, Type S; Grade NS; Class 12-1/2; Uses NT, M, G, A, and O.
 - 2. Single-component, neutral-curing silicone sealant, ASTM C 920, Type S; Grade NS; Class 25; Uses T, NT, M, G, A, and O.
 - 3. Single-component, non-sag urethane sealant, ASTM C 920, Type S; Grade NS; Class 25; and Uses NT, M, A, and O.
- C. Sealant for Exterior Traffic-Bearing Joints, Where Slope Allows Use of Pourable Sealant:
 - 1. Single-component, pourable urethane sealant, ASTM C 920, Type S; Grade P; Class 25; Uses T, M, G, A, and O.
- D. Sealant for Use in Interior Joints in Ceramic Tile and Other Hard Surfaces in Toilet Rooms and Around Plumbing Fixtures:
 - 1. Single-component, mildew-resistant silicone sealant, ASTM C 920, Type S; Grade NS; Class 25; Uses NT, G, A, and O; formulated with fungicide.
- E. Sealant for Interior Use at Perimeters of Door and Window Frames:
 - 1. Single-component, mildew-resistant silicone sealant, ASTM C 920, Type S; Grade NS; Class 25; Uses NT, G, A, and O; formulated with fungicide.
 - 2. Latex sealant, single-component, non-sag, mildew-resistant, paintable, acrylic-emulsion sealant complying with ASTM C 834.

F. Sealant for Exterior Use on Metal Roofing:

1. Sealant must be an ultra-low modulus, high performance, one-part, moisture curing silicone joint sealant. (do not use sealants that release a solvent or acid during curing).
2. Sealant must be resistant to environmental conditions such as wind loading, wind driven rain, snow, sleet, acid rain, ozone, ultraviolet light and extreme temperature variations.
3. Features must include joint movement capabilities of +100% & -50% ASTM C-719, capable of taking expansion, compression, transverse and longitudinal movement, service temperature range -65°F to 300°F (-54°C to 149°C); flow, sag or slump: ASTM C-639; Nil, Hardness (Shore A): ASTM C-661.
4. Tensile strength at maximum elongation: ASTM D-412; 200 psi, Tensile strength at 100% elongation: ASTM D-412; 35 psi.
5. Tear strength, (die "C"); ASTM D-624; 40 ply.
6. Peel strength (Aluminum, Glass, Concrete): ASTM C-794; 30 ply.

2.2 JOINT-SEALANT BACKING

- A. General: Provide sealant backings of material and type that are non-staining; are compatible with joint substrates, sealants, primers, and other joint fillers; and are approved for applications indicated by sealant manufacturer.
- B. Cylindrical Sealant Backings: ASTM C 1330, of size and density to control sealant depth and otherwise contribute to producing optimum sealant performance.
- C. Bond-Breaker Tape: Polyethylene tape or other plastic tape recommended by sealant manufacturer for preventing sealant from adhering to rigid, inflexible joint-filler materials or joint surfaces at back of joint.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Comply with ASTM C 1193.
- B. Comply with ASTM C 919 for use of joint sealants in acoustical applications.

END OF SECTION 07 92 00

SECTION 08 11 00 - STEEL DOORS AND FRAMES

PART 1 - GENERAL

1.1 SECTION REQUIREMENTS

- A. Submittals: Product Data and door schedule.
- B. Comply with ANSI A 250.8.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. Hot-Rolled Steel Sheets: ASTM A 1011/A 1011M.
- B. Cold-Rolled Steel Sheets: ASTM A 1008/A 1008M or ASTM A 620/A 620M.
- C. Galvanized Steel Sheets: ASTM A 653/A 653M, A40 or G40 coating.

2.2 STEEL DOORS AND FRAMES

- A. Products:
 - 1. Steelcraft LF 18 doors and Steelcraft K16 frames or approved equals.
- B. Steel Doors: Complying with ANSI 250.8 for level and model and ANSI A250.4 for physical-endurance level indicated, 1-3/4-inch- thick, unless otherwise indicated.
 - 1. Exterior Doors: Level 2 and Physical Performance Level B (Heavy Duty), Model 2 (Seamless), galvanized steel sheet faces.
- C. Door Louvers:
 - 1. 12 inch x 24 inch screened louver. Locate 13 inch from bottom of door.
- D. Frames: ANSI A250.8; conceal fastenings, unless otherwise indicated.
 - 1. Steel Sheet Thickness for Heavy-Duty Exterior Doors: 16 Gauge
 - 2. Fabricate with interior frames with mitered or coped and continuously welded corners.
 - 3. Fabricate with exterior frames from galvanized steel sheet, with mitered or coped and continuously welded corners.
- E. Door Silencers: Three on strike jambs of single-door frames and two on heads of double-door frames.
- F. Supports and Anchors: Not less than 0.042-inch- thick galvanized steel sheet.
- G. Prepare doors and frames to receive mortised and concealed hardware according to ANSI A250.6 and ANSI A115 Series standards.

- H. Reinforce doors and frames to receive surface-applied hardware.
- I. Prime Finish: Manufacturer's standard, factory-applied coat of rust-inhibiting primer complying with ANSI A250.10 for acceptance criteria.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Place steel frames to comply with SDI 105.
- B. Install doors to comply with ANSI A250.8. Shim as necessary to comply with SDI 122 and ANSI/DHI A115.1G.
- C. After installation, remove protective wrappings from doors and frames and touch up prime coat with compatible air-drying primer.

END OF SECTION 08 11 00

SECTION 08 55 00 - WOOD WINDOWS

PART 1 - GENERAL

1.1 SECTION REQUIREMENTS

- A. Submittals: Product Data.

PART 2 - PRODUCTS

2.1 WOOD WINDOWS

- A. Provide bare wood, wood windows.
- B. Fixed Windows- Simulated Double-Hung Window
- C. Exterior Trim: Provide indicated trim, matching material and finish of siding members.
- D. Interior Trim: Provide indicated trim. Trim material to be primed finger-jointed pine or medium density fiberboard (MDF).
- E. Glaze units with frosted or sanded, 1/4 inch acrylic plastic glazing.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Set units level, plumb, and true to line, without warp or rack of frames and panels and anchor securely in place.
- B. Set sill members in bed of sealant or with gaskets, as indicated, to provide weathertight construction.

END OF SECTION 08 55 00

SECTION 08 71 00 - DOOR HARDWARE

PART 1 - GENERAL

1.1 SECTION REQUIREMENTS

- A. Submittals: Hardware Schedule.
- B. Deliver keys to Owner.

PART 2 - PRODUCTS

2.1 HARDWARE

A. Locksets and Latchsets:

1. Manufacturer:

Schlage ND73PD-RHO Rhodes Corridor Door Lever Set
Finish: Satin Chrome-626
Latch Type: Square Corner
Backset: 2-3/4 Inches
Handing: Reversible
Key Code: KA TO PO # 321813-1
Keying: Keyed Alike
Door Thickness: 1-5/8 to 2-1/8 Inches
Function: Corridor
Strike: ANSI Strike (10-025)
Cylinder: Schlage C Keyway
Grade: Grade 1 B.

B. Hinges:

- 1. Manufacturer: McKinney
- 2. Series: #TA2714 with Ball bearings
- 3. Material /Finish: Stainless steel
- 4. Non-removable hinge pins for exterior and public exposure.
- 5. Three hinges per door

C. Key locks to BCPOS' existing master-key system.

D. Closers:

- 1. Manufacturer: LCN Closers
- 2. Series: 4040-3049SCNS
- 3. Finish: Satin Chrome
- 4. Mount closers on interior side (room side) of door. Steel main arm and forearm with spring-loaded stop handle in the soffit shoe.
- 5. Adjustable delayed opening (accessible to people with disabilities) feature on closers. Provide wall stops or floor stops for doors without closers.

E. Kickplate:

1. Manufacturer: Ives
2. Series: #8400
3. Size: 6 inches x 34 inches
4. Material /Finish: Stainless steel

F. Louver Vent:

1. Manufacturer: Steel Craft
2. Size: 12 inches x 24 inches
3. Finish: Paint over primed metal

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Mount hardware in locations recommended by the Door and Hardware Institute, unless otherwise indicated.

3.2 HARDWARE SCHEDULE

A. Hardware Set No. 1:

1. Hinges.
2. Privacy, Bath lock (F76)
3. Closer.
4. Kick Plate
5. Louver Vent
6. Door viewer.
7. Weather-stripping or door silencers

END OF SECTION 08 71 00

SECTION 09 65 30 - RESILIENT WALL BASE AND ACCESSORIES

PART 1 - GENERAL

1.1 SECTION REQUIREMENTS

- A. Submittals: Product Data and Samples.

PART 2 - PRODUCTS

2.1 WALL BASE

A. Products:

- 1. Armstrong: 4 inch vinyl cove base
 - a. Color and Pattern: Light Grey # 69
 - b. ASTM F 1861, Type TV (vinyl).
 - c. Style: Cove (with top-set toe).
 - d. Minimum Thickness: 0.080 inch.
 - e. Height: 4 inches.
 - f. Lengths: Coils in manufacturer's standard lengths.
 - g. Outside Corners: Pre-molded.
 - h. Inside Corners: Pre-molded.

2.2 INSTALLATION ACCESSORIES

- A. Trowelable Leveling and Patching Compounds: Latex-modified, Portland cement or blended hydraulic cement-based formulation provided or approved by flooring manufacturer for applications indicated.
- B. Adhesives: Water-resistant type recommended by manufacturer to suit products and substrate conditions.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Prepare concrete substrates according to ASTM F 710. Verify that substrates are dry and free of curing compounds, sealers, and hardeners.
- B. Adhesively install resilient wall base and accessories.
- C. Install wall base in maximum lengths possible.
- D. Apply to walls, columns, pilasters, casework, and other permanent fixtures in rooms or areas where base is required.

END OF SECTION 09 65 30

SECTION 09 77 00 – FIBERGLASS REINFORCED PLASTIC PANELS

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes: Special wall surfaces, including fiberglass reinforced plastic panels.

1.2 SYSTEM DESCRIPTION

- A. Performance Requirements: Provide fiberglass reinforced plastic (FRP) panels which have been manufactured and installed to maintain performance criteria stated by manufacturer without defects, damage or failure.

1.3 SUBMITTALS

- A. Product Data: Submit product data, including manufacturer's SPEC-DATA™ product sheet, for specified products.
- B. Samples: Submit selection and verification samples for finishes, colors and textures. Submit 2 samples of each type of panel, trim and fastener.
- C. Warranty: Warranty documents specified herein.

1.4 QUALITY ASSURANCE

- A. Qualifications:
 - 1. Installer Qualifications: Installer should be experienced in performing work of this section and should have specialized in installation of work similar to that required for this project.

1.5 DELIVERY, STORAGE & HANDLING

- A. General: Comply with Division 1 Product Requirements Sections.
- B. Ordering: Comply with manufacturer's ordering instructions and lead time requirements to avoid construction delays.
- C. Delivery: Deliver materials in manufacturer's original, unopened, undamaged containers with identification labels intact. Package sheets on skids or pallets for shipment to project site.
- D. Storage and Protection: Store materials protected from exposure to harmful weather conditions and at temperature and humidity conditions recommended by manufacturer. Store panels indoors in a dry place at the project site.

- E. Handling: Remove foreign matter from face of panel by using a soft bristle brush, avoiding abrasive action.

1.6 WARRANTY

- A. Project Warranty: Refer to Conditions of the Contract for project warranty provisions.
- B. Manufacturer's Warranty: Submit, for County's acceptance, manufacturer's standard warranty document executed by authorized company official. Manufacturer's warranty is in addition to, and not a limitation of, other rights the County may have under Contract Documents.
- C. Warranty Period: 2 years commencing on Date of Substantial Completion.

PART 2 - PRODUCTS

2.1 FIBERGLASS REINFORCED PLASTIC (FRP) PANELS

- A. Manufacturer: Kemlite Company, Inc.
- B. Proprietary Product(s)/System(s): Kemlite Fiberglass Reinforced Plastic (FRP) Panels.
- C. Glasbord Panels:
 - 1. Fire-X (FX)
 - 2. Color: 48 pearl gray
 - 3. Size: 4 feet × 8, 10 feet
- D. Moldings: Provide harmonizing PVC (polyvinyl chloride) moldings.
- E. Color: 48 pearl gray.

2.2 MANUFACTURED UNITS

- A. Kemlite Fire-X Glasbord Fiberglass Panels with *Surfaseal* Surface Protection:
 - 1. Rating: Fire-X Glasbord Underwriters Laboratories, Inc. (UL) classified, Class I (A) Interior Finish Material.
 - 2. Wall Panels: Underwriters Laboratories, Inc. (UL), Classified - Embossed standard Fire-X Glasbord 0.09 inch (2.3 mm) only with *Surfaseal*. Class A flamespread of less than 25, smoke developed less than 450 per ASTM E84 latest version.
 - 3. Color: #48 pearl gray
 - 4. Wall Panel: Manufacturer's standard factory laminated panel with specified substrate and specified skin (single or double sided as indicated); size shall be 4 feet × 8 feet (1.2 × 2.4 m)
 - 5. Wall Panel Substrate: Standard Kemply panel is 9/32 inch (7.1 mm) OSB with 0.05 inch (1.3 mm) Glasbord-PWI skin single sided

2.3 ACCESSORIES

- A. Adhesive: Provide panel adhesive as recommended by panel manufacturer.

PART 3 – EXECUTION

3.1 MANUFACTURER'S INSTRUCTIONS

- A. Compliance: Comply with manufacturer's product data, including product technical bulletins, product catalog installation instructions and product carton instructions for installation.

3.2 EXAMINATION

- A. Site Verification of Conditions:
 1. Verify that substrate conditions, which have been previously installed under other sections, are acceptable for product installation in accordance with manufacturer's instructions.
 2. Examine backup surfaces to determine that corners are plumb and straight, surfaces are smooth, uniform, clean and free from foreign matter, nails are countersunk and joints and cracks are filled flush and smooth with the adjoining surface.
 3. Do not begin installation until backup surfaces are in satisfactory condition.

3.3 INSTALLATION

- A. Fiberglass Reinforced Panel (FRP) Installation:
 1. Cut and drill panels with carbide tipped saw blades or drill bits, or cut with snips.
 2. Install panels with manufacturer's recommended gap for panel field and corner joints.
 3. Pre-drill fastener holes in panels with 1/8 inch (3.2 mm) oversize.
 4. For trowel type and application of adhesive, follow adhesive manufacturer's recommendations.
 5. Use products acceptable to panel manufacturer and install FRP system in accordance with panel manufacturer's printed instructions. Comply with panel manufacturer's *Installation Guide #6211*.
- B. Related Products Installation:
 1. Refer to other sections listed in Related Sections paragraph herein for related materials installation.

3.4 CLEANING

- A. Cleaning:
 1. Remove temporary coverings and protection of adjacent work areas.

2. Repair or replace products that have been installed and are damaged. Clean installed products in accordance with manufacturer's instructions prior to County's acceptance.
3. Remove construction debris from project site and legally dispose of debris.
4. Remove any adhesive or excessive sealant from panel face using solvent or cleaner recommended by panel manufacturer.

3.5 PROTECTION

A. Protection:

1. Protect installed product and finish surfaces from damage during construction.

END OF SECTION 09 77 00

SECTION 09 91 00 - PAINTING

PART 1 - GENERAL

1.1 SECTION REQUIREMENTS

- A. Summary: Paint exposed surfaces, unless otherwise indicated.
 - 1. Paint the backside of access panels.
 - 2. Color-code mechanical piping in accessible ceiling spaces.
 - 3. Do not paint prefinished items, items with an integral finish, operating parts, and labels, unless otherwise indicated.
- B. Submittals: Product Data and Samples.
- C. Mockups: Full-coat finish Sample of each type of coating, color, and substrate, applied where directed.
- D. Obtain block fillers and primers for each coating system from same manufacturer as finish coats.
- E. Extra Materials: Deliver to the County 1 gallon of each color and type of finish coat paint used on Project, in containers, properly labeled and sealed.

PART 2 - PRODUCTS

2.1 PAINT

- A. Available Products:
 - 1. Interior Paint: Benjamin Moore - Moorgard Latex House Paint: Cliffside Grey # 74
 - 2. Door & Frame Paint: DuPont Automotive Paint - Dark Sage Green #44258LH.
 - 3. Exterior Stain: Blue Label Penofin Penetrating Oil Finish - Chestnut
 - 4. Others: Manufacturer & Colors - As scheduled.

PART 3 - EXECUTION

3.1 PREPARATION

- A. Remove hardware, lighting, fixtures and similar items that are not to be painted. Mask items that cannot be removed. Reinstall items in each area after painting is complete.
- B. Clean and prepare all surfaces in an area before beginning painting in that area. Schedule painting so cleaning operations will not damage newly painted surfaces.

3.2 APPLICATION

- A. Apply coatings by brush, roller, spray or other applicators according to coating manufacturer's written instructions.
 - 1. Use brushes only for exterior painting and where the use of other applicators is not practical.
 - 2. Use rollers for finish coat on interior walls and ceilings.
- B. Pigmented (Opaque) Finishes: Completely cover surfaces to provide a smooth, opaque surface of uniform appearance. Provide a finish free of cloudiness, spotting, holidays, laps, brush marks, runs, sags, ropiness, or other surface imperfections.

3.3 EXTERIOR PAINT APPLICATION SCHEDULE

- A. Smooth Wood & Wood Trim:
 - 1. Semitransparent Oil/Alkyd Stain: Two coats.
- B. Stained Wood Siding & Trim:
 - 1. Semitransparent Oil/Alkyd Stain: Two coats.
- C. Ferrous Metal:
 - 1. Powder coat as indicated on the drawings.
- D. Zinc-Coated Metal:
 - 1. Semi-gloss, Acrylic Enamel: Two coats over galvanized metal primer.

3.4 INTERIOR PAINT APPLICATION SCHEDULE

- A. Woodwork and Hardboard:
 - 1. Semi-gloss, Acrylic Enamel: Two coats over primer.
- B. Ferrous Metal:
 - 1. Semi-gloss, Acrylic Enamel: Two coats over ferrous metal primer.
 - 2. Semi-gloss, Alkyd Enamel: Two coats over ferrous metal primer.
- C. Zinc-Coated Metal:
 - 1. Semi-gloss, Acrylic Enamel: Two coats over galvanized metal primer.

END OF SECTION 09 91 00

SECTION 10 20 00 - LOUVERS AND VENTS

PART 1 GENERAL

1.1 SUMMARY

- A. Section Includes: Metal wall louvers and screens exposed to view in finish work, including:
1. Exterior metal louvers.
 2. Louvers at locations where HVAC ductwork terminates at exterior walls.
 3. Other exposed exterior and interior louvers indicated on Drawings.
- B. Extent: Extent of exterior louvers is shown on architectural drawings. Coordinate requirements, quantities and sizes with mechanical drawings. Louvers not shown on architectural drawing, but indicated on mechanical drawings shall be provided as part of work of this section.

1.2 REFERENCES

- A. General: Standards listed by reference, including revisions by issuing authority, form a part of this specification section to extent indicated. Standards listed are identified by the issuing authority, authority abbreviation, designation number, title, or other designation established by issuing authority. Standards subsequently referenced herein are referred to by issuing authority abbreviation and standard designation.
- B. American Society for Testing and Materials (ASTM):
1. ASTM B209 - Specification for Aluminum and Aluminum-Alloy Sheet and Plate.
 2. ASTM B221 - Specification for Aluminum and Aluminum-Alloy Extruded Bars, Rods, Wire, Shapes, and Tubes.
- C. Air Movement and Control Association (AMCA):
1. AMCA Standard 500 - Test Method for Louvers, Dampers, and Shutters.
 2. AMCA Publication 261 - Directory of Licenses Products, current edition.
- D. Sheet Metal and Air Condition Contractors National Association (SMACNA)
1. SMACNA - Architectural Sheet Metal Manual, current edition
- E. American Architectural Manufacturer's Association (AAMA):
1. AAMA Standard 605 - Voluntary Specification for High Performance Organic Coating on Architectural Extrusions and Panels.

1.3 SYSTEM DESCRIPTION

- A. Performance Requirements: Provide louvers, which have been manufactured, fabricated and installed to withstand loads from Boulder County Building Codes and to maintain performance criteria stated by manufacturer without defects, damage, or failure.
- B. Louver Performance: where louvers are indicated to comply with specific performance requirements, provide units whose performance ratings have been determined in compliance with Air Movement and Control Association (AMCA) Standard 500.

1.4 SUBMITTALS

- A. General: Submit listed submittals in accordance with Conditions of the Contract and Division 1 Submittal Procedures section.
- B. Product Data: Submit product data sheet for specified products.
 - 1. Performance Certificates: Submit performance certification, if not included in product data
- C. Shop Drawings: Submit shop drawings showing layout, profiles and product components, including anchorage, accessories, finish colors, patterns and textures.
 - 1. Include information necessary for fabrication and installation of louvers. Indicate materials, sizes, thickness, fastenings and profiles.
- D. Quality Assurance Submittals: Submit the following:
 - 1. Test Reports: Certified test reports showing compliance with specified performance characteristics and physical properties.
 - a. Submit certified test results from an approved testing laboratory showing that the louvers proposed meet the criteria specified herein.
 - 2. Certificates: Product certificates from the manufacturer certifying materials comply with specified performance characteristics and criteria, and physical requirements.

1.5 DELIVERY, STORAGE & HANDLING

- A. General: Comply with Division 1 Product Requirements Sections.
- B. Ordering: Comply with manufacturer's ordering instructions and lead-time requirements to avoid construction delays.
- C. Delivery: Deliver materials in manufacturer's original, unopened, undamaged containers with identification labels intact.

1. Deliver, store and handle products to avoid any distortion or damage due to moisture, physical abuse or other cause Louvers shall be free from nicks, scratches and blemishes. Replace defective or damaged materials with new.

1.6 PROJECT CONDITIONS

- A. Field Measurements: Verify actual measurements/openings by field measurements before fabrication; show recorded measurements on shop drawings. Coordinate field measurements and fabrication schedule with construction progress to avoid construction delays.

1.7 WARRANTY

- A. Project warranty refers to Conditions of the Contract for project warranty provisions. Manufacturer's Warranty: Submit, for Owner's acceptance, manufacturer's standard warranty document executed by authorized company official. Manufacturer's warranty is in addition to, and not a limitation of, other rights owner may have under Contract Documents.

PART 2 – PRODUCTS

2.1 WALL LOUVERS

- A. Manufacturer: Architectural Louvers Co.
 1. Contact: 7684 Coldbrook Lane, Cincinnati, OH; Telephone: (888) 568-8371; Fax: (888) 568-8370.
- B. Other Acceptable Manufacturers – subject to compliance with requirements stated within.
 1. Construction Specialties (CS Group)
 2. Industrial Louvers, Inc.
 3. Dowco Products

2.2 BAFFLE BLADE LOUVERS

- A. Architectural Louvers Co. Model E2KS:
 1. Extruded aluminum blades shall be designed with a center baffle to help stop water penetration. Frames and blade thickness to be .081" (2.06 mm) extruded aluminum 6063-T5 alloy. Blades and frames shall be mechanically fastened with stainless steel screws of size to meet wind load and shear ratings.
 2. Louvers shall bear the AMCA Certified Ratings Seal for both air performance and water penetration. Louvers shall have a minimum of 6.54 sq. ft. (40.9 %) free area on 48" x48" (1219 x 1219) louver. Rating shall show a maximum water penetration of .01 oz. at an airflow rate of

814 FPM. Static Pressure Loss shall be not more than 0.10 inch of water gauge at an airflow of 800 FPM free area velocity.

2.3 LOUVER ACCESSORIES

- A. Exterior Aluminum Sill: Provide sill flashing of same material and finish as louvers where indicated on the drawings.
- B. Louver Screens: Provide framed removable screens for exterior louvers.
 - 1. Screens shall be ½" (12.7 mm) mesh .063 (1.6 mm) flattened expanded aluminum mounted in an extruded aluminum re-wireable frame.
 - 2. Locate screens on inside face of louvers.
 - 3. Screen frames shall be secured to the louver frame with screws, at each corner and at 18" (304.8 mm) o.c. between.

2.4 MATERIALS

- A. Aluminum Sheet: ASTM B209 Alloy 3003 or 5005 with temper as required for forming or as otherwise recommended by metal producer to provide required finish.
- B. Aluminum Extrusions: ASTM B221, Alloy 6063.
- C. Fastenings: Provide stainless steel screws and fasteners for aluminum louvers and zinc-coated or stainless steel screws and fasteners for steel louvers. Provide other accessories as required for complete and proper installation.

2.5 FABRICATION

- A. Fabrication Requirements:
 - 1. Performance: Fabricate as required for optimum performance with respect to water penetration, strength, durability and uniform appearance.
 - 2. Size:
 - a. Fabricate louvers in masonry walls to outside dimensions indicated, with allowance of ¼" (6.4 mm) on each side for sealant joints.
 - b. Verify sizes with final HVAC shop drawings, including detail dimensions of ductwork, dampers or other fittings abutting louvers.
 - 3. Field Measurements: Verify size, location and placement of louver units prior to fabrication.
 - 4. Shop Assembly:
 - a. Fabricate to minimize field adjustments, splicing, mechanical joints and field assembly of units.
 - b. Preassemble units in shop to greatest extent possible and disassemble as necessary for shipping and handling.
 - c. Clearly mark units for reassemble and coordinated installation.
 - 5. Accessories: Include supports, anchorages and accessories required for complete assembly.
 - 6. Vertical Mullions: Provide vertical mullions of type and spacing indicated but not further apart than recommended by the manufacturer.

7. Horizontal Mullions: Provide horizontal mullions at horizontal joints between louver units except where continuous vertical assemblies are indicated.
8. Connections: Join frame and blade members to one another by mechanical fasteners or welding.
9. Spacing: Maintain equal blade spacing to produce uniform appearance.

2.6 FINISHES (FACTORY)

- A. Shop Finishing: Factory finish louvers and accessories with an organic coating.
 1. Organic Coating: Clean and prime exposed aluminum surfaces and apply a Kynar 500/Hylar 5000 2-coat finish conforming to AAMA 605 in a standard color. Minimum dry film thickness shall be 1.2 mil.
 2. Finish Protection: Provide finish protection as recommended by louver manufacturer.
- B. Color: Hartford Green

PART 3 – EXECUTION

3.1 MANUFACTURER'S INSTRUCTIONS

- A. Compliance: Comply with manufacturer's product data, including product technical bulletins, product catalog installation instructions, and product carton instructions for installation.

3.2 EXAMINATION

- A. Site Verification of Conditions: Verify substrate conditions, which have been previously installed under other sections, are acceptable for product installation in accordance with manufacturer's instructions.

3.3 INSTALLATION

- A. Louver Installation:
 1. Louvers shall be installed in accordance with manufacturers approved shop drawings and as shown. Provide all necessary fastenings and anchors required to a complete installation. Units to be installed plumb, level and in proper alignment with adjacent work.
 2. Form tight joints within work of this Section. Fit exposed connections accurately.
 3. Louvers shall be protected from damage from subsequent building operations.
 4. Protect metal surfaces from corrosion or galvanic action by application of a heavy coating of bituminous paint on surfaces, which shall be in contact with concrete, masonry or dissimilar metals.

END OF SECTION 10 20 00

SECTION 10 43 10 - SIGNS

PART 1 - GENERAL

1.1 SECTION REQUIREMENTS

- A. Submittals: Product Data, and Samples.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. Cast Acrylic Vinyl: Clear, translucent, or opaque as indicated.
- B. Cast Acrylic Sheet: Clear, translucent, or opaque as indicated.

2.2 SIGNS

- A. Exterior Signs:
 - 1. Signs provided by Boulder County Parks and Open Space.
- B. Interior Signs:
 - 1. Signs provided by Biological Mediation Systems, Inc

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Exterior Signs
 - 1. Signs to be installed by Boulder County Parks and Open Space.
- B. Interior Signs
 - 1. Locate signs where indicated or directed by Boulder County.
- C. Install signs level, plumb, and at heights conforming to ADA guidelines, with sign surfaces free from distortion and other defects in appearance.

END OF SECTION 10 43 10

SECTION 10 80 10 - TOILET AND BATH ACCESSORIES

PART 1 - GENERAL

1.1 SECTION REQUIREMENTS

- A. Submittals: Product Data

PART 2 - PRODUCTS

2.1 TOILET AND BATH ACCESSORIES

- A. Manufacturers:

1. San Jamar
2. Gamco

- B. Toilet Tissue Holder:

1. Basis-of-Design Product: San Jamar # R6500TBK
2. Quantity: One per stall
3. Mounting: Surface mounted with vandal resistant stainless steel screws.
4. Material: Break-resistant plastic

- C. Grab Bar:

1. Basis-of-Design Product: Gamco
2. Material: Stainless steel, 0.05 inch thick.
3. Mounting: Concealed.
4. Gripping Surfaces: Slip-resistant texture.
5. Outside Diameter: 1-1/2 inches for heavy-duty applications.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Install accessories using fasteners appropriate to substrate indicated and recommended by unit manufacturer. Install units level, plumb, and firmly anchored in locations and at heights indicated and per ADA guidelines.
1. Install grab bars to withstand a downward load of at least 250 lb/ft, when tested according to method in ASTM F 446.
- B. Adjust accessories for unencumbered, smooth operation and verify that mechanisms function properly. Replace damaged or defective items. Remove temporary labels and protective coatings.

SECTION 10 90 10 DRINKING FOUNTAIN

PART 1 - GENERAL

1.1 SECTION REQUIREMENTS

A.Submittals: Product Data

PART 2 - PRODUCTS

2.1 DRINKING FOUNTAIN

A.Manufacturer:

1. Willoughby Stainless Fountains or approved equivalent

B. Drinking Fountain Model:

1. WODF-3-HC-PET

PART 3 - EXECUTION

3.1 INSTALLATION

A. Install drinking fountain per manufacturer's instructions and per plans.

1. Drinking fountain will have waste drain plumbed into the top portion of the evaporative vault with a p-trap.

B. Attach drinking water supply line to drinking fountain and provide means to drain and winterize supply line and waste p-trap.

END OF SECTION 10 80 10

SECTION 16 01 00 - GENERAL ELECTRICAL

PART 1 – GENERAL

1.1 DESCRIPTION

- A. General: Furnish all labor, materials, apparatus, tools, equipment, transportation, temporary construction and special or occasional services as required to make a complete working electrical installation, as shown on the Drawings or described in these Specifications. All work to be done by a licensed California Electrical Contractor.

Work Included:

1. Lighting fixtures and lamps
2. Grounding
3. Site lighting luminaires, poles and concrete foundations
4. Overcurrent devices
5. Branch circuit wiring
6. Installation of underground raceways, and site pull boxes
7. Site work, trenching, backfill and compaction
8. Pavement and landscape repairs
9. Service meter pedestals and electrical equipment

B. Related Work Specified Elsewhere:

1. Division 2, Earthwork
2. Division 3, Concrete Work

1.2 CODES AND STANDARDS

A. Specific:

1. The following publications or editions of documents current at time a project is going shall apply:
 - a. National Electrical Code - NEC.
 - b. Boulder County Building Code
2. Equipment and materials specified under this division shall conform to the following standards where applicable.
 - a. Underwriters' Laboratories- UL
 - b. American Society for Testing Materials - ASTM
 - c. Certified Ballast Manufacturers - CBM
 - d. American National Standards Institute - ANSI

1.3 DRAWINGS

- A. Layout: General layout shown on Drawings shall be followed except where other work may conflict with Drawings.

B. Accuracy:

1. Drawings for the work under this Section are diagrammatic.
2. Contractor shall verify lines, levels and dimensions shown on Drawings and shall be responsible for accuracy of the setting out of work and for its strict conformance with existing conditions at site.

C. Conflicts shall be resolved with the Architect/Engineer prior to the commencement of work.

1.4 SUBSTITUTIONS

A. By mutual consent in writing, alterations or deviations, increases or decreases, additions or omissions, in the plans and specifications may be made and the same shall in no way affect or make void the contract.

B. The one exception to this provision shall be in regard to substitution of materials as required in the plans and specifications.

C. In the event the Contractor intends to make substitutions, notification of such substitution, stating amounts and designation of such substitute materials by manufacturer and model numbers, shall be submitted in writing with the bid at the time of the bid opening and made a part of the Contractor's bid.

1.5 SUBMITTALS

A. General: Refer to Division 1 - Section 01 33 00, Submittal Procedures for requirements.

B. Format: Furnish submittal data neatly bound in an 8 1/2" x 11" folder, or binder, with a table of contents listing in order of specification section and paragraph number.

C. Submittals shall consist of detailed shop drawings, specifications, catalog "cuts" and data sheets containing physical and dimensioned information, performance data, electrical characteristics, materials used in fabrication, material finish and those optional accessories which are included and those which are excluded.

D. Lighting Fixtures Submittal: Submittal shall have a cover page with an itemization listing of all of fixtures, manufactures catalog numbers, and a 1" wide margin space left available for Engineer's review comments. All lighting fixture submittals shall be submitted at one time.

E. Each submittal shall be thoroughly reviewed by Contractor. Cover letter accompanying submittal letter shall list in full items and data submitted and shall contain a statement acknowledging that Contractor has performed a detailed review of the submittal documents prior to submission. Failure to comply with this requirement shall constitute grounds for return of data for resubmission without review.

- F. Contractor agrees that submittals processed by Engineer are not change orders. That purpose of submittals is to demonstrate to Engineer that the Contractor understands the design concept, that he demonstrates his understanding by indicating which equipment and material he intends to furnish and install and by detailing fabrication and installation methods he intends to use.

1.6 PRODUCT DELIVERY, STORAGE AND HANDLING

- A. Equipment and materials shall be properly stored and adequately protected and carefully handled to prevent damage before and during installation. Equipment and materials shall be handled, stored, and protected in accordance with the manufacturer's recommendations and as approved by the County. Electrical conduit shall be stored to provide protection from the weather and accidental damage. Plastic conduit shall be stored on even supports and in locations not subject to direct sunrays or excessive heat. Cables shall be sealed, stored and handled carefully to avoid damage to the outer covering or insulation and damage from moisture and weather. Damaged or defective items, in the opinion of the County, shall be replaced with new items at no cost to the County.

1.7 PERMITS AND FEES

- A. The County will obtain and pay for all permits. The Contractor will be responsible for any other licenses and fees required to complete the work.

PART 2 - PRODUCTS (Not applicable)

PART 3 - EXECUTION

3.1 TESTS

- A. Tests shall be conducted during the construction period and at completion to determine conformity with applicable Codes and with these Specifications. Tests shall be performed in the presence of the County and shall include, but are not limited to, the following:
 1. Insulation Resistance: Perform 500-volt D.C. tests for one minute on all feeder conductors, including the neutral, and make a typed record of all readings to be included in the maintenance instructions. Repair or replace circuits showing less than 40 megohms resistance to ground. Make tests using Biddle Insulation Resistance Megger, or equal.
 2. Ground Resistance: Test ground resistance per IEEE Standard No. 81.
 3. Circuits Continuity: Test all feeder and branch for continuity. Test all neutrals for improper grounds.
 4. Equipment Operations: Test lighting circuits for correct operation through their control devices.
 5. Lighting Control Circuits: Perform operation tests for all lighting circuits.
 6. Product Failure: Any products which fail during the tests or are ruled unsatisfactory by the County shall be replaced, repaired, or corrected as prescribed by County at the expense of the Contractor. Tests shall be

performed after repairs, replacements or corrections until satisfactory performance is demonstrated.

7. Physical Inspection of Electrical Equipment and Cables: Inspection shall be made of all equipment to insure proper assembly and construction.

3.2 PROJECT RECORD DOCUMENTS (AS-BUILT)

- A. Provide Project Record Drawings and Specifications as required by other Sections of the Specifications and as required herein. Such drawings shall fully represent installed conditions including actual location of outlets, correct conduit and wire sizing as well as routing, revised fixture scheduling listing the manufacturer and products actually installed.
- B. All changes to drawings shall be clearly marked weekly on plans and submitted to the County. The County shall approve final record drawings.

3.3 WORKMANSHIP

- A. Preparation, handling and installation shall be in accordance with manufacturer's written instructions and technical data particular to the product specified and requirements. Coordinate work and cooperate with others in furnishing and placing this work. Work to approved shop drawings for work by others and to field measurements as necessary to properly fit the work.
- B. Conform to the National Electrical Contractors Association Standard of Installation for general installation practice.

3.4 SCHEDULE OF WORK

- A. Arrange work to conform to the schedule which has been established for the progress of the work. Advise the County regarding shipping schedule of major equipment.

3.5 SUPERVISION

- A. Contractor shall personally or through an authorized and competent representative constantly supervise the work from beginning to completion and, within reason, keep the same workmen and foreman on the project throughout the project duration.

3.6 PROTECTION

- A. Keep conduits, junction boxes, outlet boxes, and other openings closed to prevent entry of foreign matter. Cover fixtures, equipment and apparatus and protect against dirt, paint, chemical or mechanical damage, before and during construction period. Restore to original condition any fixture, apparatus, or equipment damaged prior to final acceptance, including restoration of damaged shop coats of paints, before final acceptance. Protect bright finished surfaces and similar items until in service. No rust or damage will be permitted.

3.7 SPECIAL TOOLS

- A. All special tools for proper operation and maintenance of the equipment provided under this section shall be delivered to the County prior to acceptance by the County.

3.8 CLEARANCES

- A. Provide working clearances in front of, in back of, and to sides for all electrical equipment as required by National Electrical Code Article 110 and Local Utilities.

3.9 DEMOLITION:

- A. As indicated on Drawings.

END OF SECTION 16 01 00

SECTION 16 10 00 - BASIC ELECTRICAL MATERIALS AND METHODS

PART 1 - GENERAL

1.1 DESCRIPTION

- A. Work specified in this section encompasses products, assemblies and basic installation methods required for electrical project systems specified under this Division.

Work Included:

1. Conduits and fittings
2. Wire and cables
3. Wire connections and devices
4. Outlet boxes
5. Pull and junction boxes
6. Switches and receptacles
7. Device plates
8. Overcurrent protective devices
9. Hand holes and splice boxes
10. Ground rods

- B. Work not included:

1. Primary and secondary utility cables.

- C. The following is a list of Specifications which may be related to this section:

1. Section 16 01 00, General Electrical Requirements
2. Section 16 60 00, Site Electrical Work

1.2 SUBMITTALS

- A. Submit in conformance with the requirements of Section 16010 the following items:

1. Switches, receptacles and device plates
2. Conductors and cables
3. Overcurrent protective devices
4. Raceways
5. Hand holes and splice boxes
6. Ground rods and fittings

PART 2 - PRODUCTS

2.1 CONDUIT AND FITTING

- A. Rigid Steel Conduit

1. Conduit, rigid steel: full weight, threaded, hot-dip galvanized, inside enameled, conforming to ANSI C80.1.
2. Three-piece couplings: electroplated, cast malleable iron. Efcor 165 series, O.Z./Gedney 4-50 series, or equal

3. Threadless couplings: electroplated, cast malleable iron, with integral conduit stop, Efcor 1760, or equal.
4. Threadless connectors: electroplated, cast malleable iron, on threaded male hub plastic insulated throat rated 90 degrees C minimum. Efcor 1750B series, O.Z./Gedney 31-050 1T series, or equal.
5. Insulated bushings: threaded polypropylene or thermosetting phenolic rated 150 degrees C minimum.
6. Insulated grounding bushings: threaded cast malleable iron body with insulated throat and steel, "lay-in" ground lug with compression screw. O.Z./Gedney BLG series, Thomas & Betts 3870 series, or equal.
7. Insulated metallic bushings: threaded cast malleable iron body with plastic insulated throat rated 105 degrees C., O.Z./Gedney Type B, Thomas & Betts 1222 series, or equal.

B. Electrical Metallic Tubing (EMT)

1. Conduit: Shall be formed of cold rolled strip steel, electrical resistance welded continuously along the longitudinal seam and hot-dip galvanized after fabrication. Conduit shall conform to ANSI C80.3 specifications and shall meet UL requirements.
2. Couplings: Electroplated, cast malleable iron, gland compression type, UL listed rain and concrete tight through 1-1/4 inch trade size: O.Z./Gedney 6050W series, Efcor 760 series, or equal. Set-screw type couplings may be used in dry locations, O.Z./Gedney 5050 series, or equal.
3. Connectors: Gland compression type with cast malleable iron body with male hub and insulated plastic throat 150 degrees C temperature rated. O.Z./Gedney 4050 series, or equal.

C. Flexible Metallic Conduit

1. Conduit: Shall be fabricated in continuous lengths from galvanized steel strip, spirally wound and formed to provide an interlocking design.
2. Fittings: Connectors shall be made of the screw clamp with cast malleable iron bodies and threaded male hubs with insulated throats.

D. Liquid Tight Flexible Metallic Conduit

1. Conduit: Anaconda Type U.A., Coleman Type Uxt1, or equal.
2. Fittings: Connector body and gland nut shall be of cadmium plated cast malleable iron, with insulated throat, T & B 5331 series, O.Z./Gedney 4Q-38-1T series, or equal.

E. Rigid Non-Metallic Polyvinylchloride Conduit

1. Schedule 40 and 80 PVC.
2. All fittings solvent welded.
3. As manufactured by Carlon, or equal.

F. Non-Metallic Polyethylene Plastic Conduit - HDPE

1. Schedule 40 and 80 Polyethylene, per ASTM D 2447, conforming to NEMA TC 3.
2. All fittings solvent welded.

3. As manufactured by Wesflex Pipe Manufacturing, or equal.

G. Minimum acceptable conduit size:

1. 1/2 inch for general use outlets and light switches.
2. 1 inch for light pole connection from adjacent hand hole.
3. 1 ¼ inch for site lighting.

2.2 WIRE AND CABLE

A. General

1. Acceptable manufacturers: Southwire, Triangle, PWC Inc., or equal.
2. Conductor material: All wire and cable shall be insulated copper for all wire sizes.
3. Insulation: Insulation shall be THWN-THHN for wire sizes through size 1/0 AWG. For larger wire sizes insulation shall may be THWN, XHHW, THW or as required to suit application.
4. Fixture wire: Type AF.
5. Minimum conductor size: Power and lighting branch circuits: #12 AWG
6. Color coding: System conductors shall be identified as to phase connections by means of color impregnated insulation or approved colored marking tapes as follows:

VOLTAGE	A PH.	B PH.	C PH.	NEUTRAL	GRD.
120/240	Black	Red	White	Green	
208V/120	Black	Red	Blue	White	Green
480V/277	Orange	Purple	Brown	White	Green

2.3 OUTLET BOXES AND COVERS

- A. Standard Outlet Boxes: Galvanized, one-piece, drawn steel, knock-out type box of size and configuration best suited to the application indicated on the plans. Minimum box size, 4 inch square by 1-1/2 inch deep.
- B. Floor Boxes: Cast watertight style with adjustable top, brass cover and lid, as manufactured by Steel City or Walker. Provide multi-gang boxes for combinations of power and signal outlets.

2.4 SWITCHES AND RECEPTACLES

- A. General: All general purpose 20 ampere, 125-250 volt receptacles and 120/277 volt switches shall conform to NEMA WD-1 and applicable UL tests.
- B. Receptacles:
 1. Ground fault circuit interrupter receptacle: NEMA Type 5-20R, Class A, Leviton #8599, or equal.
 2. Duplex receptacles: NEMA Type 5-20R, heavy-duty specification grade, Leviton #5243, or equal.
- C. Switches: Twenty ampere, 120-277 volts, fast make-slow break, quiet type switch with silver cadmium alloy contacts, binding head terminal screws, side wired only.

1. Single pole, single-throw, Leviton #1221, or equal.
2. Three-way, Leviton #1223, P&S, Hubbell, or equal.

2.5 DEVICE PLATES

- A. Flush Device Plates: Plates shall generally be smooth nylon plastic, Leviton #80700 series, P&S, Hubbell, or equal.
- B. Surface Mounted Devices, unfinished indoor areas: Galvanized metal to fit box.
- C. Outdoor, Weatherproof: Die cast aluminum construction, corrosion resistant, heavy duty, hinged cover flap, with padlocking tab, and gasket, Leviton #6190 series, or equal, single or two-gang as required, on type FS or FD boxes.

2.6 DISCONNECT SWITCHES

- A. Switch Interior: Dead-front construction with hinged arc suppressor and switchblades that are fully visible in the "OFF" position and with door open.
- B. Switch Mechanism: Quick-make and quick-break operating handle and mechanism with dual cover interlock to prevent unauthorized opening of the switch door in the "ON" position or closing the switch mechanism while the door is open.
- C. Ratings: Switches shall be horsepower rated for the operating voltage with fused or non-fused arrangements as shown on the drawings.
- D. Enclosures: NEMA 1, code gauge sheet steel with hinged cover, or NEMA 3R as shown on Drawings, and as required by application.

2.7 PROTECTIVE DEVICES

- A. Circuit Breakers: Molded case, bolt-on, thermal magnetic type, 40 degrees C. ambient temperature compensated, fixed mounting, with quick-make, quick-break switch mechanism mechanically trip-free from the operating handle, conforming to applicable UL requirements.
- B. Ratings: Refer to drawings and panel schedules for trip frame and poles required. Minimum short circuit rating for 120/240 volts breakers is 10,000 AIC if not indicated otherwise.

2.8 ELECTRICAL SUPPORTING DEVICES

- A. Concrete Fasteners: Remington, Ramset, or equal. Powder-driven concrete pin fasteners, low velocity type.
- B. Conduit Straps: Hot-dip galvanized, cast malleable iron, one hole type strap with cast clamp-backs and spacers as required. As manufactured by O.Z./Gedney #14-50G strap and #141G spacer; Efcor #231 strap and #131 spacer, or equal.

- C. Construction Channel: 1-1/2 inch by 1-1/2 inch 12 gauge galvanized steel channel with 17/32 inch diameter bolt holes, 1-1/2 inches on center, in the base of the channel. As manufactured by Kindorf 905 series, Unistrut P-1000-HS, or equal.
- D. Fasteners (General): Wood screws for fastening to wood. Machine screws for fastening to steel. Toggle bolts for fastening to hollow concrete board, gypsum board or plaster walls. Expansion anchors for attachments to pre-poured concrete.

2.9 IDENTIFYING DEVICES

- A. Panelboard Directories: Shall be typewritten, arranged in numerical order and show the number of the circuit its description.
- B. Wire & Terminal Markers: Self-adhering, pre-printed vinyl with self-laminating wraparound strip. As manufactured by Brady B191 series; Thomas & Betts WSI series, or equal.
- C. Engraved Nameplates: Provide engraved black plastic laminate nameplates with white letter for all panels, switchboards, and distribution panel circuit breaker, minimum 1/4" high for electrical equipment and panels, and 1/8" high letters for other devices.

2.10 HAND HOLES & SPLICE BOXES

- A. Handholes and splice boxes shall be constructed of reinforced concrete, complete with basic bodies, risers and covers. Provide driven-ground rods in all handholes and splice boxes used for power. Covers shall be reinforced concrete where located in non-traffic areas. In traffic areas, boxes shall be full-traffic rated H-20, with steel covers.
- B. All covers shall be marked "Electric" for lighting/power circuits.
- C. As manufactured by Christy, Forni, Utility Vault, or approved equal.

2.11 PLYWOOD BACKBOARDS

- A. Where indicated for telephone or communication system terminals, or for motor control or other equipment assemblies, provide backboards of size indicated.
 - 1. Use Douglas Fir plywood, fire retardant treated, exterior grade with "B" face, primed and finished painted gray.
 - 2. Unless otherwise indicated, provide 3/4" thick plywood.

2.12 TERMINAL CABINETS

- A. Provide surface or recess mounted where indicated constructed of code-gauge sheet steel with minimum 12-gauge hinged lockable doors and trim.
 - 1. Lock shall be common keyed with panelboards.
 - 2. Equip full area of each cabinet with 1/2" thick plywood backboard, painted as previously specified for plywood backboards.
 - 3. On the inside of cabinet doors, provide index cardholders for each section.
 - 4. On the outside of cabinet doors, provide a nameplate giving the cabinet designation.

2.13 GROUNDING

- A. Enclosures of equipment, raceways, and fixtures shall be permanently and effectively grounded. Provide code-sized, unless otherwise indicated, copper insulated green equipment ground with all conduit runs. Equipment ground shall originate at switchboard and/or panelboard ground bus and shall be bonded to all switch and receptacle boxes and electrical equipment enclosures, lighting poles ground lugs, and to driven ground rods in handholes.
- B. Driven ground rods shall be copper-clad steel, minimum size $\frac{3}{4}$ " diameter x 10 feet long at main service equipment, and $\frac{5}{8}$ " diameter x 8 feet long where installed in hand holes, or as noted on Plans. Ground rods shall be provided with suitable rod clamps of phosphor bronze (do not use clamps intended for water pipe connections). As manufactured by Chance, Blackburn or equal.

PART 3 - EXECUTION

3.1 CONDUIT AND RACEWAY APPLICATIONS

- A. Rigid Steel Conduit: For all exposed conduit exposed to mechanical damage, and Underground, with corrosion resisting tape wrapping.
- B. Electrical Metallic Tubing (EMT): Interior branch circuits where run concealed above suspended ceiling, in stud walls, furred spaces, and where not exposed to mechanical damage, or above 6' from floor.
- C. Flexible Metallic Conduit: In dry locations for connection from adjacent boxes to transformers, and vibrating equipment.
- D. Liquid-Tight Flexible Metallic Conduit: For connections in damp and wet locations to pump motors, solenoid valves, HVAC equipment and similar devices, shall be made using liquid-tight flexible metallic conduit. Provide separate ground wire independent of conduit, run inside conduit and bonded at both ends to enclosures.
- E. Rigid PVC Conduits: Schedule 40 & 80 PVC may be used underground only, with 3" sand under and 6" sand over when serving lighting circuits and power secondary circuits.

3.2 CONDUIT INSTALLATION

- A. General
 1. Conduit system shall be concealed unless exposed work is clearly indicated on the Drawings.
 2. Conduits shall be tightly covered and well protected during construction using metallic bushings and bushing "pennies" to seal open ends.
 3. In all empty conduits or ducts, install a 200-pound tensile strength polyethylene pulling rope.
 4. Conduit systems shall be electrically continuous throughout. Install code size, insulated, copper, green grounding conductor in all conduit runs indicated, or required by code, or as indicated on Drawings.

B. Layout

1. Locations of conduit runs shall be planned in advance of the installation and coordinated with the paving, drainage and site work in the same areas.
2. Conduits shall not be placed closer than 12 inches from a parallel water line, or 6 inches from such lines crossing perpendicular to the runs.

C. Supports

1. All raceway systems shall be secured to the building structures using specified fasteners, clamps and hangers spaced according to code requirements.
2. Support single runs of conduit using one-hole pipe straps. Where run horizontally on walls in damp or wet location, install "clamp backs" to space conduit off the surface.

D. Termination and Joints

1. Raceways shall be joined using specified coupling or transition couplings where dissimilar raceway systems are joined.
2. Conduits shall be securely fastened to cabinets, boxes and gutters using two locknuts and an insulating bushing or specified insulated connectors. Install grounding bushings or bonding jumpers on all conduits terminating at concentric knockouts.
3. Conduit terminations exposed at weatherproof enclosures and cast outlet boxes shall be made watertight using specified connectors and hubs.

3.3 CABLE AND WIRE INSTALLATION

A. General

1. Conductors shall not be installed in conduit until all work of any nature that may cause injury is completed. Care shall be taken in pulling conductors that insulation is not damaged. UL approved non-petroleum base and insulating type pulling compound shall be used as needed.
2. All cables shall be installed and tested in accordance with Manufacturer's requirements and warranty.

B. Splicing and Terminating

1. All aspects of splicing and terminating shall be in accordance with cable manufacturers published procedures.
2. Make up all splices in outlet boxes with connectors as specified herein with separate tails of correct color to be made up to splice. Provide at least six (6) inches of tails packed in box after splice is made up.
3. All wire and cable in panels, terminal cabinets and equipment enclosures shall be bundled and clamped.

C. Wire Identification

1. All wiring installed in panelboards, pullboxes, outlet boxes, junction boxes, terminal panels, site pullboxes and handholes shall be identified with circuit number and panelboard's name. Wires in dry locations shall use wire markers by Brady. Wires

in wet locations shall use corrosion and moisture resistant tags attached with plastic ties.

D. Underground Splicing:

1. Make all splices electrically and mechanically secure with pressure-type connectors.
2. Pressure-type connectors, when used for wire size 6 AWG and smaller, shall be "Scotchlok" type; for wire size 4 AWG and larger, use "Versitap" or heavy "Lock-Tite" type connectors.
3. Insulate all splices with a minimum of two half-lapped layers of vinyl-plastic electrical tape where insulation is required.
4. Tape all joints with rubber tape 1-1/2 times the thickness of the conductor insulation; then cover with friction tape or vinyl-plastic electrical tape.
5. "Scotch-coat" all underground splices.

- E. Upon completion of the installation of the conductors in the conduits, all conduit ends shall be sealed watertight with non-hardening, non-oxidizing and non-corrosive sealing compounds, Duct-Seal, or Permagum, or approved equal.

3.4 INSTALLATION OF BOXES AND WIRING

A. General

1. All outlets shall finish FLUSH with building walls and ceiling, except where exposed work is called for. There shall be no gap between box and wall or ceiling material. Any opening between box and wall or ceiling shall be caulked airtight.
2. Install raised device covers on all outlet boxes as required to finish flush with surface. Covers shall be of a depth to suit the wall or ceiling finish.
3. Leave no unused openings in any box. Install close-up plugs as required to seal openings.
4. Exposed outlet boxes and boxes in damp and wet locations shall be cast metal with gasketed cast metal cover plates.

B. Box Layout

1. Outlet boxes shall be installed at the locations and elevations shown on the drawings or specified herein. Make adjustments to locations as required by structural conditions and to suit coordination requirements of other trades.
2. Outlet boxes in fire-rated walls shall be backed with 3-M fire-safing pads, installed in accordance with manufacturer's instructions.

C. Supports

1. Boxes installed in stud walls shall be equipped with brackets designed for attaching directly to the studs or shall be mounted on heavy gauge galvanized steel box supports.
2. Fixture outlet boxes installed in suspended ceilings of gypsum board or lath and plaster construction shall be mounted to 16 gauge metal channel bars attached to main ceiling runners.
3. Fixture outlet boxes installed in suspended ceilings systems supporting acoustical panels shall be supported directly from the structures above wherever pendant

mounted fixtures are installed from the box, or shall use special box support brackets suitable for ceiling.

- D. Mounting Heights: Mounting heights from finished floor to center line of device box shall be as follows, and in accordance with disabled accessibility requirements of State Code.

END OF SECTION 16 10 00

ATTACHMENT D Contract

DETAILS SUMMARY	
Document Type	New Contract
OFS Number-Version	
County Contact Information	
Boulder County Legal Entity	Boulder County
Department	
Division/Program	
Mailing Address	
Contract Contact – <i>Name, email</i>	
Invoice Contact – <i>Name, email</i>	
Contractor Contact Information	
Contractor Name	
Contractor Mailing Address	
Contact 1- <i>Name, title, email</i>	
Contact 2- <i>Name, title, email</i>	
Contract Term	
Start Date	
Expiration Date	
Final End Date	
Contract Amount	
Contract Amount	
Fixed Price or Not-to-Exceed?	
Brief Description of Work	
Contract Documents	
a. Formal Procurement (RFP/Bid/SOQ) No. Bid Variable (the "Bid Documents") b. Contractor's proposal in response to the Bid Documents (the "Proposal") c. Project Details, including project-specific terms and a Scope of Work, attached as Exhibit A (the "Scope of Work") d. Fee Schedule, attached as Exhibit B (the "Fee Schedule")	
Purchasing Details – <i>County Internal Use Only</i>	
Grant Funded?	Yes or No
Bid Number	
Award Date	
If no Bid No., bid process used	
COVID-19	YES or NO
Project #	
Purchasing Notes <i>(optional)</i>	
Contract Notes	
<i>Additional information not included above</i>	

THIS CONTRACT ("Contract") is entered into by and between the Board of County Commissioners on behalf of the County of Boulder, State of Colorado, a body corporate and politic, for the benefit of the [Department] ("County") and [Supplier] ("Contractor"). County and Contractor are each a "Party," and collectively the "Parties."

In consideration of the mutual covenants contained in this Contract, the receipt and sufficiency of which is hereby acknowledged, the Parties agree as follows:

1. Incorporation into Contract: The **Details Summary** is incorporated into this Contract. The **Contract Documents** are incorporated into this Contract by reference, except to the extent that the Proposal, if any is incorporated, contains any obligations placed upon County and not otherwise contained in this Contract.

2. Work to be Performed: Contractor will provide all labor and equipment and do all tasks necessary and incidental to performing the work as described in the **Details Summary** and **Contract Documents** (the "Work"). Contractor will perform the Work (i) in a good and workmanlike manner, (ii) at its own cost and expense, (iii) in accordance with recognized industry standards of care, skill and diligence for the type of work being performed, and (iv) in strict accordance with the Contract. County and its representatives shall have access to the Work at all times.

a. Contractor shall supervise and direct the Work and shall be solely responsible for all construction means, methods, techniques, sequences and procedures and for coordinating all portions of the Work under the Contract.

b. Contractor shall provide and pay for all labor, materials, equipment, tools, construction equipment and machinery, transportation, and other facilities and services necessary for the proper execution and completion of the Work. Contractor warrants that all materials incorporated into the Work will be new unless otherwise specified.

c. Contractor shall at all times enforce good order among its employees and shall not employ on the Work any unfit person or anyone not skilled in the task assigned to such person. Contractor shall initiate, maintain, and supervise all safety precautions and programs in connection with the Work to ensure safe conditions on the premises at all times. Contractor shall comply with all laws, regulations, ordinances, rules, and orders of any public authority bearing on the safety of persons and property. In the event that County notifies Contractor of any unsafe conditions or practices, Contractor shall immediately take all actions required to remediate them at no expense to County. County reserves the right to immediately suspend the Work in the event of imminent hazard, as determined by County.

d. At all times, Contractor shall keep the premises free from accumulation of waste materials or rubbish caused by Contractor's operations. Upon completion of the Work, Contractor shall remove all of its waste materials and rubbish from the premises, as well as its tools, construction equipment, machinery and surplus materials.

e. Contractor shall confine operations on the premises to areas permitted by law, ordinances, permits, this Contract, and as directed by County, including storage of any materials or equipment.

f. Any claim for an increase in the **Contract Amount** shall be made and generally described by Contractor in writing and delivered to County promptly, in no event later than thirty (30) days after the occurrence of the event giving rise to the claim. Notice of the amount of the claim with supporting data shall be delivered to County within sixty (60) days after such occurrence and shall be accompanied by Contractor's written statement that the amount claimed covers all known amounts to which Contractor is entitled as a result of the occurrence of said event. All claims for increase in the **Contract Amount** shall be determined by County if the Parties are unable to otherwise reach agreement on the claim.

g. Before ordering any materials or doing any Work, Contractor shall verify all measurements for the Work and shall be responsible for the correctness of same.

3. Term of Contract: The **Contract Term** begins on the **Start Date** and expires on the **Expiration Date**, unless terminated sooner. All the Work must be performed during the **Contract Term**.

4. Payment for Work Performed: In consideration of the Work performed by Contractor, and subject to conditions contained in this Contract, County will pay an amount not to exceed the **Contract Amount** to Contractor in accordance with the **Contract Documents**.

5. Invoicing: Contractor will promptly provide a copy of its Form W-9 and invoice template to County upon request. Contractor must submit an invoice to the County by the fifteenth (15th) day of the month for completion of any Work performed in the prior calendar month. All invoices submitted require the following components: Contractor's name and address (submitted W-9 address must match remit address), detailed description of services, dates of services, itemization of labor and materials costs, "Bill to: Boulder County" language, payment remittance address, payer, name and address, date of invoice, unique invoice number, and total amount due. Contractor must send all completed invoices to the **Invoice Contact** in the **Details Summary**. County may require delivery of invoices by email. Failure to submit invoices in a timely manner and in accordance with the terms of this Contract may cause a delay in payment. County may recoup any damages incurred because of Contractor's failure to submit invoices pursuant to the terms of this paragraph. County's acceptance or payment of an invoice will not constitute acceptance of any Work performed under this Contract.

6. Extra Time to Complete the Work (Additional Time only): If Contractor cannot complete the Work by the **Expiration Date**, Contractor may request extra time to complete the Work. County, in its sole discretion, may grant Contractor additional time to complete the Work by sending a written notice of extension to Contractor. An extension of time to complete the Work will not entitle Contractor to additional compensation from County.

7. Extension of Contract Term (Additional Time and Work): Upon mutual agreement of the Parties, this Contract may be extended until the **Final End Date**. During any extended **Contract Term**, the terms of this Contract will remain in full force and effect, unless otherwise amended in writing by the Parties. Where the Contractor will provide additional services for additional compensation beyond the initial **Contract Amount**, the Parties must execute a written amendment before the then-current **Expiration Date**. If necessary, the written amendment will incorporate an updated Scope of Work and updated Fee Schedule as exhibits. Contractor must provide a current Certificate of Insurance to the County that complies with the **Insurance Requirements** of this Contract, if any, prior to any extended **Contract Term**.

8. Schedule of Work: County may designate the hours (on a daily or weekly basis) during which Contractor may perform the Work, strictly for the purposes of minimizing inconvenience to the County and interference with County operations. Contractor will otherwise set its own work schedule. Contractor shall promptly notify County of any aspect of the Work that will not be delivered or accomplished according to the initial schedule.

9. Indemnity: Contractor will be liable for any damages to persons or property caused by or arising out of the actions, obligations, or omissions of Contractor, its employees, agents, representatives or other persons acting under Contractor's direction or control in performing or failing to perform the Work under this Contract. Contractor will indemnify and hold harmless County, its elected officials and appointed department heads, and its employees, agents and representatives (the "indemnified parties"), from any and all liability, claims, demands, actions, damages, losses, judgments, costs or expenses, including attorneys' fees, which may be made or brought or which may result against any of the indemnified parties as a result or on account of the actions or omissions of Contractor, its employees, agents or representatives, or other persons acting under Contractor's direction or control. This indemnification obligation will extend to claims based on Contractor's unauthorized use or disclosure of confidential information and intellectual property infringement. County will not be obligated to indemnify or defend Contractor under any circumstances. Contractor's obligations under this provision shall survive expiration or termination of this Contract. Nothing contained in this Contract or the **Contract Documents** is intended to limit or restrict the indemnification rights or obligations of any Party under this provision, or damages available for breaches of the obligations herein.

10. Nondiscrimination: Contractor will comply with the Colorado Anti-Discrimination Act, C.R.S. § 24-34-401, et seq., as amended, and all applicable local, State and Federal laws concerning discrimination and unfair employment practices. County prohibits unlawful discrimination on the basis of race, color, religion, gender, gender identity, national origin, age 40 and over, disability, socio-economic status, sexual orientation, genetic information, or any other status protected by applicable Federal, State or local law. Contractor must require that its subcontractors, if any, similarly comply with all applicable laws concerning discrimination and unfair employment practices.

11. Information and Reports: Contractor will provide to authorized County, State, and Federal government representatives all information and reports that may be required for any purpose authorized by law. Contractor will permit access to such representatives to Contractor's facilities, books, records, accounts, and any other relevant sources of information. Where information required by a representative is in the exclusive possession of a person or entity other than Contractor, Contractor must so certify to the County and explain what efforts it has made to obtain the information.

12. Independent Contractor: Contractor is an independent contractor for all purposes in performing the Work. None of Contractor, its agents, personnel or subcontractors are employees of the County for any purpose, including the Federal Insurance Contribution Act, the Social Security Act, the Federal Unemployment Tax Act, the provisions of the Internal Revenue Code, the Colorado Workers' Compensation Act, the Colorado Unemployment Insurance Act, and the Public Employees Retirement Association. Accordingly, County will not withhold or pay any income tax, payroll tax, or retirement contribution of any kind on behalf of Contractor or Contractor's employees. As an independent contractor, Contractor is responsible for employing and directing such personnel and agents as it requires to perform the Work. Contractor will exercise complete authority over its personnel and agents and will be fully responsible for their actions.

13. Termination

a. Breach: Either Party's failure to perform any of its material obligations under this Contract, in whole or in part or in a timely or satisfactory manner, will be a breach. The institution of proceedings under any bankruptcy, insolvency, reorganization or similar law, by or against Contractor, or the appointment of a receiver or similar officer for Contractor or any of its property, which is not vacated or fully stayed within thirty (30) days after the institution of such proceeding, will also constitute a breach. In the event of a breach, the non-breaching Party may provide written notice of the breach to the other Party. If the breaching Party does not cure the breach, at its sole expense, as reasonably determined by the non-breaching Party in its sole discretion, within thirty (30) days after delivery of notice, the non-breaching Party may exercise any of its remedies provided under this Contract or at law, including immediate termination of this Contract.

b. Non-Appropriation: The other provisions of this Contract notwithstanding, County is prohibited by law from making commitments beyond the current fiscal year. Payment to Contractor beyond the current fiscal year is contingent on the appropriation and continuing availability of funding in any subsequent year. County has reason to believe that sufficient funds will be available for the full **Contract Term**. Where, however, funds are not allocated for any fiscal period beyond the current fiscal year, County may terminate this Contract without penalty by providing seven (7) days' written notice to Contractor.

c. Convenience: In addition to any other right to terminate under this Section 13, County may terminate this Contract, in whole or in part, for any or no reason, upon seven (7) days' advance written notice to Contractor.

14. Contractor Obligations upon Termination or Expiration: By the **Expiration Date** or effective date of termination, if earlier, Contractor must (1) remove from County property all of its personnel, equipment, supplies, trash and any hazards created by Contractor, (2) protect any serviceable materials belonging to the County, and (3) take any other action necessary to leave a safe and healthful worksite. Any items remaining on County property after the Expiration Date or the effective date of termination, if earlier, will be deemed abandoned by Contractor.

15. Payable Costs in Event of Early Termination: If County terminates this Contract before the **Expiration Date**, Contractor's payments (and any damages associated with any lawsuit brought by Contractor) are limited to only (1) payment for Work satisfactorily executed and fully and finally completed, as determined by County in its sole discretion, prior to delivery of the notice to terminate, and (2) the reasonable and actual costs Contractor incurred in connection with performing the Work prior to delivery of the notice to terminate. Contractor explicitly waives all claims it may have against the County for any other compensation, such as anticipatory profits or any other consequential, special, incidental, punitive or indirect damages.

16. Remedies for Non-Performance: If Contractor fails to perform any of its obligations under this Contract, County may, at its sole discretion, exercise one or more of the following remedies (in addition to any other remedies provided by law or in this Contract), which shall survive expiration or termination of this Contract:

a. Suspend Performance: County may require that Contractor suspend performance of all or any portion of the Work pending necessary corrective action specified by the County and without entitling Contractor to an increase in compensation or extension of the performance

schedule. Contractor must promptly stop performance and incurring costs upon delivery of a notice of suspension by the County.

b. Withhold Payment Pending Corrections: County may permit Contractor to correct any rejected Work at the County 's discretion. Upon County 's request, Contractor must correct rejected work at Contractor's sole expense within the time frame established by the County. Upon full and final completion of the corrections satisfactory to the County, County will remit payment to Contractor.

c. Deny Payment: County may deny payment for any Work that does not comply with the requirements of the Contract or that Contractor otherwise fails to provide or fully and finally complete, as determined by the County in its sole discretion. Upon County request, Contractor will promptly refund any amounts prepaid by the County with respect to such non-compliant Work.

d. Removal: Upon County 's request, Contractor will remove any of its employees or agents from performance of the Work, if County, in its sole discretion, deems any such person to be incompetent, careless, unsuitable, or otherwise unacceptable.

17. Binding Arbitration Prohibited: County does not agree to binding arbitration by any extra-judicial body or person.

18. Conflicts of Interest: Contractor may not engage in any business or personal activities or practices or maintain any relationships that conflict in any way with the full performance of Contractor's obligations.

19. Notices: All notices provided under this Contract must be in writing and sent by Certified U.S. Mail (Return Receipt Requested), electronic mail, or hand-delivery to the other Party's **Contact** at the address specified in the **Details Summary**. For certified mailings, notice periods will begin to run on the day after the postmarked date of mailing. For electronic mail or hand-delivery, notice periods will begin to run on the date of delivery.

20. Statutory Requirements: This Contract is subject to all statutory requirements that are or may become applicable to counties or political subdivisions of the State of Colorado generally, including but not limited to: C.R.S. § 38-26-107, which requires withholding funds where the County receives a claim for payment from a supplier or subcontractor of Contractor upon notice of final settlement (required for public works contracts that exceed \$150,000); C.R.S. § 8-17-101 et seq.; C.R.S. § 18-8-301, et seq.; and C.R.S. § 18-8-401, et seq.

21. Public Contracts for Services (C.R.S. §§ 8-17.5-101, et seq.): Contractor hereby certifies, warrants, and agrees that it does not knowingly employ or contract with an illegal alien who will perform work under this Contract and further certifies that it will confirm the employment eligibility of all employees who are newly hired for employment to perform work under this Contract by participating in the E-Verify Program established under Pub. L. 104-28 or the department verification program established under C.R.S. § 8-17.5-102(5)(c). Contractor (i) shall not knowingly employ or contract with an illegal alien to perform work under this Contract; (ii) shall not enter into a contract with a subcontractor that fails to certify to the contractor that the subcontractor shall not knowingly employ or contract with an illegal alien to perform work under this Contract; (iii) has confirmed the employment eligibility of all employees who are newly hired for employment to perform work under this Contract through participation in the E-Verify program or department program; (iv) is prohibited from using either the E-Verify program or department program procedures to undertake preemployment screening of job applicants while this Contract

is being performed; and (v) shall comply with any reasonable request by the department made in the course of an investigation that the Colorado Department of Labor and Employment is undertaking pursuant to the authority established in C.R.S. § 8-17.5-102(5). If Contractor obtains actual knowledge that a subcontractor performing work under this Contract knowingly employs or contracts with an illegal alien, Contractor shall (a) notify the subcontractor and County within three (3) days that Contractor has actual knowledge that subcontractor is employing or contracting with an illegal alien; and (b) terminate the subcontract if, within three (3) days of receiving notice hereunder, subcontractor does not stop employing or contracting with the illegal alien; except that Contractor shall not terminate the contract with the subcontractor if during such three (3) days the subcontractor provides information to establish that the subcontractor has not knowingly employed or contracted with an illegal alien. Contractor's violation of this provision will constitute a material breach of this Contract, entitling the County to terminate the contract for breach. If this Contract is so terminated, Contractor shall be liable for actual and consequential damages to the County.

22. Entire Agreement/Binding Effect/Amendments: This Contract represents the complete agreement between the Parties and is fully binding upon them and their successors, heirs, and assigns, if any. This Contract terminates any prior agreements, whether written or oral in whole or in part, between the Parties relating to the Work. This Contract may be amended only by a written agreement signed by both Parties.

23. Assignment/Subcontractors: This Contract may not be assigned or subcontracted by Contractor without the prior written consent of the County. If Contractor subcontracts any of its obligations under this Contract, Contractor will remain liable to the County for those obligations and will also be responsible for subcontractor's performance under, and compliance with, this Contract. Contractor shall not contract with a person or entity to whom County has made a reasonable objection.

24. Governing Law/Venue: The laws of the State of Colorado govern the construction, interpretation, performance, and enforcement of this Contract. Any claim relating to this Contract or breach thereof may only be brought exclusively in the Courts of the 20th Judicial District of the State of Colorado and the applicable Colorado Appellate Courts.

25. Breach: The failure of either Party to exercise any of its rights under this Contract will not be deemed to be a waiver of such rights or a waiver of any breach of the Contract. All remedies available to a Party in this Contract are cumulative and in addition to every other remedy provided by law.

26. Severability: If any provision of this Contract becomes inoperable for any reason but the fundamental terms and conditions continue to be legal and enforceable, then the remainder of the Contract will continue to be operative and binding on the Parties.

27. Third-Party Beneficiary: Enforcement of the terms and conditions and all rights and obligations of this Contract are reserved to the Parties. Any other person receiving services or benefits under this Contract is an incidental beneficiary only and has no rights under this Contract. Notwithstanding, where the beneficiary **Department** is led by an Elected Official, such Elected Official shall be considered a third-party beneficiary.

28. Colorado Open Records Act: County may disclose any records that are subject to public release under the Colorado Open Records Act, C.R.S. § 24-72-200.1, et seq.

29. Conflict of Provisions: If there is any conflict between the terms of the main body of this Contract and the terms of any of the **Contract Documents**, the terms of the main body of the Contract will control.
30. Governmental Immunity: Nothing in this Contract shall be construed in any way to be a waiver of the County's immunity protection under the Colorado Governmental Immunity Act, C.R.S. § 24-10-101, et seq., as amended.
31. Representations and Warranties: Contractor represents and warrants the following:
- a. Execution of this Contract and performance thereof is within Contractor's duly authorized powers;
 - b. The individual executing this Contract is authorized to do so by Contractor;
 - c. Contractor is authorized to do business in the State of Colorado and is properly licensed by all necessary governmental and public and quasi-public authorities having jurisdiction over the Work and the Contractor; and
 - d. Contractor and its subcontractors, if any, are financially solvent, able to pay all debts as they mature, and have sufficient working capital to complete the Work and perform all obligations under the Contract.
32. Legal Compliance: Contractor assumes full responsibility for obtaining and maintaining any permits and licenses required to perform the Work. Contractor is solely responsible for insuring that its performance under this Contract and the Work itself will comply with all Federal, State, and local laws, regulations, ordinances and codes. Contractor shall promptly notify County if any drawings or specifications are at variance with any laws, regulations, ordinances, or codes. If Contractor performs any Work contrary to such laws, regulations, ordinances, or codes, Contractor shall bear all costs arising therefrom. County approval of the Work or any aspect of Contractor's performance, such as drawings, specifications, plans, designs, or other Contractor-drafted documents, shall not be interpreted to mean that Contractor has satisfied its obligations under this Section.
33. Litigation Reporting: Contractor is not currently involved in any action before a court or other administrative decision-making body that could affect Contractor's ability to perform the Work. Contractor will promptly notify the County if Contractor is served with a pleading or other document in connection with any such action.
34. Tax Exemption: County is exempt from payment of Federal, State, and local government taxes. Contractor shall collect no tax from the County, and the County shall not be liable to pay any taxes imposed on Contractor. County shall provide its tax exemption status information to Contractor upon request.
35. Delegation of Authority: The Parties acknowledge that the Board of County Commissioners has delegated authority to the Department Head or Elected Official that leads the beneficiary **Department** and their designees to act on behalf of the County under the terms of this Contract, including but not limited to the authority to terminate this Contract.
36. Ownership of Work Product: All work product, property, data, documentation, information or materials conceived, discovered, developed or created by Contractor pursuant to this Contract ("Work Product") will be owned exclusively by the County. To the extent possible, any Work Product will be deemed to be a work made for hire. Contractor unconditionally and irrevocably transfers and assigns to the County all right, title and interest in and to any Work Product.

37. Publicity Releases: Contractor will not refer to this Contract or the County in commercial advertising without prior written consent of the County. This provision shall survive expiration or termination of this Contract.

38. Execution by Counterparts; Electronic Signatures: This Contract may be executed in multiple counterparts, each of which will be deemed an original, but all of which will constitute one agreement. The Parties approve the use of electronic signatures, governed by the Uniform Electronic Transactions Act, C.R.S. §§ 24 71.3 101 to 121. The Parties will not deny the legal effect or enforceability of this Contract solely because it is in electronic form or because an electronic record was used in its creation. The Parties will not object to the admissibility of this Contract in the form of electronic record, or paper copy of an electronic document, or paper copy of a document bearing an electronic signature, because it is not in its original form or is not an original.

39. Limitation on Public Statements and Lobbying Activity. During the term of this Contract, Contractor may receive from the County its confidential data, work product, or other privileged or confidential information that is protected by law. To maintain the fact and appearance of absolute objectivity, Contractor shall not, without the prior written consent of the County, which shall not be unreasonably withheld, do any of the following: (a) disclose information obtained because of this contractual relationship to any third party; (b) lobby any State or Federal agency on any pending matter while this Contract is effective; or (c) make any public statements or appear at any time to give testimony at any public meeting on the subject matters regarding which Contractor is or was retained by the County. County may set reasonable conditions on any disclosure authorized by the County under this provision. Notwithstanding, Contractor may make disclosures as required by law, and to law enforcement officials in connection with any criminal justice investigation.

40. Sustainability: All construction, deconstruction, remodel, and office move projects are required to follow construction waste procedure modeled off of Boulder County BuildSmart Code, International Green Construction Code (IGCC), International Energy Conservation Code (IECC), and Leadership in Energy and Environmental Design (LEED) certification, as an effort to achieve maximum jobsite waste diversion, energy efficiency, and water conservation. All 'demolition projects' are to follow deconstruction procedures. Instead of demolition project materials being crushed and primarily sent to the landfill, these projects should be systematically dismantled, typically in the opposite order they were constructed, in order to maximize the salvage of materials. Any hazardous materials encountered should follow state and federal standards, and contractor shall leverage the Boulder County Hazardous Materials Management facility for hazardous materials. The development of a project diversion plan is encouraged to include material types and volume/weight estimations as well as planned destinations. Projects must track all jobsite waste.

41. Limitation of Liability: COUNTY SHALL NOT BE LIABLE TO CONTRACTOR FOR ANY SPECIAL, CONSEQUENTIAL, INCIDENTAL, PUNITIVE, OR INDIRECT DAMAGES ARISING FROM OR RELATING TO THIS CONTRACT, REGARDLESS OF ANY NOTICE OF THE POSSIBILITY OF SUCH DAMAGES. COUNTY'S AGGREGATE LIABILITY, IF ANY, ARISING FROM OR RELATED TO THIS CONTRACT, WHETHER IN CONTRACT, OR IN TORT, OR OTHERWISE, IS LIMITED TO, AND SHALL NOT EXCEED, THE AMOUNTS PAID OR PAYABLE HEREUNDER BY COUNTY TO CONTRACTOR. ANY CONTRACTUAL LANGUAGE LIMITING CONTRACTOR'S LIABILITY SHALL BE VOID.

42. County Opportunity to Review: Contractor shall provide County with the opportunity to review and approve or take other appropriate action upon the Contractor's submittals, such as Shop Drawings, Product Data, and Samples, but only for conformance with the design concept of the Work and with the information given in the Contract Documents.
43. Notice to Proceed: The Parties agree that time is of the essence and work will begin after a "Notice to Proceed" has been issued by the County and in accordance with the terms therein.
44. Retainage: County may retain partial payment pending completion and County acceptance of the Work as satisfactory and fully and finally complete. For contracts that exceed \$150,000, the retention rate shall not exceed five percent (5%). C.R.S. § 24-91-103. Contractor is responsible for submitting a final invoice for any retainage held by County. If It becomes necessary for County to take over completion of the Work, all of the amounts owing to Contractor, including the withheld percentage, shall be applied: First, towards completion of the Work; second, towards performance of the withholding requirement set forth in C.R.S. § 38-26-107; third, to the surety furnishing bonds for the Work, to the extent such surety has incurred liability or expense in competing the Work or made payments pursuant to C.R.S. § 38-26-106; then, to Contractor. Such retained percentage as may be due to Contractor shall be due and payable as provided by C.R.S. § 38-26-107.
45. Bonds: Upon County's request, Contractor shall obtain and deliver to County payment and performance bonds each equal to 100% of the total Contract. Bonds shall be executed by a qualified corporate surety and must be acceptable to County. County reserves the right to accept other acceptable forms of surety in lieu of a bond, and to reduce the bond requirements set forth herein consistent with C.R.S. § 38-26-106.
46. Change Orders: If unforeseen modifications or changes are required, Contractor may submit a Change Order request to County, which must include a complete description, timeline, and fee schedule for the proposed work. Change Orders are not effective until approved by County in writing.
47. No Suspension or Debarment: Contractor certifies, and warrants for the duration of this Contract, that neither it nor its principals nor any of its subcontractors are debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participation in this Contract by any Federal or State department or agency. Contractor shall comply, and shall require its subcontractors to comply, with subpart C of 2 C.F.R. § 180.
48. Permits/Licenses/Code Compliance: Prior to starting the Work, Contractor will identify and obtain, and maintain during this Contract, all permits and licenses necessary to perform the Work. Contractor shall comply with all State and local codes. Contractor is responsible for locating all public utilities, as necessary. Contractor shall require its subcontractors to comply with this provision. HVAC, roofing, and general contractors must be licensed through Boulder County Land Use. Electricians and plumbers must be licensed through the State and registered with Boulder County Land Use Building Safety and Inspection Division. Architects, Professional Engineers and Professional Land Surveyors must be fully-licensed through the State. All required permits and licenses must be provided to County prior to Contractor beginning the Work.

49. Stormwater Quality Protection Requirements: Contractor will take all measures necessary to prevent pollutants from entering storm drains and watercourses. To eliminate stormwater pollution, Contractor shall implement effective Best Management Practices (BMPs). BMPs include general good housekeeping practices, appropriate scheduling of activities, operational practices, maintenance procedures and other measures to prevent the discharge of pollutants directly or indirectly to the storm drain system. These BMPs shall be maintained for the duration of this Contract. Contractor shall also be responsible for proper disposal of all waste materials, including wastes generated by the implementation of BMPs. Contractor shall otherwise comply with the Federal Clean Water Act, Colorado Water Quality Control Act, and Boulder County's local Clean Water Act, Illegal Discharge Ordinance (No. 2012-4). For work performed in urbanized areas, Contractor must comply with the requirements of MS4 permit (COR090000), which is available through the Colorado Department of Public Health and Environment.

50. Guaranties and Warranties: Upon completion of the Work, Contractor will provide County with a written guaranty covering all labor, materials and workmanship incorporated into the Work for one (1) year, or within any such longer period of time as may be prescribed by law, the specifications, or any other applicable special warranty required by the **Contract Documents**. Final payment upon full and final completion of the Work will not relieve Contractor of responsibility for faulty material or workmanship, which County may require Contractor to fix at Contractor's sole expense, in addition to County's other remedies. This provision shall apply to Work completed by Contractor's employees and subcontractors.

51. Final Payment: A final inspection of the Work shall be conducted by County. If a list of deficiencies results from such final inspection, Contractor shall promptly rectify all items appearing thereon before final payment will be made. When County indicates acceptance of the Work, Contractor may request final payment from County, including any retained amounts. Final payment shall be subject to C.R.S. § 38-26-107.

52. Notice of Final Settlement: Prior to remitting final payment to Contractor, County shall publish a Notice of Final Settlement in accordance with C.R.S. § 38-26-107. Final payment will be rendered in accordance with the statute and the other terms of this Contract. Final payment will not be rendered until County, in its sole discretion, determines full and final completion of the Work.

53. Geographic Information System (GIS) Data: Contractors agree that the following, specified data formats, shall be used and/or adhered to when submitting required data to the County:

a. All GIS data must be ArcGIS 10.x compatible. Shapefiles may be accepted with written, pre-approval, from the County.

b. All GIS data must have complete metadata, following Boulder County GIS Metadata Standards located at: <https://assets.bouldercounty.org/wpcontent/uploads/2018/03/metadata-standards-contractors.pdf>

c. All Computer Aided Design (CAD) files must have an assigned real world coordinate system to ensure compatible conversion into the County's GIS system, if necessary.

d. All spatial or georeferenced data will be provided to the county in the following coordinate system:

i. Name:
NAD 1983 HARN State Plane Colorado
North FIPS 0501 Feet

ii. Unit:
Foot US

iii. Projection:
Lambert Conformal Conic

iv. Horizontal Datum:
North American Datum 1983 HARN

v. Vertical Datum:
North American Vertical Datum 1988

vi. Spheroid:
GRS 1980

e. Contractors are responsible for capturing section corners or quarter corners for specific projects to be added into the Public Land Survey System (PLSS) project for updating the section corners, Contractors shall provide high-accuracy PLSS monument coordinates for each corner section or quarter corner section monument used as control points or that occur within the project area (“putting it on the cap”) as is reasonable, depending on the difficulty to access the point. All positions to be collected shall be required to use (at a minimum) the Real-Time Kinematic (RTK) method.

54. State Specifications: The Standard Specifications for Road and Bridge Construction 2017, either in whole or as set forth in the Bid Documents, are expressly incorporated into this Contract by reference.

55. Determination of Unit Prices: County will determine the actual quantities and classifications of Unit Price Work performed by Contractor. The Parties will review the County's preliminary determinations before County renders a written decision thereon (by recommendation of an Application for Payment or otherwise), which shall be final and binding upon Contractor. The value of any Unit Price Work covered by a Change Order or claim for an increase or decrease in the Contract Amount shall be determined by applying the unit prices to the quantities of items.

a. Where the Contract Documents provide that all or part of the Work is to be Unit Price Work, the Parties agree that the Contract Amount includes the total cost of Unit Price Work, determined by multiplying the quantity of each item by its unit price. Initial quantity determinations are estimates, which must be adjusted to reflect actual quantities. Contractor shall make a claim in writing to County for any additional amounts owed where actual quantities exceed estimated quantities. Contractor shall provide such written claim within twenty (20) days of providing the items and shall be accompanied by supporting documentation. The written claim shall include a statement that the claimed amount covers all known amounts (direct, indirect and consequential) to which Contractor is owed. County shall only pay Contractor for actual quantities of items provided hereunder.

b. The Parties agree that each unit price adequately covers Contractor's overhead and profit for each item.

56. Records Retention/Access/Audits: Contractor shall maintain all records and documents pertaining to this Contract in accordance with the requirements prescribed by County. Such records shall be maintained for a period of five (5) calendar years after the date of Contractor's final payment from County under this Contract. Contractor agrees that County or their designated representative shall have the right to review and to copy any records and supporting documentation pertaining to the performance of this Contract as necessary and upon request, throughout the term of this Contract, and for five (5) calendar years after the date of the final payment hereunder. Contractor agrees to allow the auditor(s) access to such records during normal business hours and to allow interviews of any employees who might reasonably have information related to such records. County and Contractor acknowledge that protected information is exempt from this requirement without proper client release.

57. Legal Interpretation. Each Party recognizes that this Contract is legally binding and acknowledges that it has had the opportunity to consult with legal counsel of its choice about this Contract. The rule of construction providing that any ambiguities are resolved against the drafting Party will not apply in interpreting the terms of this Contract.

58. Insurance: Prior to commencing the Work, Contractor will provide a Certificate of Insurance to the County demonstrating adequate insurance coverage as required by this paragraph. All policies evidencing coverage required by the Contract will be issued by insurance companies satisfactory to the County. Contractor will forward Certificates of Insurance directly to the **County Department** and **Contact** listed in the **Details Summary**.

a. Boulder County as Additional Insured: Boulder County shall be named as an additional insured for General Liability, Umbrella/Excess Liability, and Pollution Liability, as designated in this Contract. Additional insured shall be endorsed to the policy.

THE ADDITIONAL INSURED WORDING SHOULD BE AS FOLLOWS: *County of Boulder, State of Colorado, a body corporate and politic, is named as Additional Insured.*

b. Notice of Cancellation: Each insurance policy required by this Contract shall provide the required coverage and shall not be suspended, voided or canceled except after thirty (30) days' prior written notice has been given to the County except when cancellation is for non-payment of premium, then ten (10) days' prior notice may be given. If any insurance company refuses to provide the required notice, Contractor or its insurance broker shall notify the County any cancellation, suspension, or nonrenewal of any insurance policy within seven (7) days of receipt of insurers' notification to that effect.

c. Insurance Obligations of County: County is not required to maintain or procure any insurance coverage beyond the coverage maintained by the County in its standard course of business. Any insurance obligations placed on the County in any of the **Contract Documents** shall be null and void.

d. Deductible: Any and all deductibles contained in any insurance policy shall be assumed by and at the sole risk of Contractor.

e. Primacy of Coverage: Coverage required of Contractor and its subcontractors, if any, shall be primary over any insurance or self-insurance program carried by the County.

f. Subrogation Waiver: All insurance policies in any way related to this Contract secured or maintained by Contractor as required herein shall include clauses stating that each carrier shall waive all rights of recovery, under subrogation or otherwise, against County, its organizations, officers, agents, employees, and volunteers.

g. Requirements. For the entire duration of this Contract including any extended or renewed terms, and longer as may be required by this Contract, Contractor shall procure and maintain at its own expense, and without cost to the County, the following kinds and minimum amounts of insurance to insure the liability risks that Contractor has assumed under this Contract:

i. **Commercial General Liability**

Coverage should be provided on an Occurrence form, ISO CG0001 or equivalent. The policy shall be endorsed to include Additional Insured Owners, Lessees or Contractors endorsements CG 2038 (or equivalent), Designated Construction Project(s) General Aggregate Endorsement CG2503 (or equivalent) and Additional Insured Completed Operations for Owners, Lessees or Contractors CG 2037 (or equivalent). Minimum limits required of \$1,000,000 Each Occurrence, \$2,000,000 General Aggregate and \$2,000,000 Products/Completed Operations Aggregate. The County requires the Products/Completed Operations coverage to be provided 3 years after completion of construction. An endorsement must be included with the certificate.

ii. **Automobile Liability**

Bodily Injury and Property Damage for any owned, hired, and non-owned vehicles used in the performance of the Contract. Minimum limits \$1,000,000 Each Accident.

iii. **Workers' Compensation and Employer's Liability**

Workers' Compensation must be maintained with the statutory limits. Employer's Liability is required for minimum limits of \$100,000 Each Accident/\$500,000 Disease-Policy Limit/\$100,000 Disease-Each Employee.

iv. **Umbrella / Excess Insurance**

Umbrella/Excess Liability insurance in the amount \$3,000,000.00, following form.

vi. **Pollution Liability**

Coverage pay for those sums the Contractor becomes legally obligated to pay as damages because of Bodily Injury, Property Damage or environmental Damage arising out of a pollution incident caused by the Contractor's work including Completed Operations. Coverage shall include emergency response expenses, pollution liability during transportation (if applicable) and at Non-Owned Waste Disposal Site (if applicable). The Minimum limits required are \$1,000,000 Per Occurrence/Loss and \$1,000,000 Policy Aggregate. If the coverage is written on a claims-made basis, the Contractor warrants that any retroactive date applicable to coverage under the policy precedes the effective date of this Contract; and that continuous coverage will be maintained or an extended discovery

period will be exercised for a period of three (3) years beginning from the time that work under this contract is completed. County shall be named as an additional insured for ongoing operations and completed operations.

[Signature Page to Follow]

SAMPLE

IN WITNESS WHEREOF, the Parties have executed and entered into this Contract as of the latter day and year indicated below.

SIGNED for and on behalf of Boulder County	SIGNED for and on behalf of Contractor
Signature:	Signature:
Name:	Name:
Title:	Title:
Date:	Date:
↓↓ <i>For Board-signed documents only</i> ↓↓	
Attest:	<i>Initials</i>
Attestor Name:	
Attestor Title:	

ATTACHMENT E

CONTRACTOR QUALIFICATION STATEMENT Instructions and Terms

1. This Qualification Statement (“QS”) is required for Bids submitted for Restroom Construction at Lefthand Valley Grange. The QS shall be submitted to the County with your BID.
2. This QS shall be completed by a company officer or manager of the submitting company who has sufficient knowledge to fully address all matters and respond to all inquiries herein.
3. The company submitting this QS (“Company” or the “Contractor”) shall be fully responsible for and bound by all information, data, certifications and disclosures included in this statement and any attachments hereto.
4. The Contractor understands that the information and data provided in connection with this QS, and any other relevant information obtained from any other sources regarding the Company, shall be reviewed to determine whether it qualifies as a “responsible contractor” and whether its offer represents the best value to the County.
5. The Contractor understands that its failure to meet responsibility and qualification standards may render it ineligible to perform work on this project (hereinafter “Contract Work.”)
6. It is the Contractor’s responsibility to carefully review and complete this document. The failure to submit information or documents required by this QS, or the submission of any false statement, misrepresentation, or omission regarding a material fact concerning any aspect of this QS, may render the Company ineligible for contract.
7. The Contractor hereby agrees that if it is awarded the contract, this QS, all terms and conditions specified herein, and all information, data, certifications and disclosures included in this statement or its attachments will be incorporated into the contract.
8. In the event a contract is awarded to the Company and it is later determined that the Company failed to disclose requested information, or made a false statement, misrepresentation, or omission regarding a material fact concerning any aspect of this QS, the Company may be considered in default and the County may terminate the contract immediately and/or withhold full or partial payment as it deems appropriate.
9. Where additional space is needed to provide requested information, the Company should provide such information in separate, numbered attachments affixed to this QS.

10. Label attachments to this QS according to subject matter and include a table of contents listing the names and numbers of all attachments.

Part I: Basic Qualifications

Section 1: Company Background/Resources

1. Name of Company

** Indicate whether the Company is a corporation, joint venture, dba, limited liability company, partnership, sole proprietorship or other type of business entity. If corporation, provide names of officers; if joint venture, provide names of joint ventures; if limited liability co., provide names of members; if partnership, provide names of partners; if sole proprietorship or other, provide names of owners.*

2. Address/Contact Information: _____

**Provide mailing address of Company, website, e-mail and telephone number. If address is a branch office, also provide principal home office address.*

3. Years in Business: _____

4. Related Companies/Changes in Company Name:

**Identify any parent companies, subsidiaries, sister companies or holding companies to which the company is related. If additional space is needed, provide information in an attachment. If the Company has previously operated under another name within the past five years, identify other names used.*

5. Identify all jurisdictions in which the Company is licensed, registered or otherwise qualified _____ to _____ do business: _____

**Use attachment if necessary, provide applicable license, certificate, registration numbers for each jurisdiction.*

6. Recent Construction Volume: Provide annual construction volume in dollars performed by Company in the past three years:

Year _____
Year _____
Year _____

7. Percentage of Work Self-Performed:
Identify the percentage of work the Company typically performs with its own work force:

8. Classifications of Work Self-Performed:
Identify the types of work typically performed by the Company with its own work force:

9. Provide Company's organizational chart, if available.

10. Identify and submit contact information and three references for subcontractors that will provide services to the Company for this project.

11. Identify and submit contact information and three references from architects or engineers and three references from subcontractors that the Company has worked with in the last five years.

Section 2: Required Disclosures

The Contractor submitting this QS shall answer the following questions with regard to the past five (5) years. If any question is answered in the affirmative, the Company shall submit an attachment, providing details concerning the matter in question, including applicable dates, locations, names of projects/project owners and circumstances.

1. Has the Company been debarred, suspended or otherwise prohibited from doing business with any federal, state or local government agency, or private enterprise?

Yes ___ No ___

2. Has the Company been denied prequalification, declared non-responsible, or otherwise declared ineligible to submit bids or proposals for work by any federal, state or local government agency, or private enterprise?
Yes ___ No ___

3. Has the Company defaulted, been terminated for cause, or otherwise failed to complete any project that it was awarded?

Yes ___ No ___

4. Has the Company been assessed or required to pay liquidated damages in connection with work performed on any project?

Yes ___ No ___

5. Has the Company had any business or professional license, registration, certificate or certification suspended or revoked?

Yes ___ No ___

6. Have any liens been filed against the Company as a result of its failure to pay subcontractors, suppliers, or workers?

Yes ___ No ___

7. Has the Company been denied bonding or insurance coverage, or been discontinued by a surety or insurance company?

Yes ___ No ___

8. Has the Company been found in violation of any laws, including but not limited to contracting or antitrust laws, tax or licensing laws, labor or employment laws, environmental, health or safety laws?

Yes ___ No ___

**With respect to workplace safety laws, this statement is limited to willful federal or state safety law violations.*

9. Has the Company or its owners, officers, directors or managers been the subject of any criminal indictment or criminal investigation concerning any aspect of the Company's business?

Yes ___ No ___

10. Has the Company been the subject to any bankruptcy proceeding?

Yes ___ No ___

Part II: Past Performance Review

Section 1: Project Listings & Past Performance Data

1. The Contractor shall submit three projects that are similar in size, scope and complexity to the Contract Work, public or private, it has performed in the last five years in an attachment labeled "Past Projects."
2. List projects in reverse chronological order, beginning with most recent. For each project listed, the Contractor shall provide the following information.

- a. The name, location and project number of the project.
 - b. The names, addresses and phone numbers of at least two owner representatives familiar with the Contractor's performance on the project (may include owners, project managers, architects, engineers).
 - c. The original date for schedule completion and actual completion date.
 - d. Any performance ratings given to the Contractor (whether descriptive, e.g., good, satisfactory, or numerical, e.g., 80 out of 100, or other).
3. The Contractor shall submit a complete list of all open or on-going projects, public and private, in an attachment labeled "Current Projects." List projects in reverse chronological order, beginning with the most recent. For each project listed, provide the following information.
- a. The name, location and project number of the project and percentage of work completed to date.
 - b. The names, addresses and phone numbers of at least two owner representatives familiar with the Contractor's performance on the project (may include owners, project managers, architects, engineers).
 - c. The original date for schedule completion and estimated completion date.

Section 2: Performance Evaluation Reports

1. The Contractor shall submit an attachment, copies of all performance evaluation reports in its possession or control for all past and current projects, public and private for the past five years.
2. For purposes of this Section the term performance evaluation reports should be interpreted to mean any documents within the Contractor's control or possession that were prepared to evaluate, rate or score in any way the contractor's performance on projects.

Section 3: Contractor Safety Record

1. Provide the Contractor's Workers Compensation Experience Modification Rating for the past three years, beginning with the most recent year available:

Year 1: [e.g. 2010: 1.0]

Year 2: [e.g. 2011: 1.1]

Year 3: _____

2. Provide the Contractor's Lost Time Incidence Rate for the most recent year:

3. Provide the Contractor's Recorded Incidence Rate for the most recent year:

4. Identify in an attachment any citations issued by federal or state safety agencies for serious violations issued in the past five (5) years. Provide a listing of the citation number, a brief description of the violation and the amount of penalty, if any, for each violation.

Section 4: Pending Legal Matters

1. Claims, Judgments, Lawsuits: Are there any pending claims, judgments, lawsuits or alternative dispute proceedings involving the Company that involve potential damages of \$10,000 or more?

___ Yes ___ No If yes, provide details in an attachment.

2. Complaints, Charges, Investigations: Is the Company currently the subject of any complaint, investigation or other legal action for alleged violations of law pending before any court or governmental agency?

___ Yes ___ No If yes, provide details in an attachment.

Part III: Required Representations

In submitting this QS, the Company makes the following representations, which it understands are required as a condition of performing the Contract Work and receiving payment for same.

1. The Company will possess all applicable professional and business licenses required for performing work in Boulder County.
2. The Company satisfies all bonding and insurance requirements as stipulated in the solicitation for this project.
3. The Company and all subcontractors that are employed or that may be employed in execution of the Contract Work shall be in full compliance with Boulder County's requirements for workers' compensation insurance.
4. The Company represents that it has no conflicts of interests with Boulder County if awarded the Contract Work and that any potential conflicts of interest that may arise in the future will be disclosed immediately to Boulder County.
5. The Company represents the price offered and other information submitted in connection with its BID for the Contract Work were arrived at independently without consultation, communication or agreement with any other offeror or competitor.
6. The Company will ensure that employees and applicants for employment are not discriminated against because of their race, color, religion, sex or national origin.

The undersigned hereby represents that all statements, representations, information and documents provided in or with this Qualification Statement and attachments hereto are complete, accurate and truthful.

Signature of Authorized Representative

Date

Print Name

Position/Title

Company Name