From:
 Vojin Janjic

 To:
 Robert Alexander

 Cc:
 Elizabeth Rorie

 Subject:
 FW: SOP Applications

Date: Tuesday, June 20, 2017 12:33:35 PM

Attachments: <u>image001.png</u>

image004.png

Alex:

Please review, and if complete, prepare letter for my signature. This is a priority, as it has been in the KEFO for a while.

Beth:

Please add new permit number and upload application to the Y-12 site.

Thanks both!



Vojin Janjic | Manager, Water-Based Systems Division of Water Resources William R. Snodgrass Tennessee Tower, 11th Floor 312 Rosa L. Parks Ave, Nashville, TN 37243 p. 615-532-0670 vojin.janjic@tn.gov tn.gov/environment

We accept and encourage electronic document submittals.

Please tell us how you think we're doing by completing this survey: TDEC Customer Satisfaction Survey

From: Shontz, Beverly [mailto:Beverly.Shontz@cns.doe.gov]

Sent: Wednesday, May 24, 2017 10:40 AM

To: Vojin Janjic **Cc:** Natalie Harris

Subject: SOP Applications

*** This is an EXTERNAL email. Please exercise caution. DO NOT open attachments or click links from unknown senders or unexpected email - STS-Security. ***

The TDEC Knoxville Field Office has requested that we provide you with the attached SOP applications for action. Please note the applications were submitted to the Knoxville Field Office consistent with the instructions contained on the application forms on May 9, 2017.

If you have any questions or comments on this submission, please contact Clarence C. Hill at 865.576.7113 or Sandy Reagan at 865.576.3155.

R/S, Beverly/Sandy Reagan/Clarence C. Hill



Beverly Shontz

Senior Administrative Specialist Contractor to the Department of Energy Beverly.Shontz@cns.doe.gov

(865) 576-2527 **Office** (865) 574-9041 **Fax**

(865) 916-1065 Pager

301 Bear Creek Rd. P.O. Box 2009 Oak Ridge, TN 37831-8111

Office 865.574.1589 Fax 865.241.4533

May 9, 2017

Mr. Michael Atchley, Program Manager Tennessee Department of Environment and Conservation Division of Water Resources 3711 Middlebrook Pike Knoxville, Tennessee 37921

Dear Mr. Atchley:

Consolidated Nuclear Security State Operation Permit Applications for Post 20 and Post 23

Attention: DWR, Permit Section

Enclosed are two applications for pump and haul permits for two security posts located at the Y-12 National Security Complex (Y-12), Oak Ridge, Tennessee, operated by Consolidated Nuclear Security (CNS) for the National Nuclear Security Administration, U.S. Department of Energy. Items one (1) through six (6) noted below are included in both application packages. Item seven (7) is included in the Post 23 application only. Attachments to the applications are:

- 1. A 7.5-minute grid map from the U.S. Census web site,
- Map showing the location of Post 20 and Post 23,
- 3. Specifications and drawings showing the design of the restroom facilities,
- 4. Copy of the pumping contractor's permit cover page,
- 5. Copy of the pumping contractor's approval from the Knoxville Utilities Board,
- 6. Copy of CNS Basic Order Agreement with the pumping contractor, and
- 7. For the Post 23 application only, Note 1 Attachment as referenced in the application.

Public access to Y-12 is controlled consistent with national security requirements. Two of the primary accesses to Y-12 are security Post 20 and security Post 23 - both located on Bear Creek Road. Security personnel are stationed at these checkpoints 24 hours/ day, 7 days/week. These security checkpoints are currently serviced by a single Port-o-Let at each checkpoint. Due to a required increase in the number of security personnel stationed at these checkpoints, and the current configuration at Post 23, there is a need to improve restroom facilities at these two security posts.

Post 20 has no access to a water distribution system or sanitary sewers and is more remotely located than Post 23. There is currently no water or sewer line service available on that end of Y-12, and none proposed in the foreseeable future. The water line serving Post 23 was isolated and abandoned during a major potable water improvement project in 2010. The sanitary sewer nearest Post 23 is unsuitable for use and determined to be a significant source of inflow and infiltration to the Y-12 sanitary sewer system. Isolation of this segment of the Y-12 sewer system prior to installation of the pump and haul facility at Post 23 will reduce the inflow and infiltration entering the City of Oak Ridge sewer system.

Mr. Michael Atchley Page 2 May 9, 2017

If you have any questions or comments, please contact Stacey E. Loveless of my staff at 865.576.9657.

Sincerely yours,

Samuel D. Easterling, Acting Senior Director

Y-12 Environment, Safety and Health

Famuel D Easterling

SDE:bjs

Enclosure: As stated

c/enc: G. S. Beck

R. P. Burlison

D. Carmany

J. P. Donnelly

C. C. Hill

S. D. Reagan

C. P. Thompson

9114 DMC - 1971352.5202 - RC

YDCC - RC

NPO-Correspondence@npo.doe.gov

c: S. D. Easterling

M. H. Hitson

S. E. Loveless

R. E. Young



Type of application:

Tennessee Department of Environment and Conservation Division of Water Resources William R. Snodgrass - Tennessee Tower 312 Rosa L. Parks Avenue, 11th Floor Nashville, Tennessee 37243-1102 (615) 532-0625

Enclosure 1 Letter, S. D. Easterling to M. Atchley Dated: May 9, 2017

Post 23

APPLICATION FOR A STATE OPERATION PERMIT (SOP)

Permit Reissuance Permit Modification

New Permit

| Permittee Identification: (Name of city, town, indust the provisions of Tennessee Code Annotated Section Control Board.) | The Control of the Co | | | |
|---|--|---|--|--|
| Permittee Name (applicant): Consolidated Nuclear Security, LLC | | | | |
| Permittee Bear Creek Road, Post Office Box 2009 Address: | , Oak Ridge, Tennessee | 37831-823 | 9 | |
| Official Contact: Stacey E. Loveless | 1 3 0 1 1 2 2 2 2 2 2 2 2 3 2 2 3 3 3 3 3 3 3 | ompliance | vironmental | |
| Mailing Address: Y-12 National Security Complex Post Office Box 2009 | City: Oak Ridge | State: TN | Zip: 37831-8239 | |
| Phone number(s): 865.576.9657 | E-mail: Stacey.Loveless@cns.doe.gov | | | |
| Optional Contact: Sandra D. Reagan | | anager, Clo | ean Water | |
| Address: Y-12 National Security Complex Post Office Box 2009 | City: Oak Ridge | State: TN | Zip: 37831-8239 | |
| Phone number(s): 865.576.3155 | ne number(s): 865.576.3155 E-mail: Sandy.Reagan@cns.doe.gov | | e.gov | |
| Application Certification (must be signed in accorda | ance with the requireme | nts of Rule | 0400-40-0505) | |
| I certify under penalty of law that this document and all a accordance with a system designed to assure that qualifis submitted. Based on my inquiry of the person or persons for gathering the information, the information submitted complete. I am aware that there are significant penalties for and imprisonment for knowing violations. As specified declaration is made under penalty of perjury | ittachments were prepared ied personnel properly ga who manage the system, is, to the best of my kno- or submitting false inform | thered and or those pe wledge and ation, include | direction or supervision in evaluated the information ersons directly responsible belief, true, accurate, and ding the possibility of fine | |
| Name and title; print or type Samuel D. Easterling, Acting Director Environment, Safety and Health | Signature Spinus A | esterle | Date 5/9/2017 | |

CCN201779881

Permit Number: SOP-____

| Facility Identificat | ion: | 1415 | Existing Permit No. | |
|--|--|--|---------------------------------------|--|
| Facility Portal 23 l | Portal 23 Restroom Vault County: Anderson | | | |
| | | | Latitude: 35° 59' 43" | |
| Address or Oak | Ridge, TN 37831-8239 | | Longitude: 84° 14' 34" | |
| Location: | | | | |
| | N'r | East Fork Poplar Creek ~1,100 feet | | |
| The second secon | Federal Water/Wastewater P NPDES Permit TN0002968 | Permits have been obtained for this | site, list their permit | |
| Name of company of | or governmental entity that wi | ill operate the permitted system: | Consolidated Nuclear Security, LLC | |
| Operator address: | Post Office Box 2009, Oak Ri | dge, TN 37831-8239 | | |
| the Tennessee Regu | | Convenience & Necessity (CCN), or be required for collection systems | | |
| the contract for open | rations. wing information explaining | or describe the contractual arrange g the entity type, number of design | | |
| City, town or | No. of connections: | Design Onits | Flow (gpd) | |
| county | 140. Of confections. | | | |
| Subdivision | No. of homes: | Avg. No. bedrooms per home: | | |
| School | No. of students: | Size of cafeteria(s): No. of showers: | | |
| Apartment | No. of units: | No. units with Washer/Dryer hoo No. units without W/D hookups: | | |
| Commercial Business | No. of employees: | Type of business: | | |
| ☐ Industry | No. of employees: | Product(s) manufactured: | | |
| Resort | 27 0 1 | | | |
| | No. of units: | | | |
| Camp | No. of units: No. of hookups: | | | |
| | THE RESERVE OF THE PARTY OF THE | No. of dump stations: | | |
| Camp | No. of hookups: | No. of dump stations: | | |
| Camp RV Park Car Wash | No. of hookups: No. of hookups: No. of bays: | No. of dump stations: Single stall bathroom; no showeresult in wastewater generation. | ers Est. 300 gal/day | |

Permit Number: SOP-

| Engineering Report (required for systems): | collection systems and/o | r land applic | ation treatment | X N/A |
|---|-----------------------------|---------------------|-----------------------|---------------|
| Prepared in accordance with Rul State of Tennessee Design Criteria f Attached, or | or Sewage Works (see we | bsite for more | information) | |
| Previously submitted and entitled Operation and Maintenance Inspecti | | Approved? Approved? | Yes. Date: Yes. Date: | □ No |
| Wastewater Collection System: | | | | X N/A |
| System type (i.e., gravity, low pressu | re, vacuum, combination | , etc.): | | |
| System Description: | | | | 10 |
| Describe methods to prevent and resequipment failures, heavy rains, etc. | | ntment or disc | harges (i.e., power | failures, |
| In the event of a system failure descri | ribe means of operator not | ification: | | |
| List the emergency contact(s) (name | /phone): | | | |
| For low-pressure systems, who is respumps (list all contact information)? | | of STEP/STE | G tanks and pump | es or grinder |
| Approximate length of sewer (exclude | ding private service latera | 1): | | |
| Number/hp of lift stations: | Numb | er/hp of lift p | oumps / | |
| Number/volume of low pressure and Number/volume septic tanks | | 1 | | |
| Attach a schematic of the collection | | | | |
| If this is a satellite sewer and you ar tie-in points to the sewer system and | their location (attach add | itional sheets | as necessary): | |
| <u>Tie-in Point</u> | Latitude (xx.xxxx | (°) | Longitude (| xx.xxxx°) |
| | | | | |
| | | | | |
| | | | | |

Permit Number: SOP-

| Land Application Treatme | ent System: | X N/A |
|--|--|---|
| Type of Land Application To | reatment System: Drip Spray Other, explain: | |
| | eceding land application (recirculating media filters, lagoons, other | er, etc.): |
| Attach a treatment schematic | c. Attached | |
| Describe methods to prevent equipment failures, heavy ra | t and respond to any bypass of treatment or discharges (i.e., power ins, etc.): | failures, |
| For New or Modified Projec | ts: | |
| Name of Developer for t | he project: | |
| Developer address and p | hone number: | |
| For land application, list: | Proposed acreage involved: Inches/week gpd/sq.ft loading rate to be applied: | |
| Is wastewater disinfection pr | | |
| Yes Describe land | l application area access: | |
| ☐ No Describe how | access to the land application area will be restricted: | |
| Topographic map (1:24,0 the project including quad should also be included. Scaled layout of facility system routes, the pretreat | Engineering Report Information (see website for more information of scale presented at a six inch by six inch minimum size) showing langle(s) name(s) GPS coordinates, and latitude and longitude in a showing the following: lots, buildings, etc. being served, the waste truent system location, the proposed land application area(s), roads | ng the location of decimal degrees ewater collection s, property |
| and wetlands. | areas such as streams, lakes, springs, wells, wellhead protection ar | |
| Chapter 16 and 17 State o | proposed land disposal area in the form of a Water Resources Soil Tennessee Design Criteria for Sewage Works. The soils informate to a minimum of 4 feet or refusal) and soil profile description for | ation should |
| Topographic map of the | area where the wastewater is to be land applied with no greater that inimum size of 24 inches by 24 inches. | an ten foot |
| Describe alternative appl municipal/public sewer sy | ication methods based on the following priority rating: (1) connections, (2) connection to a conventional subsurface disposal system sources, and/or (3) land application. | |

Permit Number: SOP-

| sewage treatment effluent wells, i.e, large capacity treatment/drip dispersal systems after approval of the SOP Application, will be issued an UIC tracking number and will be authorized as Permit by Rule per UIC Rule 0400-45-0614(2) and upon issue of a State Operating Permit and Sewage System Construction Approval by the Department. Describe the following: | X N/A |
|---|--|
| The area of review (AOR) for each Drip Dispersal System shall, unless otherwise specified by consist of the area lying within a one mile radius or an area defined by using calculations under of the Drip Dispersal System site or facility, and shall include, but not be limited to general statures, general subsurface geology, and general demographic and cultural features within the this part of the application a general characterization of the AOR, including the following narrative form) | er 0400-45-0609 arface geographic e area. Attach to this can be in |
| A general description of all past and present groundwater uses as well as the general ground direction and general water quality. | lwater flow |
| A general description of the population and cultural development within the AOR (i.e. agric commercial, residential or mixed) | cultural, |
| Nature of injected fluid to include physical, chemical, biological or radiological characteris | |
| If groundwater is used for drinking water within the area of review, then identify and located topographic map all groundwater withdrawal points within the AOR, which supply public of water systems. Or supply map showing general location of publicly supplied water for the arbotained from the water provider) | r private drinking rea (this can be |
| If the proposed system is located within a wellhead protection area or source water protection designated by Rule 0400-45-0134, show the boundary of the protection area on the facility | |
| Description of system, Volume of injected fluid in gallons per day based upon design flow, monitoring wells | including any |
| Nature and type of system, including installed dimensions of wells and construction materia | als |
| Pump and Haul: | □N/A |
| Reason system cannot be served by public sewer: **See Note 1 (Attachment 7) | |
| Distance to the nearest manhole where public sewer service is available: **See Note 1 Attachm | ent 7 |
| When sewer service will be available: No sewer service is planned for this location. **See Not | |
| Volume of holding tank: 1,000 gal. | |
| Tennessee licensed septage hauler (attach copy of agreement): TNT Portable Toilets (Carson | Crest, LLC) |
| Facility accepting the septage (attach copy of acceptance letter): Knoxville Utilities Board (Kt Wastewater Treatment Plant | |
| Latitude and Longitude (in decimal degrees) of approved manhole for discharge of septage: K | UB Kubwahee |
| Describe methods to prevent and respond to any bypass of treatment or discharges (i.e., power equipment failures, heavy rains, etc.): The 1,000-gallon capacity is approximately 400% of | failures, expected usage. |

The holding tank is concrete with an ABS plastic liner [specification sheets (Attachment 3)]. Audible and/or visible level indicator will be installed. Contractor schedule will provide service at regular and specific intervals to ensure that the holding capacity of the 1,000-gal tank is never reached before the next scheduled service. An appropriate spill kit will be available at all times. An emergency Spill Response Team is available 24 hours/day, 7 days/week on site and can respond immediately.

¹Attachment 6: ²Attachment 5

Permit Number: SOP-____

| Holding Ponds (for non-domestic wastewater only): | X N/A |
|--|---------------|
| Pond use: Recirculation Sedimentation Cooling Other (describe): | |
| Describe pond use and operation: | |
| If the pond(s) are existing pond(s), what was the previous use? | |
| Have you prepared a plan to dispose of rainfall in excess of evaporation? Yes No | |
| If so, describe disposal plan: | |
| Is the pond ever dewatered? Yes No | |
| If so, describe the purpose for dewatering and procedures for disposal of wastewater and/or Is(are) the pond(s) aerated? Yes No | sludge: |
| | |
| Volume of pond(s): gal. Dimensions: | |
| Is the pond lined (Note if this is a new pond system it must be lined for SOP coverage. Otherwapply for an Underground Injection Control permit.)? | ise, you must |
| Describe the liner material (if soil liner is used give the compaction specifications): | |
| Is there an emergency overflow structure? Yes No | |
| If so, provide a design drawing of structure. | |
| Are monitoring wells or lysimeters installed near or around the pond(s)? Yes No | |
| If so, provide location information and describe monitoring protocols (attach additional sh necessary): | eets as |

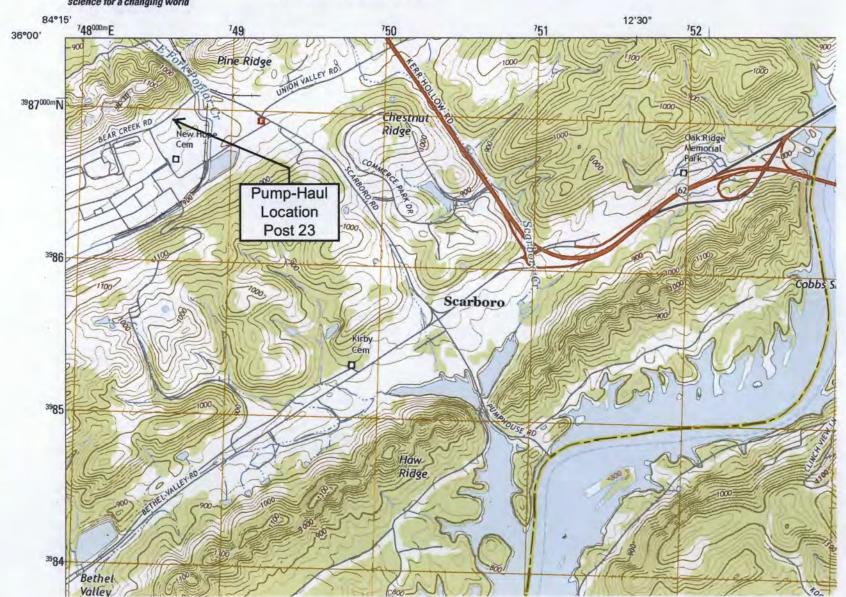
Permit Number: SOP-____

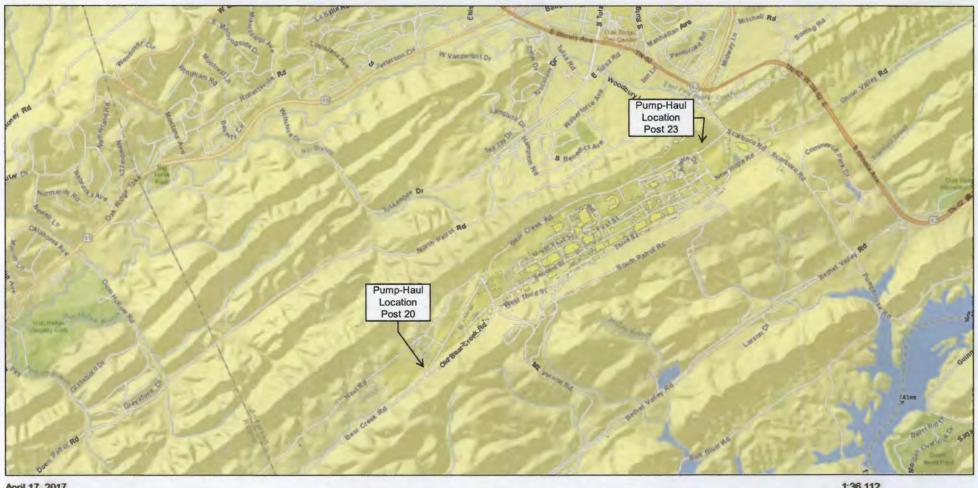
| Mobile Wash Operations: | X N/A |
|--|--|
| Individual Operator | Fleet Operation Operator |
| Indicate the type of equipment, vehicle, or struthat apply): | Parking Lot(s): sq. ft. |
| Trucks | Windows: sq. ft. |
| ☐ Trailers (Interior washing of dump-trailers, or tanks, is prohibited.) ☐ Other (describe): | Structures (describe): |
| Wash operations take place at (check all that a Car sales lot(s) Private industry lot(s) County(ies), list: | pply): Public parking lot(s) Private property(ies) Statewide |
| Wash equipment description: Truck mounted Rinse tank size(s) (gal.): Collection tank size(s) (gal.): | ☐ Trailer mounted ☐ Mixed tanks size(s) (gal.): Number of tanks per vehicle: |
| Pressure washer: psi (rated) gas powered e | gpm (rated) |
| Vacuum system manufacturer/model: | Vacuum system capacity: inches Hg |
| List the public sewer system where you are permit (include a copy of the permit or permission let | itted or have written permission to discharge waste wash water |
| Are chemicals pre-mixed, prior to arriving at was | h location? Yes No |
| necessary): | Inufacturer: Primary CAS No. or Product No. |
| | |
| | |

Attachment 1 Letter, Easterling to Atchley Dated: May 9, 2017



U.S. DEPARTMENT OF THE INTERIOR U.S. GEOLOGICAL SURVEY





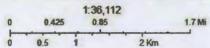
April 17, 2017

Building Numbers/Labels

Active Building

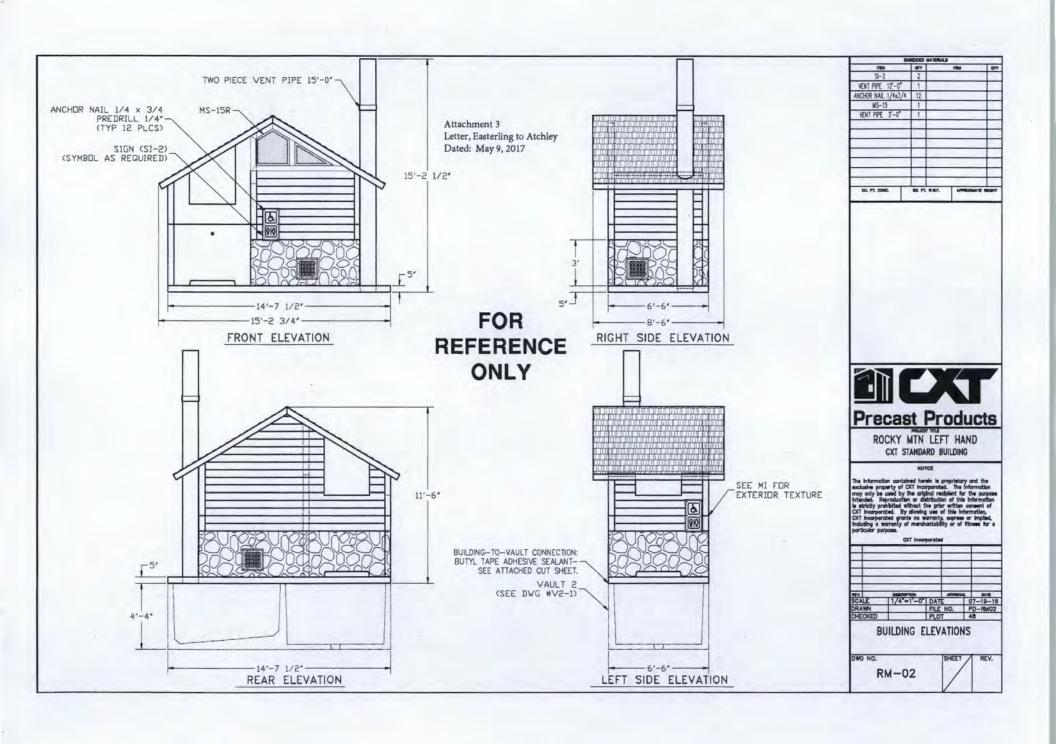
Post 20 and Post 23 Pump-Haul Locations at Y-12

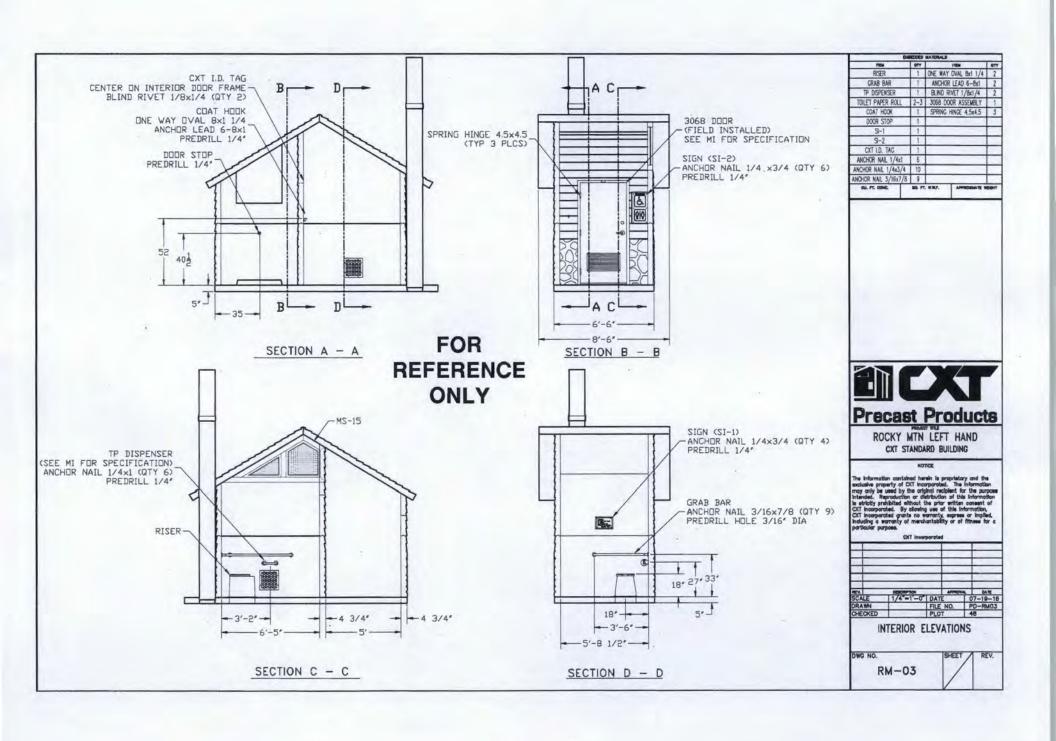
Attachment 2 Letter, Easterling to Atchley Dated: May 9, 2017

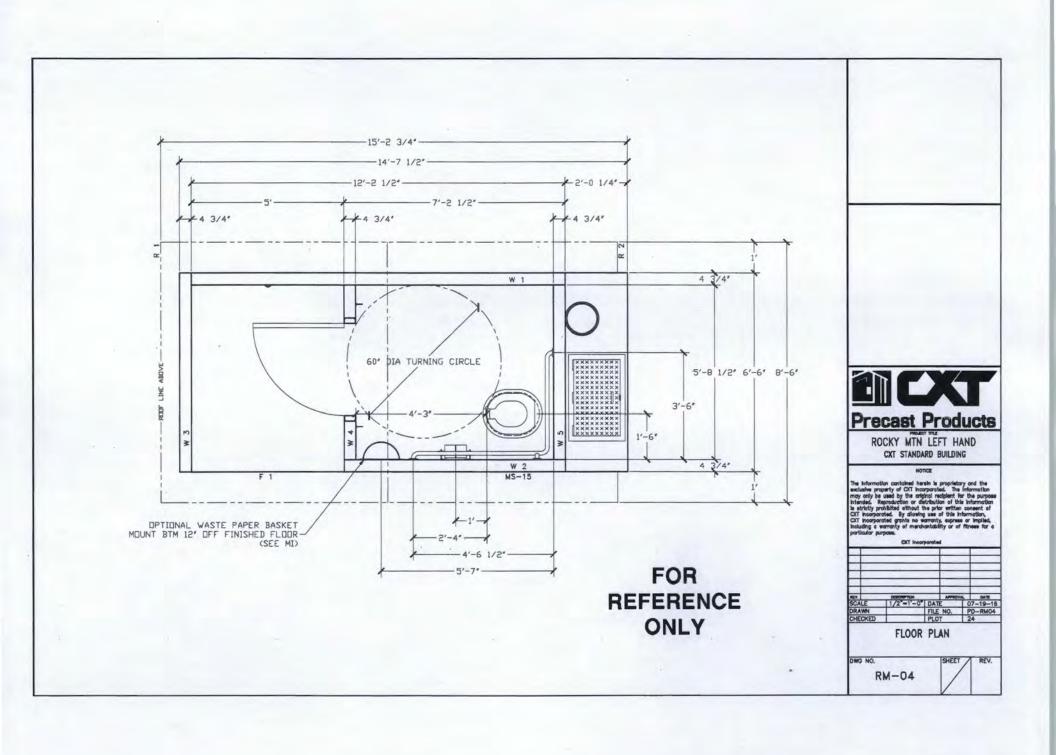


Sources: Earl, HERIE, DeLorme, USGS, Intermap, INCREMENT P, NRCarr, Esri-Japan, METI, Earl China (Hong Kong), Earl Koree, Earl (Thatland), Maproyincia, MGCC, © OpenStreetMap contributors, and the GBS User Community

Map produced by YAMS Copyright Consolidated Nuclear Security, LLC







CXT INCORPORATED SPOKANE, WASHINGTON

SPECIFICATIONS FOR ROCKY MOUNTAIN STYLE VAULT TOILET BUILDINGS

1.0 SCOPE

This specification covers the construction and placing of the Rocky Mountain precast concrete vault toilet building as produced by CXT.

2.0 SPECIFICATIONS

| ASTM C33 | Concrete Aggregates |
|-------------|--|
| ASTM C39 | Method of Test for Compressive Strength of Cylindrical |
| | Concrete Specimens |
| ASTM C94 | Standard Specification for Ready-Mixed Concrete |
| ASTM C143 | Method of Test for Slump of Concrete |
| ASTM C150 | Standard Specification for Portland Cement |
| ASTM A185 | Standard Specification for Steel Welded Wire |
| | Reinforcement, Plain, or Concrete |
| ASTM C192 | Method of Making and Curing Test Specimens in the |
| | Laboratory |
| ASTM C231 | Standard Test Method for Air Content of Freshly Mixed |
| | Concrete by the Pressure Method |
| ASTM C309 | Standard Specifications for Liquid Membrane-Forming |
| | Compounds for Curing Concrete |
| ASTM C494 | Standard Specification for Chemical Admixtures for |
| | Concrete |
| ASTM A615 | Standard Specification for Deformed and Plain Carbon- |
| | Steel bars for Concrete Reinforcement |
| ASTM C618 | Standard Specification for Coal Fly Ash and Raw or |
| | Calcined Natural Pozzolan for Use in Concrete |
| ASTM C979 | Standard Specification for Pigments for Integrally Colored |
| | Concrete |
| ACI 211.1 | Standard Practice for Selecting Proportions for Normal, |
| - 2011 | Heavyweight, and Mass Concrete |
| ACI 306 | Cold Weather Concreting |
| ACI 318 | Building Code Requirements Structural Concrete and |
| | Commentary (includes Errata) |
| PCI MNL 116 | Quality Control for Plants and Production of Precast |
| | Prestressed Concrete Products |
| | |

3.0 MANUFACTURER CRITERIA

The manufacturer supplying the requested precast concrete vault facility must meet the following:

- A. Manufacturer must be ISO 9001 certified at the time of bid.
- B. Manufacturing plant must be PCI certified at the time of bid.
- C. Manufacturer must not have defaulted on any contract within the last five years.
- D. Manufacturer must provide stamped, engineered drawings prior to acceptance.
- E. Manufacturer must be pre-approved prior to bidding.
- F. Manufacturer must show four examples of Sweet Smelling Technology designed precast concrete vault toilet facilities produced, installed, and in use as an example of their ability to perform on this contract.
- G. Manufacture shall provide a 20 year warranty.

Manufacturers meeting these criteria are:

CXT, Incorporated Spokane Industrial Park 3808 North Sullivan Road, Building 7 Spokane, WA 99216 Phone: 800-696-5766

4.0 DESIGN CRITERIA

The Rocky Mountain has been designed to meet the following criteria. Calculations and Engineer's stamped drawings are available, for standard buildings, upon request by the customer and are for their sole and specific use only. The design criteria are to ensure that they not only will withstand the forces of nature listed below but will provide protection from vandalism and other unforeseen hazards. Design criteria include provisions of the 2006 IBC Code.

A. Roof Snow Load

 The Rocky Mountain is designed to withstand a 350 pounds per square foot snow load.

B. Floor Load

 The Rocky Mountain is designed to withstand 400 pounds per square foot floor load.

C. Wind Load

 The Rocky Mountain will withstand the effects of 150 mile per hour (3-second gust) wind exposure C.

D. Earthquake

 The Rocky Mountain will withstand the effects of a seismic design category E earthquake.

E. Additional Design Standards

- The Rocky Mountain is designed to meet the requirements of the sixty-inch turning radius inside toilet room specified by the American with Disabilities Act Requirements and Uniform Federal Accessibility Standards as of the date of these specification.
- The Rocky Mountain incorporates all design aspects of Sweet Smelling Technology as outlined by Briar Cook for the U.S. Forest Service.
- 3. The Rocky Mountain has a one-piece full length and width vault unit to support the building, screen area and snow loads evenly. The Rocky Mountain has a one-piece floor unit to prevent panels that migrate in different direction during periods of freeze/thaw stress.
- The Rocky Mountain is an all concrete design with a minimum 7/12 roof pitch.
- 5. The Rocky Mountain shall have a minimum 4 inch wall, 4 ½ inch roof, and 5 inch floor thickness.
- 6. All wall to floor interior surface seams shall have a minimum 1" radius coving made of high strength grout.

5.0 MATERIALS

A. Concrete - General

The concrete mix design will be designed to ACI 211.1 to produce concrete of good workability.

- Concrete will contain a minimum of 675 pounds of cementitious material per yard. Cement will be a low alkali type I/II or III conforming to ASTM C-150
- Coarse aggregates used in the concrete mix design will conform to ASTM C33 with the designated size of coarse aggregate #67.
- Minimum water/cement ratio will not exceed .45.
- Air-entraining admixtures will conform to ASTM C260. Water reducing admixtures will conform to ASTM C494, Type A.
- If Self Compacting Concrete (SCC) is used, it must conform to ASTM C1611

B. Colored Concrete

Color additives will conform to ASTM C979. A

12"x12"x1" color sample will be available for customer approval.

- 2. The following will contain colored concrete:
 - a. Toilet building roof panels
 - b. Building walls
 - c. Screen panels
- The same brand and type of color additive will be used throughout the manufacturing process.
- All ingredients will be weighed and the mixing operation will be adequate to ensure uniform dispersion of the color.

C. Cold Weather Concrete

- Cold weather concrete placement will be in accordance with ACI 306.
- Concrete will not be placed if ambient temperature is expected to be below 35 degrees F. during the curing period unless heat is readily available to maintain the surface temperature of the concrete at least 45 degrees F.
- Materials containing frost or lumps of frozen materials will not be used.

D. Hot Weather Concrete

The temperature of the concrete will not exceed 95 degrees F. at the time of placement. When the ambient reaches 90 degrees F. the concrete will be protected with moist covering.

E. Concrete Reinforcement

- All reinforcing steel will conform to ASTM A615. All welded wire fabric will conform to ASTM A185.
- All reinforcement will be new, free of dirt, oil, paint, grease, loose mill scale and loose or thick rust when placed.
- Details not shown of drawings or specified will be to ACI318.
- Steel reinforcement will be centered in the cross-sectional area of the walls and will have at least 11/4" of cover on the under surface of the floor.
- The maximum allowable variation for center-center spacing of reinforcing steel will be ½".
- Full lengths of reinforcing steel will be used when possible. When splices are necessary on long runs, splices will be alternated from opposite sides of the components for adjacent steel bars. Lap bars

#4 or smaller a minimum of 12". Lap bars larger than #4 a minimum of 24 bar diameters.

Reinforcing bars will be bent cold. No bars partially embedded in concrete will be field bent unless approved by the customer.

F. Sealers and Curing Compounds

- Curing compounds, if used, will be colorless, complying with ASTM C309, type I or 1-D.
- Weatherproofing sealer for exterior of building will be a clear water repellent penetrating sealer.

H. Caulking, Grout, Adhesive and Sealer

- Caulking service temperatures from -40 to +194 degrees Fahrenheit.
- Interior and exterior joints will be caulked with a paintable polyurethane sealant.
- Grout will be a non-shrink type and will be painted to match the color of surrounding concrete as nearly as possible.
- Cement base coating is formulated with a very fine aggregate system and is a built in bonding agent.

H. Paint

- All paints and materials will conform to all Federal specifications or be similar "top-of-the-line-components". Paints will not contain more than .06 percent by weight of lead.
- 2. Type of paints for toilets
 - a. Inside concrete surfaces
 - I Interior floors will be a chemical resistant urethane.
 The color will be gray.
 - II Interior walls and ceilings will be a modified acrylic, water repellent penetrating stain. The color will be white followed by a clear acrylic anti-graffiti sealer.
 - b. Metal surfaces both inside and out
 - I DTM ALKYD
 - c. Exterior concrete surfaces
 - I Exterior slab will be clear sealer
 - II Exterior walls and roof will be a water repellent penetrating stain in the same color as the walls or roof followed by a clear acrylic anti-graffiti sealer

I. Grab bars

Grab bars will be 18 gauge, type 304 stainless steel with 1-1/2" clearance. Grab bars will each be able to withstand 300 pound top loading.

J. Toilet Paper Dispenser

Dispenser will be constructed of ¼" thick, type 304 stainless steel. Dispenser will be capable of holding three (3) standard rolls of toilet paper. Toilet paper holder fastening system will be able to withstand 300 pound top loading.

K. Steel Doors

- Doors will be flush panel type 1-3/4" thick, minimum 16 gauge Galvanized steel, top painted with DTM ALKYD.
- Door frames will be knockdown or welded type, single rabbet, minimum 16 gauge prime coated steel top painted with DTM ALKYD, width to suit wall thickness. Three (3) rubber door silencers will be provided on latch side of frame.

L. Door Hinges

Door hinges will be 3 per door with dull chrome plating 4-1/2"x4-1/2", adjustable tension, automatic-closing for each door.

M. Lockset

- Lockset will meet ANSI A156.2 Series 4000, Grade 1 cylindrical lockset for exterior door.
- Lever handle both inside and out
- Either handle operates latch unless outside handle is locked by inside push-button.
- Push-button will automatically release when inside lever handle is turned or door is closed.
- 5. Emergency slot on exterior so door can be unlocked from the outside with a coin, screwdriver and etc.
- 6. Inside lever always active.
- U.S. 26D finish.

N. Dead Bolt

Deadbolt will be a Lori Lock standard model with a double cylinder, 2 3/4" backset, and US26D finish. The cylinder will be a standard 11/8" Schlage Mortise cylinder with compression ring and 626 finish.

O. Door Stop

Doorstop will be a dome style stop meeting ANSI 156.16.

P. Double Coat Hook

Coat hook will be 304 stainless steel 16 gauge (1.5mm), formed construction with a satin finish and have 3/16"x 7/8" nail in anchor. Upper hook will extend at least 2-1/2" inches from the wall. Lower hook will extend at least 1-1/4" from the wall.

Q. Door Sweep

Door sweep will be provided at the bottom of door and will be an adjustable brush type.

R. Wall Vent

Vent cover will be 14 gauge 304 stainless steel painted with DTM and anchored into the concrete wall with high strength anti-rust tap con fasteners. The vent louver frame and louvers will be non-vision .1" extruded aluminum jet coat finish. Vent to come with insect screen. Cover to be recessed a minimum 3/4" on exterior walls with a 45 degree bevel. Interior to be flush mounted. Wall vent will not protrude from the wall.

S. Signs

- Signs to have raised pictograms, letters and Braille to meet ADA.
- Interior to have "No Trash in Vault Sign".
- 3. All signs inset a minimum of 3/4" into wall with 45 degree bevel.
- 4. All signs to be anchored into concrete with 1/4" x 3/4" concrete anchor nails.

T. Windows and Vault Cleanout Cover

- Windows and cleanout cover frames will be constructed from steel.
- Window glazing will be 3/16" thick translucent pebble finished mar-resistant Lexan.
- Plate for vault cleanout cover will be ¼" thick diamond plate steel.
 Lid will be hinged and configured so that it can be locked with a
 padlock. A gasket will be provided around the entire perimeter of
 the lid to provide an airtight seal.
- 4. Windows to have 3/4" recess with 45 degree bevel.
- Windows frames to have vandal resistant fasteners.

U. Vent Stack

Vent stack to be a minimum 12 inches in diameter and a minimum 3 feet higher than the roof peak.

V. Vault Liner

The vault liner shall be made from a single sheet black ABS/750 virgin plastic and can hold up to 1,000 gallons of waste or 15,000 uses per vault. The initial sheet thickness shall be a minimum .375. Final stamped thickness shall be a minimum .060. The vault liner shall have molded dovetail embeds to attach the liner to concrete walls of the vault. The vault liner shall have two J-rails to attach the liner to the bottom of the vault. Vaults with ABS liner shall be warranted against leaks for a period of seven years.

W. Riser

Riser will meet ADA and be a molded one piece HDPE Aquatuf®. Riser will be a smooth surface and have high impact resistance at extremely cold temperatures.

X. Optional Roof Insulation

Ceiling anchored ½" plywood + fiberglass laminate + 2" polyurethane foam. Approximately R-19.

6.0 MANUFACTURE

A. Mixing and Delivery of Concrete

Mixing and delivery of concrete will be in accordance with ASTM C94, section 10.6 through 10.9 with the following additions:

 Aggregate and water will be adjusted to compensate for differences in the saturated surface-dry condition.

B. Placing and Consolidating Concrete

Concrete will be consolidated by the use of mechanical vibrators. Vibration will be sufficient to accomplish compaction but not to the point that segregation occurs.

C. Finishing Concrete

- Interior floor and exterior slabs will be floated and troweled.
- All exterior building walls and exterior screen walls will be any one of the available textures.

 All exterior surfaces of the roof panels will be cast to simulate any one of the available textures. The underside of the overhang will have a smooth finish.

D. Cracks and Patching

 Cracks in concrete components which are judged to affect the structural integrity of the building will be rejected.

 Small holes, depressions and air voids will be patched with a suitable material. The patch will match the finish and texture of the surrounding surface.

 Patching will not be allowed on defective areas if the structural integrity of the building is affected.

E. Curing and Hardening Concrete

 Concrete surfaces will not be allowed to dry out from exposure to hot, dry weather during initial curing period.

7.0 FINISHING AND FABRICATION

A. Structural Joints

- 1. Wall components will be joined together with two welded plate pairs at each joint. Each weld plate will be 6" long and located one pair in the top quarter and one pair in the bottom quarter of the seam. Weld plates will be anchored into the concrete panel and welded together with a continuous weld. The inside seams will be a paintable caulk. The outside seams will use a caulk in a coordinating building color or clear.
- 2. Walls and roof will be joined with weld plates, 3"x6" at each building corner.
- The joint between the floor slab and walls will be joined with a
 grout mixture on the inside, a matching colored caulk on the
 outside and two weld plates 6" long per wall.

B. Painting/Staining

- An appropriate curing time will be allowed before paint is applied to concrete.
- Some applications may require acid etching. A 30% solution of hydrochloric acid will be used, flushed with water and allowed to thoroughly air dry.
- 3. Painting will not be done outside in cold, frosty or damp weather.
- 4. Painting will not be done outside in winter unless the temperature is 50 degrees F. or higher.
- 5. Painting will not be done in dusty areas.

- 6. All surface voids to be filled prior to painting
- 7. Schedule of finishes
 - Inside concrete surfaces
 - I Inside floors will be 1 coat of 1-part water based chemical resistant urethane.
 - II Interior walls and ceilings will be 2 coats of a modified acrylic, water repellent penetrating stain, followed by 1 coat of clear sealer.
 - b. Metal surfaces both inside and out
 - 2 coats of DTM ALKYD
 - c. Exterior concrete surfaces
 - I Exterior walls will be 2 coats of water repellent penetrating stain in the same color as the walls or roof followed by 1 coat of clear acrylic anti-graffiti sealer.

8.0 TESTING

The following tests will be performed on concrete used in the manufacture of toilets. All testing will be performed in the CXT (PCI certified) laboratories. Testing will only be performed by qualified individuals who have been certified ACI Technician Grade 1. Sampling will be in accordance with ASTM C172.

- The air content of the concrete will be checked per ASTM C231 on the first batch of concrete. The air content will be in the range of 5.0% +/- 2.0%.
- 2. The compressive strength of the cylinders will be tested to ASTM C39. We will make one (1) cylinder for release, one (1) for 7-days and one (1) for 28-days. The release must be a minimum strength of 2500 psi, the 7-day must be a minimum of 4500 psi and the 28-day must be a minimum of 5000 psi.
- A copy of all test reports will be available to the customer as soon as 28-day test results are available.

9.0 INSTALLATION

A. Scope of Work

Work specified under this Section includes excavation, backfill and placement of precast concrete vault toilet.

B. Materials

- Bedding material to be sand or 3/8" minus crushed or screened aggregate.
- Caulking between vault and toilet floor to be 1"x1" Butyl tape designed specifically to bond precast concrete to precast concrete.

C. Location

It's the responsibility of the customer to:

- Provide exact location by stakes or other approved method
- Provide clear and level site free of overhead and/or underground obstructions
- Provide access to the site for truck delivery and sufficient area for the crane to install and the equipment to perform the contract requirements.

D. Access to Site

Delivery to site made on normal highway trucks and trailers. If at the time of delivery conditions of access are hazardous or unsuitable for truck and equipment due to weather, physical constraints, roadway width or grade, CXT may require an alternate site with better access provided to ensure a safe and quality installation.

E. Excavation and Elevation

- Comply with all applicable OSHA Standards for excavation.
- Excavate for the installation of the toilet vault to a depth that will allow the structure site to be free draining after installation is completed. Allow for a 2" leveling course beneath the toilet vault. Stockpile topsoil in a separate pile at sites.
- 3. Finish floor elevation will be 4-6 inches above natural grade measured at the front (entrance) of the exterior slab unless otherwise approved by the customer. Ideally, the back of the building should be slightly higher to allow water to freely drain out of the toilet rooms. 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 a plus or minus 0.05 feet of the specified floor elevation.
- 4. No excavation will be left open more than seven days unless otherwise approved by the customer.
- All excavations left open overnight will be fenced with wire mesh or plastic mesh fence secured to steel posts all around the excavation.
 - The bottom of the fence will generally follow the contour of the ground.
 - b. Maximum spacing of the steel posts will be ten feet.
 - c. Minimum height of the fence will be 36 inches.

F. Backfill and Compaction

 Compact the natural ground at the bottom of the vault excavation with a minimum of three passes with a whacker-type mechanical compactor or equivalent approved by the customer.

2. Install sand or aggregate bedding material for leveling course if needed. Compact leveling course with one pass with a whacker-type mechanical tamper or equivalent approved by the customer. Grade leveling course so there will be no high spots in the middle of the vault bottom. Compact with a second pass with a whacker or approved equivalent tamper.

Set vault in place and check for level or appropriate scope. Backfill
around structure. Use excavated material for backfill except those
rocks larger than six inches in maximum dimension shall not be
placed within six inches of the exterior vault walls.

4. Fill, adjacent to the building entry, will have excavated material placed in eight inch loose lifts and compacted with a minimum of two passes with a whacker-type mechanical compactor of equivalent approved by the customer.

G. Finish Grading

- 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 backfill away from structure at maximum slope of five (5) percent unless otherwise approved by the customer.
- 2. Spread stockpiled topsoil as final layer after rough grading is completed. Areas disturbed by excavation, backfilling and stockpilling of excavated materials will be hand raked to remove exposed rocks over one inch in maximum dimension. Oversized rocks removed from the surface shall be disposed of in a designated area within 200 feet of the site.

I. Vault Toilet Riser and Accessories

 Polyurethane caulk will be applied between toilet riser flange and concrete floor before the toilet riser is installed.

I. Exhaust Pipe Installation

 After exhaust pipe is installed, seal around pipe at top and underside of roof with polyurethane caulk. Seal around pipe at top of slab will be accomplished by using polyurethane caulk.

10.0 WARRANTY—PRECAST DIVISION

CXT provides a warranty against defects in material or workmanship for a period of twenty (20) years on all concrete components. The warranty is valid only when concrete is used within the specified loadings. Furthermore, said warranty includes only the related material necessary for the construction and fabrication of said concrete components. All other non-concrete components will carry a one (1) year warranty. CXT warrants that all goods sold pursuant hereto will, when delivered, conform to specifications set forth above. Goods shall be deemed accepted and meeting specifications unless notice identifying the nature of any non-conformity is provided to CXT in writing within the specified warranty. CXT, at its option, will repair or replace the goods or issue credit for the customer provided CXT is first given the opportunity to inspect such goods. It is specifically understood that CXT's obligation hereunder is for credit, repair or replacement only, F.O.B. CXT's manufacturing plants, and does not include shipping, handling, installation or other incidental or consequential costs unless otherwise agreed to in writing by CXT.

This warranty shall not apply to:

- Any goods which have been repaired or altered without CXT's express written consent, in such a way as in the reasonable judgment of CXT, to adversely affect the stability or reliability thereof;
- To any goods which have been subject to misuse, negligence, acts of God or accidents or
- To any goods which have not been installed to manufacturer's specifications and guidelines, improperly maintained, or used outside of the specifications for which such goods were designed.

11.0 DISCLAIMER OF OTHER WARRANTIES

The warranty set forth above is in lieu of all other warranties, express or implied. All other warranties are hereby disclaimed. CXT makes no other warranty, express or implied, including, without limitation, no warranty of merchantability of fitness for a particular purpose or use.

12.0 LIMITATION OF REMEDIES

In the event of any breach of any obligation hereunder, breach of any warranty regarding the goods or any negligent act or omission or any party, the parties shall otherwise have all rights and remedies available at law; however, IN NO EVENT SHALL CXT BE SUBJECT TO OR LIABLE FOR ANY INCIDENTAL OR CONSEQUENTIAL DAMAGES.

Attachment 4
Letter, Easterling to Atchley
Dated: May 9, 2017



Consolidated Nuclear Security, LLC
Acting under contract DE-NA001942
With the U.S. Department of Energy
http://www.y12.doe.gov/business/procurement

Basic Ordering Agreement 4100000294

| . An | TROTTO | int Number: | 2. Solicitation Number: | | | Agreement : | FINENT |
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| c. E | mail A | ddress: | | 4d. T | eleph | one: | 4e. Fax: |
| 6. Issued By: CONSOLIDATED NUCLEAR SECURITY, LLC P.O. BOX 2009 OAK RIDGE, TN 37831-8501 | | | 6. Submit Invoices To: Consolidated Nuclear Security, LLC Accounts Psysble P. O. Box 2009 Oak Ridge, TN 37831-6265 | | | | |
| 7. | CAR DBA P.O. | and Address of SON CREST LLC TNT PORTABLE Box 406 ER SPRINGS, TI | TOILETS N 37840-0408 | Sin | Y-12 115 OAK | ISOLIDATED NU RECEIVING UNION VALLEY I RIDGE, TN 378 contract number on | |
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| () Selier is required to sign and return a copy of this document. (Checked if applicable) | | Consolidated Nuclear Security,LLC | | | | | |
| A. Signature of person authorized to sign for Seller | | A. Signature of person authorized to sign Consolidated Nuclear Security, LLC | | | | | |
| B. Name of signer | | B. Nema of claner | | | | | |
| C. Title of signer | | | C. Title of signer Subcontract Administrator | | | itor | |
| D. Date | | | D. Date 07/28/2016 | | | | |

Attachment 5 Letter, Easterling to Atchley Dated: May 9, 2017

KNOXVILLE UTILITIES BOARD COMMERCIAL WASTEWATER DISPOSAL PERMIT

PERMIT NUMBER:

K-081D

ID#

381

PIN#

2234

ISSUE DATE:

July 15, 2016

EXPIRATION DATE:

June 30, 2017

VEHICLE DESCRIPTION:

1997 Chevy - 1,700 gallons

VEHICLE LICENSE NO:

TN H446101

ISSUED TO:

CarsonCrest, LLC - DBA TNT Portable

Toilets

MAILING ADDRESS:

P. O. Box 406

Oliver Springs, TN 37840

APPROVED BY:

KUB Regulatory Compliance



October 2, 2015

Ms. Edna Jean Carson TNT Portable Toilets (CarsonCrest, LLC) P.O. Box 406 Oliver Springs, TN 37840

Re: Permission to Discharge Wastewater

Dear Ms. Carson:

This letter is to confirm that TNT Portable Toilets (CarsonCrest, LLC) is permitted to transport domestic septage waste to the Kuwahee Wastewater Treatment Plant Hauled Waste Facility located at 2015 Neyland Drive, Knoxville, TN 37916.

All other types of waste including process and commercial wastes must be pre-approved by KUB prior to them being brought to Kuwahee for discharge. KUB must evaluate and determine if these wastes (other than domestic septage waste) can be discharged to Kuwahee without creating any treatment and/or compliance issues. Grease waste is strictly prohibited from being discharged at Kuwahee.

Please review the enclosed Waste Hauler Program Requirements for additional information. Waste haulers are required to comply with the enclosed Waste Hauler Program requirements. Please read them and ensure your company adheres to them. Failure to do so can result in a suspension of your company's ability to access and discharge at the Kuwahee Hauled Waste Facility.

Please contact KUB at (865) 524-2911 if you have any questions.

Sincerely,

Brian Beaty

Pretreatment Program Coordinator

Brian Gesty

BB:kc

Encls: Permit

Wastehauler Program Requirements Instructions for Completing Manifest

Site Layout and Traffic Plan

Approved Grease Waste Hauler Agreement



Attachment 6 Letter, Easterling to Atchley Dated: May 9, 2017

STATE OF TENNESSEE DEPARTMENT OF ENVIRONMENT AND CONSERVATION DIVISION OF WATER RESOURCES

PERMIT FOR SEPTIC TANK PUMPING CONTRACTOR

PERMIT NUMBER: 290

Carson Crest LLC dba TNT Portable Toilets 5135 Harriman Highway Oliver Springs, TN 37840

IS HEREBY GRANTED PERMISSION TO OPERATE

By The Tennessee Department of Environment And Conservation In Accordance With The Provision Of The Regulations To Govern Subsurface Sewage Disposal Systems Rule 0400-48-01 As Authorized By Tennessee Code Annotated 68-221-403(a)(7).

Bix Att

Britton Dotson Deputy Director

This permit is good until suspended or revoked by the Tennessee Department of Environment and Conservation and automatically becomes invalid on January 1, 2018. This permit is not transferable or assignable.

Attachment 7 Letter, S. D. Easterling to M. Atchley Dated: May 9, 2017

State Operation Permit Application
Post 23 Pump and Haul
Consolidated Nuclear Security, LLC

Note 1:

The deteriorated sewer line nearest the proposed location of the pump and haul facility will be isolated from the Y-12 National Security Complex (Y-12) sanitary sewer system prior to installation of the pump and haul facility. This segment of the Y-12 sewer system, which most recently has served only a single bathroom, has been identified as a source of Inflow and Infiltration to the Y-12 sanitary sewer system which discharges to the City of Oak Ridge sewer system. The estimated 4,300 feet of sewer line that will be isolated includes approximately 2,500 feet of 15-inch vitrified clay pipe - some of which is decades old. Upon completion of the project to isolate and abandon this estimated 4,300 feet of deteriorated sewer line, the nearest available viable sewer line to Post 23 will be approximately 2,000 feet away. The City of Oak Ridge has identified the Y-12 sewer system as a system in need of refurbishment to reduce Inflow and Infiltration into the City of Oak Ridge POTW.

Additionally, the current single bathroom configuration complicates security scheduling at the posts. Installation of the new restroom facilities would not require unnecessary movement of security personnel in order to access the restroom facility.