



# TOWN OF JACKSON PLANNING & BUILDING DEPARTMENT

## TRANSMITTAL MEMO

### Town of Jackson

- ☒ Public Works/Engineering
- ☐ Building
- ☐ Title Company
- ☒ Town Attorney
- ☐ Police

### Joint Town/County

- ☐ Parks and Recreation
- ☐ Pathways
- ☐ Housing Department

### Teton County

- ☐ Planning Division

- ☐ Engineer
- ☐ Surveyor- *Nelson*
- ☐ Assessor
- ☐ Clerk and Recorder
- ☐ Road and Levee

### State of Wyoming

- ☐ Teton Conservation
- ☐ WYDOT
- ☐ TC School District #1
- ☐ Game and Fish
- ☐ DEQ

### Federal Agencies

- ☐ Army Corp of Engineers

### Utility Providers

- ☐ Qwest
- ☐ Lower Valley Energy
- ☐ Bresnan Communications

### Special Districts

- ☐ START
- ☐ Jackson Hole Fire/EMS
- ☐ Irrigation Company

|  |  |
|--|--|
| Date: August 10, 2021  | <b>REQUESTS:</b><br><br>The applicant is submitting a request for a Sewer Connect located at 10 E Snow King Ave., legally known as PT NW1/4SW1/4, SEC. 34, TWP. 41, RNG. 116 TRACT B<br>PIDN: 22-41-16-34-3-00-003<br><br>For questions, please call Brian Lenz 733-0440 x1410 or email to the address shown below. Thank you. |
| Item #: P21-218  |  |
| Planner: Tyler Valentine   |  |
| Phone: 733-0440 ext. 1305  |  |
| Email: tvalentine@jacksonwy.gov  |  |
| <b>Owner:</b><br>Snow King Mountain Resort<br>Ryan Stanley<br>PO Box 1846<br>Jackson, WY 83001 |  |
| <b>Applicant:</b><br>same  |  |
| <b>Please respond by:</b><br><b>August 31, 2021 (with Comments)</b>                            |  |

**RESPONSE:** For Departments not using Trak-it, please send responses via email to:  
btlenz@jacksonwy.gov

# NELSON ENGINEERING

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Town of Jackson Planning Department

150 E. Pearl Avenue

Jackson, WY 83001

Date: 08/09/21

Project No: 19-262-01

ATTENTION: Paul Anthony, Planning Director

RE: Snow King Mountain Resort

TOJ Water and Sewer Connection Request

LADIES/GENTLEMEN: ☒ Attached ☐ Under separate cover via \_\_\_\_\_ the following items:  
WE ARE SENDING  
YOU

☐ Shop Drawings ☐ Prints ☒ Plans ☐ Samples ☐ Specifications  
☒ Copy of Letter ☐ Change Order ☒ Other

| COPIES | DATE     | NO. | DESCRIPTION   |
|--------|----------|-----|---|
| 1      | 08/09/21 | 5   | Planning Permit App. for Water and Sewer Connection with Deed |
| 1      | 08/09/21 | 6   | Checklist and Response  |
| 1      | 08/09/21 | 7   | Engineer's Design Report                                      |
| 1      | 08/09/21 | 4   | Relevant Drawings   |
|        |          |     |   |
|        |          |     |   |

THESE ARE TRANSMITTED as checked below:

☒ For approval ☐ Approved as submitted ☐ Resubmit \_\_\_\_ copies for approval  
☐ For your use ☐ Approved as noted ☐ Submit \_\_\_\_ copies for distribution  
☐ As requested ☐ Returned for corrections ☐ Return \_\_\_\_ corrected prints  
☐ For review & comment  
☐ FOR BIDS DUE \_\_\_\_\_, 20\_\_\_\_ ☐ PRINTS RETURNED AFTER LOAN TO US

REMARKS: **Please contact Dave Dufault at Nelson Engineering with any questions.**

Thanks,

COPY TO: Via Email: Brian Lenz

SIGNED: Suzanne Lagerman



**PLANNING PERMIT APPLICATION**  
**Planning & Building Department**

150 E Pearl Ave. | ph: (307) 733-0440  
P.O. Box 1687 | [www.townofjackson.com](http://www.townofjackson.com)  
Jackson, WY 83001

**For Office Use Only**

Fees Paid \_\_\_\_\_ Date & Time Received \_\_\_\_\_  
Application #s \_\_\_\_\_

**Please note:** Applications received after 3 PM will be processed the next business day.

**PROJECT.**

Name/Description: ToJ Water and Sewer System Connection for Snow King Summit Improvements  
Physical Address: 10 E Snow King Avenue  
Lot, Subdivision: \_\_\_\_\_ PIDN: 22-41-16-34-3-00-003

**PROPERTY OWNER.**

Name: Snow King Mountain Resort LLC, Attn: Ryan Stanley Phone: 307-734-3351  
Mailing Address: PO Box 1846, Jackson, WY ZIP: 83001  
E-mail: ryan@snowkingmountain.com

**APPLICANT/AGENT.**

Name: \_\_\_\_\_ Phone: \_\_\_\_\_  
Mailing Address: \_\_\_\_\_ ZIP: \_\_\_\_\_  
E-mail: \_\_\_\_\_

**DESIGNATED PRIMARY CONTACT.**

☒ Property Owner ☐ Applicant/Agent

**TYPE OF APPLICATION.** Please check all that apply; review the type of application at [www.townofjackson/200/Planning](http://www.townofjackson/200/Planning)

**Use Permit**

☐ Basic Use  
☐ Conditional Use  
☐ Special Use

**Relief from the LDRs**

☐ Administrative Adjustment  
☐ Variance  
☐ Beneficial Use Determination  
☐ Appeal of an Admin. Decision

**Physical Development**

☐ Sketch Plan  
☐ Development Plan  
☐ Design Review

**Subdivision/Development Option**

☐ Subdivision Plat  
☐ Boundary Adjustment (replat)  
☐ Boundary Adjustment (no plat)  
☐ Development Option Plan

**Interpretations**

☐ Formal Interpretation  
☐ Zoning Compliance Verification

**Amendments to the LDRs**

☐ LDR Text Amendment  
☐ Map Amendment

**Miscellaneous**

☒ Other: water/sewer connect  
☐ Environmental Analysis

**PRE-SUBMITTAL STEPS.** To see if pre-submittal steps apply to you, go to [www.townofjackson.com/200/Planning](http://www.townofjackson.com/200/Planning) and select the relevant application type for requirements. Please submit all required pre-submittal steps with application.

Pre-application Conference #: \_\_\_\_\_ Environmental Analysis #: \_\_\_\_\_  
Original Permit #: \_\_\_\_\_ Date of Neighborhood Meeting: \_\_\_\_\_

**SUBMITTAL REQUIREMENTS.** Please ensure all submittal requirements are included. The Planning Department will not hold or process incomplete applications. Partial or incomplete applications will be returned to the applicant. Go to [www.townofjackson.com/200/Planning](http://www.townofjackson.com/200/Planning) and select the relevant application type for submittal requirements.

Have you attached the following?

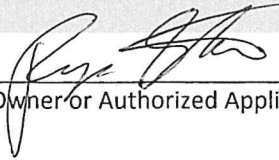
☒ **Application Fee.** Fees are cumulative. Go to [www.townofjackson.com/200/Planning](http://www.townofjackson.com/200/Planning) and select the relevant application type for the fees.

☐ **Notarized Letter of Authorization.** A notarized letter of consent from the landowner is required if the applicant is not the owner, or if an agent is applying on behalf of the landowner. Please see the Letter of Authorization template at <http://www.townofjackson.com/DocumentCenter/View/845/LetterOfAuthorization-PDF>.

☒ **Response to Submittal Requirements.** The submittal requirements can be found on the TOJ website for the specific application. If a pre-application conference is required, the submittal requirements will be provided to applicant at the conference. The submittal requirements are at [www.townofjackson.com/200/Planning](http://www.townofjackson.com/200/Planning) under the relevant application type.

**Note:** Information provided by the applicant or other review agencies during the planning process may identify other requirements that were not evident at the time of application submittal or a Pre-Application Conference, if held. Staff may request additional materials during review as needed to determine compliance with the LDRs.

Under penalty of perjury, I hereby certify that I have read this application and associated checklists and state that, to the best of my knowledge, all information submitted in this request is true and correct. I agree to comply with all county and state laws relating to the subject matter of this application, and hereby authorize representatives of Teton County to enter upon the above-mentioned property during normal business hours, after making a reasonable effort to contact the owner/applicant prior to entering.

  
\_\_\_\_\_  
Signature of Property Owner or Authorized Applicant/Agent  
**Ryan Stanley**  
\_\_\_\_\_  
Name Printed

July 21, 2021  
\_\_\_\_\_  
Date  
**President**  
\_\_\_\_\_  
Title



|            |  |
|------------|--|
| RELEASED   |  |
| INDEXED    |  |
| ABSTRACTED |  |
| SCANNED    |  |

## WARRANTY DEED

Snow King Holdings, LLC, a Wyoming limited liability company, GRANTOR, of Teton County, State of Wyoming, for and in consideration of TEN DOLLARS (\$10.00) and other good and valuable consideration, in hand paid, receipt of which is hereby acknowledged, CONVEYS AND WARRANTS to Snow King Mountain Resort, LLC, a Wyoming limited liability company, GRANTEE, whose mailing address is P.O. Box 1846, Jackson, Wyoming, 83001, the following described real estate, situated in the County of Teton, State of Wyoming, hereby waiving and releasing all rights under and by virtue of the homestead exemption laws of the State of Wyoming, to-wit:

See Exhibit "A" attached hereto and by this reference made a part hereof.

State Parcel ID No.: 22-41-16-34-3-00-003

Together with and including all oil, gas, and other minerals and mineral rights appurtenant thereto and owned by Grantor, if any, and all improvements and all other appurtenances and hereditaments thereunto belonging; subject to general taxes for the year of closing, local improvement districts, guaranteed revenues to utility companies, building and zoning regulations, city, county and state subdivision and zoning laws, easements, restrictive covenants, and reservations of record.

WITNESS our hands this 27 day of NOVEMBER, 2017.

GRANTOR: SNOW KING HOLDINGS LLC  
 GRANTEE: SNOW KING MOUNTAIN RESORT LLC  
 Doc 0940086 Filed At 14:53 ON 11/28/17  
 Sherry L. Daigle Teton County Clerk fees: 18.00  
 By Mary D Antrobus Deputy

Snow King Holdings LLC, a  
 Wyoming limited liability company

By: Max C. Chapman, Jr.  
 Max C. Chapman, Jr.  
 Manager

STATE OF WYOMING       )  
   ) ss  
 COUNTY OF TETON       )

The foregoing instrument was acknowledged before me by Max C. Chapman Jr., who is personally known to me or has established his identity and authority to me by reasonable proof, as Manager of Snow King Holdings, LLC, a Wyoming limited liability company, this 27 day of November, 2017.

Witness my hand and official seal.



[Signature]  
 Notary Public

February 13, 2021

EXHIBIT A

LEGAL DESCRIPTION  
FOR  
TRACT B, EXCEPTING  
PINE LODGE ADDITION

A Parcel of land located in the NW1/4 SW1/4, Section 34, Township 41 North, Range 116 West, 6<sup>TH</sup> PM, Town of Jackson, Teton County, Wyoming, said Parcel of Land being all of Tract B of that Map to Accompany Lot Division Application recorded as Map T-71B in the Office of the Clerk of Teton County, **EXCEPTING THEREFROM** the Pine Lodge Addition to the Town of Jackson, recorded as Plat No. 1257 in the Office of the Clerk of Teton County, said Parcel being more particularly described as follows:

Beginning at a Point on the northerly boundary line of said Tract B, Record Map T-71B, said Point of Beginning also being the northeast corner of Lot 1, of said Pine Lodge Addition, Plat 1257 and being N89°54'18"E, 145.07 feet, from the ¼ Corner common to Sections 33 and 34 of said Township 41 North, Range 116 West;

Thence along the northerly boundary of said Tract B, N89°54'18"E, 409.06 feet, to the northwest corner of Tract A of said Record Map T-71B;

Thence along the westerly boundary of said Tract A as follows:

S0°45'37"W, 37.21 feet;  
Thence S89°08'12"E, 35.13 feet;  
Thence S1°36'36"W, 26.18 feet;  
Thence S89°01'27"E, 16.06 feet;  
Thence S0°46'07"W, 90.01 feet;  
Thence N88°57'07"W, 14.01 feet;  
Thence S0°58'04"W, 120.04 feet, to the southwest corner of said Tract A;

Thence along the southerly boundary of said Tract A, S89°02'41"E, 206.99 feet, to the southeast corner of said Tract A;

Thence along the easterly boundary of said Tract B, S0°18'16"E, 147.86 feet, to the southeast corner of said Tract B;

Thence along the southerly boundary of said Tract B, N89°50'34"E, 682.90 feet, to the southeast corner of Lot 2 of said Pine Lodge Addition, Plat No. 1257;

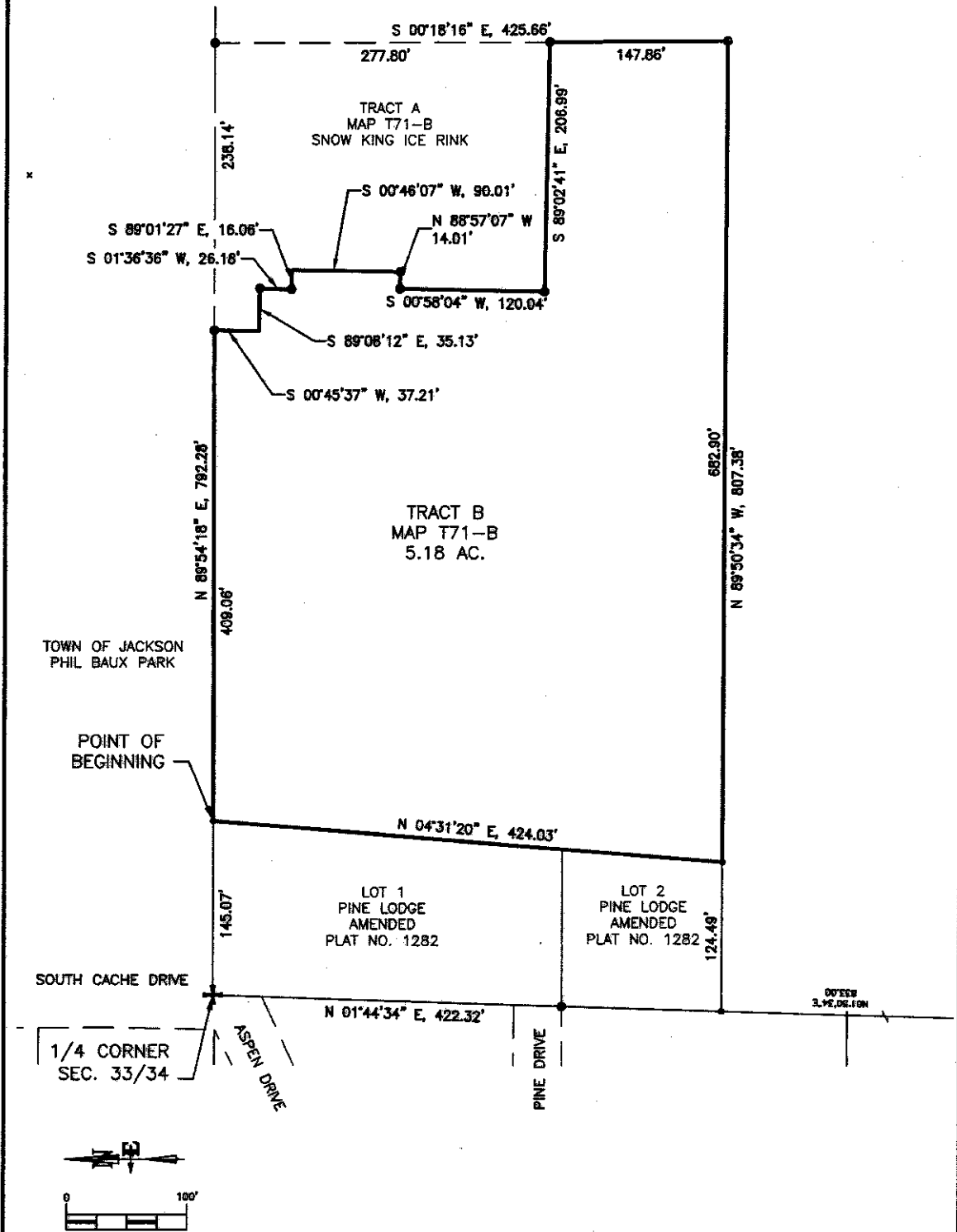
Thence along the easterly boundary of said Pine Lodge Addition, N4°31'20"E, 424.03 feet, more or less, to the Point of Beginning.

As shown on Exhibit B, attached hereto and by this reference made a part hereof.

Said parcel contains 5.18 acres, more or less, and is subject to any easements, rights-of-way, reservations or restrictions of sight and/or of record.

Michael Quinn  
Wyoming PLS 4270  
Nelson Engineering  
Project 17-126-01

EXHIBIT B



|                     |                            |  |                   |
|---------------------|----------------------------|--|-------------------|
| DRAWING NO<br>1     | DRAWING TITLE<br>EXHIBIT B | <b>NELSON<br/>ENGINEERING</b><br>P.O. BOX 1599, JACKSON WYOMING (307) 733-2087 | DATE<br>6/11/2017 |
| JOB NO<br>17-248-01 |                            |  | ENGINEERED<br>MR  |
|                     |                            |  | DRAWN<br>BK       |
|                     |                            |  | CHECKED           |
|                     |                            |  | APPROVED          |



**Checklist for an  
APPLICATION FOR A CONNECTION AND USE  
AGREEMENT FOR WATER AND SEWER SERVICES**  
Planning & Building Department  
Planning Division

150 East Pearl Ave. | ph: (307) 733-0440  
P.O. Box 1687 | fax: (307) 734-3563  
Jackson, WY 83001 | [www.townofjackson.com](http://www.townofjackson.com)

**APPLICABILITY.** *This checklist should be used when applying to the Town of Jackson for consideration of connection to Town Sewer, Water and/or Stormwater infrastructure, or a private extension thereto, through a Connection and Use Agreement for a development, service district, or property outside of the Town's corporate boundary AND not within an existing approved service area.*

**When is an APPLICATION FOR A CONNECTION AND USE AGREEMENT FOR WATER AND SEWER SERVICES required?**

An application to connect and, if approved, the resulting Connection and Use Agreement, are required prior to a development, service district, property, or any individual property within a development or service area, applying for a Town of Jackson / Teton County Sewer and Water Connection permit. *For more detailed information on the process see the PROCESS section of this checklist.*

**INSTRUCTIONS.** *Use this checklist to provide the information required for review of an application. All items on this checklist should be shown or noted in the application or on the plans, including not applicable items.*

| <input type="checkbox"/> DESCRIPTION  |
|---|
| Submit all materials with a Planning Application to the Planning Division, select the <i>Miscellaneous</i> option.  |
| Town of Jackson Letter of Authorization if applicant is other than the owner.   |
| <b>ENGINEER'S REPORT:</b> <ul style="list-style-type: none"> <li>• All materials shall be prepared and sealed by a licensed Wyoming engineer with experience designing municipal water and/or sewer infrastructure.</li> <li>• A brief narrative of the proposed project and request of the Town.</li> <li>• Reason for requesting the connection(s). e.g. permit compliance, existing system failure, high ground water, proximity to surface water, geological conditions, etc.</li> <li>• Alternatives, if any, considered for sewage collection and treatment and/or water supply. Include any reasons for not pursuing the alternatives or whether the alternative is still being proposed.</li> <li>• Proposed schedule for the project.</li> <li>• Provide a statement regarding who will pay the costs of design, permitting, construction, operation, maintenance, regulatory compliance, repair, and replacement of the system.</li> <li>• Identify the entity that will own the system(s) and be legally responsible for the system(s), i.e. the party that would execute a Connection and Use Agreement with the Town. <ul style="list-style-type: none"> <li>○ If applicable, identify the certified operator that will operate the proposed system(s).</li> </ul> </li> <li>• Provide information regarding how customers that are delinquent on paying for services will be handled, e.g. water shutoffs.</li> <li>• Provide information regarding the proposed method of metering.</li> <li>• <b>WATER AND SEWER</b> <ul style="list-style-type: none"> <li>○ Estimated Water Demands <ul style="list-style-type: none"> <li>▪ AWWA M22, actual flows, or other approved methodology</li> </ul> </li> <li>○ Estimated Sewer Volumes <ul style="list-style-type: none"> <li>▪ AWWA M22, actual volumes, Wyoming DEQ, Other approved methodology.</li> </ul> </li> <li>○ For estimated demands use the most conservative sewer volumes and/or water demands for the potential service area based on maximum allowed development for the service area at build out. For example, if there are 20 existing hotel rooms but 40 are allowed by development regulations, use 40 rooms for the</li> </ul> </li> </ul> |

|  |  |
|--|--|
|  | <p>estimate.</p> <ul style="list-style-type: none"> <li>▪ Include estimated volumes and demands from the adjacent properties within 500 feet of the proposed system.</li> <li>▪ Provide the information separated into the proposed service area and potential future service areas, include a table by parcel for individually metered lots, e.g. lots that connect via an unmetered gravity system.</li> </ul> <ul style="list-style-type: none"> <li>• Sewage Characteristics: <ul style="list-style-type: none"> <li>○ For proposed development provide information regarding the anticipated wastewater strengths e.g. Biochemical Oxygen Demand (BOD) and Total Suspended Solids (TSS); types of use e.g. residential, brewery, industrial, commercial, lodging; and any other expected characteristics.</li> <li>○ For existing developments provide a summary of any existing wastewater strength or quality monitoring data.</li> </ul> </li> </ul> |
|  | <p><b>PLANS AND MAPS:</b></p> <ul style="list-style-type: none"> <li>• Map of the Proposed Service Area. <ul style="list-style-type: none"> <li>○ Show all properties intended to be served by the proposed system and requested connection.</li> <li>○ Show all properties within 500 feet of the proposed infrastructure, regardless of whether or not the property intends to connect to the private system at this time.</li> </ul> </li> <li>• Water and/or Sewer Plans showing the proposed systems, sizes, and points of connection.</li> <li>• Existing utilities.</li> <li>• Easements: Existing or proposed required for the system and connection.</li> <li>• Parcel Information: existing, proposed, future boundaries. Provide parcel id, street address, and ownership information.</li> <li>• Vicinity Map</li> <li>• Scaled drawings with north arrows.</li> <li>• Any other relevant information.</li> </ul>                                |
|  | <p><b>PERMITTING:</b></p> <ul style="list-style-type: none"> <li>• Provide a list of all applicable local, state, and federal permits required to complete the project and indicate whether they were issued, waived, denied, or pending. <ul style="list-style-type: none"> <li>○ Teton County, Wyoming Department of Environmental Quality, Wyoming Department of Transportation, Army Corps of Engineers, private properties, etc.</li> </ul> </li> <li>• For an existing system, provide a list of any existing local, state, and federal permits and indicate if the permit is in good standing, under review, citations, fines, or otherwise pertaining to the permit.</li> </ul>  |
|  | <p><b>PRIVATE PROPERTIES AND SYSTEMS:</b></p> <ul style="list-style-type: none"> <li>• Provide a list of all private properties that are impacted by the project and any required easements, approvals, land acquisitions, etc. and indicate the status of each.</li> <li>• Provide a list of all private systems required to make the connection and indicate the status of each. Include any and willingness to serve letters, approved permit, etc.</li> </ul>  |

**REQUEST TO CONNECT AND CONNECTION AND USE AGREEMENT PROCESS.** *This summary is general and each application may vary depending on the circumstance.*

|  |   |
|--|---|
|  | <p><b>REQUEST TO CONNECT:</b></p> <ul style="list-style-type: none"> <li>○ Apply to connect using the Planning Application – Miscellaneous Option and this checklist.</li> <li>○ Staff Review of Application for a Connection and Use Agreement for Water and Sewer Services.</li> <li>○ Council Review: Request for connection will be presented and reviewed by Council at a regularly scheduled council meeting.</li> </ul>  |
|  | <p><b>CONNECTION AND USE AGREEMENT:</b></p> <ul style="list-style-type: none"> <li>○ If Council approves the Request to Connect, Town staff will prepare the Connection and Use Agreement(s) and incorporate any conditions of approval as part of the application. Each utility will be covered by its own agreement.</li> <li>○ Applicant will have a chance to review the agreement prior to presenting to Council for approval.</li> <li>○ Applicant shall be responsible for preparing and paying for all exhibits required for all agreement(s) to the Town's satisfaction. Required exhibits vary by project but typically include a map of the service area, list of parcels within the service area, table of estimated peak demands, conceptual system plans, and / or other relevant information.</li> <li>○ Council Review: Connection and Use Agreement(s) will be presented for review by Council at a regularly scheduled council meeting.</li> <li>○ Following Council approval of the Connection and Use Agreement, it will be finalized according to Council approval.</li> <li>○ Staff will provide the applicant the final agreement(s) for execution. The Mayor will execute the agreement(s) after the applicant.</li> <li>○ Recordation: The Connection and Use Agreement(s) shall be recorded with the Teton County Clerk against all properties within the approved service area. Applicant shall pay all recording fees.</li> </ul> |
|  | <p><b>CONSTRUCTION:</b> <i>Following execution and recordation of the Connection and Use agreement construction of the proposed connection(s) is permitted as follows:</i></p> <ul style="list-style-type: none"> <li>○ SEWER AND WATER CONNECTION PERMIT (SWP) Application for the system if applicable</li> <li>○ SEWER AND WATER CONNECTION PERMIT (SWP) Application for the individual properties within the service area.</li> </ul>   |

**Checklist for an  
APPLICATION FOR A CONNECTION AND USE AGREEMENT  
FOR WATER AND SEWER SERVICES**

**PLANNING APPLICATION:** Enclosed.

**TOWN OF JACKSON LETTER OF AUTHORIZATION:** N/A

**ENGINEER'S REPORT** (attached and elaborated upon below):

Brief narrative of the proposed project and request of the Town:

The Summit sewerline is proposed to serve a Gondola Storage building that also includes public restrooms and ski school and ski patrol rooms; the Panorama House; a Summit Lodge/Restaurant and an Observatory, all to be located at the top of the Summit Gondola at Snow King Mountain Resort. These facilities will serve both winter and summer users. The sewerline is planned to be installed along with a new 10" diameter steel snow making water supply pipeline up the mountain via the "Exhibition" ski run.

In 2014 a potable water line was installed to serve the facilities at the summit of the mountain as part of a Wyoming Business Council Grant and Loan project for future development of the summit of Snow King Mountain. It is anticipated that a pump station will be required adjacent to the existing Snow King Water Tank; connection to both the tank for supply and existing potable waterline for distribution will be made, and a tank, fire pumps, and hydropneumatic tankage will be installed at the summit for domestic supply and fire suppression.

Reason for requesting the connection:

Connection is requested due to the geological conditions. A septic system would be difficult to size based on the various buildings and uses but would presumably be quite large, and siting such a system atop the mountain would be a challenge as well, with the known granite layer beneath. Drilling a well would be equally problematic with the bedrock, and hauling water to the summit is not a practical solution for the demand.

Alternatives, if any, considered for sewage collection and treatment and/or water supply:

As mentioned above, there are really no feasible alternatives.

Proposed schedule for the project:

The snowmaking waterline is to be installed in 2021, if possible, and it is proposed to install the sewerline at the same time for efficiency even though the waste generating facilities may not utilize the sewerline for another year. Water supply to the summit facilities is in the early planning stages and is expected to be ready for construction in 2022.

Ownership and Operation:

SKMR will pay the costs of design, permitting, construction, operation, maintenance, regulatory compliance, repair, and replacement of the water and sewer systems. SKMR will own the system up to the point of connection and be legally responsible for the system and will execute a Connection and Use Agreement with the Town. SKMR personnel will operate the proposed systems up to the point of connection.

Provide information regarding how customers that are delinquent on paying for services will be handled:

N/A

Provide information regarding the proposed method of metering:

Appropriately sized meter(s) can be installed to meet the Town's requirements.



## **WATER AND SEWER:**

### **Estimated Water Demands and Sewer Volumes:**

The sewer volumes are presented in the attached Basis of Design Report. Domestic water flows will equal that of the sewer. The quantity/demand for fire protection stored and supplied has not yet been determined.

### **Sewage Characteristics (Provide information regarding the anticipated wastewater strengths):**

Anticipated BOD and TSS are less than 250mg/L; types of use will be a combination of residential, commercial and lodging. The proposed design will include a duplex sewage grinder system to macerate the solids so that they can be carried down the steep slopes in the wastewater stream. Grease traps will be installed at any/all restaurant operations.

For existing developments provide a summary of any existing wastewater strength or quality monitoring data:  
N/A

## **PLANS AND MAPS:**

Map of the Proposed Service Area:  
Attached.

Show all properties intended to be served by the proposed system and requested connection:  
Shown on attached.

Show all properties within 500 feet of the proposed infrastructure, regardless of whether or not the property intends to connect to the private system at this time:  
N/A, no possible connections within 500 feet of the proposed infrastructure.

Water and/or Sewer Plans showing the proposed systems, sizes, and points of connection:  
Shown on attached.

Existing utilities:  
Shown on attached.

Easements (existing or proposed required for the system and connection):  
Shown on attached.

Parcel Information (existing, proposed, future boundaries). Provide parcel id, street address, and ownership information.  
Shown on attached.

Vicinity Map:  
Shown on attached.

Scaled drawings with north arrows:  
Attached.

## **PERMITTING:**

Provide a list of all applicable local, state, and federal permits required to complete the project and indicate whether they were issued, waived, denied, or pending (ToJ, Wyoming DEQ, USFS, private properties, etc.):

1. Town of Jackson Grading and Erosion Control Permit: Pending
2. Wyoming DEQ Permit-to-Construct: Pending

For an existing system, provide a list of any existing local, state, and federal permits and indicate if the permit is in good standing, under review, citations, fines, or otherwise pertaining to the permit.

N/A, not an existing system

**ADJACENT PRIVATE PROPERTIES AND SYSTEMS:**

Provide a list of all private properties that are impacted by the project and any required easements, approvals, land acquisitions, etc. and indicate the status of each:

None

Provide a list of all private systems required to make the connection and indicate the status of each. Include any and willingness to serve letters, approved permit, etc.

N/A

NE Proj No. 19-262-01  
Snow King 2021 Improvements Project

## **Summit Sewerline Basis of Design Report**

### **PROJECT DESCRIPTION**

The Summit Sewerline will eventually serve a Gondola Storage building that also includes public restrooms and ski school and ski patrol rooms; the Panorama House; a Summit Lodge/Restaurant and potentially an Observatory, all to be located at the top of the Summit Gondola at Snow King Mountain Resort. These facilities will serve both winter and summer users.

The sewerline is planned to be installed along with a new 10" diameter steel snow making water supply pipeline up the mountain via the "Exhibition" ski run. The snowmaking waterline is to be installed in 2021 and it is proposed to install the sewerline at the same time for efficiency even though the waste generating facilities may not be using the sewerline for another year. A water supply to the summit facilities is in the planning stages and is expected to be ready for construction in 2022.

### **EXISTING WASTEWATER SYSTEM**

There is no existing wastewater system at the summit, but the new facilities will tie into an existing 6" sewer line at the base of the mountain, near the tube park, which is planned for upgrade by the Town of Jackson in the near future to an 8" sewer line. The wastewater ultimately flows to the Town of Jackson's infrastructure and is treated at the Town's Wastewater Treatment Facility.

### **WASTEWATER GENERATION**

Based on the planned improvements there are an estimated 485 sewer fixture units. This equates, based on the International Plumbing Code, to a plumbing fixture typical peak hour wastewater generation of approximately 140 gpm.

Wastewater flow volumes of approximately 10,470 gallons per day on Average Day and approximately 17,450 gpd on the Maximum Day are estimated. Average day may actually be less than stated and will vary significantly based upon the number of users/visitors and the number of special events (such as weddings) that may occur at the summit; estimates include 150 special event guests. These flow volumes are based upon an estimated number of employees, guests, and meals to be served at all facilities to be served as listed above.

Computations of these projected flows are included at the end of this report.

## **PROPOSED WASTEWATER SYSTEM**

The proposed collection system is comprised of a 4" diameter HDPE pipeline that will carry waste from the summit to a new manhole near the base and then into a 6" sewerline which will flow to an existing manhole on the town collection system.

Much of the 4" HDPE sewer will be laid at slopes matching the existing slope of the mountain that vary from 20% to as steep as 75% slope. At the summit, the 4" pipe will be laid at a minimum slope of 5% where it will enter the gondola storage building - all sewage from the various buildings will be brought to this location before discharging into the proposed 4" sewer (following a grinder - see paragraph below). The 4" sewer has full flow capacity of approximately 320 gpm at 5% slope and therefore is more than adequate to carry the estimated peak hours flows of 140 gpm.

The 6" PVC sewer is proposed for 41 feet at 3% slope. Full flow of 6" PVC sewer at 3% is approximately 708 gpm and therefore is more than adequate to carry the estimated peak hour flows. Prior to entering the 6" sewer segment, the wastewater will enter a manhole 2.5 feet above the invert out (at Stat 0+45). It is expected that this drop will slow the swift velocities of the waste stream prior to entering the 6" pipe and prior to entering the Town's collection system downstream. In addition, a Manhole Odor Eliminator is proposed to be used in the manhole at Station 0+45 as it is expected that the discharge will be odiferous.

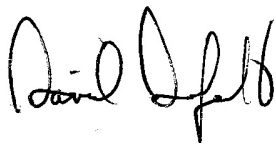
The proposed wastewater system will ultimately include a sewage grinder to macerate the wastewater solids so that they can be carried down the steep slopes in the wastewater stream. The grinder and connections to the proposed facilities are still being planned. It is expected that the grinder will be located within the basement of the gondola storage building.

At this time, only the collection system piping from the summit and connecting to the Town collection system at the base of the mountain is proposed for construction.

## **WATER SUPPLY**

Although there is not currently a domestic water supply to the summit of Snow King, a supply pipe for this purpose was installed in 2014 during the installation of snow making infrastructure. A pump station and extension of the existing water supply piping to the facilities is planned for construction in 2022.

Respectfully submitted,



Dave Dufault, PE  
Project Manager  
Nelson Engineering  
P.O. Box 1599  
Jackson, WY 83001

Attachments:

- Peak Hour Flow Rate computations and pipe sizing summary
- Average and Maximum Day volume projections
- Odor Eliminator Cut Sheets

| Building                                      | Commercial Plumbing Fixture Type (May drain into the sewer)        | Fixture<br>Units per<br>Fixture | Number of<br>Fixtures<br>Installed | Total<br>Fixture<br>Units | Notes  |
|---|--|---------------------------------|------------------------------------|---------------------------|--|
| Observatory                                   | <b>Hotel room, office, or retail - bathroom fixtures</b>           |                                 |                                    |                           | 400 customers/day (RS), two bathrooms & one kitchenette (FPA)  |
|   | Shower stall   | 4                               | 1                                  | 4                         |  |
|   | Sink   | 2                               | 1                                  | 2                         |  |
|   | Toilet   | 3                               | 1                                  | 3                         |  |
|   | <b>Hotel room, office, or retail - kitchen fixtures</b>            |                                 |                                    |                           |  |
|   | Sink   | 3                               | 1                                  | 3                         |  |
|   | <b>Commercial, restaurant, or public areas</b>                     |                                 |                                    |                           |  |
|   | Bathroom sink  | 2                               | 1                                  | 2                         |  |
|   | Toilet   | 8                               | 1                                  | 8                         |  |
| Ski School/<br>Gondola Storage                | <b>Commercial Plumbing Fixture Type (May drain into the sewer)</b> |                                 |                                    |                           |  |
|   | <b>Hotel room, office, or retail - bathroom fixtures</b>           |                                 |                                    |                           | 10 employees (gondola storage/ski patrol), 10 employees (ski school), 150 customers/day, adding some basic kitchen facilities to the ski school building including grease trap, dishwasher, 3 sinks (RS) |
|   | <b>Commercial, restaurant, or public areas</b>                     |                                 |                                    |                           |  |
|   | Bathroom sink  | 2                               | 9                                  | 18                        |  |
|   | Dishwasher   | 10                              | 1                                  | 10                        |  |
|   | Drinking fountain  | 1                               | 3                                  | 3                         |  |
|   | Ice making machine in freezer or standalone                        | 3                               | 1                                  | 3                         |  |
|   | Kitchen sink   | 4                               | 3                                  | 12                        |  |
|   | Service sink   | 3                               | 1                                  | 3                         |  |
|   | Toilet   | 8                               | 10                                 | 80                        |  |
|   | Urinal   | 8                               | 3                                  | 24                        |  |
|   | Other: Gondola Wash Bay  | 2                               | 10                                 | 20                        | 3/4" Hose Connection   |
| Panorama House                                | <b>Commercial Plumbing Fixture Type (May drain into the sewer)</b> |                                 |                                    |                           |  |
|   | <b>Hotel room, office, or retail - bathroom fixtures</b>           |                                 |                                    |                           | Bar, hand sink, drinking fountain, 1 employee, 20 customers (RS)   |
|   | <b>Hotel room, office, or retail - kitchen fixtures</b>            |                                 |                                    |                           |  |
|   | Sink   | 3                               | 1                                  | 3                         |  |
|   | <b>Commercial, restaurant, or public areas</b>                     |                                 |                                    |                           |  |
|   | Drinking fountain  | 1                               | 1                                  | 1                         |  |
| Lodge/ Restaurant                             | <b>Commercial Plumbing Fixture Type (May drain into the sewer)</b> |                                 |                                    |                           | 1000 meals/day, no paper service, 250 seats (in/outdoor), bldg occupancy 200 (RS)  |
|   | <b>Commercial, restaurant, or public areas</b>                     |                                 |                                    |                           |  |
|   | Bathroom sink  | 2                               | 20                                 | 40                        |  |
|   | Dishwasher   | 10                              | 3                                  | 30                        |  |
|   | Drinking fountain  | 1                               | 4                                  | 4                         |  |
|   | Ice making machine in freezer or standalone                        | 3                               | 3                                  | 9                         |  |
|   | Kitchen sink   | 4                               | 4                                  | 16                        |  |
|   | Service sink   | 3                               | 1                                  | 3                         |  |
|   | Toilet   | 8                               | 15                                 | 120                       |  |
|   | Urinal   | 8                               | 8                                  | 64                        |  |
| <b>Totals: Water Fixture Units</b>            |  |                                 |                                    | <b>485</b>                |  |
| <b>Sewer Fixture Units</b>                    |  |                                 |                                    | <b>485</b>                |  |
| Per Plumbing Code:                            |  |                                 |                                    | <b>Approx peak hour:</b>  | <b>140 gpm</b>   |
| <b>Apply 1.25 Factor of Safety For Design</b> |  |                                 |                                    | <b>1.25</b>               | <b>175 gpm</b>   |
| <b>Pipe Flow - 4-inch dia HDPE</b>            |  |                                 |                                    |                           |  |
| Slope min= 5%                                 |  |                                 |                                    |                           |  |
| Carrying Capacity Per Hazen Williams Formula: |  |                                 |                                    |                           |  |
| Velocity at full flow                         |  |                                 |                                    | 321 gpm                   | 8.2 ft/sec   |
| <b>Pipe Flow - 6-inch dia PVC</b>             |  |                                 |                                    |                           |  |
| Slope = 3%                                    |  |                                 |                                    |                           |  |
| Carrying Capacity Per Hazen Williams Formula: |  |                                 |                                    |                           |  |
| Velocity at full flow                         |  |                                 |                                    | 708 gpm                   | 8 ft/sec   |
| Conclusion:                                   | 4" HDPE at min 5% slope is acceptable                              |                                 |                                    |                           |  |
|   | 6" PVC at min 5% slope is acceptable.                              |                                 |                                    |                           |  |

| Building                   | Use              | No.  | gpd/unit | gpd   | Notes   |
|----------------------------|------------------|------|----------|-------|---|
| Observatory                | Employees        | 2    | 30       | 60    | 400 customers/day (RS), two bathrooms & one kitchenette (FPA)                                     |
|                            | Guests           | 400  | 3        | 1200  |   |
|                            | Bedroom          | 1    | 150      | 150   |   |
|                            |                  |      | max      | 1410  |   |
|                            |                  |      | ave      | 846   |   |
| Ski School/Gondola Storage | Employees        | 20   | 30       | 600   | 10 employees (gondola storage/ski patrol), 10 employees (ski school), 150 customers/day (RS)      |
|                            | Guests           | 150  | 3        | 450   |   |
|                            | Gondola Wash Bay | 24   | 50       | 1200  |   |
|                            |                  |      | max      | 2250  |   |
|                            |                  |      | ave      | 1350  |   |
| Panorama House             | Employees        | 1    | 30       | 30    | Bar, hand sink, drinking fountain, 1 employee, 20 customers (RS)                                  |
|                            | Guests           | 20   | 3        | 60    |   |
|                            |                  |      | max      | 90    |   |
|                            |                  |      | ave      | 54    |   |
| Lodge/Restaurant           | Employees        | 15   | 30       | 450   | 1000 meals/day, no paper service, 250 seats (in/outdoor), bldg occupancy 200, wedding events (RS) |
|                            | Meals            | 1000 | 10       | 10000 |   |
|                            | Event Guests     | 150  | 3        | 450   |   |
|                            | Event Meals      | 150  | 10       | 1500  |   |
|                            |                  |      | max      | 12400 |   |
|                            |                  |      | ave      | 7440  |   |
| Totals:                    |                  |      | max day  | 16150 | gpd   |
|                            |                  |      | ave day  | 9690  | gpd   |





## Manhole Odor Eliminator

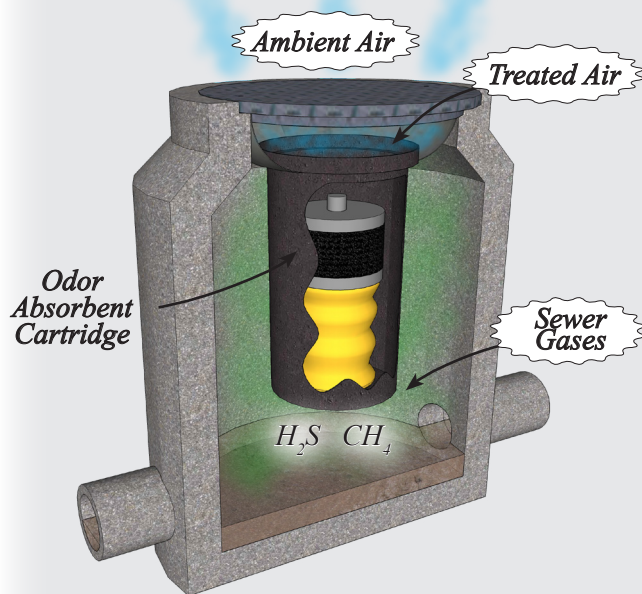
Patented

[www.ManholeOdorEliminator.com](http://www.ManholeOdorEliminator.com)

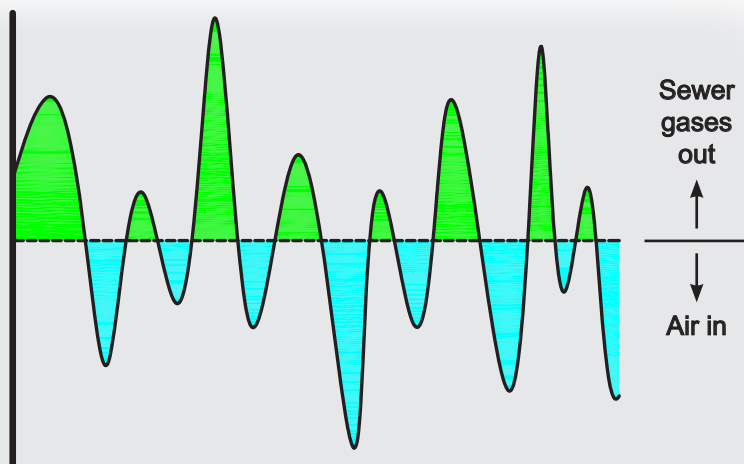
- Controls Odors
- Low Cost
- Easy Installation
- Contains Odor Absorbent
- Long Lasting
- Replaceable Filter Cartridge
- Low Maintenance
- Fits All Size Manholes



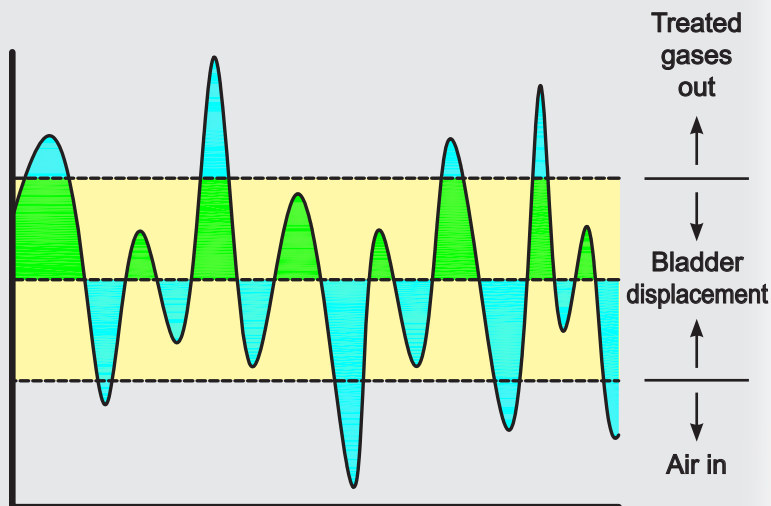
**Eliminate the rotten egg sewer gas smell from manholes**



**The bladder buffers the frequent fluctuations of sewer gas. The odor absorbent cartridge only has to treat the peak flow.**



Typical gas and air flow through manhole cover.



Only sewer gases that exceed bladder capacity need to be treated. This greatly extends filter life.

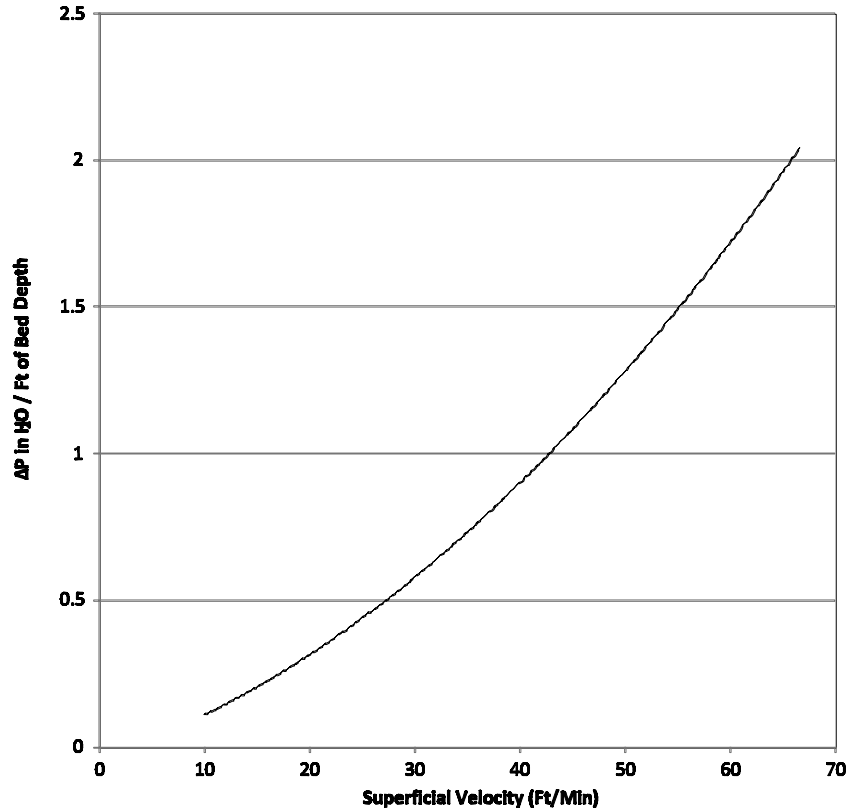
*The Manhole Odor Eliminator (MOE™) is a filter system designed to remove odors from sewer vents and other manholes. Each filter cartridge contains odor absorbent media. This filter can remove large amounts of hydrogen sulfide and other malodorous odors from sewer manholes. Call today for sizing and information.*

Inventive Resources, Inc.  
P.O. Box 1316  
5038 Salida Blvd. Salida, CA 95368  
Phone (888) 285-6158 Fax (209) 545-3533  
Email: [info@irproducts.com](mailto:info@irproducts.com)

## SPECIFICATION CHART

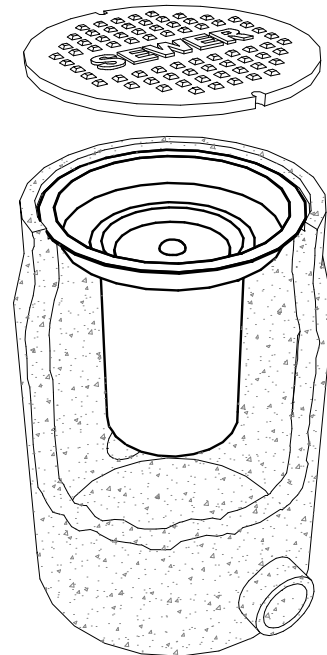
| Model Number  | ID of Manhole<br>(Inches) | OD of<br>Manhole<br>Cover (Inches) |
|---------------|---------------------------|------------------------------------|
| MOE-R18-18    | 19                        | 21                                 |
| MOE-R18L-18   | 20                        | 22                                 |
| MOE-R20-18    | 20 1/2                    | 22 1/2                             |
| MOE-R20L-18   | 21                        | 23                                 |
| MOE-RS-18     | 21 1/2                    | 23 1/2                             |
| MOE-R21.5-18  | 22                        | 24                                 |
| MOE-R22-18    | 22 1/2                    | 24 1/2                             |
| MOE-R22L-18   | 23                        | 25                                 |
| MOE-R23-18    | 23 1/2                    | 25 1/2                             |
| MOE-RL-18     | 24                        | 26                                 |
| MOE-R23L-18   | 25                        | 27                                 |
| MOE-R25.5-18  | 25 1/2                    | 27 1/2                             |
| MOE-R25.5L-18 | 26                        | 28                                 |
| MOE-R28-18    | 28                        | 30                                 |
| MOE-R28L-18   | 28 1/2                    | 30 1/2                             |
| MOE-R29-18    | 29 1/2                    | 31 1/2                             |
| MOE-R29L-18   | 30                        | 32                                 |
| MOE-R32-18    | 31 1/2                    | 33 1/2                             |
| MOE-R32L-18   | 32                        | 34                                 |
| MOE-R36-18    | 36 1/2                    | 38 1/2                             |
| MOE-R36L-18   | 37                        | 39                                 |

## Media Pressure Drop



### NOTES:

1. The Manhole Odor Eliminator can adapt to most manholes.
2. The bladder buffers the fluctuations of sewer gas so that the odor absorbent cartridge treats the peak gas flow.
3. Filter support frame shall be made of 304 Stainless Steel or HDPE, and housing shall be made of HDPE.
4. H<sub>2</sub>S filter cartridge size: Nominal 11"ØX10"H with internal perforated vent tube, containing approximately 800in<sup>3</sup> of H<sub>2</sub>S odor absorbing material.
5. The standard odor absorber cartridge is 11"ØX10"H containing 20 lbs. of media.
6. Custom sizes can be made to fit most manholes.
7. Filters listed above fit manholes with a minimum depth of 28".  
MOE™ units for shallower manholes will have a smaller bladder and may require more frequent cartridge changes.
8. Model numbers with an "L" will only fit manhole covers that are flat on the bottom (*Style 1 on sizing guide*).



**The MOE**  
Installed in manhole

**MANHOLE ODOR ELIMINATOR**

**MOE™**

**Inventive Resources, Inc.**

5038 Salida Blvd. PO Box 1316  
Salida CA 95368

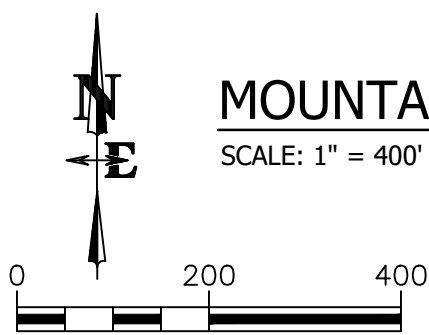
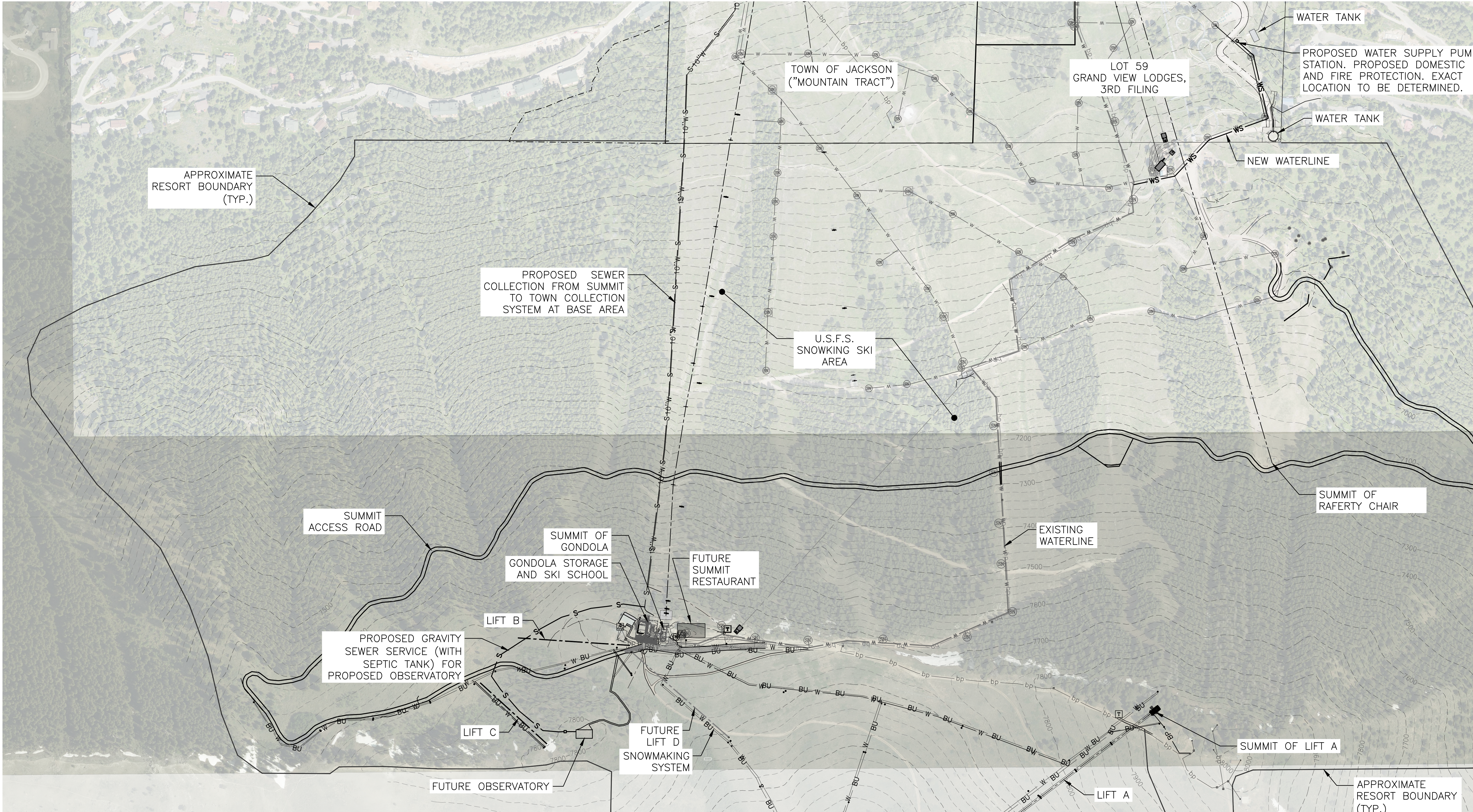
Phone (888) 285-6158  
Fax (209) 545-3533

DRAWING NO. **MOE-158191**

DATE **10-04-16** Sheet 1 of 1



S:\Proj\2019\262-01\_Crow King Summit Gondola Improvements\N Drawings\CONNECTIONS\AREA EXHIBITS\map MOUNTAIN EXPANSION OVERVIEW (2D).dwg Aug 02 2021 05:50:46 pm PLOTTED BY green DWG FIRMAT 220



**MOUNTAIN EXPANSION OVERVIEW**  
SCALE: 1" = 400' (12X18)

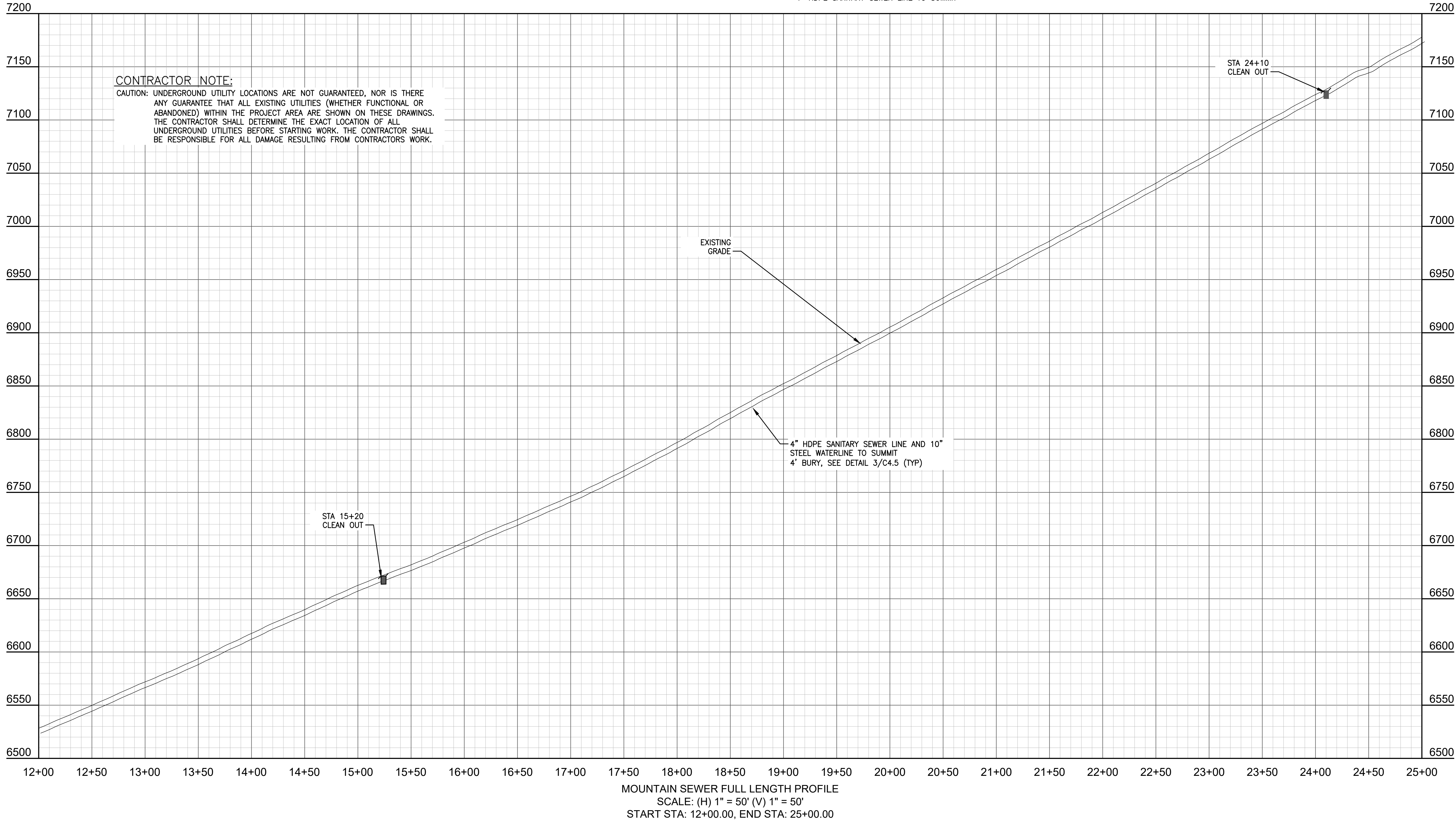
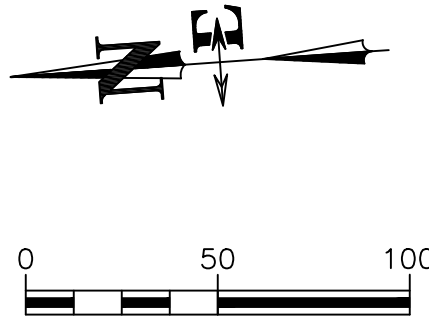
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| DRAWING NO<br><b>EXHIBIT</b> | JOB TITLE<br><br>SNOW KING MOUNTAIN RESORT<br><br>UPPER MOUNTAIN AND BACKSIDE IMPROVEMENTS<br><br>JACKSON, WYOMING | DRAWING TITLE<br><br><b>EXHIBIT FOR<br/>OUTSIDE OF TOWN OF JACKSON CONNECTION<br/>AND USE FOR WATER AND SEWER</b> | P.O. BOX 1599, JACKSON WYOMING (307) 733-2087 |          |    |      |  |
|                              |  |   | <b>NELSON<br/>ENGINEERING</b>                 |          |    |      |  |
|                              |  |   |   |          |    |      |  |
|                              |  |   |   |          |    |      |  |
|                              |  |   |   |          |    |      |  |
| JOB NO<br><br>19-262-01      |  |   | DATE  | SURVEYED | NE | REV. |  |
|                              |  |   | ENGINEERED                                    | FD/DD    |    |      |  |
|                              |  |   | DRAWN   | FD/BIG   |    |      |  |
|                              |  |   | CHECKED                                       | DD       |    |      |  |
|                              |  |   | APPROVED                                      | DD       |    |      |  |







S:\Proj\2019\252-01 Snow King Summit Gondola Improvements\3\4 Drawings\CA\CA-PLAN-PROF-MOUNTAIN SEWER FULL LENGTH\dwg SUMMIT SNOWMAKING WATER & SEWER P & P 2.dwg - Jan 16 2021 09:27:31 pm PLOTTED BY: berring DWG FORMAT: 230

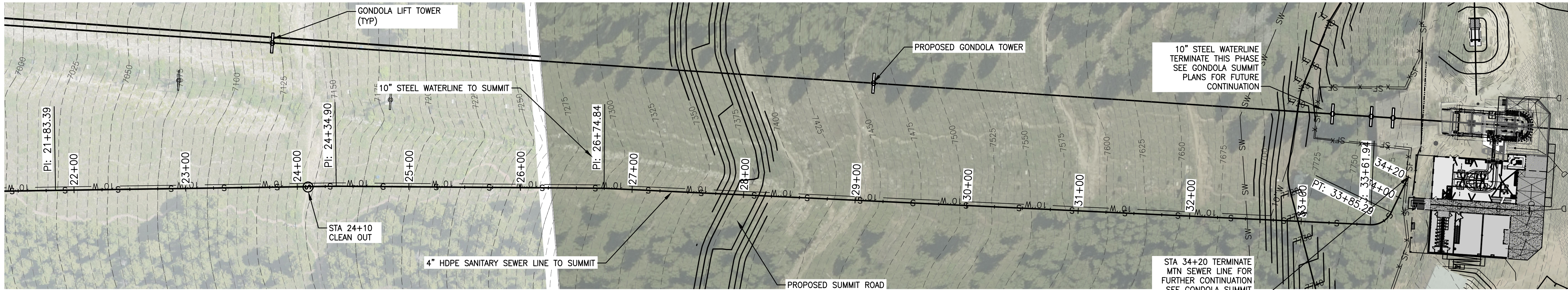
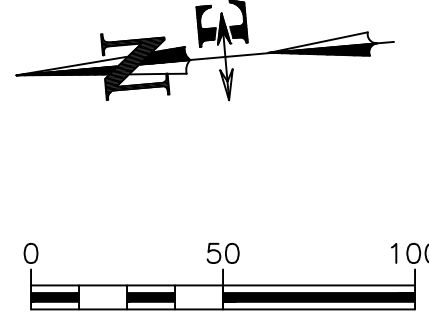


|                       |   |  |   |    |            |             |       |             |         |            |   |
|-----------------------|---|--|---|----|------------|-------------|-------|-------------|---------|------------|---|
| DRAWING NO<br>C4.12.1 | JOB TITLE<br>SNOW KING MOUNTAIN RESORT<br>2021 IMPROVEMENTS & GONDOLA PROJECT<br>JACKSON, WYOMING | DRAWING TITLE<br>SUMMIT SNOWMAKING WATER & SEWER P & P 2 | <div>NELSONENGINEERING</div> <div>P.O. BOX 1599, JACKSON WYOMING (307) 733-2087</div> |    |            |             |       |             | DATE    | 12/23/2020 | REV.<br>Δ 3/2/21<br>Δ 3/23/21<br>Δ 6/9/21 |
|                       | JOB NO<br>19-262-01   |  | SURVEYED  | NE | ENGINEERED | FD,DB,NB,BG | DRAWN | FD,DB,NB,BG | CHECKED | DD         | APPROVED                                  |

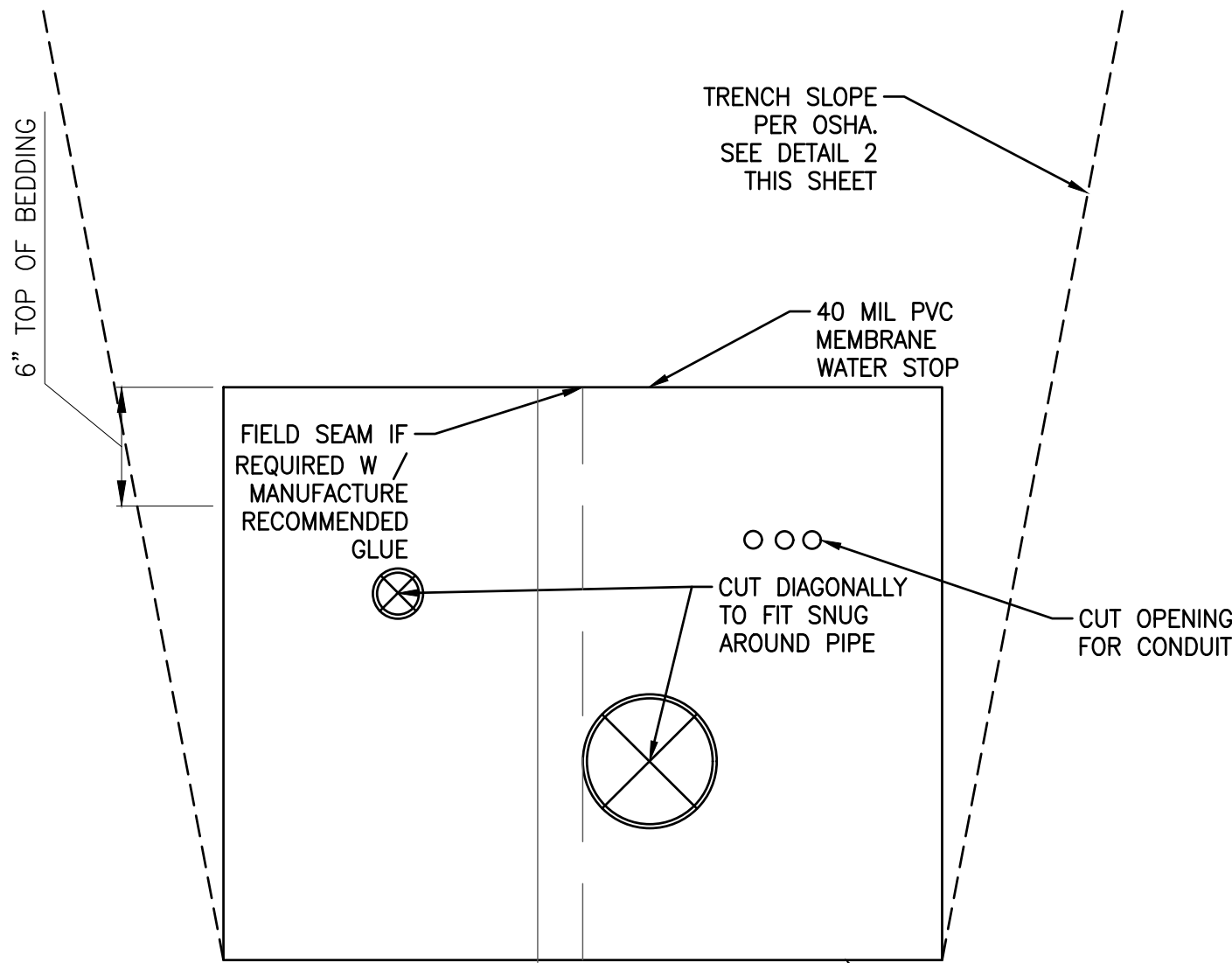
**NELSON  
ENGINEERING**  
P.O. BOX 1599, JACKSON WYOMING (307) 733-2087



S:\Proj\2019\252-01 Snow King Summit Gondola Improvements\3\4 Drawings\CA\CA-PLAN-PROF-MOUNTAIN SEWER FULL LENGTH\DWG SUMMIT SNOWMAKING WATER & SEWER P & P 3.dwg - Jun 16 2021 03:04:5 pm PLOTTED BY: herting DWG FORMAT: 210

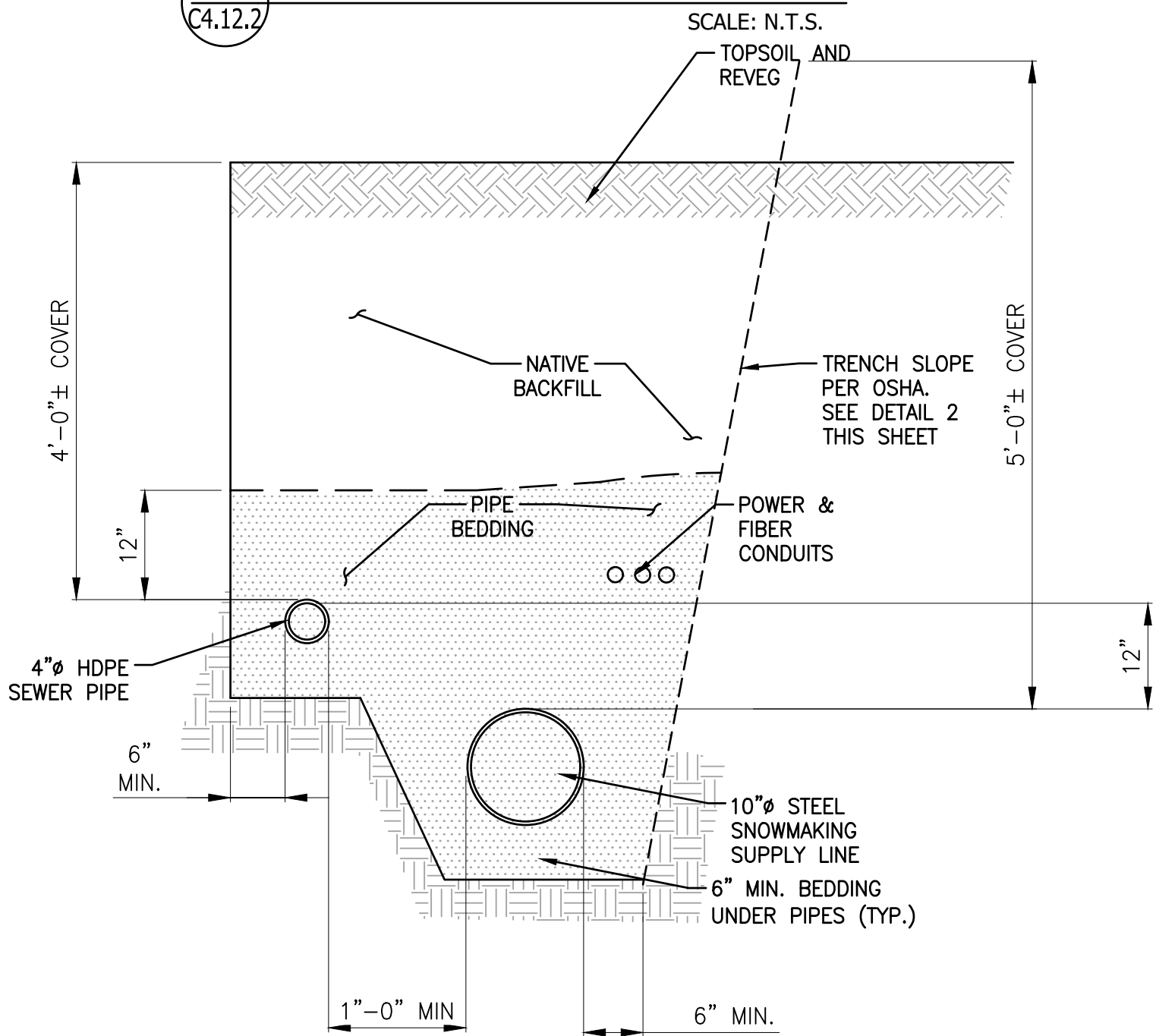


**CONTRACTOR NOTE:**  
CAUTION: UNDERGROUND UTILITY LOCATIONS ARE NOT GUARANTEED, NOR IS THERE ANY GUARANTEE THAT ALL EXISTING UTILITIES (WHETHER FUNCTIONAL OR ABANDONED) WITHIN THE PROJECT AREA ARE SHOWN ON THESE DRAWINGS. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL UNDERGROUND UTILITIES BEFORE STARTING WORK. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL DAMAGE RESULTING FROM CONTRACTORS WORK.

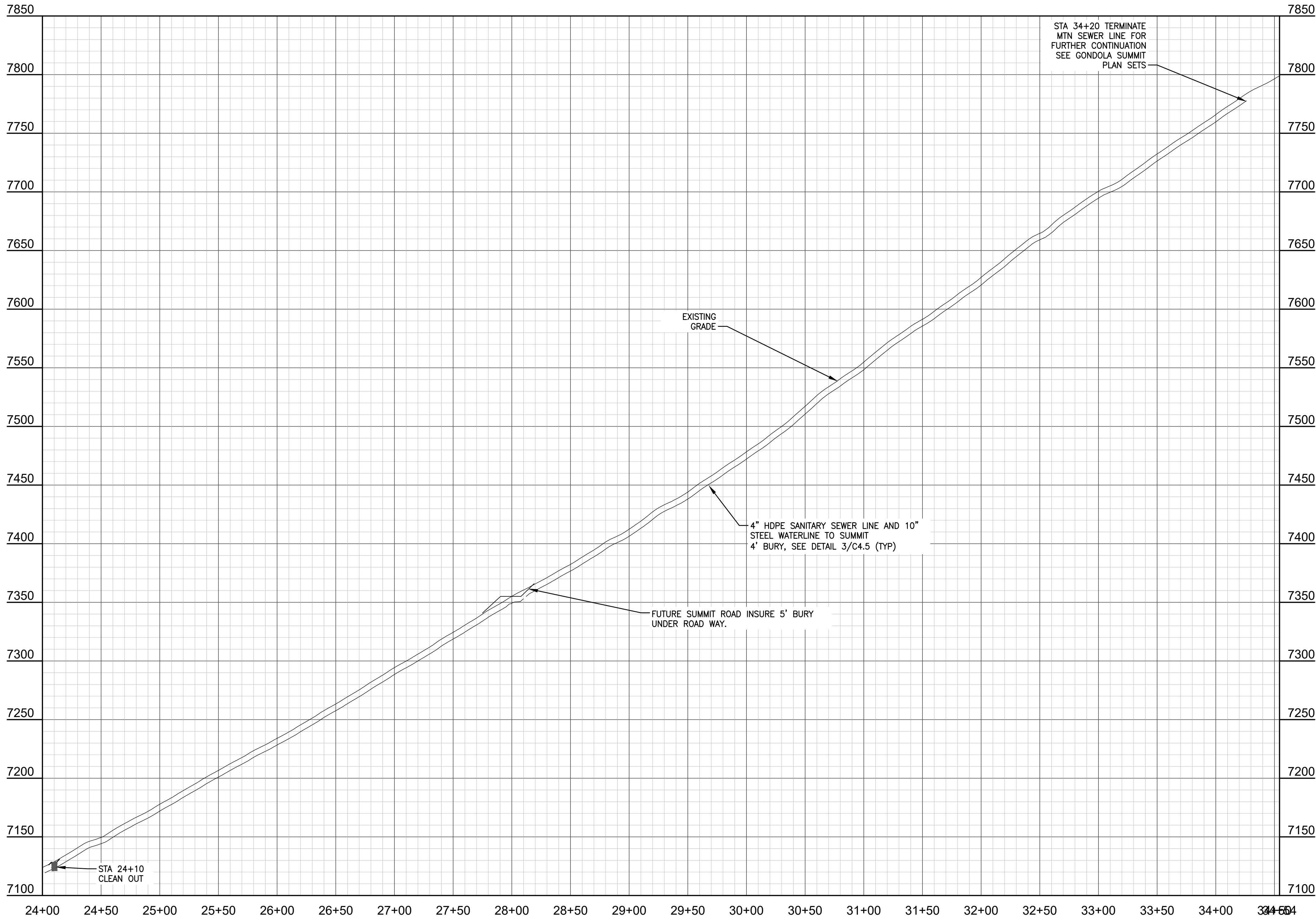


- NOTES:
1. PLACE EVERY 250 FEET ± IN TRENCH
  2. IN LIEU OF PVC MEMBRANE 12" OF COMPACTED SILTY CLAY BEDDING MATERIAL CAN BE USED AS WATER STOP

**1**  
**WATER STOP DETAIL**  
C4.12.2



**2**  
**TRENCH DETAIL FOR MOUNTAIN SEWER & SNOWMAKING LINE**  
C4.12.2  
SCALE: N.T.S.



**MOUNTAIN SEWER FULL LENGTH PROFILE**  
SCALE: (H) 1" = 50' (V) 1" = 50'  
START STA: 24+00.00, END STA: 34+54.32

| DRAWING NO | JOB NO    | JOB TITLE  | DRAWING TITLE                           | DATE       |          |             |             | REV    |    |         |      |
|------------|-----------|--|---|------------|----------|-------------|-------------|--------|----|---------|------|
|            |           |  |   | DATE       | SURVEYED | ENGINEERED  | DRAWN       | DATE   | BY | CHKD    | APPD |
| C4.12.2    | 19-262-01 | SNOW KING MOUNTAIN RESORT<br>2021 IMPROVEMENTS & GONDOLA PROJECT<br>JACKSON, WYOMING | SUMMIT SNOWMAKING WATER & SEWER P & P 3 | 12/23/2020 | NE       | FD,DB,NB,BG | FD,DB,NB,BG | 3/2/21 | △  | 3/23/21 | △    |
|            |           |  |   |            |          |             |             | 6/9/21 | △  |         |      |

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ENGINEERING**  
P.O. BOX 1599, JACKSON WYOMING (307) 733-2087