SOUTHWEST REGION 03
PRESCOTT NATIONAL FOREST

SKIDMORE DAY USE IMPROVEMENTS

SPECIFICATION PACKAGE

U.S. FOREST SERVICE
MARCH 2025

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1.0 PREFACE

1.1 FP-14 U.S. CUSTOMARY UNITS, 2014

The *Standard Specifications for Construction of Roads and Bridges on Federal Highway Projects* (FP-14 U.S. Customary Units), 2014 are included by reference. The requirements contained in these specifications are hereby made a part of this solicitation and any resultant contract. References made to other sections within those listed are incorporated by reference.

The 700-page book entitled "Standard Specifications for Construction of Roads and Bridges on Federal Highway Projects (FP-14 U.S. Customary Units), is available from:

Headquarters
Washington DC
Mail: Federal Highway Administration
HFPD-3
400 Seventh Street, SW
Washington D.C. 20590
https://highways.dot.gov/federal-lands/specs

Items listed for payment are in the schedule of items. All other items, regardless of payment procedures listed in FP-14, are considered incidental to the work, and shall be included in the schedule of items, as necessary.

1.2 FOREST SERVICE SUPPLEMENTAL SPECIFICATIONS

Forest Service Supplemental Specifications (FSSS) add to, delete from, or modify the FP-14 specifications. FSSS are applicable to this project and are included in their entirety.

1.3 OTHER SPECIFICATIONS AND REQUIREMENTS

Specifications not listed in the above referenced sections are provided and made a part of the solicitation and any resultant contract.

2.0 SITE SUPERVISION, QUALITY CONTROL, AND SAFETY

Contractor shall provide an OSHA 30-HR certified safety inspector, a site superintendent, quality control representative, and traffic control supervisor during construction activities.

Contractor may elect to have all (traffic) safety, superintendent, and quality control duties under the supervision of one individual, so long as the individual is qualified and certified to meet the requirements.

3.0 SUBMITTAL PROCEDURES AND REQUIREMENTS

3.1 SUBMITTAL DESCRIPTIONS

Use the attached form CM-16 for all submittals.

When a product, model number, part number, etc. is specified herein, it is implied a substitute product with the same performance specifications may be submitted as an ***Approved Equal***, subject to final approval by the Contracting Officer.

Submittal Descriptions (SD): Submittals requirements are specified in the technical sections. Submittals are identified by Submittal Description (SD) numbers and titles as follows:

SD-01 Preconstruction Submittals:
Submittals which are required prior to start of construction work, issuance of contract notice to proceed, or commencing work at the site. This includes, but not limited to:

a. List of proposed Subcontractors (SF Form 1413)
b. Construction progress schedule
c. Health and safety plan
d. Work plan
e. Quality Control (QC) plan
f. Bonding
g. SWPPP

SD-02 Shop Drawings:
Drawings, diagrams, and schedules specifically prepared to illustrate some portion of the work. Diagrams and instructions from a manufacturer or fabricator for use in producing the product and as aids to the Contractor for integrating the product or system into the project. Drawings prepared by or for the Contractor to show how multiple systems and interdisciplinary work will be coordinated.

SD-03 Product Data:
Catalog cuts, illustrations, schedules, diagrams, performance charts, instructions and brochures illustrating size, physical appearance, and other characteristics of materials, systems or equipment for some portion of the work.

SD-04 Samples:
Fabricated or un-fabricated physical examples of materials, equipment or workmanship that illustrate functional and aesthetic characteristics of a material or product and establish standards by which the work can be judged. Color samples from the manufacturer's standard line (or custom color samples if specified) to be used in selecting or approving colors for the project.

SD-05 Design Data:
Design calculations, mix designs, analyses or other data pertaining to a part of the work. Design submittals, design substantiation submittals and extensions of design submittals. Design calculations, mix designs, analyses or other data pertaining to a part of the work.

SD-06 Test Reports:
- Reports signed by authorized official of testing laboratory that a material, product, or system identical to the material, product, or system to be provided has been tested in accord with specified requirements.
- Reports of tests required to be performed by the Contractor on an actual portion of the work prepared for the project before shipment to job site.
- Report which includes finding of a test made at the job site or on a sample taken from the job site, on portion of work during or after installation.

SD-07 Certificates:
Statements printed on the manufacturer's letterhead and signed by responsible officials of manufacture of product, system, or material attesting that the product, system, or material meets specification requirements. Must be dated after award of the project contract and clearly name the project.

SD-08 Manufacturer's Instructions:
Preprinted material describing installation of a product, system, or material, including special notices and MSDS concerning impedances, hazards, and safety precautions.

SD-09 Manufacturer's Fields Reports:
- Documentation of the testing and verification actions taken by manufacturer's representative at the job site, in the vicinity of the job site, or on a sample taken from the job site, on a portion of the work, during or after installation, to confirm compliance with manufacturer's standards or instructions.
- Documentation must be signed by an authorized official of a testing agency laboratory or agency and state the test results; and indicate whether the material, product, or system has passed or failed the test.

SD-10 Operation and Maintenance Data:
Data that is furnished by the manufacturer, or the system provider, to the product, system, or equipment operating and maintenance personnel, including manufacturer's help and product line necessary to maintain the product, system, or equipment.

SD-11 Closeout Submittals:
- Documentation to record compliance with technical or administrative requirements or to establish an administrative mechanism.
- Special requirements necessary to properly close out a construction contract, such record drawings and as-built drawings.

3.2 VARIATIONS

Variations from contract requirements require Governmental approval pursuant to contract clause FAR 52-236-21 and will be considered where advantageous to the Government. Highlight, encircle, or otherwise identify deviations from the contract documents on submittals.

3.3 SUBSTITUTIONS

Whenever materials, products, and equipment are listed by name or brand in the specifications and/or on the drawings, it is used as a measure of quality, utility, or standard. If the Contractor prefers to use any other brand or manufacturer of same quality, appearance, and utility to that specified, the Contractor shall request substitution as provided below, not less than 30 days before the planned installation of the item. The Contracting Officer will approve or disapprove the request for substitution.

Requests for substitutions will only be considered if contractor submits the following:

1. Complete technical data including drawings, complete performance specifications, test data, samples and performance tests of the article proposed for substitution. Submit additional information if required by Contracting Officer. All items in the above information shall be circled, tagged, or marked in some way to indicate all deviations or differences which the proposed item differs from the originally specified item.
2. Similar data as above for item originally specified. All items shall be marked to identify where/how the proposed substitution will differ.
3. A statement by the Contractor that the proposed substitution is in full compliance with the contract documents, applicable codes, and laws.
4. The Contractor shall be responsible for any effect upon related work in the project for any substitution and shall pay any additional costs generated by any substitutions.

3.4 SUBMITTAL TYPES

- Government Approval (GA) Submittals
- Written and graphic information that requires Contracting Officer's responsible action.
- For Information Only (FIO) Submittals

3.5 SUBMITTAL EXECUTION

- Review each submittal and check for compliance with the contract documents. Note corrections and field dimensions.
- The Contracting Officer review will be completed and returned within **14 calendar days** after date of submissions.
- If a submittal is marked as "Disapproved" or "Does not comply", resubmit with appropriate corrections. No work shall proceed for this item until resubmittal is approved.

Transmittal Form CM-16

*ACRONYMS: **A/E:** Architect/Engineer; **CMR**: Construction Management Representative; **FAR**: Federal Acquisition Regulation; **LEED**: Leadership in Energy & Environmental Design; **N/A:** Not Applicable*

Submittal Number: Forest: Requisition: Project: Contract Number: Date: Sheet: 1 of 2

Transmittal Number:

Construction Contractor: Subcontractor / Supplier:

Action Submittal	Informational Submittal	Item Number	Specification Section Number	Paragraph Number	Description of Item (Size, Type, Name, Manufacturer, Use, etc.)	Alternate Materials Proposed	A/E ACTION – Action Submittal: Approved	A/E ACTION – Action Submittal: Approved with Notations	A/E ACTION – Action Submittal: Disapproved - Resubmit	USFS ACTION – Action Submittal: Approved	USFS ACTION – Action Submittal: Approved with Notations	USFS ACTION – Action Submittal: Disapproved - Resubmit	USFS ACTION – Informational Submittal: Accept	USFS ACTION – Informational Submittal: Reject
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Construction Contractor - Name, Title, & Signature: Date:

I hereby certify this submittal has been reviewed for accuracy, completeness, and compliance with contract requirements. FAR 52-236-21

CMR - Name, Title, & Signature: Date:

A/E - Name, Title, & Signature: Date:

Review Comments - Name: Comment(s):

Recommended By - COR or Alternate COR - Name, Title, & Signature: Date:

Action By - USFS Name, Title, & Signature: Date:

Approval of this submittal is subject to the provisions of the contract drawings and specifications.
This action is for general concurrence only and the Government is not responsible for errors or omissions.

Date Received: Date to Construction Contractor:

Distribute 1 copy each: CMR Interim, A/E, USFS & Construction Contractor.

USFS Review Comments - Name: Comment(s):

Transmittal Form CM-16 Continuation

*ACRONYMS: **A/E:** Architect/Engineer; **CMR**: Construction Management Representative; **FAR**: Federal Acquisition Regulation; **LEED**: Leadership in Energy & Environmental Design; **N/A:** Not Applicable*

Submittal Number: Forest: Requisition: Project: Contract Number: Date:

Transmittal Number:

Construction Contractor: Subcontractor / Supplier:

							A/E ACTION			USFS ACTION				
							Action Submittal			Action Submittal			Informational Submittal	
Action Submittal	Informational Submittal	Item Number	Specification Section Number	Paragraph Number	Description of Item (Size, Type, Name, Manufacturer, Use, etc.)	Alternate Materials Proposed	Approved	Approved with Notations	Disapproved - Resubmit	Approved	Approved with Notations	Disapproved - Resubmit	Accept	Reject
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Review Comments - Name: Comment(s):

4.0 SUBMITTAL LIST

SUBMITTAL LIST

SKIDMORE DAY USE IMPROVEMENTS

SUBMITTAL			REQUIREMENTS (indicate with an "X")															STATUS			
			INFORMATIONAL									ACTION									
Spec. Section or Drawing Sheet #	Par. No.	Description	PRE-CONSTRUCTION	SHOP DRAWINGS	PRODUCT DATA	DESIGN DATA	TEST REPORTS	MANUFACTURER CERTIFICATION	MANUFACTURER INSTRUCTIONS	FIELD REPORT	CLOSEOUT	PRE-CONSTRUCTION	SHOP DRAWINGS	PRODUCT DATA	SAMPLES	TEST REPORTS	OPERATION AND MAINTENCE DATA	TRANSMITTAL NUMBER	SUBMISSION DATE	RETURN DATE	STATUS
DIVISION 100 GENERAL REQUIREMENTS																					
	107.08	Accident Prevention Plan	X																		
	153.03	Contractor Quality Control Plan	X																		
	153.03	Contractor Daily Reports								X											
	155	Construction Schedule	X																		
	157	SWPPP / Erosion Control Plan	X																		
DIVISION 200 EARTHWORK																					
	204.11	Subgrade, Compaction, Roads / Parking / Paths (IF AWARDED)				X															
DIVISION 300 AGGREGATE AND BASE COURSES																					
	301.05	M.A.G. Base, Compaction, Roads / Parking / Paths (IF AWARDED					X														
DIVISION 500 MINOR CONCRETE PAVEMENT																					
	501.03	Concrete Mix Design, 4000 PSI, Parking Stalls				X															
	501.03	Concrete, Sampling and Testing					X														
DIVISION 600 INCIDENTAL CONSTRUCTION																					
	601	Concrete Mix Design, Sidewalks / Pads				X															
	601	Parking Bumper, Grainger, Rubber			X																
C-22	619	Steel Post and Rails			X																
C-22	619	Paint and Primer, Federal Standard Brown, #20059			X																
C-18	633	Sign Proofs, Material, Sheeting											X	X							
	634.01	Traffic Paint, Type B, Waterborne, w/ T1 Glass Beads			X																
DIVISION 700 MATERIAL																					
	703.05	M.A.G. Base			X																
G-02	703.05	Crushed Aggregate / Concrete / Asphalt Base			X																
	703.05	Decomposed Granite, 1/2" Minus, Cinnamon Brown			X										X						
C-23	703.05	Stabilizer Product, for D.G.			X																
	705	Landscape Boulder, Local to Area													X						
	705.02	Riprap, Class 1			X										X						
OTHER (DRAWINGS, ATTACHMENTS, ETC.)																					
C-27		Ramada, Shop Drawings / Structural Calcs (if awarded)		X		X															
C-27		Ramada, Concrete Mix Design, Footing (if awarded)				X															
G-04		Vault Toilet, Shop Drawings (if awarded)		X																	
G-04		Vault Toilet, Finishes / Accessories (if awarded)			X																

NOTE: This submittal list is not all-inclusive. Contractor to ensure submittal requirements of contract are met in accordance with the drawings and specifications

5.0 FP-14 SPECIFICATIONS INCLUDED IN CONTRACT

SECTION NUMBER	TITLE
Division 100	**GENERAL REQUIREMENTS**
101	TERMS, FORMAT, AND DEFINITIONS
102	BID, AWARD, AND EXECUTION OF CONTRACT
103	SCOPE OF WORK
104	CONTROL OF WORK
105	CONTROL OF MATERIAL
106	ACCEPTANCE OF WORK
107	LEGAL RELATIONS AND RESPONSIBILITY TO THE PUBLIC
108	PROSECUTION AND PROGRESS
109	MEASUREMENT AND PAYMENT
Division 150	**PROJECT REQUIREMENTS**
151	MOBILIZATION
152	CONSTRUCTION SURVEY AND STAKING
153	CONTRACTOR QUALITY CONTROL
154	CONTRACTOR SAMPLING AND TESTING
155	SCHEDULES FOR CONSTRUCTION CONTRACTS
157	SOIL EROSION AND SEDIMENT CONTROL
158	WATERING FOR DUST CONTROL
Division 200	**EARTHWORK**
201	CLEARING AND GRUBBING
203	REMOVAL OF STRUCTURES AND OBSTRUCTIONS
204	EXCAVATION AND EMBANKMENT
211	ROADWAY OBLITERATION
Division 250	**SLOPE REINFORCEMENT AND RETAINING WALLS**
251	RIPRAP
Division 300	**AGGREGATE AND BASE COURSES**
301	UNTREATED AGGREGATE COURSES
311	STABILIZED AGGREGATE SURFACE COURSE
Division 500	**RIGID PAVEMENTS**
501	MINOR CONCRETE PAVEMENT
Division 600	**INCIDENTAL CONSTRUCTION**
601	MINOR CONCRETE STRUCTURES
602	CULVERTS AND DRAINS
615	SIDEWALKS, PADS, AND PAVED MEDIANS
619	FENCES, GATES, CATTLE GUARDS, AND BOLLARD POSTS
633	PERMANENT TRAFFIC CONTROL
634	PERMANENT PAVEMENT MARKINGS
Division 700	**MATERIAL**
703	AGGREGATE
705	ROCK

6.0 FP-14 FOREST SERVICE SUPPLEMENTAL SPECIFICATIONS

Table of Contents

Preface

Delete all but the first paragraph and add the following:

The Forest Service, US Department of Agriculture has adopted FP-14 for construction of National Forest System Roads.

101 - Terms, Format, and Definitions

101.01_National_11_9_2016

Add the following paragraph to Subsection 101.01:

101.01 Meaning of Terms.

Delete all references to the TAR (Transportation Acquisition Regulations) in the specifications.

101.03_National_11_9_2016

Add the following to Subsection 101.03:

101.03 Abbreviations.

(a) Acronyms.

AGAR — Agriculture Acquisition Regulations

AFPA — American Forest and Paper Association

FSAR — Forest Service Acquisition Regulations

MSHA — Mine Safety and Health Administration

NESC — National Electrical Safety Code

WCLIB — West Coast Lumber Inspection Bureau

(f) Miscellaneous unit abbreviations.

MP	—	milepost	location
ppm	—	parts per million	volume
STA		station	location

101.04_National_1_22_2020

Make the following changes to Subsection 101.04:

101.04 Definitions.

Delete these definitions and replace the following:

Bid Schedule — The Schedule of Items.

Bridge — A structure, including supports, erected over a depression or an obstruction such as water along a road, a trail, or a railway and having a deck for carrying traffic or other loads.

Contractor — The individual or legal entity contracting with the Government for performance of prescribed work. In a timber sale contract, the contractor is the "Purchaser".

Culvert — Any structure with a bottom, regardless of fill depth, depth of invert burial, or presence of horizontal driving surface, or any bottomless (natural channel) structure with footings that will not have wheel loads in direct contact with the top of the structure.

Drawings — (Public Works Contracts) Design sheets or fabrication, erection, or construction details submitted to the CO by the Contractor according to FAR Clause 52.236-21 Specifications and Drawings for Construction. Also refers to submissions and submittals.

Notice to Proceed — (Public Works Contracts) Written notice to the Contractor to begin the contract work.

Right-of-Way — A general term denoting (1) the privilege to pass over land in some particular line (including easement, lease, permit, or license to occupy, use, or traverse public or private lands), or (2) Real property necessary for the project, including roadway, buffer areas, access, and drainage areas.

Solicitation—(Public Works Contracts) The complete assembly of documents (whether attached or incorporated by reference) furnished to prospective bidders.

Add the following definitions:

Adjustment in Contract Price — "Equitable adjustment," as used in the Federal Acquisition Regulations, or "construction cost adjustment," as used in the Timber Sale Contract, as applicable.

Change — "Change" means "change order" as used in the Federal Acquisition Regulations, or "design change" as used in the Timber Sale Contract.

Forest Service — The United States of America, acting through the Forest Service, U.S. Department of Agriculture.

Neat Line — A line defining the proposed or specified limits of an excavation or structure.

Pioneer Road — Temporary construction access built along the route of the project.

Purchaser — The individual, partnership, joint venture, or corporation contracting with the Government under the terms of a Timber Sale Contract and acting independently or through agents, employees, or subcontractors.

Protected Streamcourse — A drainage shown on the plans or timber sale area map that requires designated mitigation measures.

Road Order — An order affecting and controlling traffic on roads under Forest Service jurisdiction. Road Orders are issued by a designated Forest Officer under the authorities of 36 CFR, part 260.

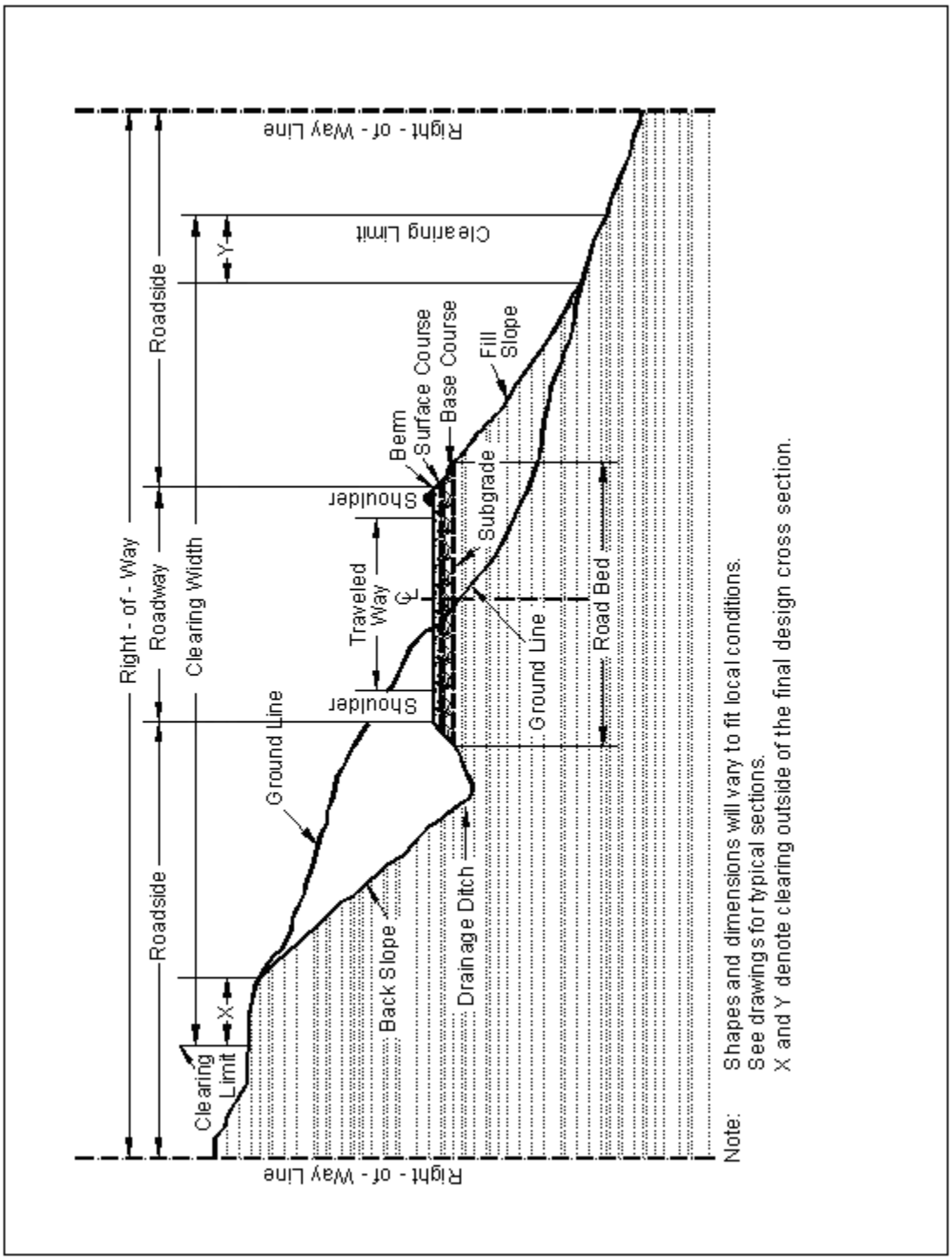
Shop Drawings — (Timber and Stewardship Contracts) Referred to as "Drawings" in FP-14, include drawings, diagrams, layouts, schematics, descriptive literature, illustrations, lists or tables, performance and test data, and similar materials furnished by Purchaser to explain in detail specific portions of the work required by the contract.

Utilization Standards —

The minimum size and percent soundness of trees described in Public Works contract specifications or Timber Sale and IRTC contract provisions to determine merchantable timber.

Add Figure 101-1—Illustration of road structure terms:

Figure 101-1—Illustration of road structure terms.



102 - Bid¸ Award¸ and Execution of Contract

Delete Section 102 in its entirety.

Delete Section 102.

103 - Scope of Work

103.00_National_11_9_2016

Delete all of Section 103 except Subsection 103.01 Intent of Contract.

Delete Subsections 103.02, 103.03, 103.04, 103.05.

104 - Control of Work

104.00_National_11_9_2016

Delete Subsections 104.01, 104.02, and 104.04.

Delete Subsections 104.01, 104.02, 104.04.

104.06_National_11_9_2016

Add the following to Subsection 104.06:

104.06 Use of Roads by Contractor.

The Contractor is authorized to use roads under the jurisdiction of the Forest Service for all activities necessary to complete this contract, subject to the limitations and authorizations designated in the Road Order(s) or described in the contract, when such use will not damage the roads or national forest resources, and when traffic can be accommodated safely.

105 - Control of Material

105.05_National_6_29_2020

105.05 Use of Material Found in the Work.

Delete 105.05 (a) and (b) and the last sentence of the second paragraph and substitute the following:

Materials produced or processed from Government lands in excess of the quantities required for performance of this contract are the property of the Government. Place excess material safely at government-approved location, at no additional cost to government.

106 - Acceptance of Work

106.01_National_7_18_2017

Delete Subsection 106.01 and replace with the following:

106.01 Conformity with Contract Requirements.

Follow the requirements of FAR Clause 52.246-12 Inspection of Construction.

References to standard test methods of AASHTO, ASTM, GSA, and other recognized standard authorities refer to the methods in effect on the date of solicitation for bids.

Perform all work to the lines, grades, cross-sections, dimensions, and processes or material requirements shown on the plans or specified in the contract.

Incorporate manufactured materials into the work according to the manufacturer's recommendations or to these specifications, whichever is more strict.

Plan dimensions and contract specification values are the values to be strived for and complied with as the design values from which any deviations are allowed. Perform work and provide material that is uniform in character and reasonably close to the prescribed value or within the specified tolerance range. The purpose of a tolerance range is to accommodate occasional minor variations from the median zone that are unavoidable for practical reasons.

When standard manufactured items are specified (such as fence, wire, plates, rolled shapes, pipe conduits, etc., that are identified by gauge, unit mass, section dimensions, etc.), the identification will be considered to be nominal masses or dimensions. Unless specific contract tolerances are noted, established manufacturing tolerances will be accepted.

The Government may inspect, sample, or test all work at any time before final acceptance of the project. When the Government tests work, copies of test reports are furnished to the Contractor upon request. Government tests may or may not be performed at the work site. If Contractor testing and inspection is verified by the Government, the Contractor's results may be used by the Government to evaluate work for acceptance. Do not rely on the availability of Government test results for process control.

Acceptable work conforming to the contract will be paid for at the contract unit bid price. Four methods of determining conformity and accepting work are described in Subsections 106.02 to 106.05 inclusive. The primary method of acceptance is specified in each Section of work. However, work may be rejected at any time it is found by any of the methods not to comply with the contract.

Remove, repair, or replace work that does not conform to the contract, or to prevailing industry standards where no specific contract requirements are noted. Removing, repairing, or replacing work; providing temporary traffic control; and any other related work to accomplish conformity will be at no cost to the Government.

(a) Disputing Government test results. If the accuracy of Government test results is disputed, promptly inform the CO. If the dispute is unresolved after reasonable steps are taken to resolve the dispute, further evaluation may be obtained by written request. Include a narrative describing the dispute and a proposed resolution protocol that addresses the following:

1. Sampling method;
2. Number of samples;
3. Sample transport;
4. Test procedures;
5. Testing laboratories;
6. Reporting;
7. Estimated time and costs; and
8. Validation process.

If the evaluation requires additional sampling or testing be performed, mutually agree with the Government on witnessing procedures and on sampling and testing by a third party laboratory. Use a third party laboratory accredited by the AASHTO accreditation program. Provide proof of the laboratory's accreditation for the test procedures to be used. Do not use the same laboratory that produced the disputed Government test results or that produced the test results used as a basis for the dispute.

The CO will review the proposed resolution protocol and may modify it before final approval and execution.

The Government will use the approved resolution protocol test results to determine the validity of the disputed testing. If the Government test results are validated, the Contractor will be responsible for all costs associated with developing and performing the resolution protocol. If the Government test results are not validated, the Government will be responsible for all costs associated with developing and performing the resolution protocol. If the validity of the Government test results cannot be determined, the Contractor and Government will equally share all costs associated with developing and carrying out the resolution protocol.

(b) Alternatives to removing and replacing non-conforming work. As an alternative to removal and replacement, the Contractor may submit a written request to:

1. Have the work accepted at a reduced price; or
2. Be given permission to perform corrective measures to bring the work into conformity.

The request must contain supporting rationale and documentation. Include references or data justifying the proposal based on an evaluation of test results, effect on service life, value of material or work, quality, aesthetics, and other tangible engineering basis. The CO will determine disposition of the nonconforming work.

Delete Subsection 106.02 and replace with the following:

106.02 Visual Inspection.

Acceptance is based on visual inspection of the work for compliance with the specific contract requirements. Use prevailing industry standards in the absence of specific contract requirements or tolerances.

107 - Legal Relations and Responsibility to the Public

Delete Subsection 107.05.

Delete Subsection 107.05.

108 - Prosecution and Progress

108.00_National_11_9_2016

Delete Section 108 in its entirety.

Delete Section 108.

109 - Measurement and Payment

109.00_National_11_9_2016

Delete Subsections 109.06, 109.07, 109.08, and 109.09:

Delete Subsections 109.06, 109.07, 109.08, 109.09.

109.01_National_2_22_2019

Delete the third paragraph and Table 109-1 of Subsection 109.01 and replace with the following:

109.01 Measurement of Work.

Take measurements as described in Subsection 109.02 unless otherwise modified by the Measurement Subsection of the section controlling the work being performed. Table 109-1 indicates the accuracy required for quantities of the various pay units used in the Schedule of Items. Use this guide to determine the decimal placement in the final payment.

Table 109-1

Decimal Accuracy of Quantities for Final Payment

Pay Item	Level of Precision
Linear Foot	1
Exception--Timber, Steel, and concrete Piles	0.1
Station	0.1
Mile	0.01
Square Foot	0.1
Square Yard	0.1
Each	1
Acre	0.01
Gallon	1
M-Gals.	0.1
Cubic Yard	1
Exception--Structure Excavation; Sheathing Materials; Bedding, Bed Course, and Backfill Materials; Gabions;	0.1
Exception--Concrete; Masonry	0.01
Pound	1
Ton	0.1
Exception--Calcium Chloride; Sodium Chloride; Hydrated Lime; Bituminous Materials; Pavements; Bed Course Materials	0.01
Hour	0.1
MFBM	0.01

Station Yard	1
Cubic Yard Mile	1
Ton Mile	1

Add the following sentence to Subsection 109.02(b):

109.02 Measurement Terms and Definitions.

(b) Contract quantity.

Contract quantities will be adjusted only when there are errors in the original design of 15% or more.

155 - Schedules for Construction Contracts

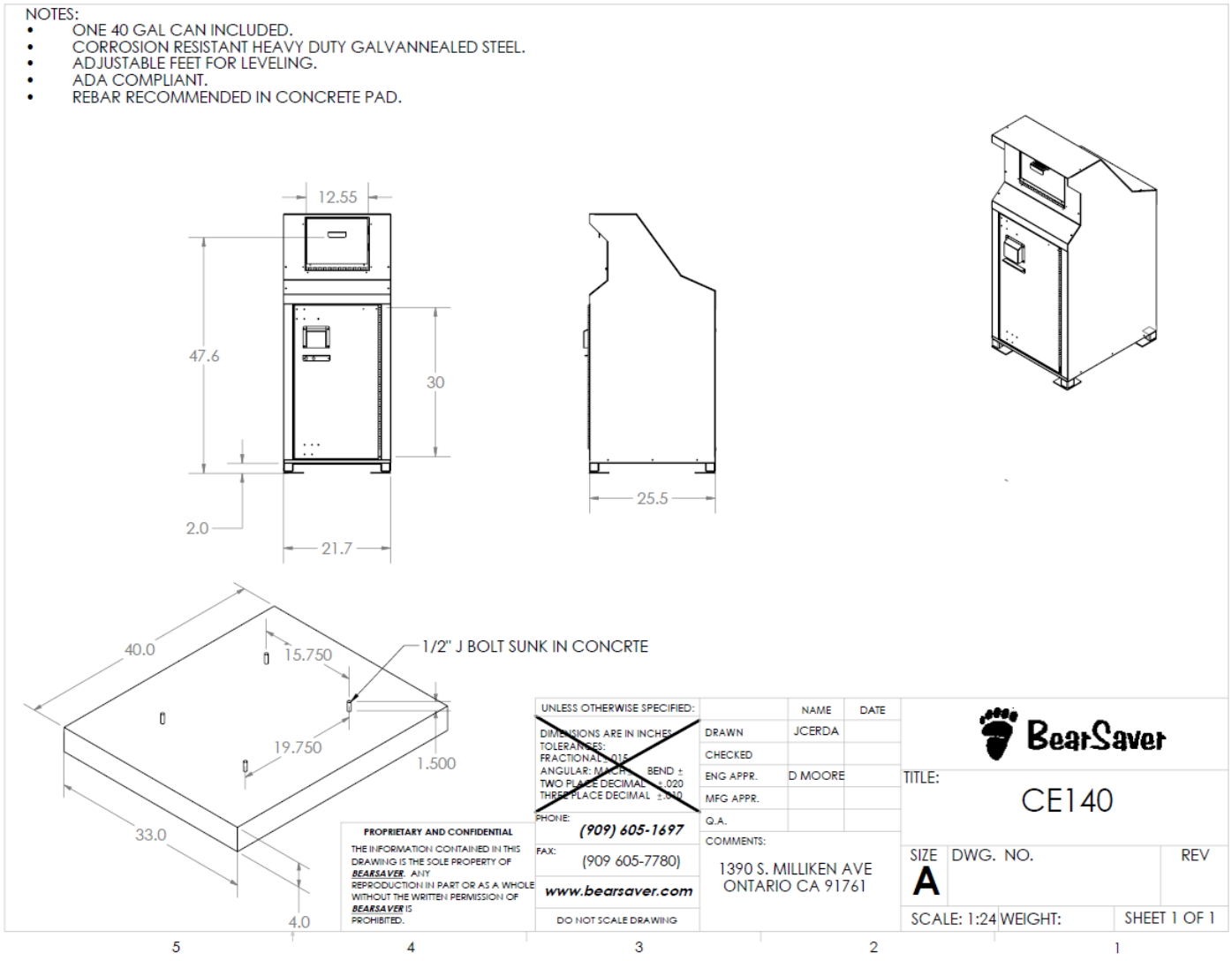
155.00_National_11_9_2016

Delete Section 155 in its entirety.

Delete Section 155.

7.0 OTHER SPECIFICATIONS, MANUFCATURER CUT SHEETS, AND REQUIREMENTS

Trash Receptacle, Bear-Saver, Model CE-140



Ramada, Classic Recreation Systems, Mesa Model, 18’ x 18’

MESA MODEL

18’ X 18’

SPECIFICATIONS

Dimensions:

Roof Dimensions	18’-0”x18’-0”
Column Dimensions center to center	15’-0"x15’-0”
Minimum Clearance	8’-0”
Roof Height @ Peak	±11’-3 1/2"
Hip Roof	4:12 pitch
Square Feet Under Roof	±324
Date of drawing	August 20, 2024

Base columns shall be 6”x6” steel tube, minimum .120” wall thickness.
All beams shall be structural steel tube sized according to engineering.
All bolts shall be A-307 or A-325 and hidden at all connections.
Roofing shall be 24 gauge Mega-Rib steel pre-cut and pre-finished with ribs running with the slope of the roof.
All trim shall be 24 gauge pre-finished to match roofing.
Fascia trim minimum size shall be 3½”x 3½” square, 24 gauge.
Open or welded “C” channels, “S” or “Z” purlins, “I” beams or angle iron shall not be allowed.
Provisions for electrical shall be (1) light and (1) outlet.

11875 E. Berry Dr. - Dewey, AZ. 86327
Phone: (928) 775-3307 Fax: (928) 772-0858
info@classicrecreation.com
www.classicrecreation.com

STANDARD SPECIFICATIONS

w/ TRUZINC RICH PRIMER & SUPER DURABLE POWDER COAT PAINT

GENERAL:

1. All structures shall be designed and fabricated to the IBC (Latest Edition) or current local building code with standard load designs of the greater value of 20# per S.F. minimum live load and 115 mph sustained wind load or site specific conditions and the applicable zone for seismic loads.

2. All members shall be designed according to the "American Institute of Steel Construction (AISC) specifications and the American Iron and Steel Institute (AISI) specifications for cold-formed members.

3. All fabrication welds shall be in strict accordance with the structural welding code of the American Welding Society (AWS) specifications. All structural welds shall be in compliance with the requirements of "Pre-qualified" welded joints. All welding shall conform to ASTM A-233 series E-70XX electrodes - low hydrogen.
Field welding shall not be required.

4. When required, after award of bid, the shade structure manufacturer shall submit structural calculations, sealed by a registered engineer in the state in which the structure is to be erected for review and approval by the approving agency.

5. Manufacturer qualifications: All manufacturers shall have a minimum of (20) twenty years experience in the fabrication of tubular steel shade structures. Shade structure and kiosk fabrication shall be the manufacturer's primary business. Manufacturer shall have fabricated similar structures to that which is specified. *All non-specified manufacturers shall submit complete shop drawings indicating type, size & gauge of material used, with detailed connections to the specifying agency or design firm at least 10 days prior to bid opening for review and written pre-approval. All bids submitted without prior approval will be rejected.*

FOOTINGS & COLUMNS:

1. Footings shall be structurally engineered by the structure manufacturer to meet local codes and site conditions. (Sample footing drawings shall be made available to the contractor or owner from the manufacturer). When required for structure installation, anchor bolts shall be supplied by the owner / contractor. Columns shall be ASTM 500 grade B. Concrete footing rebar (if required) shall be ASTM A-615 grade 40 #4 bars & smaller, grade 60 #5 bars & larger. Concrete shall be 5 sack mix "Portland" cement. Maximum slump shall not exceed 4". Concrete compressive strength shall be a minimum of 2500 psi @ 28 days.

FRAME MEMBERS AND COMPRESSION RING:

1. 90% of all steel shall be American (domestic) made. Mill certification shall be made available upon request. All frame members shall be one piece structural steel tube with a minimum .120 (1/8") wall thickness, sized according to engineering. All frame members shall be bolted together with bolts totally concealed. All tubing for frame members shall be ASTM 500 grade B. Beam end plates shall be ASTM A36 fy=36,000 psi UNO. Bolts shall be A 307's, or 325's unless noted otherwise.
   "I" beams, Angle iron, "C", "Z" or "S" purlins or beams, open or closed, shall not be allowed.

ROOFING:

1. All roofing shall be 24 gauge Zincalume / Galvalume coated steel panels ICBO #ER-2757. "Mega-Rib" panels shall be 36" wide with 1½" high ribs @ 7.2". All roofing shall be pre-finished with Duratech 5000 or equal, 30 year paint finish. All roof panels shall be pre-cut with ribs running with the slope of the roof. Fascia trim shall be 3 ½" square fascia trim 24 gauge Zincalume / Galvalume coated pre-finished matching the roof color. Screws & rivets shall match roof color. (Miami Dade Approved)

POWDER COATING:

1. All frame members shall be media blasted to a white finish removing all rust, scale, oil and grease. Powder coating for all frame members shall be provisionally warranted for (10) ten years with **TRUZINC** 7520-70138 primer with a Dry Film Thickness of (2.0 - 6.0 mils) & hardness of 2H-3H with a Salt Spray Resistance of **6000 hours** and **Super Durable Gloss Polyester 9000** series finish paint (2.5-3.5 mils) with a hardness of H-H2 & has **1000 hour** salt spray resistance. Total of primer & finish paint shall be 4.5-9.5 mils of paint. Finish shall be a smooth uniform surface with no pits, runs or sags. For additional information, please visit http://www.tcipowder.com/ for a complete list of specifications.

ERECTION:

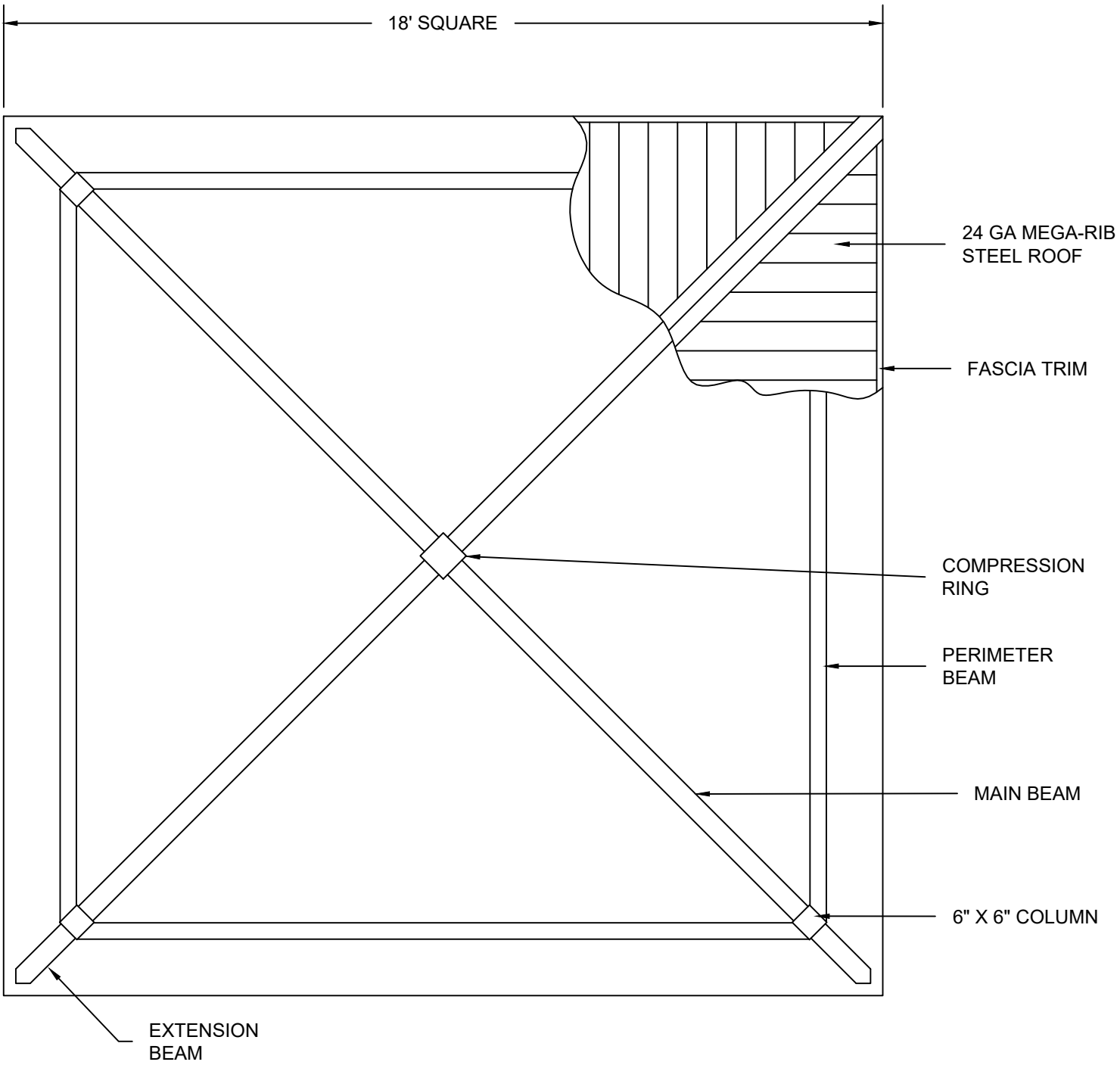
1. Manufacturer shall supply complete layout and detail plans with installation instructions for the structure. The structure shall be erected in a work-man-like manner with framing, roofing and trim installed according to the manufacturer's installation instructions. Care shall be taken to avoid damaging the structure during installation. Touch up powder coat paint with paint provided to prevent rusting. Components of the structure shall be covered and kept dry prior to erection.

WARRANTEE:

1. Manufacturer shall warranty the structure to be free from defects in material and work-man-ship for a period of (10) ten years from date of acceptance by owner. Warranty does not include damage from theft, fire, vandalism or acts of God. Manufacturer shall repair or replace structure components of like kind at his option, to match existing material and workmanship. Steel roof finish shall be warranted for (30) thirty years under a separate roof manufacturer's warranty. Powder coat paint shall be warranted for (10) ten years after acceptance from owner against peeling, flaking and rusting. Warranty does not cover damage caused from shipping, erection of structure, lack of touchup and maintenance, overspray from lawn sprinklers or vandalism. Bolt threads are not powder coated and therefore are not covered under the powder coat warranty.
   NOTE: Engineering specifications take precedence over drawings if differences occur.

CRS, INC.

NOT FOR CONSTRUCTION

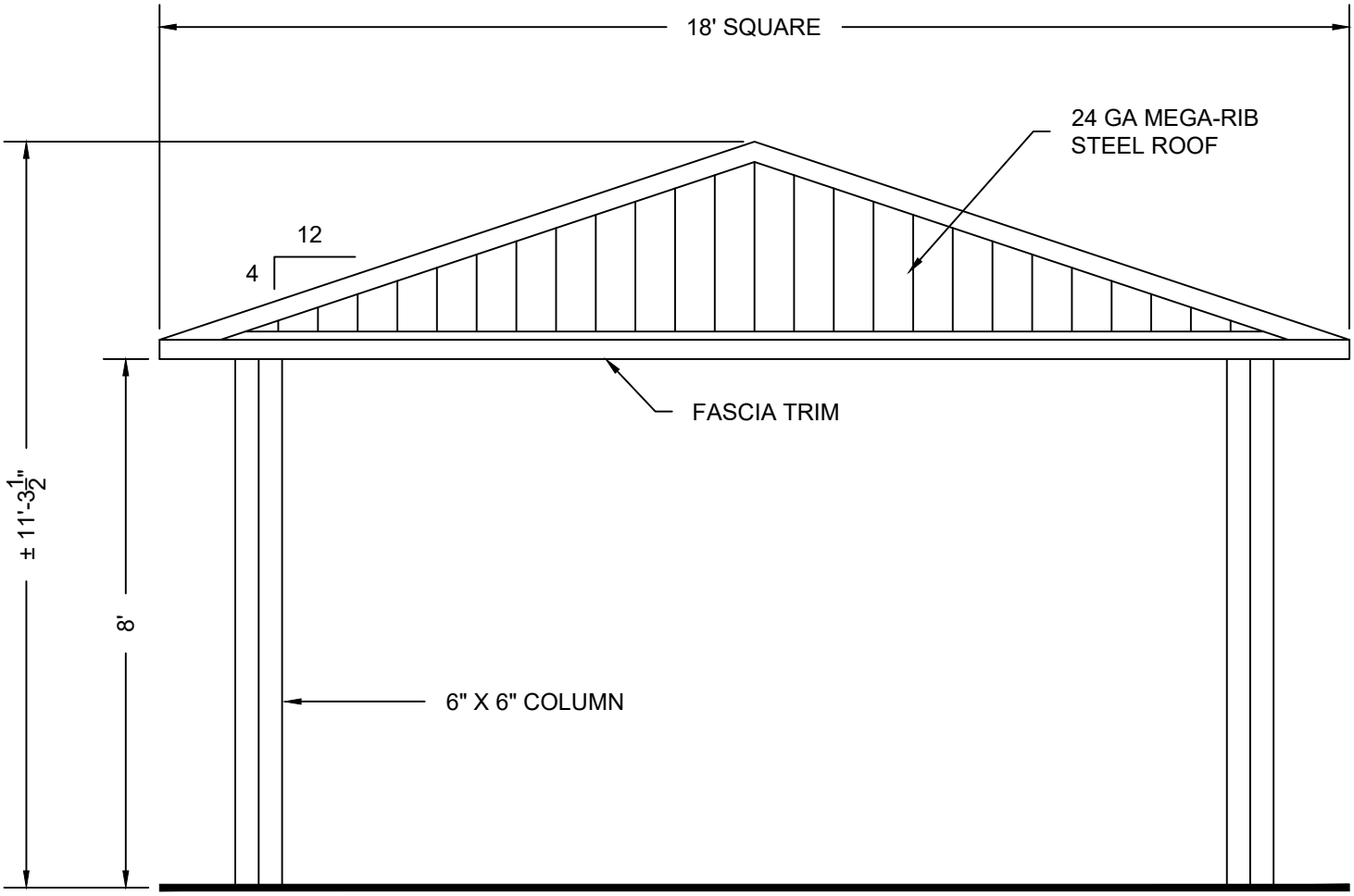


PLAN VIEW 18' X 18' MESA MODEL

NTS

CRS, INC.

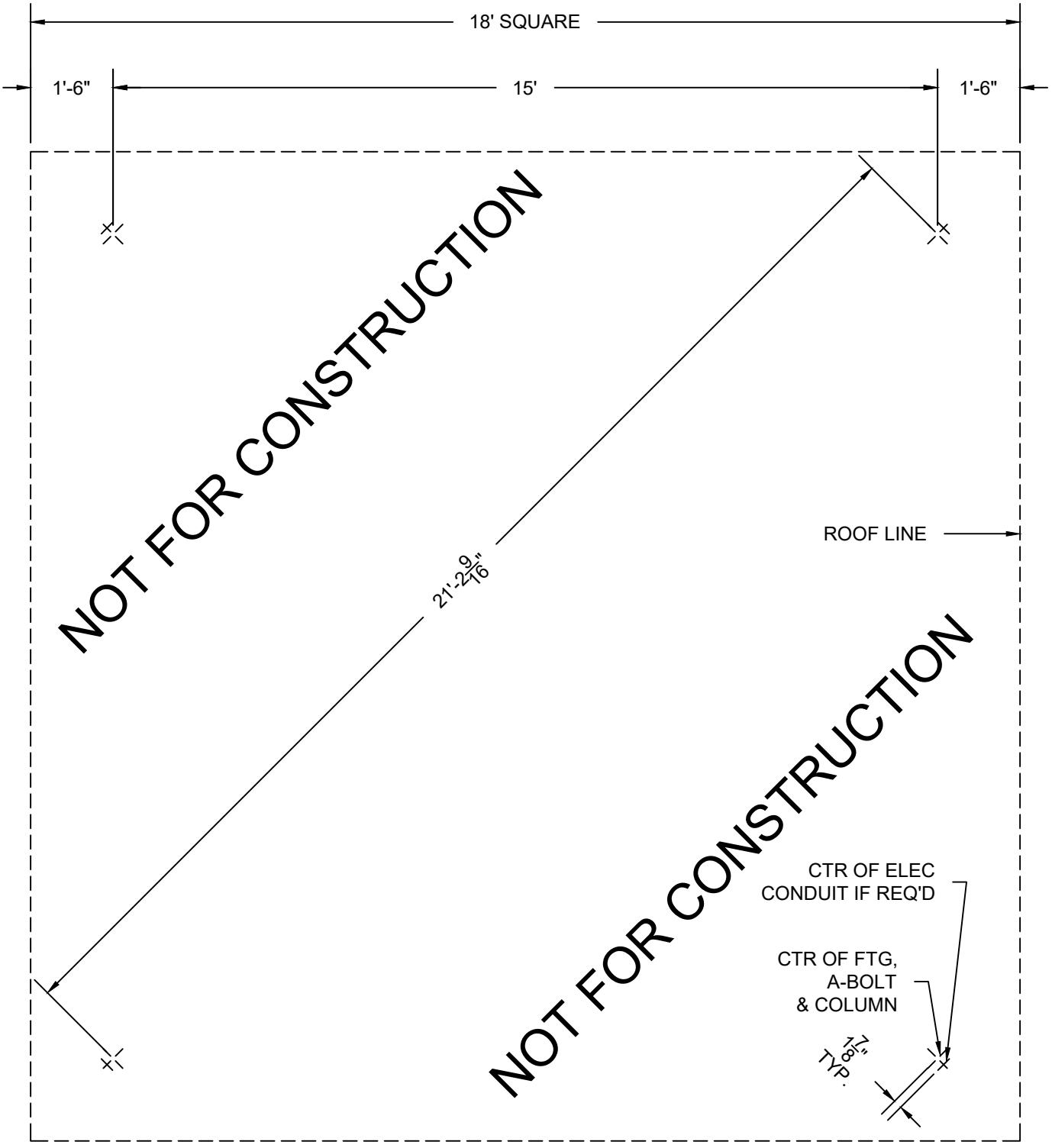
NOT FOR CONSTRUCTION



ELEVATION 18' X 18' MESA MODEL

NTS

CRS, INC.



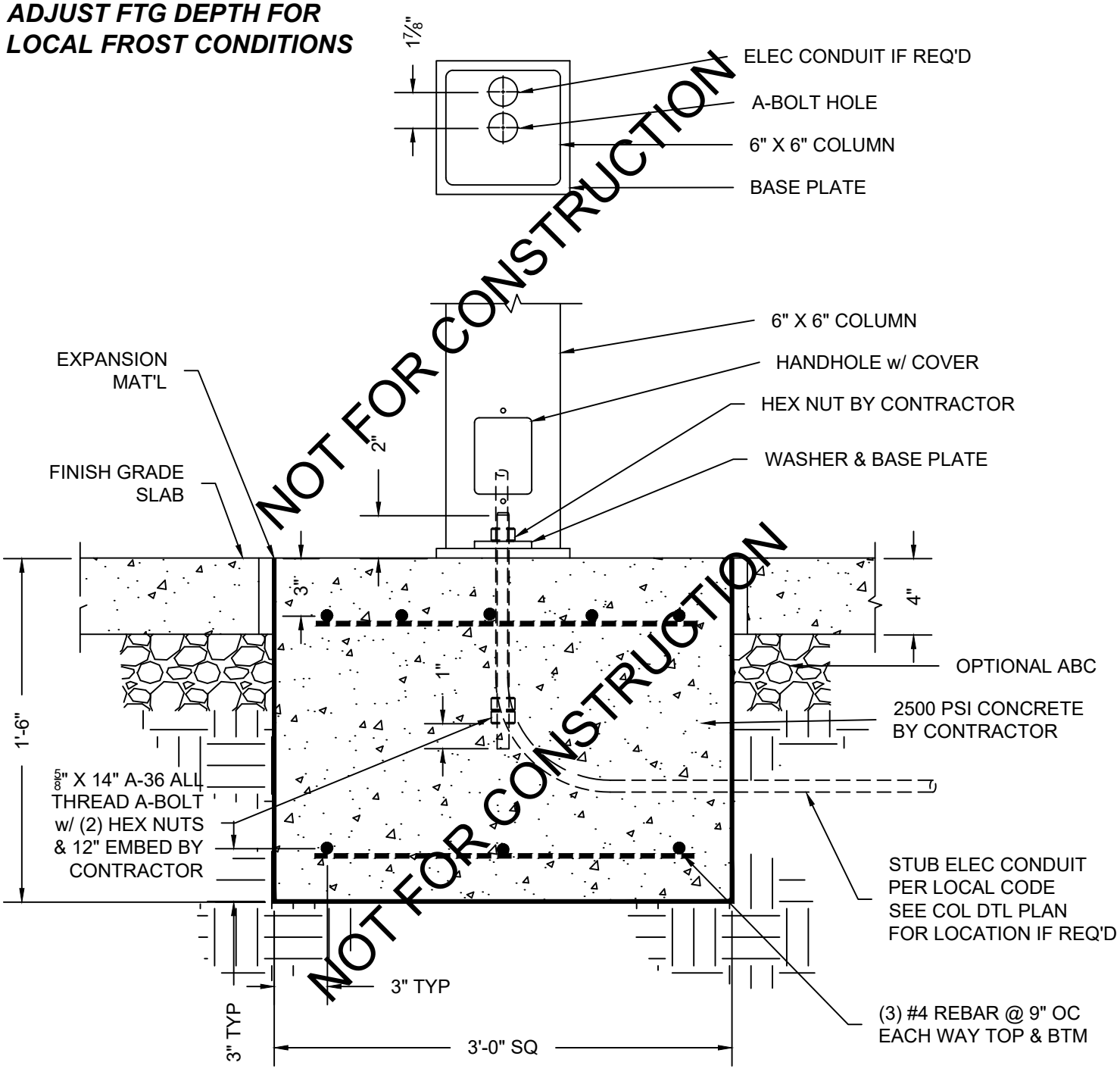
LAYOUT PLAN 18' X 18' MESA MODEL

NTS

CRS, INC.

NOTE: FOR ILLUSTRATION ONLY!
FOOTING SIZE MAY CHANGE w/
STRUCTRAL ENGINEERING

ADJUST FTG DEPTH FOR LOCAL FROST CONDITIONS



NON-EXPANSIVE, UNDISTURBED OR 95% COMPACTED SUBGRADE

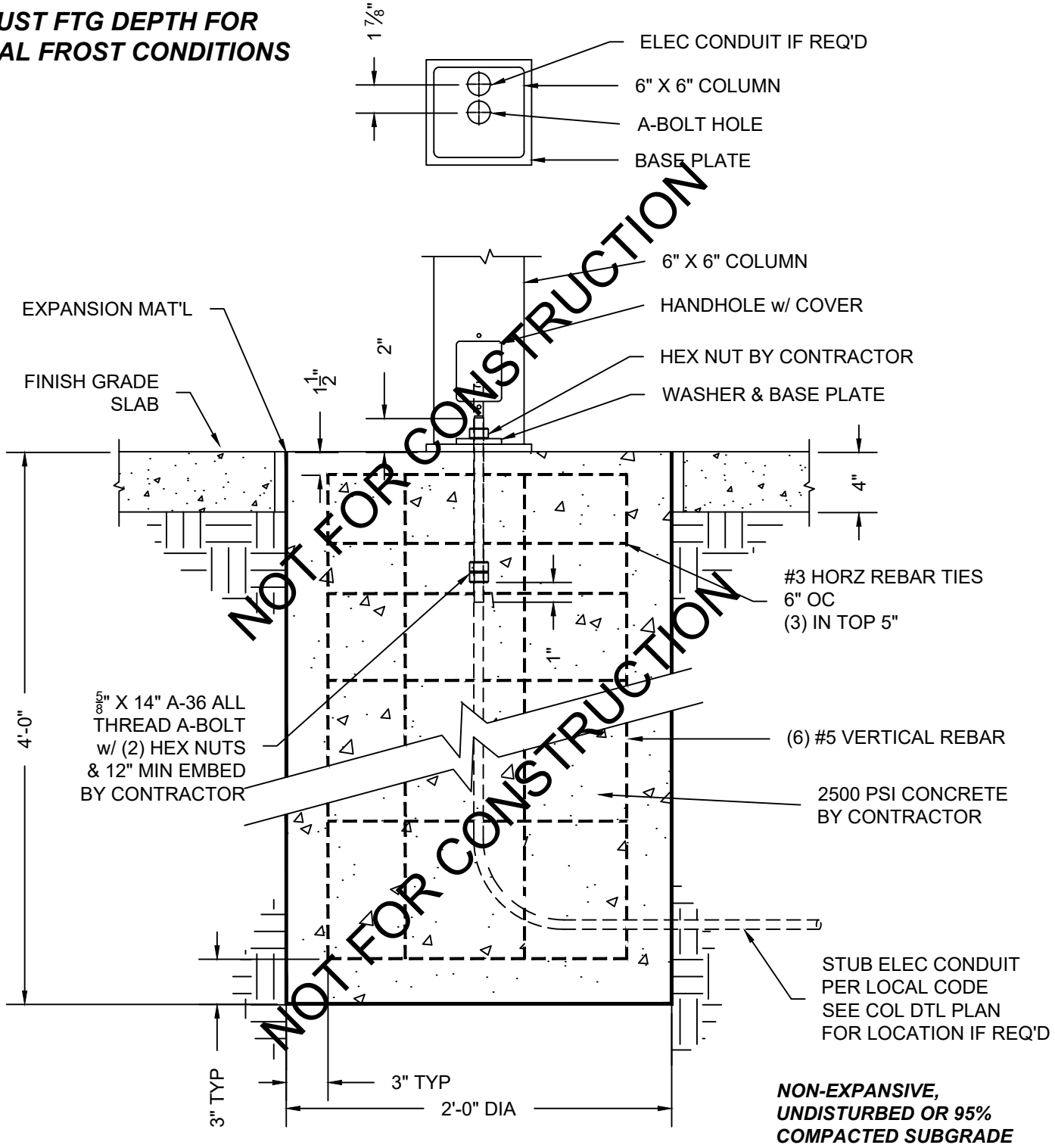
SURFACE MOUNT SPREAD FOOTING
18' X 18' MESA MODEL

NTS

CRS, INC.

NOTE: FOR ILLUSTRATION ONLY!
FOOTING SIZE MAY CHANGE w/
STRUCTRAL ENGINEERING

ADJUST FTG DEPTH FOR LOCAL FROST CONDITIONS



NON-EXPANSIVE, UNDISTURBED OR 95% COMPACTED SUBGRADE

SURFACE MOUNT CAISSON FOOTING
18' X 18' MESA MODEL

NTS

Pedestal Grill, Pilot Rock Model #ASW-20

Pilot Rock®
PARK · STREET · CAMP
SITE PRODUCTS

Model ASW-20 & ASW-24 Accessible Park Grill

SPECIFICATION BULLETIN
SPC-GR-027
REV. 08-22

Model ASW-20 B2 *Grill with Optional S6 Swivel Utility Shelf*

- **Swivel cooking grate rotates 180 degrees from over fire with less than five pounds of force**
- **Cooking grate is less than 34" high**
- **Meets ADA Guidelines for access, reach, and operability**
- **Integral ash retainer flange prevents ashes from falling from the firebox and combats heat warpage along with die-formed side panel flares**
- **Theft-proof base attachment**
- **Full 360° rotation of firebox for draft control**
- **Public use-type grip of coiled steel bar**
- **Swivel utility shelf option**
- **Quality construction throughout**

AVAILABLE OPTIONS

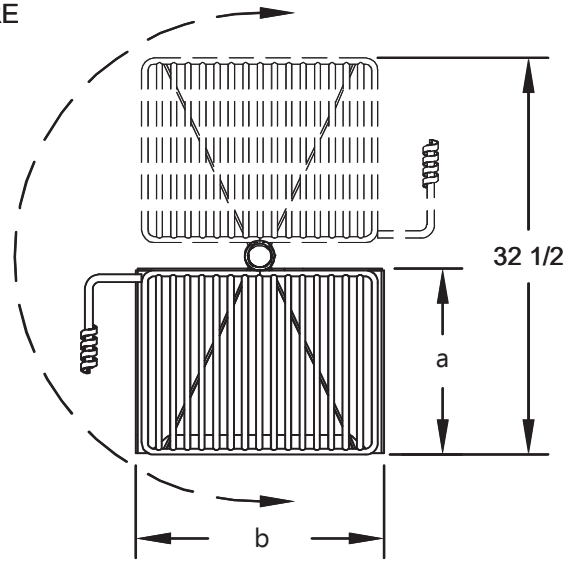
B18 Bolt-down Base Plate Base
S6 Swivel Shelf

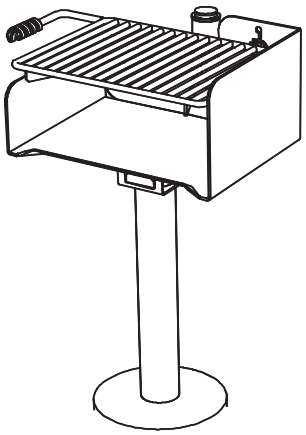
SPECIFICATIONS:

- **Model ASW-20 B2** has a cooking area of 300 sq. in. with one grate and a 15-1/4" x 20" firebox with a 6" high side wall and a 10"high side wall.
- **Model ASW-24 B2** has a cooking area of 360 sq. in. with one grate and a 15-1/4" x 24" firebox with a 6" high side wall and a 10" high side wall.
- This grill meets ADA guidelines for operation of less than 5 lbs. of force with one hand to rotate the grate, and dimensional requirements that the cooking grate be less than 34" above the ground surface.
- Entire firebox is fabricated from 3/16" steel plate. All exposed corners are rounded to 1-1/2" radius and all edge connections are entirely welded. Firebox has an integral ash retainer die-formed across the front of the box and allowance for drainage is provided.
- The single level cooking grate is constructed from 1/2" dia. A-36 steel bars around the perimeter, 5/8" dia. A-36 steel bar for the handle, and 1/2" dia. A-36 steel bar for the grate bars. All grate bars are welded on both sides.
- Grate is provided with a substantially constructed spring grip suitable for public use made from 1/8" x 1/2" flat bar (not wire springs).
- Grate is mounted on a 2-3/8" OD tube allowing it to rotate on a horizontal plane out of the grill. Two welded-on stops limit rotation to 180° to prevent the handle entering the area over the fire.
- A base attachment mechanism constructed from 3/16" steel plate is provided that is absolutely theft-proof, allows unrestrained continuous rotation in either direction and maintains a stable cooking surface.
- **Standard:** Grill shall be supported by a 3-1/2" O.D., 40" long, steel pipe for permanent installation in concrete footing (indicated by "B2" in model no., e.g. ASW-20 B2).
- Entire unit is finished in high temperature, heat resistant, nontoxic black enamel.
- **Optional:** Grill shall be provided with a bolt-down base plate post for hard surface mounting applications. Replace "B2" in model no. with "B18", e.g. ASW-20 B18. Does not include anchor bolts.
- **Optional: Model S6** 8" x 16" swivel shelf is available as an additional item. Shelf must be installed on base post before grill.

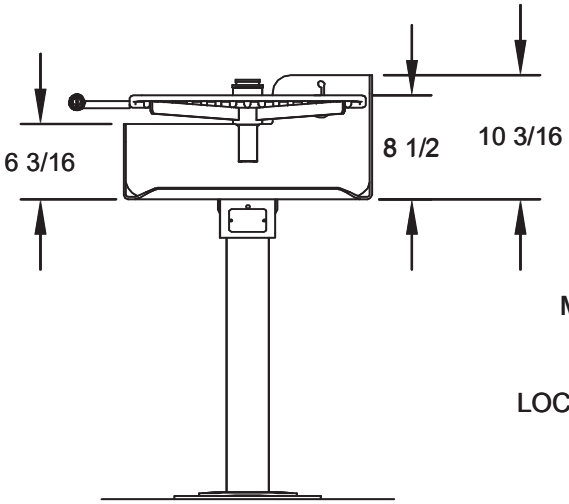
RJ Thomas Mfg. Co., Inc.
PO Box 946 • Cherokee, IA 51012-0946 • PH: 712-225-5115 • 800-762-5002 • FAX: 712-225-5796
E-mail: pilotrock@rjthomas.com • Web Site: https://www.pilotrock.com

GRATE ROTATES 180° FROM OVER FIRE WITH 5 LBS. OF FORCE. HANDLE IS NEVER OVER FIRE

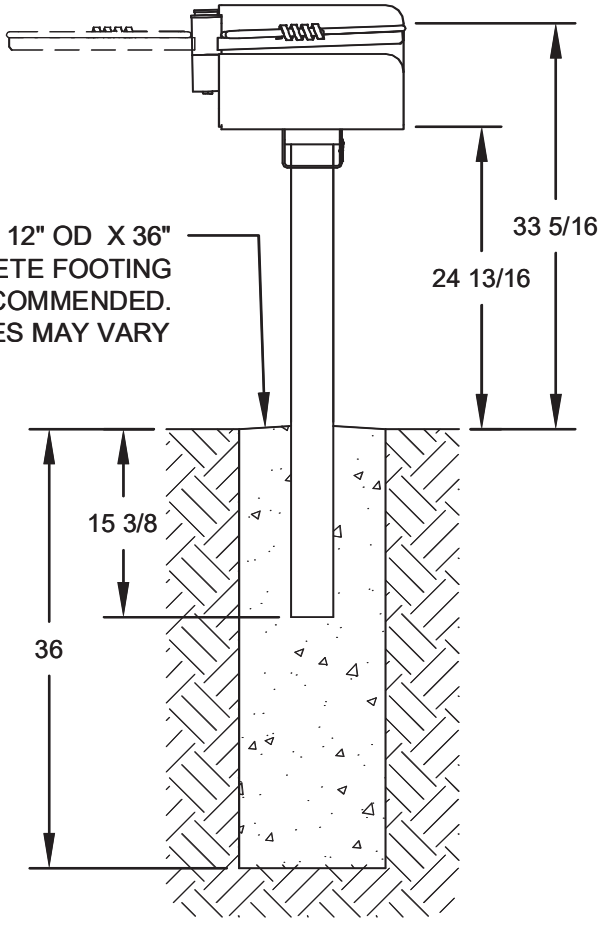




STANDARD B2 EMBEDDED POST INSTALLATION



OPTIONAL B18 SURFACE MOUNT INSTALLATION



STANDARD B2 EMBEDDED POST INSTALLATION

MODEL NUMBER	DIMENSION	
	a	b
ASW-20	15-1/8	19-3/8
ASW-24	15-1/8	23-3/8

ALL DIMENSIONS IN INCHES

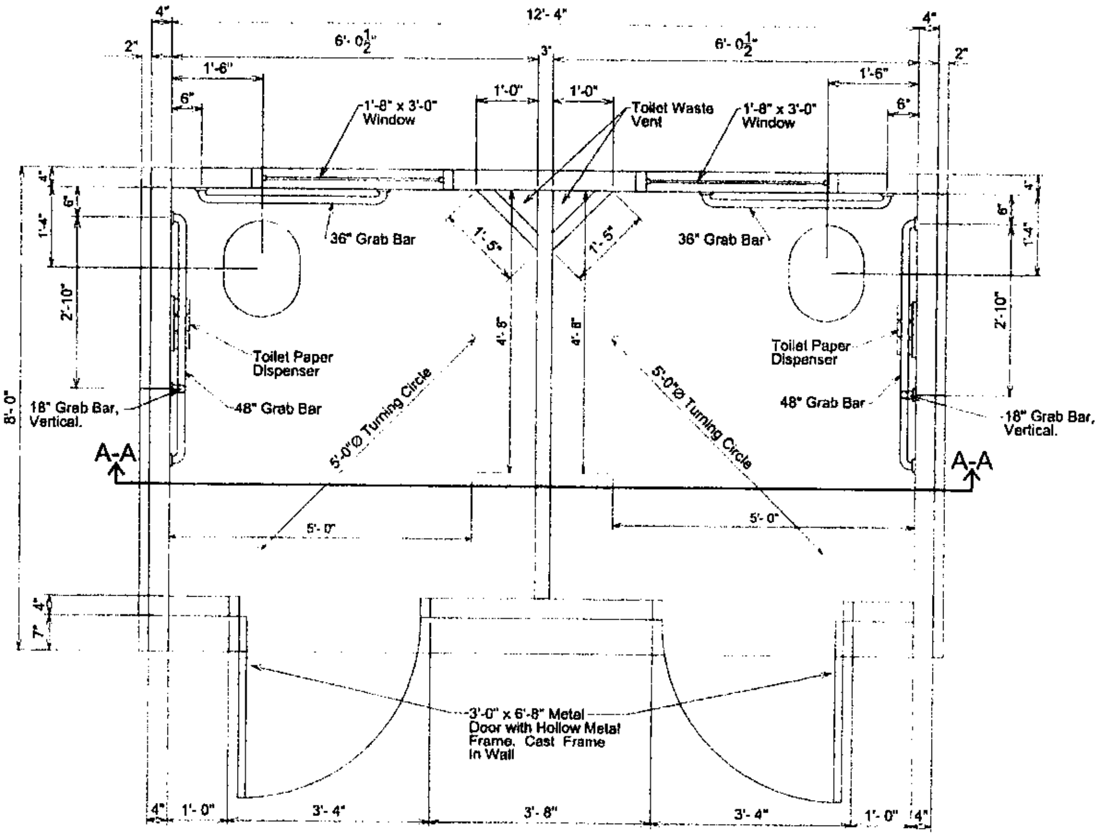
RJThomas Mfg. Co., Inc.
P.O. Box 946
Cherokee, IA 51012

TITLE MODEL ASW-20 & ASW-24 B2 ACCESSIBLE PARK GRILL WITH B2 EMBEDDED MOUNT BASE. ALSO SHOWS B18 SURFACE MOUNT BASE.

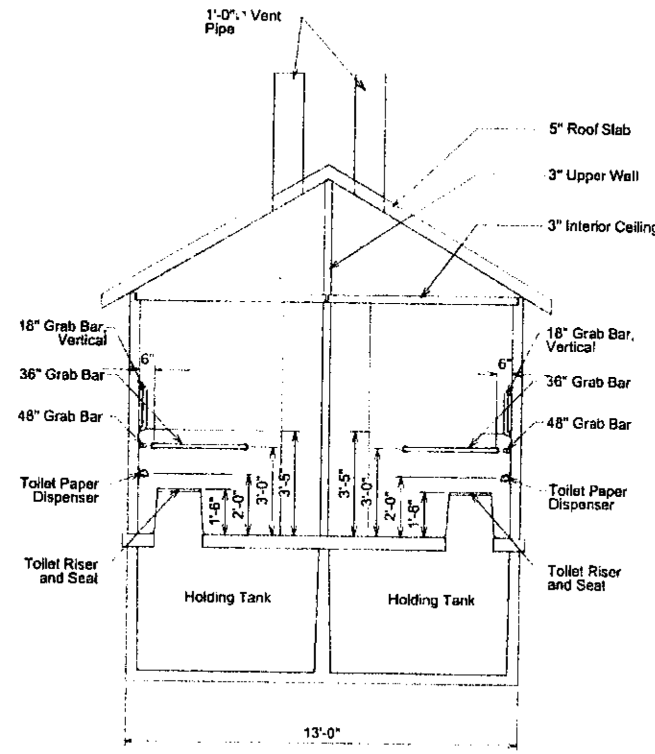
DRAWN BY MFI
DATE 2-21-17
DWG. NO. AI-2013

Specification Bulletin #SPC- GR-027

Vault Toilet (Double), Boom Concrete, Clovermist



TOILET FLOOR PLAN
Scale 1/2"=1'-0"



TOILET INTERIOR BUILDING SECTION A-A
Scale 1/4"=1'-0"

PLAN NOTES

1. The Manufacturer will place interior vent wall using a High Performance Polyurethane Sealant. This will attach the wall to the exterior walls and also seal the toilet room from odors
2. The interior ceiling is placed and then sealed from the interior using a High Performance Polyurethane Sealant.
3. The Manufacturer will place CS-665 CONSEAL around the top of the walls of the holding tank prior to placing the floor and walls of the Clovermist Double Toilet.
4. The Manufacturer will place CS-665 CONSEAL around the top of the walls of the Toilet Room prior to placing the roof assembly of the Clovermist Double Toilet.
5. The Manufacturer will place the roof vent stacks using a squeeze fit and a High Performance Polyurethane Sealant around the outside perimeter.

GENERAL NOTES

A. GOVERNING CODES
   1. INTERNATIONAL BUILDING CODE (IBC), 2012 AND 2015 EDITIONS
   2. INTERNATIONAL CODE COUNCIL A117.1-2009 CCOMMENTARY AND ADA 2010 STANDARDS: TITLE II AND III, DEPARTMENT OF JUSTICE.
   3. BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE, ACI 318-14

B. DESIGN LOADS AND CRITERIA
   1. ROOF: 350 PSF SNOW LOAD (MINIMUM)
   2. FLOOR: 400 PSF LIVE LOAD (MINIMUM)
   3. WIND: 150 MPH, (3 SECOND GUST), EXPOSURE C
   4. SEISMIC CRITERIA GROUP 1, CATEGORY E
   5. CONCRETE STRENGTH 4,500 PSI (MINIMUM) IN 28 DAYS
   6. REINFORCING STEEL SHALL CONFORM TO ASTM A615, GRADE 60.
   7. PROVIDE ALL ACESSORIES NECESSARY TO SUPPORT REINFORCING AT POSITIONS SHOWN ON THE DRAWINGS.

REGISTERED PROFESSIONAL ENGINEER
REG. NO. 7353
RONALD A. BENGS
SOUTH DAKOTA

BOOM CLOVERMIST DOUBLE
For: BOOM CONCRETE, INC.
226 Girard Avenue, P.O. Box 437, Newell, SD 57760

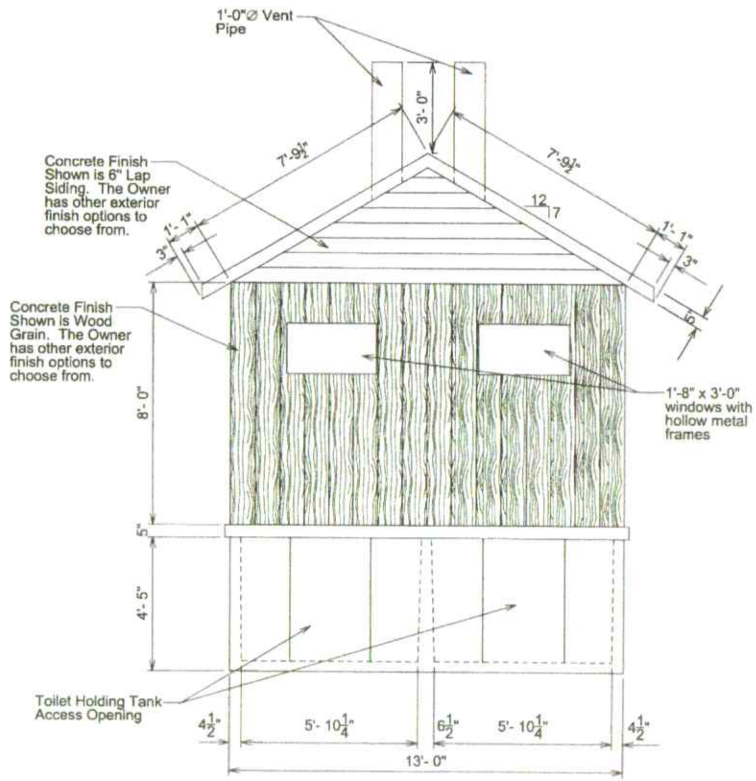
FLOOR PLAN AND NOTES

Drawn By: AJD | Surveyed By: | Project No: 17-04-213.02
Checked By: RAB | Designed By: AJD | Date: February 8, 2018

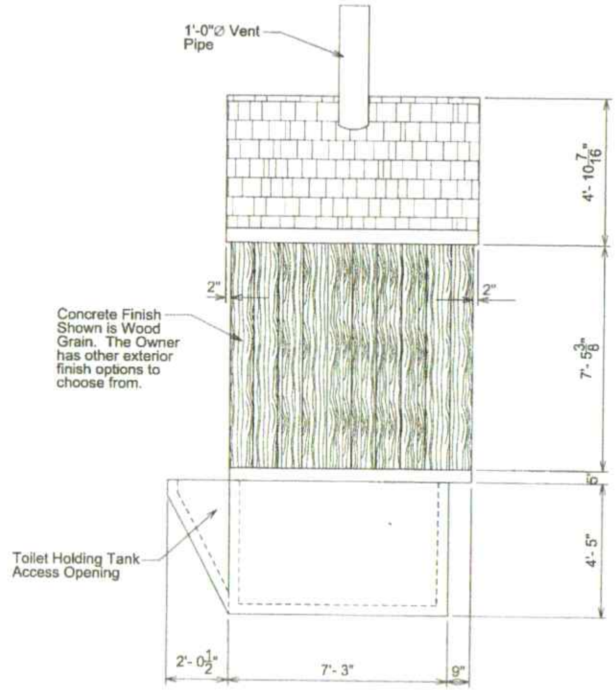
Interstate Engineering Inc.
P.O. Box 226
123 E. Jackson Blvd. Suite 1
Spearfish, S.D. 57783
Ph (605) 642-4772
Fax (605) 642-4773
www.interstateeng.com

INTERSTATE ENGINEERING

1
Sheet Number



REAR ELEVATION
Scale 1/4"=1'-0"



SIDE ELEVATION
Scale 1/4"=1'-0"

NOTES:
1. THE EXTERIOR FINISH SHOWN IS WOOD GRAIN, BUT OTHER FINISHE TYPES ARE AVAILIBLE.

2. HOLDING TANK CAPACITY IS 165.2 c.f. = 1235.7 gallons

REGISTERED PROFESSIONAL ENGINEER
REG. NO. 7358
RONALD A. BENGS
SOUTH DAKOTA
4-25-2018

Rev. No.	Date	By	Description

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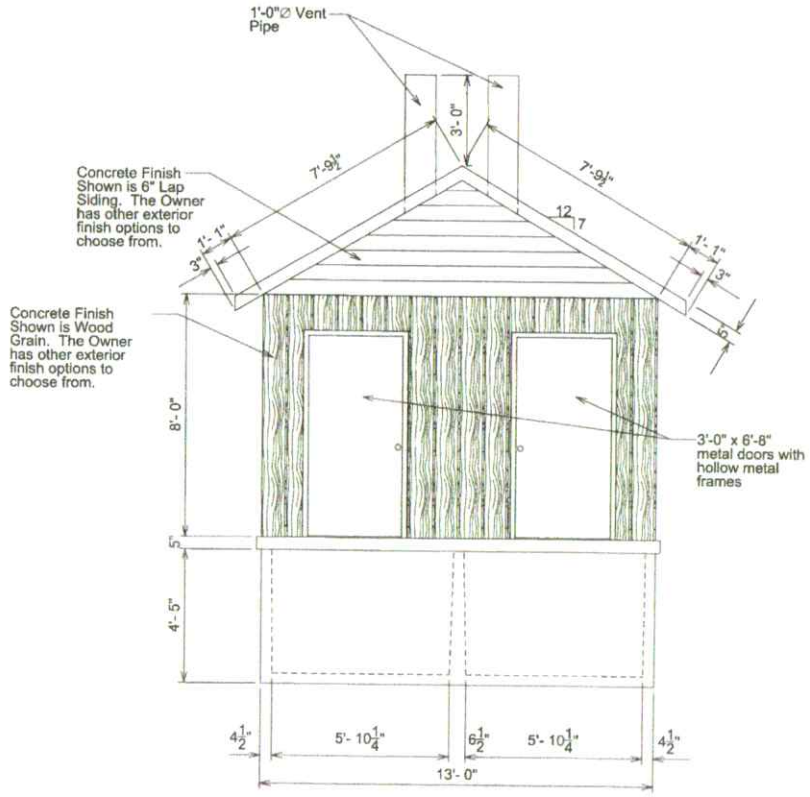
Fax (605) 642-4773
www.interstateeng.com

BOOM CLOVERMIST DOUBLE
For: BOOM CONCRETE, INC.
220 Girard Avenue, P.O. Box 437, Newell, SD 57760

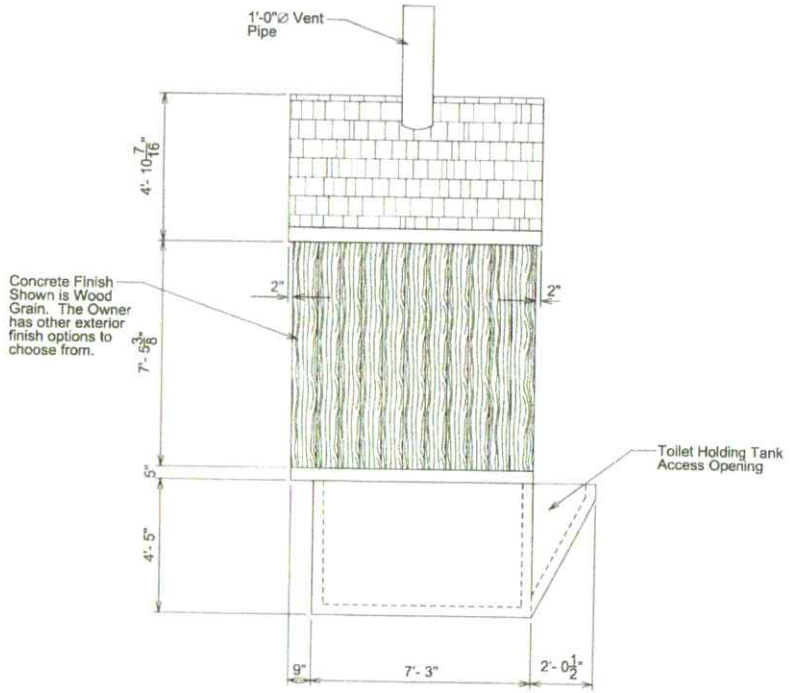
ELEVATIONS

Drawn By: AJD | Surveyed By: - | Project No: L17-04-213.02
Checked By: RAB | Designed By: AJD | Date: February 6, 2018

2
Sheet Number



FRONT ELEVATION
Scale 1/4"=1'-0"



SIDE ELEVATION
Scale 1/4"=1'-0"

NOTES.
1. THE EXTERIOR FINISH SHOWN IS WOOD GRAIN, BUT OTHER FINISHE TYPES ARE AVAILIBLE.

2. HOLDING TANK CAPACITY IS 165.2 c.f. = 1235.7 gallons

REGISTERED PROFESSIONAL ENGINEER
REG. NO. 7353
RONALD A. BENGS
SOUTH DAKOTA
4-25-2018

Rev No:	Date	By	Description

BOOM CLOVERMIST DOUBLE
For: BOOM CONCRETE, INC.
229 Girard Avenue, P.O. Box 437, Newell, SD 57760

ELEVATIONS

Drawn By: AJD
Checked By: RAB
Surveyed By: -
Designed By: AJD
Project No: L17-04-213.02
Date: February 5, 2018

Interstate Engineering, Inc.
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www.interstateeng.com
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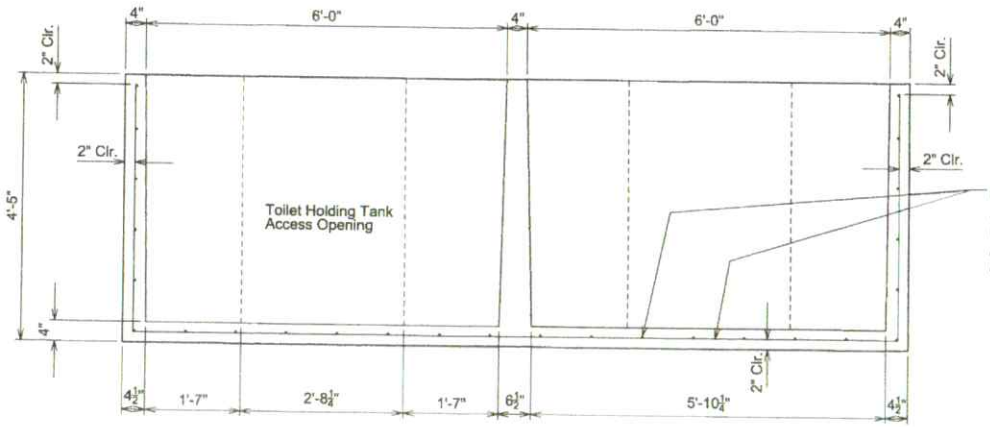
3
Sheet Number

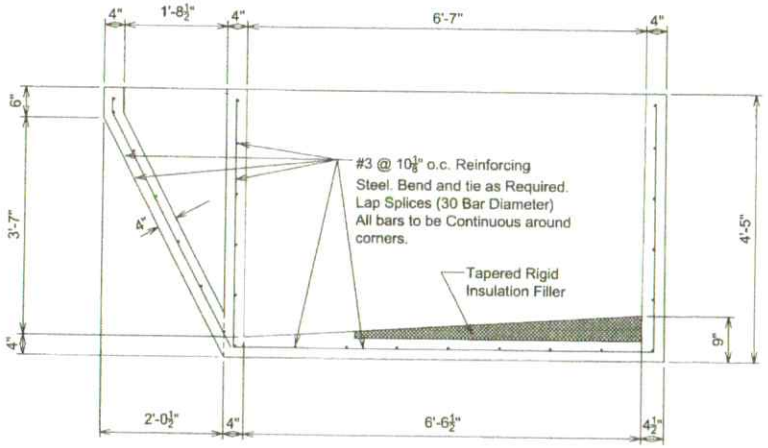


HOLDING TANK SECTION 1

Scale 1/2"=1'-0"

HOLDING TANK NOTES

1. THE MANUFACTURER HAS SUPPLIED A E.P.A. APPROVED LINER IN THE HOLDING TANK. THIS LINER IS CAST INTO THE TANK.
2. HOLDING TANKCAPACITY IS 165.2 c.f. = 1235.7 gallons.
3. PROVIDE ALL ACCESSORIES NECESSARY TO SUPPORT REINFORCING AT POSITIONS SHOWN ON THE DRAWINGS.



HOLDING TANK SECTION 2

Scale 1/2"=1'-0"

REGISTERED PROFESSIONAL ENGINEER
REG. NO. 7868
RONALD A. BENGS
SOUTH DAKOTA
4-25-2018

No.	Date	By	Description

BOOM CLOVERMIST DOUBLE
For: BOOM CONCRETE, INC.
220 Girard Avenue, P.O. Box 457, Hewitt, SD 57760

HOLDING TANK REINFORCEMENT LAYOUT

Drawn By: AJD | Surveyed By: - | Project No: L17-04-213.02
Checked By: RAB | Designed By: AJD | Date: February 6, 2018

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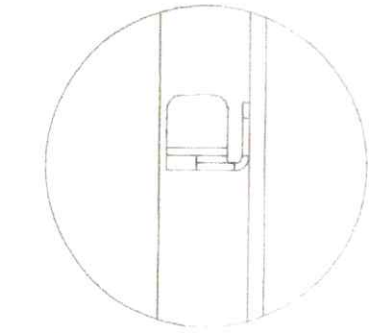
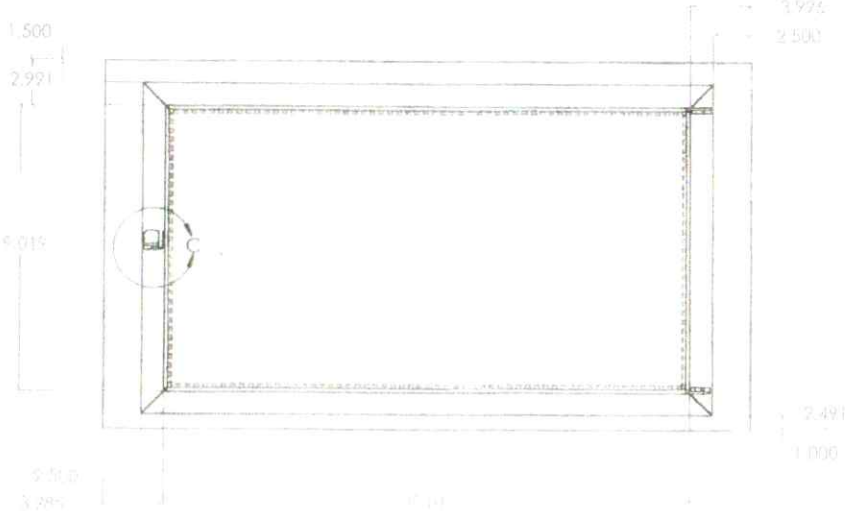
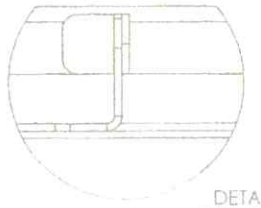
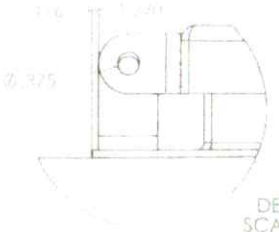
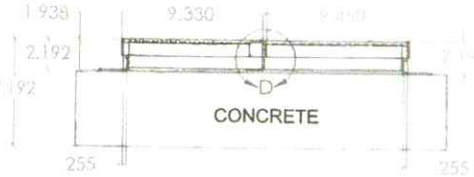
10
Sheet Number

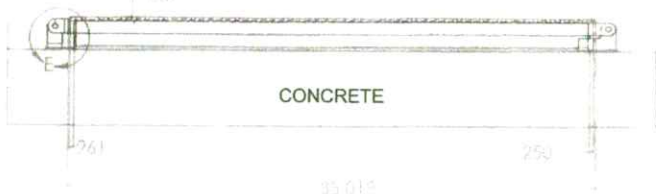












HOLDING TANK ACCESS LID
Scale N.T.S.

HOLDING TANK ACCESS LID NOTES

1. THE ACCESS LID IS MANUFACTURED BY MSI / TRUCATCH 300 INDUSTRIAL ST., BELLE FOURCHE, SD, 57717.
2. ALL METAL USED IN THE LID AND FRAME IS 304 STAINLESS STEEL.
3. THE GAUGE THICKNESS SHALL BE 7 GAUGE TO ALLOW FOR THE 350 PSF SNOW LOADING.

Rev. No.	Date	By	Description

BOOM CLOVERMIST DOUBLE
For: BOOM CONCRETE, INC.
220 Girard Avenue, P.O. Box 437, Newell, SD 57760

HOLDING TANK ACCESS LID DETAILS

Drawn By: AJD | Surveyed By: - | Project No: L17-04-213.02
Checked By: RAB | Designed By: AJD | Date: February 6, 2018

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15
Sheet Number

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Clovermist Vault Toilet Specifications

BOOM Concrete, Inc.

Specifications for BOOM Clovermist Precast Concrete Vault Toilet

1.0 SCOPE

1.1 This specification covers the prefabrication, on-site delivery, off loading and placement of the Clover mist precast concrete vault restrooms as produced by BOOM Concrete, Inc.

2.0 SPECIFICATIONS

2.1 ASTM C33 - Concrete Aggregates
2.2 ASTM C39 - Method of Test for Compressive Strength of Cylindrical Concrete Specimens
2.3 ASTM C143 - Method of Test for Slump of Concrete
2.4 ASTM C150 - Standard Specification for Portland Cement
2.5 ASTM C192 - Method of Making and Curing Test Specimens in the Laboratory
2.6 ACI 1211.1 - Recommended Practices for Selecting Proportions for Normal and Heavyweight Concrete
2.7 ASTM A615 - Reinforcing Steel
2.8 ASTM A185 - Welded Wire Mesh
2.9 PCIMNL 116 - Quality control for Plants and Production of Precast Pre-stressed Concrete Products

3.0 DESIGN CRITERIA

3.1 Vault restrooms have been designed to meet the following criteria. Calculations and Engineer's stamped drawings are available upon request by the customer and are for their sole and specific use only. The design criteria are to ensure that vault restrooms not only will withstand the forces of nature listed below but to provide protection from vandalism and other unforeseen hazards.
3.2 Snow Load: The vault restroom will withstand a snow load of 350 pounds per square foot minimum.
3.3 Wind Load: The vault restroom will withstand the effects of 150 mile per hour wind load (3 second-gust), Exposure C.
3.4 Seismic Zone: The vault restroom will withstand the effects of group 1, category E.
3.5 Floor Load: The vault restroom floor will withstand loads of 400 pounds per square foot minimum.
3.6 The vault restroom is designed to meet the requirements of the Americans with Disabilities Act Requirements and Uniform Federal Accessibility Standard including as of the date of these specifications.
3.7 The vault restroom shall have full 60" turning diameter in each interior and entry area.
3.8 The vault restroom incorporates all design aspects of Sweet Smelling Technology as outlined by Brian Cook for the U. S. Forest Service. ("In Depth Design and Maintenance Manual for Vault Toilets" - July - 1991– Publication No. 9123 1601). All BOOM Clovermist toilets have an improved design with a solar heat chamber built into the 7:12 pitch roof which eliminates all odor associated with outdoor toilets.
3.9 Tolerances: Tolerances will be within the limits as dictated by the PCI Quality Control and Assurance Manual. Design criteria include provisions of the 2010 IBC Code.

4.0 MATERIALS

4.1 Concrete mix design, mixing and delivery, placement finishing, curing and quality assurance.
- 4.1.1 Concrete will contain proper proportion of cement, aggregate, and water to obtain concrete with good workability. Minimum strength concrete: 5,000 PSI at 28 days.
- 4.1.2 Cement will be ASTM C-150 Type II SR (Sulfur resistant) or Type V, 6.5 sacks per cubic yard.
- 4.1.3 ASTM C33 with designated size of coarse aggregate No. 67 (3/4" to No. 4).
- 4.1.4 Potable water with minimum water/cement ratio 5.0 gallons per sack.
- 4.1.5 Slump will be 3" to 5" by ASTM C231.
- 4.1.6 Air content shall be 4 to 7 percent as per ASTM C231. Air-entrained admixtures will conform to ASTM C260. Water reducing admixtures will conform to ASTM C494, Type A. Use of other admixtures is subject to approval.

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Clovermist Vault Toilet Specifications

4.1.7 Curing compound will be colorless complying with ASTM C309, Type I or I-D

4.2 Colored Concrete – Color requirements for pre-cast toilets.

4.2.1 The toilet building roof, wall panels to floor line and screen panels will be precast with integrally colored concrete where appropriate.

4.2.2 The same type and brand of cement, color, aggregates, and other additives shall be used throughout. In addition, as far as is reasonably practicable, all ingredients shall be from the same lot or manufacturing process. Aggregates shall be from the same source.

4.2.3 All volumes of concrete shall be uniform in all respects to ensure uniformity of the color of the finished concrete. All ingredients shall be weighed. All color by weight as recommended by the manufacturer of the concrete color. The mixing operations shall be adequate to uniformly disperse the color throughout each batch. A 12"x12"x1" color sample will be available for customer approval.

4.2.4 Wash and thoroughly clean the mixer and transporting equipment before mixing colored concrete.

4.2.5 Color additive shall be the color specified on the delivery order. Standard schedule of colors will be available from manufacturer.

4.3 Cold/Hot Weather Concrete

4.3.1 Cold weather concrete placement shall be in accordance with ACI 306.

4.3.2 Concrete will not be placed if ambient temperature is expected to be below 30° Fahrenheit during the curing period unless heat is readily available to maintain the surface temperature of the concrete at least 45° Fahrenheit.

4.3.3 Materials containing frost or lumps of frozen materials will not be used.

4.3.4 Hot Weather Concrete: The temperature of the concrete will not exceed 80° Fahrenheit. At the time of placement and when the ambient temperature reaches 90° Fahrenheit, the concrete will be protected with moist covering.

4.4 Concrete Reinforcement

4.4.1 All reinforcing steel will conform to ASTM A615. All welded wire fabric will conform to ASTM A185.

4.4.2 All reinforcement will be new, free of dirt, oil, paint, grease, mill scale, loose or rust when placed. Reinforcement will be stored on blocks or saw horse off the ground in a manner to prevent bending, rusting and accumulation of dirt or soil.

4.4.3 Reinforcement will be installed as shown on the drawings and if details of reinforcement are not shown will be in accordance with ACI 318.

4.4.4 Steel reinforcement will be centered in the cross-sectional area of the concrete member unless otherwise specified on the drawings.

4.4.5 Welded wire mesh in flat sheet form may be substituted in place of reinforcing steel in the roof slab and the exterior slab. The steel area of the wire mesh must be equal to or greater than the steel bar area. No more than two layers of welded mesh will be allowed in any concrete section to provide the required steel area. Mesh openings for two layers of mesh shall be shifted ½" mesh grid size both ways.

4.4.6 Adequate placement and support of reinforcing steel and wire mesh in final position will occur before starting placement of concrete.

4.4.7 Reinforcing steel will be continuous around corners between adjacent walls. Full lengths of reinforcing steel will be used whenever possible and the number of splices will be kept to a minimum. On long runs, splices will be alternated from opposite sides of the component for adjacent steel bars.

4.5 Concrete Sealers

4.5.1 Clear, colorless polysiloxage resin penetrating sealer for weatherproofing concrete which meets performance requirements of Federal Specification SS-W-110b.

4.5.2 Weatherproofing sealer for exterior of building will be transparent, non-yellowing methyl methacrylate acrylic resin sealer, minimum 20% solids, for weatherproofing concrete exteriors. Low luster finish.

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Clovermist Vault Toilet Specifications

4.6 Caulking, Grout, Adhesive and Sealer

4.6.1 In accordance with Federal Specifications TTS-01543A, BASF Sonolastic NP 1 Polyurethane Sealant or equal will be used with standard colors of white for inside surfaces color to match the exterior.

4.6.2 Epoxy concrete adhesive will be two components rigid, non sag gel adhesive for bonding to dry or damp surfaces, moisture insensitive. Gray or other approved color.

4.6.3 Portland cement mortar will consist of one part Portland cement, three parts sand and enough water to make a workable mixture.

4.7 Paint

4.7.1 All paints and materials will conform to all Federal specifications or be similar "top-of-the-line components". Paints will be lead free. Standard paint materials and finish will be as follows:

4.7.2 Metalwork, steel doors

4.7.2.1 Factory Primed

4.7.2.1.1 Metalwork and steel doors will be primed with a one coat zinc dust metal primer, Federal Specification TT-P-1046A. Primer not required on items delivered shop primed.

4.7.2.1.2 A minimum of one coat semi-gloss alkyd exterior enamel as per Federal Specification TT-509 Class A will be applied to all metalwork. The color of enamel will be dark brown.

4.7.2.2 Factory Powdercoat

4.7.2.2.1 Metalwork and steel doors will be powder coated by the manufacturer using Sherwin Williams 410 Teakwood brown finish.

4.7.3 The interior walls will be painted using a two part, high gloss polyamide epoxy enamel, white in color with a minimum of one primer coat and one color coat; or 2 coats of a modified acrylic, water repellent penetrating stain.

4.7.4 Interior floors will be a one or two part, high gloss polyamide epoxy enamel, tan or grey in color. There will be a minimum of one primer coat and one color coat.

4.7.5 Exterior concrete surfaces.

4.7.5.1 Exposed Aggregate surfaces will be sprayed with a clear, water based penetrating sealer with water repellent and graffiti resistant properties.

4.7.5.2 Barnwood surfaces will be sprayed with 2 coats of water repellent penetrating stain in the same color as the walls followed by one coat of anti-graffiti sealer.

4.7.5.3 Colonial Dry Stack may be left untreated to give weathered rock finish.

4.7.5.4 Cedar shake textured roof units will be sprayed with two coats of dark brown water repelent penetrating stain. Upper surface of roof units will be a dark color to aide positive airflow through the solar heat chamber in roof.

4.7.5.1 Exterior slabs will be 1 coat of clear sealer.

4.8 Toilet Riser

4.8.1 Toilet Riser for the vault toilet will be 18" high, white cross linked polyethylene, with heavy duty seat and lid, as manufactured by Romtec, Roseburg, OR. The color will be white.

4.9 Grab bars

4.9.1 Stainless steel, 18 ga. material, satin non-slip finish, 1 ½" outside diameter tubing, mounted with 1½" wall clearance for handicapped, with concealed screw mounting flanges as manufactured by Tubular Specialties Manufacturing, 1-800-225-5876.

4.10 Toilet Paper Dispenser

4.10.1 Bar-type toilet paper dispenser shall be constructed of stainless steel with satin finish, designed to hold three standard rolls of toilet paper. All corners will be rounded and the holder will consist of two mounting brackets (predrilled and slotted) and one lockable bar.

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Clovermist Vault Toilet Specifications

4.11 Signs

4.11.1 With each order, Boom Concrete, Inc. shall be notified as to the number of toilet signs - MEN'S, WOMEN'S OR UNISEX.

4.11.2 Appropriate signage will be installed to meet ADA-ABAAG standards. The required signs shall be mounted on the exterior wall of the toilet building adjacent to the latch side of the door. Signs will be attached and trimmed using a color matched Polyurethane Sealant.

4.11.3 Signs will be 6"x 9" made of clear Lexan polycarbonate plastic with standard white recreation symbols or text on a brown background.

4.11.4 Message "RESTROOM" will be in raised Grade 2 Braille across the bottom of the sign.

4.11.5 An interior sign reading "PLEASE DO NOT PUT TRASH IN TOILETS. IT IS EXTREMELY DIFFICULT TO REMOVE - Thank you" will be installed above each toilet riser.

4.12 Windows

4.12.1 Glazing

4.12.1.1 The standard toilet will be furnished with a 20"x36" window with ¼" Lexan polycarbonate pebble finished glazing clear/opaque in color. Other optional sizes will be available.

4.12.2 Steel Frame

4.12.2.1 The window frame will be 16 ga. metal frame suitable for casting or installation in concrete wall. The frame wall thickness will be plus or minus 1/4". One coat of baked on primer coating will be factory applied or factory powdercoated using Sherwin Williams #410 Teakwood finish.

4.13 Steel Doors

4.13.1 Steel Door - A 3'-0"x 6'-8" steel flush door will be installed in each toilet. It will be 1 ¾" thick, 18 gauge steel panels, 16 gauge internal bracing channels and 14 gauge hinge & lock rail of one piece construction. One coat of baked on primer coating will be factory applied or factory powdercoated using Sherwin Williams #410 Teakwood finish. Doors will be Lockseam LS-series by Shanahan's Manufacturing Ltd. 1-800-661-8420.

4.13.2 Steel Door Frame will be welded type, single rabbet, that is a minimum 16 gauge steel, suitable for installation in precast concrete. Three rubber door silencers will be installed on the latch side of the door frame. Door frame will be factory primed with one coat of baked on coating or factory powdercoated using Sherwin Williams #410 Teakwood finish. Frames will be FW- series by Shanahan's Manufacturing Ltd. 1-800-661-8420.

4.13.3 Spring Door Hinges will be 1-1/2 pair wrought steel, 4 ½" x4 ½", adjustable tension, anti-friction bearing, non removable pin, automatic closing, in a satin brass finish. Hinges will be #1250 by Hager Companies, 1-800-255-3590.

4.3.4 Chain door check will be available as an option to control door swing under windy conditions. Chrome plated zinc alloy base with welded galvanized steel chain attached with #8 self tapping screws. Tear resistant grey EDPM rubber UV protection cover with a 440 pound load strength. Door check # 300D by Hager Companies.

4.13.4 Lockset

4.13.4.1 Commercial grade, heavy-duty cylindrical lockset for exterior door. UL listed complies with ASNI A156.2, series 4000, grade 1, function F76-1 and meets ADA-ABAAG standards for a toilet lock. Lockset will be satin brass finish. Lockset will be 3400 Series Lever by Hager Companies 1-800-255-3590.

4.13.4.2 Lever handles inside and outside with the end of handles return to within ½" to ¾" of door surface.

4.13.4.3 Either handle operates latch unless outside handle is locked by inside push button.

4.13.4.4 Push-button will automatically release when inside lever handle is turned or door is closed.

4.13.4.5 Lockset will have an emergency slot on exterior so door can be unlocked from the outside with a screwdriver. Inside lever will always be active.

4.13.5 Deadbolt - Mortised type, operated by key from outside only, keyed to existing or provided key. Deadbolt will be 3100 series by Hager Companies, 1-800-255-3590.

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Clovermist Vault Toilet Specifications

4.13.6 Bumpers

4.13.6.1 Wall Bumpers will have a cast metal base, satin brass finish, convex gray rubber bumper with a 2 3/8" diameter and 1" projection, suitable for installation on exterior of steel door. Wall bumpers will be #236W by Hager Companies, 1-800-255-2590

4.13.6.2 Floor Stops will be available as an option to be mounted or grouted in concrete entrance slab to limit the travel of door under windy conditions. Rubber bumper diameter to be 2" with a height of 3 1/2" and mounted using a 5/8" steel bolt. Floor stop will be 269T by Hager Companies, 1-800-255-2590.

4.13.7 Door and Wall Louvers

4.13.7.1 Door Louvers will consist of non-vision, two-piece, exterior door louver for mounting on each side of door. Fiberglass or nylon insect screen with a 18-14 mesh installed in an aluminum frame between louvers. Frames will have one coat of factory applied baked on primer and sprayed with finish coat to match door. Door louvers will be Model 700A by Air Louvers Inc. 1-323-726-8814.

4.13.8 Door Sill Seal will be provided at the bottom of door and will be extruded aluminum channel with one-inch legs on each face of door with vinyl insert on bottom. Door Sill Seal will be #782S by Hager Companies, 1-800-255-3590.

4.13.9 Double Coat Hook - A double coat hook of stainless construction with a satin finish and nail in anchor may be installed. Upper hook shall extend at least 2 1/2" from wall and lower hook extend 1 1/4" from wall. Mounting height will be a maximum of 48" from floor to center of coat hook. Double coat hook will be #895 by Tubular Specialties, Inc. 1-800-472-2227.

4.14 Clovermist Standard, Plus and Double Vault Toilet cleanouts will be located on the back of the toilet and will be a raised steel frame 21" by 34". The door will be 1/4" 304 Stainless Steel and will be hinged at the back with a locking hasp that accepts a standard owner supplied padlock. The vault cleanout door will include a continuous rubber gasket around the perimeter which will pro vide an air tight seal.

4.15 Vault Vent Pipe shall be polyethylene plastic pipe, 12" DR21, PE 3608 high density, black color, UV stabilized HDPE pipe manufactured by WL Plastics, 307-682-5554.

4.16 Vault/Liner

4.16.1 Standard Vault configuration will include a precast concrete vault with a minimum wall thickness of 3". The inside of the vault will be allowed to cure for seven days and then be coated with two coats of Conseal CS-55 applied with a paint roller. The vault/liner will have a 5-year warranty against leakage.

4.16.2 An optional double walled vault will be available at extra cost. The optional vault will consist of the standard concrete vault with a one piece molded plastic liner poured in place when the concrete tank is poured. The Vault Liner shall consist of a one-piece molded 161 lb./black color/.200 Wall. The HDPE liner will be warranted for a period of 7 years.

5.0 MANUFACTURE

5.1 Concrete Forms

5.1.1 Steel forms shall be sufficiently rigid to prevent distortion due to pressure of the concrete during placement, vibrating and curing of concrete.

` 5.1.2 Form ties will not be used in any concrete

5.1.3 Forms will be constructed to allow the interior surface of walls, ceiling and vault to have a steel form finish. Upper surface of the roof slab will have a steel-trowel finish standard with other optional textures by means of form liner.

5.1.4 Form liner patterns shall be continuous pattern match.

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Clovermist Vault Toilet Specifications

5.2 Reinforcement
- 5.2.1 All reinforcing steel and wire mesh will be put in place and supported in final position prior to placement of concrete.

5.3 Concrete
- 5.3.1 Placement - Concrete will be poured in layers not more than 24" deep. Vibrators or tampers will not be used to move concrete.
- 5.3.2 Vibrating -
  - 5.3.2.1 The concrete will be consolidated with suitable mechanical vibrators operating within the concrete or attached to the steel forms.
  - 5.3.2.2 Vibration will be done at all points to sufficiently accomplish compaction and not pro longed to a point where segregation would occur.

5.4 Construction and Execution
- 5.4.1 The walls will be a minimum of 4" thick ,the floors 5" and the roof will be 5" unless otherwise specified on drawings.
- 5.4.2 Standard exterior surfaces of all colored concrete components shall have exposed aggregate finish. The exposed aggregate finish will be accomplished by sandblasting, brushing, or other approved methods that will remove 1/8" to 1/4" of cement mortar from surface of concrete. The Manufacturer will have available a 12" x 12" colored sample with the exposed aggregate finish for approval. Other optional exterior finishes will be available.
- 5.4.3 Any exterior exposed aggregate finish will be cleaned, allowed to dry and a concrete sealer will be applied as recommended by the manufacturer.
- 5.4.4 The four sections of the concrete building will be joined at the seam with epoxy concrete adhesive and/or four weld plates, two on top and two on bottom. Excess epoxy will be removed flush with concrete surfaces.
- 5.4.5 The floor slab will be fabricated with a 1" to 2" inch high raised concrete cove around the perimeter except in the door opening.
- 5.4.6 Interior vertical wall surfaces will have all depressions and small rock pockets filled with cement mortar while concrete is still green and within one day of form removal.
- 5.4.7 Patching of holes, chips, exposed reinforcement, and other defects on the exterior of the building will be done with a Portland cement-based patching material with the color, finish and texture of the patched surface matching the surrounding concrete.
- 5.4.8 Signs will be installed on building as shown on drawings per ADA-ABA guidelines.
- 5.4.9 All hardware will be installed in accordance with manufacturer's instructions after finish paint work is completed.
- 5.4.10 Spring hinges will be adjusted after the building is installed to meet the following criteria:
  - 5.4.10.1 Maximum force for pushing or pulling open the door shall be five pounds.
  - 5.4.10.2 The door shall take at least three seconds to move from an open position of 70 degrees to a point three inches from the latch, measured to the leading edge of the door.
- 5.4.11 Wall bumpers will be installed on outside of steel door as shown on drawings to contact concrete wall near edge of the building.
- 5.4.12 Glazing will be installed as shown on drawings with glazing strips on the exterior side of the glazing, secured a maximum of ten inches on center with corrosion resistant Phillips metal screws.
- 5.4.13 Tan or grey concrete enamel on the floor shall extend around the cove at the junction of the wall and floor. Line between the tan or grey floor enamel and white wall enamel shall be straight and parallel to the floor.
- 5.4.14 Concrete surfaces will be allowed to adequately cure and surfaces will be prepared for application of paints as recommended by the paint manufacturer.
- 5.4.15 Interior and exterior joints between concrete and steel frames of doors will be caulked and joints will be smoothed with a concave surface tool.

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Clovermist Vault Toilet Specifications

6.0 INSTALLATION

6.1 Scope of Work:
- 6.1.1 Work specified under this Section includes, unless otherwise noted, site location, excavation, backfill and placement of precast concrete vault toilet.

6.2 Materials
- 6.2.1 Bedding material to be sand or 3/8" minus crushed or screened aggregate.

6.3 Location and Access to the Site:
- 6.3.1 It is the responsibility of the customer to locate the vault toilet in area that provides safe and reasonable access for trucks and equipment.
- 6.3.2 The area must be free of overhead or underground obstructions. Customer is responsible for all permits and locates.
- 6.3.3 Care must be taken to not place excavated material in the area where the crane or truck may be positioned.
- 6.3.4 Verify that bridges/culverts in route to the site are rated for HS-20 loading.
- 6.3.5 Deliveries may be delayed if road conditions are hazardous or unsuitable for normal trucks and trailers.
- 6.3.6 Trucks must be able to reach the site under their own power.

6.4 Excavation and Elevation
- 6.4.1 Comply with all applicable OSHA Standards for excavation.
- 6.4.2 The Boom Clovermist STANDARD vault toilet requires a excavated hole that is 8ft wide and 8ft long as measured at the bottom. Depth should be 48 inches below finished grade. The Boom Clovermist PLUS and DOUBLE vault toilets requires a excavated hole that is 15' long by 9' wide and the depth shall be 52.5" below finished grade.
- 6.4.3 Finish floor elevation will be 4 inches above natural grade measured at the front (entrance) of the exterior slab unless otherwise approved by the customer. The customer may specify a finish floor elevation for buildings at some sites. The contractor will install buildings at these sites with the floor elevation within ± 0.05 feet of the specified floor elevation. It is very important that the installation provides drainage away from the structure.

6.5 Bedding and Compaction
- 6.5.1 Compact the natural ground at the bottom of the vault excavation with a whacker-type mechanical compactor or equivalent approved by the manufacturer.
- 6.5.2 Install sand or aggregate bedding material for leveling course. Compact leveling course so there will be no high spots in the middle of the vault bottom.
- 6.5.3 Set vault in place. Backfill around the structure. Use excavation material for backfill except that rocks larger than 6" in maximum dimensions shall not be placed within 6" of the exterior vault walls.
- 6.5.4 Fill, adjacent to the building entry, will have excavated material placed in eight inch loose lifts and compacted with a whacker-type mechanical compactor or equivalent.

6.6 Finish Grading
- 6.6.1 Spread excess excavated material from the vault around structure. Intended final grade is flush with the top of the front slab. Allow for placement of topsoil to reach that grade. Grade back fill away from structure at maximum slope of five (5) percent unless otherwise approved by the customer.
- 6.6.2 Spread stockpiled topsoil as final layer after rough grading is completed.

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Clovermist Vault Toilet Warranty

7.0 WARRANTY

7.1 Boom Concrete, Inc. precast vault toilets when installed in accordance with the manufacturer's instructions are warranted against defective materials and/or workmanship for a period of 20 years from date of delivery. All non-concrete components such as windows, vents, vault toilet risers, grab bars, toilet paper dispensers, doors, locksets, dead bolts, door sweep, door stops, coat hooks, signs and vault vent pipes will carry a 1 year warranty from date of delivery. As an option the double walled vault with plastic liner will include a water tightness warranty for a period of 7 years from date of purchase.

7.1.1 Should a defect appear within the warranty period, Boom Concrete, Inc. will, at its discretion, repair or replace the precast concrete parts that have deteriorated due to such defects in Material and/or workmanship provided that Boom Concrete, Inc. is first given the opportunity to inspect such defects. It is specifically understood that Boom Concrete's obligation is for credit, repair or replacement only, and does not include shipping, handling or installation.

7.1.2 Boom Concrete, Inc. liability is limited to the value of the precast vault toilet itself and specifically excludes the cost of installation and/or removal and consequential damages.

7.1.3 Failure to comply with Boom Concrete, Inc. installation procedures and general notes will void warranty. Boom Concrete, Inc. assumes no liability in cases of improper installation or misuse.

8.0 DISCLAIMER OF OTHER WARRANTIES

8.1 The warranty set forth above is in lieu of all other warranties, express or implied. All other warranties are hereby disclaimed. Boom Concrete, Inc. makes no other warranty of merchantability of or fitness for a particular purpose or use.

9.0 LIMITATION OF REMEDIES

9.1 In the event of any breach of any obligation hereunder; breach of any warranty regarding the goods or any negligent act or omission of any party, the parties shall otherwise have all rights and remedies available at law; however, in no event shall Boom Concrete, Inc. be subject to or liable for any incidental or consequential damages.

10.0 RETURN POLICY

10.1 Boom Concrete Clovermist Vault Toilets are pre-fabricated structures. During the process of production, delivery and installation Boom Concrete works with the customer to ensure the product meets their requirements and address any issues. Based on the size and weight of the buildings there are no provisions for return once the customer accepts delivery.

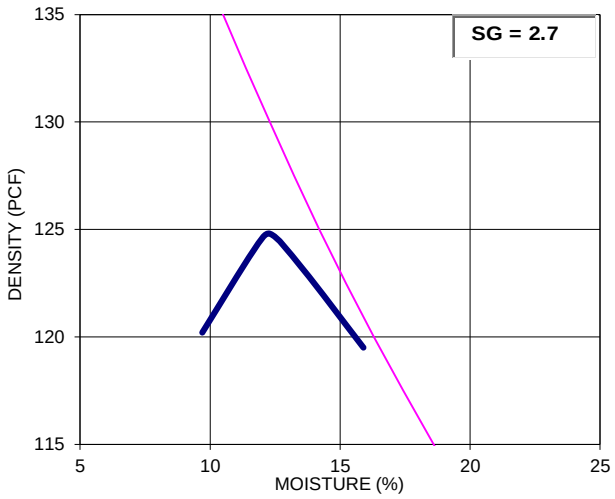
Decomposed Granite, Cinnamon Brown

SAMPLE INFORMATION:

LOCATION: STOCKPILE IN PIT
DEPTH (FT): STOCKPILE
LAB TECHNICIAN: HJG

MECHANICAL SIEVE ANALYSIS			METHOD ASTM C136
SIEVE SIZE		% PASSING	
US STD	METRIC	RESULTS	SPEC
3"	76		
1.5"	38		
1.25"	31.5		
1"	25		
3/4"	19		
1/2"	12.5		
3/8"	9.5		
1/4"	6.4	100	
No. 4	4.8	95	
No. 8	2.36	68	
No. 10	2.00	61	
No. 16	1.18	49	
No. 30	0.60	36	
No. 40	0.425	31	
No. 50	0.3	27	
No. 100	0.15	21	
No. 200	0.075	16.4	

PROCTOR[1]	METHOD ASTM D 698 A
MAXIMUM DRY DENSITY (PCF)	124.8
OPTIMUM MOISTURE CONTENT (%)	12.3
ROCK CONTENT (%)[2]	5.0



ATTERBERG LIMITS		ASTM D4318
	RESULTS	SPEC
LIQUID LIMIT (LL) (%)	--	
PLASTIC LIMIT (PL) (%)	--	
PLASTICITY INDEX (PI) (%)	NOT TESTED	

SOIL DESCRIPTION

1/4" CINNAMON BROWN

REMARKS: [1] MAXIMUM DENSITY AND OPTIMUM MOISTURE WERE NOT CORRECTED FOR ROCK CONTENT
[2] ROCK CONTENT CALCULATED FROM MATERIAL RETAINED ON NO.4 SCREEN

*INDICATES OUT OF TOLERANCE

Ninyo & Moore	SOILS/AGGREGATE DATA SHEET	LAB NO.
PROJECT NO.	DATE SAMPLED	MDI ROCK/MISC LABORATORY TESTING
--	3/15/2016	--